WORK PLAN FOR ADDITIONAL INVESTIGATION

BROWNFIELD CLEANUP PROGRAM
"64TH STREET"
33-32 64TH STREET
WOODSIDE, NEW YORK 11377
BCP ID NO.: C241106

PREPARED FOR:
D&E REALTY, INC.
34-14 64TH STREET
WOODSIDE, NEW YORK 11377

PREPARED BY:
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BALDWIN, NY 11510

AND

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APRIL 2, 2013
(REVISED)

SUBMITTAL INFORMATION

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Location of Subject Property:

33-32 64th Street
Woodside, New York 11377

Prepared for/Participant

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Appendices

SECTION NO. 1.0: INTRODUCTION

In September 2012, Reliant Consulting Services, Inc (Reliant) and CEUS Engineering, PC (CEUS) on behalf of D&E Realty, Inc. (D&E Realty, The Client) were retained to develop this Work Plan For Additional Investigation (Work Plan) and to perform the necessary oversight and documentation of field activities associated with its implementation. As a result of investigation documented in the Draft January 2011 Remedial Investigation Report on the Subject Site, subsurface anomalies and data gaps in the investigation were identified. This Work Plan details the procedures for performing the addition investigation required of D&E Realty by the New York State Department of Environmental Conservation (NYSDEC), as a volunteer in the Brownfield Cleanup Program, to perform this additional Investigation.

SECTION NO. 2.0: SITE CHARACTERISTICS

Section No. 2.1: Site Description

The Site property address is 33-32 64th Street, Woodside, New York 11377. The Site is situated in the middle of the block on 64th street in Woodside, Queens, between Northern Boulevard and 34th Avenue. The Site is designated as Block 1185, Lot 20 by the New York City Department of Buildings. A Location Map is attached as Appendix 1, Figure 1.

The Site consists of a 0.23-acre square parcel, which is un-improved with no structures on it (Figure 2, Appendix 2). The surrounding area is characterized by a mix of commercial businesses (mostly industrial), as well as a NYC School (PS 152). According to the NYC database ACRIS, Acme Metal Cap Co. Inc. is listed on a 1985 lease for the Site with Petroform Products Corp., a real estate holding company. Petroform Products Corp was named on the 2002 Deed with D&E Realty, the current owner and applicant. This data suggests that Acme Metal Cap Co., Inc. was involved with the Subject Site from 1985 to 2002. The type of contamination detected on Site is consistent with suspected historic operations of the Site. PCE and TCE are both chlorinated VOCs and have been historically used as solvents. One of the specific uses has been as a degreaser for metals.

The use of the property was under a lease with the applicant prior to 2002. Since the applicant has leased or owned the Site, the only use has been as a storage yard for taxi cabs. The VOCs that are of concern on the property were not used by the Applicant.

Section No. 2.2: Surrounding Land Use

The Site is located in the middle of the block on 64th street in Woodside, Queens, between Northern Boulevard and 34th Avenue. To the north of the Site is Queensboro Toyota, a retail dealership and beyond it Northern Boulevard. To the west of the Site is parking for Acme Metal Cap, Inc. Further east is 62nd Street and beyond that Public School 152. Various commercial businesses adjoin PS 152 across 62nd Street. To the south of the Site is Acme Metal Cap, Inc., (the past owner of the Site) and an auto body facility. Further south is 34th Avenue and various 1 story commercial buildings. To the east of the Site is 64th street. Beyond 64th street are a scrap yard and Demolition Company, then the Brooklyn Queens expressway.

The property is zoned M-1- Light Manufacturing District. M-1 districts are generally mapped on the outskirts of residential neighborhoods, but may contain uses such as stores, small dry cleaners and auto repair facilities. The proposed project is compatible with the surrounding land use, and will be in compliance with the current zoning. No potable wells or surface water bodies were identified on or in the immediate vicinity of the Site. Available reports indicate that there is no federal or state public water supply wells located within a 1-mile radius of the Site.

SECTION NO. 3.0: REGIONAL GEOLOGY/HYDROGEOLOGY

The Site is located in north central part of Queens, New York. The elevation of the Site, as presented on the United States Geologic Survey (USGS), *Central Park, New York*, Quadrangle Map (1995), is approximately 34 feet above mean sea level (Figure 1, Appendix 1). The Site lies within an area classified as Urban Land. This soil type consists of urbanized areas where the majority of surface is covered with buildings, roads, driveways, parking lots, and other man-made structures.

There are no predominant geological surface features such as rock outcroppings on the Site. Site-specific stratigraphy was gathered during soil boring advancement activities. Based on soil collected by continuous sampling activities, the Site is underlain by fill material consisting of black to dark brown silty sand to medium to fine sand with occasional red brick and concrete fragments underlain by brown to tan medium to coarse sand and trace gravel extending to a depth of approximately 17 ft below ground surface (bgs).

The groundwater quality of the upper glacial aquifer can be impaired in areas due to heavy industrial and commercial development in the urban areas. Groundwater movement varies in relation to

topography, lithology, elevations of recharge and discharge areas, and man-made influences. Local groundwater flow was calculated from a site survey and groundwater gauging, performed by JCB in March, 2010, to be towards the northeast. Depth to groundwater ranged from 8.5 ft to 11 ft bgs. At the request of NYSDEC, the Site was resurveyed on September 16, 2010 and the prior survey data reviewed by JCB. The data review did not find any anomalies with the data generated on that day. The September 16, 2010 survey determined the groundwater direction and flow to be to the south west. This is consistent with historical site survey data.

SECTION NO. 4.0: WORK PLAN INVESTIGATION METHODOLOGY- ANOMALY INVESTIGATION

All Field work performed will be in conformance with the Sites approved health and safety plan.

Section No. 4.1: Anomaly Investigation

On January 18, 2010, prior to the start of the site investigatory work, Reliant supervised JCB in performing a Geophysical Survey of the Site utilizing ground penetrating radar for detecting subsurface anomalies. This investigation was performed utilizing a Whites PM 808 Magnometer. This meter sends emits an electromagnetic pulse into the ground and then interprets the pulse as it returns to the unit. This investigation detected four subsurface anomalies on the Subject property. The locations of these anomalies were painted onto the asphalt surface and are located on *Figure 3 of Appendix 1, the Anomaly Location Map*. They are also photo documented in *Appendix 2- Anomaly Field Photograph Log*. The size and shapes of these anomalies suggest the possibility that they may be 55 gallon drums, end on end, and one has the appearance of a 275 gallon tank.

The remediation objective for the Anomaly Investigation consists of the proper excavation, handling and removal of soils in the location of the four sub surface anomalies, documentation and restoration of the four areas. Investigative activities described will be performed in accordance with DER- 10 Technical Guidance for Site Investigation and Remediation dated May 2010.

The disturbance of contaminated soils during the excavation activities shall be performed by persons with proper training and use of personal protective equipment. Whenever soil disturbance activities are being performed, engineering controls and environmental conditions monitoring, such as dust suppression and community air monitoring, will be performed as detailed in Section 8.0.
The excavation of the anomaly area soils will be accomplished with a tera-mite or equivalent back hoe to explore the area of the anomalies.

Section No. 4.2: Soil Endpoint Sampling

Subsequent to excavation, a determination will be made of the nature of the anomaly. All excavations will be screened with a Photo Ionization Detector (PID). If the PID exhibits a reading of less than 5 parts per million (ppm), and the nature of the anomaly is such that it could not be a source of the Site contamination, then the excavation shall be closed with the existing Site soils. If the PID exhibits a reading over 5 ppm, then the soils will be stockpiled or drummed, dependent upon quantity, and properly characterized for disposal. Stockpiled soils shall be staged on polyethylene plastic sheeting in a location on the Site to be determined in the field. The plastic shall be bermed to allow for any internal runoff water, from soil moisture, to be collected for disposal. The stockpile shall be covered with polyethylene plastic sheeting to minimize rainwater contact with the contaminated soils. Decontamination procedures outlined in Section 7.0 will be followed during the handling of the soils. PID levels will be obtained to determine the extent of the excavation, will be followed by confirmatory endpoint samples. If the nature of the anomaly is such that it may in fact be a source of the contamination (a drum, or tank) then the excavation will be screened with a PID and end point samples obtained from the excavation and also samples will be obtained from inside the anomaly to verify the presence of contamination. Excavations exhibiting no contamination will be documented and the excavation shall be closed with the existing Site soils. Contamination remaining on the site will be addressed in the final Alternatives Analysis Report. All excavation samples obtained will be analyzed for EPA Method 8260 full and EPA method 8270 BN and handled as per Section 7, Quality Assurance/Quality Control Plan.

Section No. 4.3: Excavation Restoration

The intent of this exercise is to investigate the Site anomalies, not to remediate them. Groundwater at the Site ranged from 8.5 ft to 11 ft bgs. As such, excavation of the soils may not be a viable alternative and must be addressed through the Alternative Analysis. Under either of the above scenarios, only contaminated soils which were removed to perform the extent of the investigation, as identified in section 4.2 above, shall be removed and disposed of off-site. The excavations will be documented, and end point samples taken. If the excavation needs to be backfilled with additional soils to bring them to grade, clean fill that meets the criteria of DER 10 shall be selected and placed in the excavation. Soil brought to the Site for use as backfill must be pre-approved by NYSDEC. The material to be used will be first sampled, and the laboratory results reviewed by NYSDEC. NYSDEC will determine if the materials that were sampled for use are appropriate. Testing of the proposed backfill will be performed for the following: full Target Compounds List (TCL) compounds (volatiles, semi-volatiles, pesticides, and PCBs and Target Analyte List (TAL) metals. The laboratory

detection limits for each analysis must be, at a minimum, below the values detailed in 6 NYCRR Part 375.6.8. Once the soils are accepted and placed in the excavation, the excavation will be then capped with cold patch asphalt until such time as a holistic approach to the Site can be formulated and implemented.

SECTION NO. 5.0: WORK PLAN INVESTIGATION METHODOLOGY- DATA GAPS IN SOIL INVESTIGATION

Section No. 5.1: Soils Below the Groundwater Table

Although soils in the north east and north west corners of the property were investigated in the first round of sampling, it was determined that more investigation of the soils below the water table is needed. Soils in these areas below the groundwater table may have concentrations in excess of the Protection of Groundwater standards, and therefore could constitute a continuing source to the groundwater contamination in the area. To further define the extent of this potential source of contamination, 7 borings are proposed at the locations shown on Figure 5. Two of the borings are located at the approximate epicenters of the PCE plumes previously identified. The remaining five borings are located at the approximate extent of shallow and deep contamination also as indicated by prior borings. This sampling strategy is also shown on Figure 5.

Borings will be advanced at a minimum from the surface to a depth of 20 feet below the ground surface ("bgs"). Groundwater at the Site was measured to be from 8.5 to 11 ft bgs during prior investigations. This will be the "initial boring depth terminus" subject to revision based on conditions encountered. Samples will be continuously collected and screened with a Photo Ionization Detector from the surface grade down to this initial boring depth terminus.

For the two borings near the epicenters of the plumes, Borings 21 and 24, samples for laboratory analyses will be taken immediately below the clay soils identified in previous borings, at the depth below the groundwater interface that has the highest PID reading, and at the six inch interval at the boring depth terminus, which would be a depth of 19.5 to 20.0 feet if deeper contamination is not indicated by field screening (PID readings). A boring will be extended to deeper levels if deeper contamination is indicated by the field screening, up to the depth the PID readings are decreasing and becoming asymptotic; or if PID readings do not decrease, up to the depth the drilling equipment can safely accommodate or should clay soils be encountered below 20 feet. The deepest sample for

laboratory analysis from the boring will then be obtained from the six inch interval at the newly established boring depth terminus. This sampling strategy is shown graphically on Figures 6 and 7.

For the 5 borings made to explore the extent of contamination, borings will be drilled to a minimum depth of 20feet following the same protocol defined above to screen the soils and extend the borings if necessary. Samples for laboratory analyses will be obtained from the first 2 feet of the boring below asphalt, and from the sand soil just below the clay soil as shown on Figure 7 (typical). For Borings 22 and 23, the 3rd and deepest sample will be obtained from the 19.5 to 20 foot depth interval, or as modified based on field screening in accordance with the protocol for Borings 21 and 24.

Upon completion of the sampling event, the drill cuttings will be drummed and disposed of properly. The bore hole will be filled with sand to 1 foot below the surface. The last 1 foot of the boring will consist of bentonite slurry and cold mix asphalt patch.

The samples collected will be analyzed for EPA method 8260 full parameters with Category B deliverables. All samples will be sent to a NYS ELAP certified laboratory. Sample handling is outlined in the Quality Assurance/ Quality Control Plan outlined below.

Section No. 5.2: Natural Attenuation Feasibility

To address the potential remedial alternative of Natural Attenuation, Reliant and CEUS propose a round of ground water sampling from the 7 existing Site wells. The existing groundwater observation wells will be purged utilizing EPA low flow sampling techniques, as described below, and sampled for the following parameters:

(1) laboratory analytical results for nitrate, nitrite, sulfate, sulfide, methane, total and dissolved iron, total and dissolved manganese, potassium, chloride, and sodium;

(2) field parameter measurements for dissolved oxygen, oxidation-reduction potential, specific conductance, and pH.

Results from these sampling parameters will be utilized to support the potential for a Monitored Natural Attenuation Remedy.

SECTION NO. 6.0: GROUNDWATER SAMPLING

Groundwater samples will be collected from all of the 6 permanent groundwater observation wells and also historic groundwater monitoring well MW-4 located between the Site and the off-site dry cleaners.

In order to prevent cross contamination, disposable sampling equipment will be used to extract water from the aquifer.

All groundwater quality sampling shall be done in accordance with EPA's Low-flow (minimal draw down) procedures. To attain this goal, disposable polyethylene tubing shall be used, a peristaltic pump, and a YSI water quality meter, or equivalent, capable of measuring the required groundwater parameters. Between the sampling of each well, the tubing will be discarded and new tubing attached. Purge/stabilization water will be drummed and properly disposed of.

The groundwater chemistry will be monitored every 5 minutes until the groundwater chemistry stabilizes. Monitoring shall consist of pH, Specific Conductivity, Redox Potential, Dissolved Oxygen and Turbidity. The well shall be considered stabilized and ready for sampling when the following parameters are reached and maintained.

+0.1 for pH

+3% for Specific Conductance (Conductivity)

+10 m^y for Redox Potential

+10 % for Dissolved Oxygen

+10 % for Turbidity

Samples will be transferred to appropriate sample containers, packed on ice, sent for analysis to an NYSDOH ELAP certified laboratory. All samples will be collected and managed in accordance with NYSDEC guidelines and protocols. The following sample analysis shall be requested for permanent well groundwater samples:

- Volatile Organic Compounds (VOCs) via EPA Method 8260
- Nitrate, nitrite
- sulfate, sulfide
- methane
- total and dissolved iron
- total and dissolved manganese
- potassium
- chloride, and sodium

Field parameter measurements for dissolved oxygen, oxidation-reduction potential, specific conductance, and pH will also be collected.

SECTION 7.0 QUALITY ASSURANCE/QUALITY CONTROL PLAN (QA/QC)

QA/QC procedures will be followed to provide guidelines for accuracy, precision, sensitivity, completeness, and comparability associated with the sampling and analysis activities to be conducted as part of this investigation. Field QA/QC procedures will be used to ensure that the groundwater and soil samples collected are representative of the actual conditions. Field QA/QC will include the following procedures:

- **The calibration of field equipment.** All field analytical equipment used including PIDs will be calibrated on a daily basis.
- **The use of trip and collection field blank samples.** Trip blanks will be prepared by the ELAP-certified laboratory with de-ionized laboratory grade water and 1 blank will accompany all sample shipments to the laboratory. The water used will be from the same source as that used for the laboratory method blank. The trip blank will be handled and transported in the same manner as the samples collected which it will accompany.

  Trip blanks will be analyzed for VOCs to identify the presence of cross-contamination as a result of sample shipment, e.g. contaminated from the air, shipping containers, or from other items coming into contact with the sample bottles. The field blank will be collected by pouring de-ionized laboratory grade water over the decontaminated split spoons used to collect soil samples and gathering this water into appropriate sample containers preserved in the same manner as other aqueous matrix samples. The water used for the field blank will be from the same source as that used for the laboratory method blank. The field blank will be analyzed in accordance with ASP 95-1, to determine whether the field sampling equipment is cross-contaminating samples. Duplicate and MS/MSD samples shall be collected on every 10 outside samples and on every 3 inside samples.
- **The use of dedicated and disposable field sampling equipment.** Dedicated HDPE tubing and check valves will be used in all monitoring wells to eliminate the possibility of cross-contamination during groundwater sampling activities. Disposable sampling equipment including latex gloves and disposable bailers will be used to prevent cross-contamination between samples. Split-spoons used to collect soil samples during monitoring well installation as well as field screening equipment will be decontaminated after each sample by washing them with laboratory grade Alconox detergent and de-ionized water, and thoroughly air-drying equipment. All drilling equipment that contacts contaminated material will be decontaminated according to NYSDEC Protocol.

- **Equipment decontamination protocols.** All equipment utilized on the Site (back hoes, shovels, drill rig rods, buckets, sampling equipment, etc.) which comes in contact with potentially contaminated soils or groundwater, must be decontaminated prior to leaving the Site. A decontamination zone shall be constructed utilizing polyethylene sheeting to create a dyke area the exit area of the property (the gate area). A berm will be made around the equipment to collect the decontamination rinse-ate waters. A solution of Alconox detergent and clean tap water will be used to wash the equipment and then clean tap water will be used as a rinse for the equipment. The equipment will then be allowed to thoroughly air-dry prior to leaving the Site. Rinse-ate waters will be collected and drummed for offsite disposal.
- **The proper sample handling and preservation.** For each of the analytical parameters analyzed, a sufficient sample volume will be collected to allow the specified analytical method to be performed according to protocol, and to provide sufficient sample for reanalysis if necessary. Because plasticizers and other organic compounds inherent in plastic containers may contaminate samples requiring organic analysis, these samples will be collected in glass containers. Appropriate sample preservation techniques, including cold temperature storage at 4° C, will be utilized to ensure that the analytical parameters in the samples analyzed by the laboratory have not changed from the time the sample was collected in the field. Samples will be analyzed prior to the respective holding time for each of the analytical parameters to ensure the integrity of the analytical results.
- **The proper sample chain of custody documentation.** Sample handling in the field will conform to appropriate sample custody procedures. Field custody procedures include proper sample identification, chain-of-custody forms, and packaging and shipping procedures. Sample labels will be attached to all sampling bottles before field activities begin to ensure proper sample identification. Each label will identify the Site and sample location. Proposed sampling locations are indicated in the Sample Location Plan. Actual sampling locations, if different than proposed, will be marked on the Sample Location Plan which will be revised accordingly. Each cooler will be lined with 2 6-mil thick plastic bags. Styrofoam or bubble wrap will be used to absorb shock and prevent breakage of sample containers. VOC vials will be packaged inside a plastic "Ziplock" bag prior to placement inside the cooler. Ice or ice packs will be placed in between the plastic bags for sample preservation purposes. After each sample is collected and appropriately identified, the following information will be entered into the chain-of-custody form: 1) Site name and address; 2) sampler(s)' name(s) and signature(s); 3) names and signatures of persons involved in the chain of possession of samples; 4) sample number; 5) number of containers; 6) sample

location; 7) date and time of collection; 8) type of sample, sample matrix and analyses requested; 9) preservation used (if any); and 10) any pertinent field data collected (pH, temperature, conductivity, DO). The sampler will sign and date the "Relinquished" blank space prior to removing one (1) copy of the custody form and sealing the remaining copies of the form in a Ziplock plastic bag taped to the underside of the sample cooler lid. After sample containers are sufficiently packed and the chain-of custody form completed, the 6-mil plastic bags will be sealed around the samples by twisting the top and securely taping the bag closed to prevent leakage. A sample custody seal will be placed around the neck of the bag which will include the signature of the project manager, and/or his designee, and the date. The sample cooler will be sealed with tape prior to delivery or shipment to the laboratory. Additionally, sample custody seals will be placed around the cooler lid to detect unauthorized tampering with samples following collection and prior to the time of analysis. The seals will be attached in such a way that it will be necessary to break them in order to open the container. Seals will be affixed at the time of sample packaging and will include the signature of the project manager and/or his designee and the date.

- **The completion of report logs.** The following project logs will be completed during the course of this investigation: 1) field logs; 2) boring logs; 3) monitoring well development purging and sampling data logs; and 4) monitoring well installation details. A field log will be completed on a daily basis which will describe all field activities including: 1) project number, name, manager, and address; 2) date; 3) weather; 4) attendees on-site and associated affiliations; 5) description of field activities; and 6) all pertinent sample collection information including sample identification numbers, description of samples, location of sampling points, number of samples taken, method of sample collection and any factors that may affect its quality, time of sample collection, name of collector, and field screening results. A boring log will be completed for each boring advanced and each monitoring well drilled. The following information will be included on each boring log: 1) project number, name, manager, and location; 2) date; 3) drilling company and method used; 4) boring number; 5) total and water table depths; and 6) all pertinent soil sample information including sample number, interval, depth, amount recovered, color, composition, percent moisture, visual and olfactory observations of contamination, and field screening readings. Historic fill materials may be found on the Site. The presence or absence of this material will be noted on boring logs. All boring logs will identify the vertical extent of fill material.
- **The completion of monitoring well logs.** A monitoring well development, purging and sampling data log will be completed following development, purging and sampling of each monitoring

well. For both development as well as purging and sampling activities, the following information will be recorded: 1) project number, name, manager, and location; 2) monitoring well number; 3) well casing diameter and stick-up height; 4) depth of well from top of well and road box casings; 5) date; 6) time; and 7) water analyzer used. Additionally, for development activities, the following information will be recorded: 1) distance from top of well casing to water and free product; 2) height of water column; 3) volume factor and well volume, and 4) volume of groundwater removed during development. Also, for purging and sampling activities, the following information will be recorded: 1) distance from top of well casing to water and free product; and 2) the pH, temperature, conductivity, and dissolved oxygen content associated with the number of well volumes removed. A monitoring well installation detail will be completed for each new monitoring well installed. The following information will be recorded on each detail: 1) project name, number, and manager; 2) monitoring well number; 3) driller; 4) date installed; 5) top of casing, ground surface, well point, and bottom of boring elevations, 6) borehole diameter, 7) type of well cover/cap, 8) type of protective casing and collar; 9) type of well casing and screen; 10) diameter of casing and screen; 11) type of backfill material; 12) type of joint; 13) type of impermeable backfill; 14) type of screen packing; and 15) screen slot size.

- **Data Validation.** In accordance with the NYSDEC ASP Category B Data Deliverables requirements of NYSDEC Division of Environmental Remediation Guidance Memorandum 10 (DER-10), A Data Usability Summary Report (DUSR) will be prepared from the ASP Category B Data Deliverable. This will be performed by a third party validator, yet to be determined. A qualifications statement for the Data Validator will be supplied when the contractor choice is made.

SECTION NO. 8.0: COMMUNITY AIR MONITORING PLAN

The nearest off-site potential air receptors are residential properties and a public school located approximately 50 feet west from the Subject Site. The known potential contaminates at the Site will require continuous real-time air monitoring for Volatile Organic Compound (VOC) levels at the perimeter of the excavation and/or work area.

Section No. 8.1: VOC Monitoring, Response Levels, and Actions

Volatile organic compounds will be monitored at the downwind perimeter of the excavation on a continuous basis. Upwind concentrations will be measured at the start of each work day and

periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known. The equipment will be capable of calculating 15 minute running average concentrations, which will be compared to action levels.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15 minute average, the work activities will be temporarily halted and monitoring continued. If the total organic vapor readily decreases 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 will 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 organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15 minute readings will be recorded and be available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Section No. 8.2: Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will 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 will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

If downwind PM- 10 particulate level is 100 micrometers 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 will 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 will 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 will be recorded and be available for State (DEC and DOH) personnel to review.

SECTION NO. 9.0: SCHEDULE AND REPORTING

Once approved, the additional work will be implemented in accordance with the schedule attached in Appendix 3, Project Time Line. Within 90 days from completion of all on-site activities associated with the Work Plan for Additional Investigation, all data generated shall be submitted to the NYSDEC as a section in a revision of the Remedial Investigation Report that details the work performed, waste disposal records, and laboratory analysis reports.

SECTION NO. 10.0 ENDORSEMENTS

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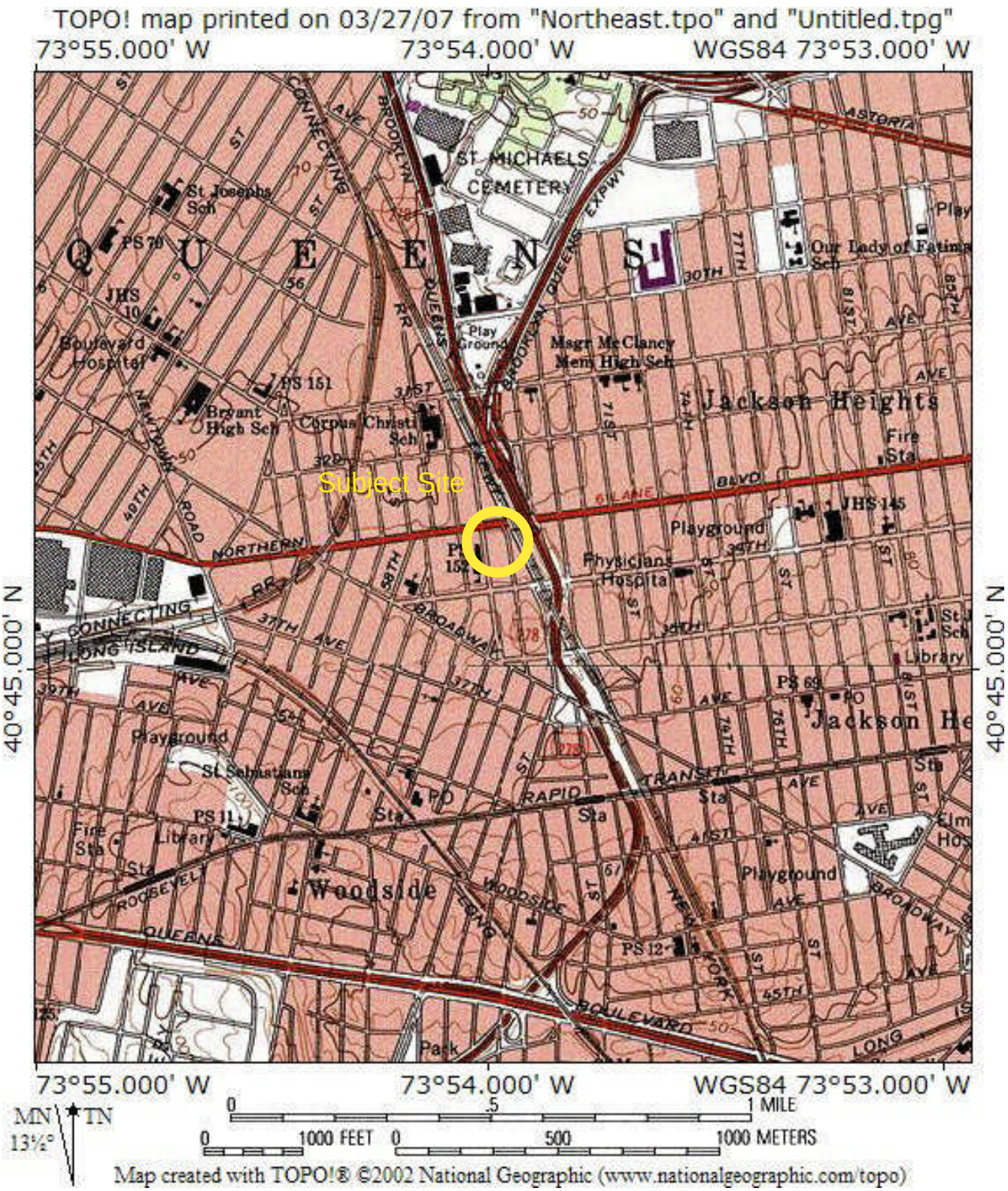
APPENDIX 1

FIGURES



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CPT 6/2010

Figure 1 Location Map
64th Street-C241106

33-32 64th Street
Queens, New York 11377

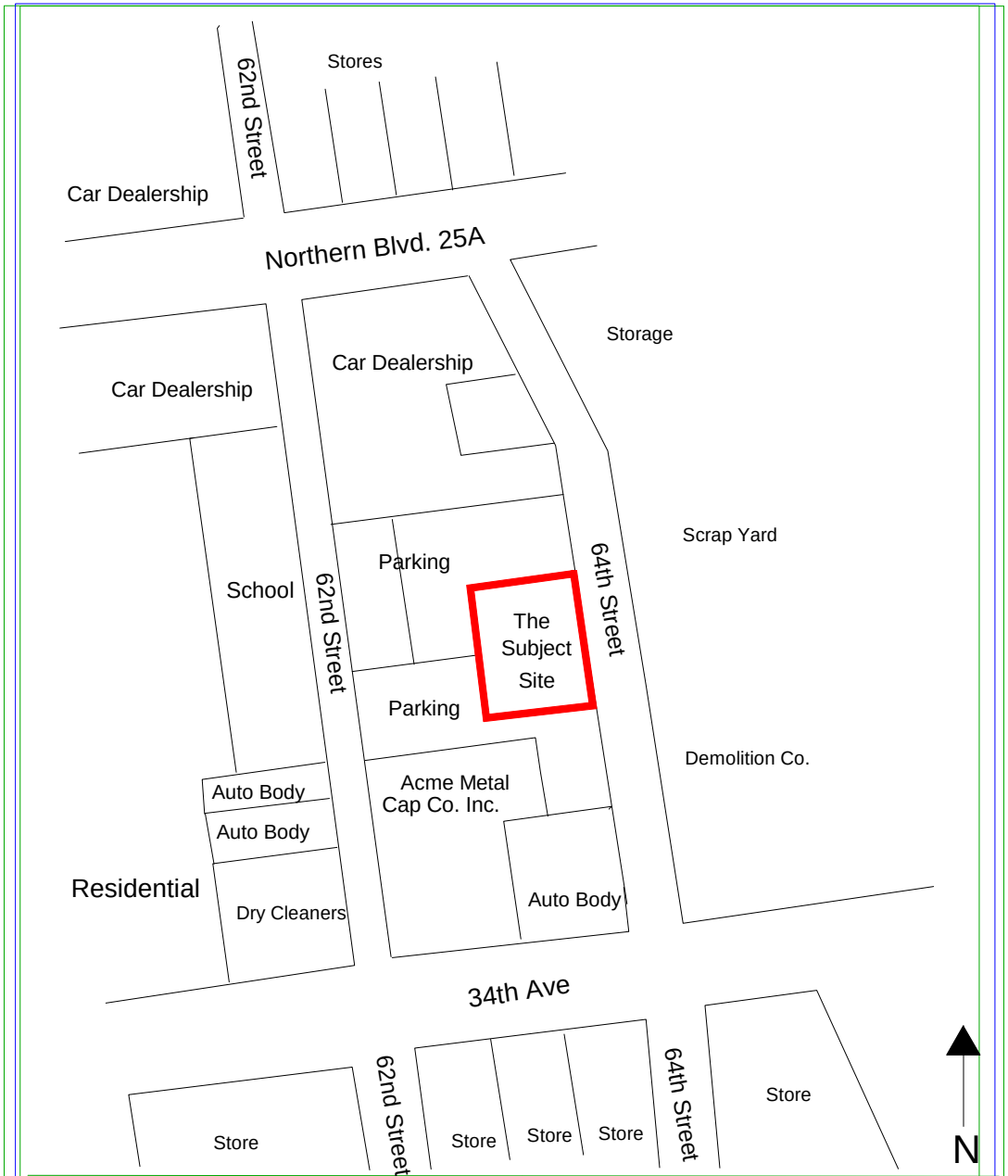

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Figure 2
Surrounding Are Map
33-32 64th Street
Queens, New York 11377

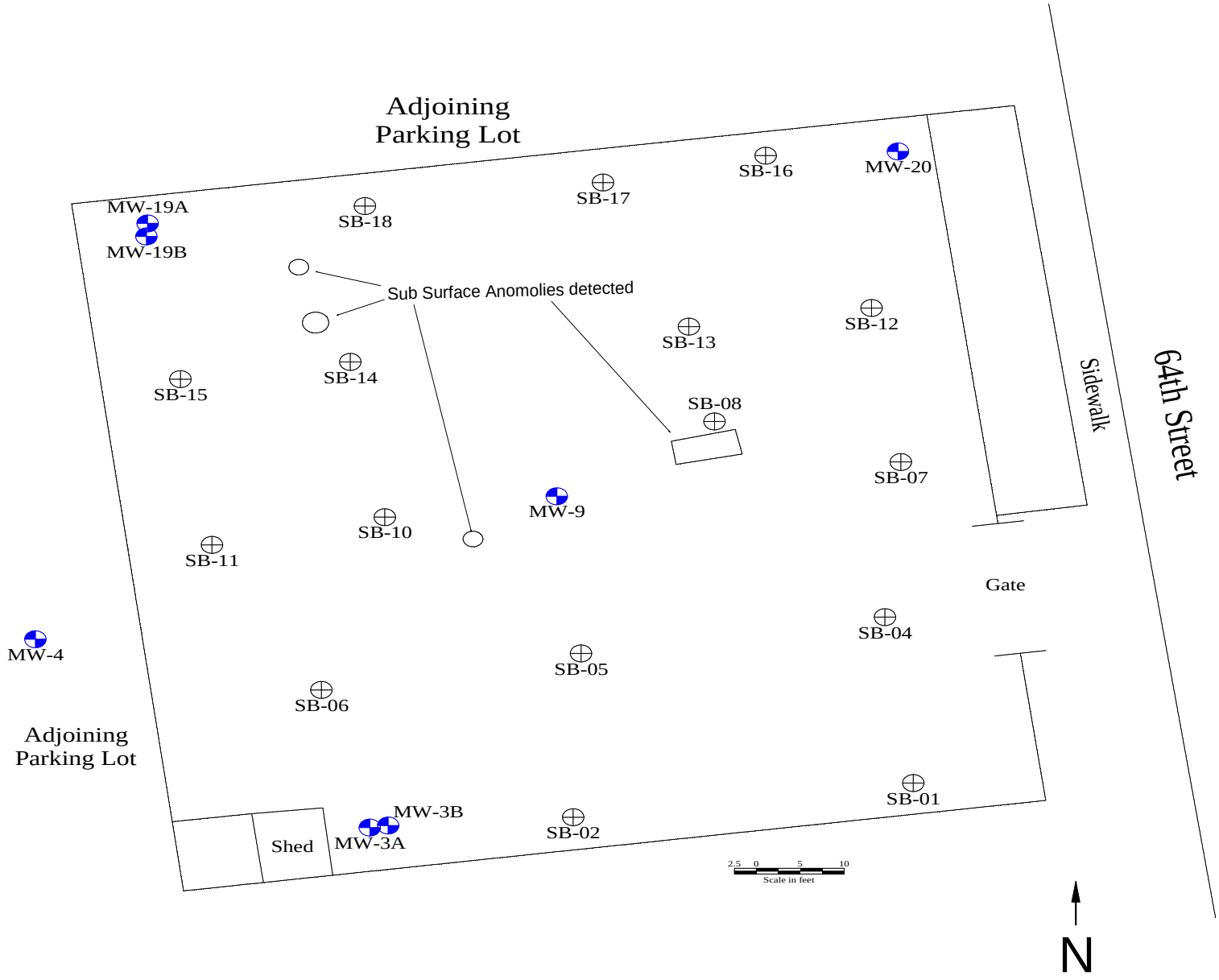

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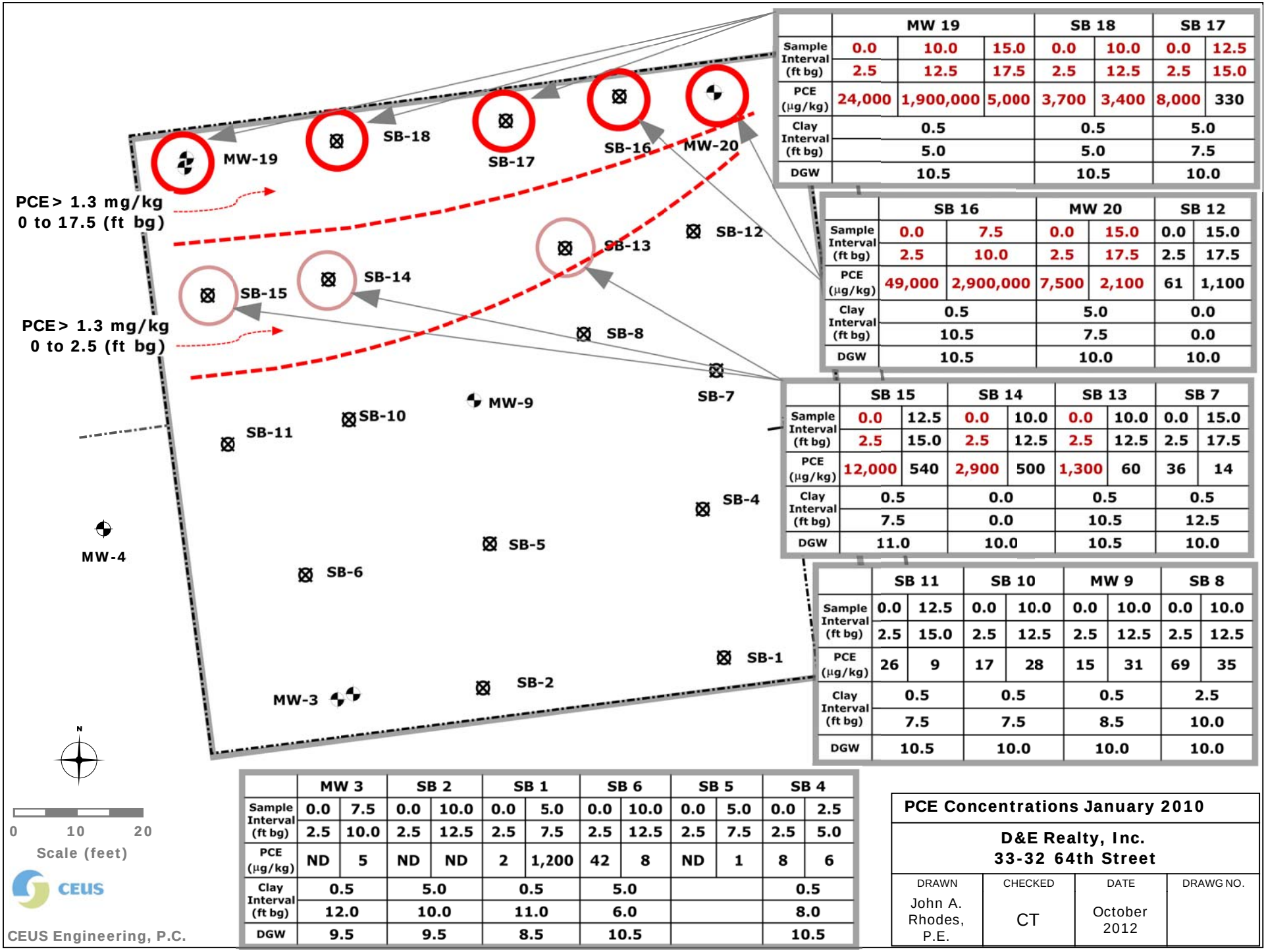
Figure 3
Anomaly Location Map

C Tomasello
1/2011

64th Street-C241106
33-32 64th Street
Queens, New York 11377

Figure 4, PCE Concentrations, January 2012



	MW 19			SB 18		SB 17	
Sample Interval (ft bg)	0.0	10.0	15.0	0.0	10.0	0.0	12.5
	2.5	12.5	17.5	2.5	12.5	2.5	15.0
PCE (µg/kg)	24,000	1,900,000	5,000	3,700	3,400	8,000	330
Clay Interval (ft bg)	0.5			0.5		5.0	
	5.0			5.0		7.5	
DGW	10.5			10.5		10.0	

	SB 16		MW 20		SB 12	
Sample Interval (ft bg)	0.0	7.5	0.0	15.0	0.0	15.0
	2.5	10.0	2.5	17.5	2.5	17.5
PCE (µg/kg)	49,000	2,900,000	7,500	2,100	61	1,100
Clay Interval (ft bg)	0.5		5.0		0.0	
	10.5		7.5		0.0	
DGW	10.5		10.0		10.0	

	SB 15		SB 14		SB 13		SB 7	
Sample Interval (ft bg)	0.0	12.5	0.0	10.0	0.0	10.0	0.0	15.0
	2.5	15.0	2.5	12.5	2.5	12.5	2.5	17.5
PCE (µg/kg)	12,000	540	2,900	500	1,300	60	36	14
Clay Interval (ft bg)	0.5		0.0		0.5		0.5	
	7.5		0.0		10.5		12.5	
DGW	11.0		10.0		10.5		10.0	

	SB 11		SB 10		MW 9		SB 8	
Sample Interval (ft bg)	0.0	12.5	0.0	10.0	0.0	10.0	0.0	10.0
	2.5	15.0	2.5	12.5	2.5	12.5	2.5	12.5
PCE (µg/kg)	26	9	17	28	15	31	69	35
Clay Interval (ft bg)	0.5		0.5		0.5		2.5	
	7.5		7.5		8.5		10.0	
DGW	10.5		10.0		10.0		10.0	

	MW 3		SB 2		SB 1		SB 6		SB 5		SB 4	
Sample Interval (ft bg)	0.0	7.5	0.0	10.0	0.0	5.0	0.0	10.0	0.0	5.0	0.0	2.5
	2.5	10.0	2.5	12.5	2.5	7.5	2.5	12.5	2.5	7.5	2.5	5.0
PCE (µg/kg)	ND	5	ND	ND	2	1,200	42	8	ND	1	8	6
Clay Interval (ft bg)	0.5		5.0		0.5		5.0				0.5	
	12.0		10.0		11.0		6.0				8.0	
DGW	9.5		9.5		8.5		10.5				10.5	

PCE Concentrations January 2010

D&E Realty, Inc.
33-32 64th Street

DRAWN	CHECKED	DATE	DRAWG NO.
John A. Rhodes, P.E.	CT	October 2012	

Figure 5

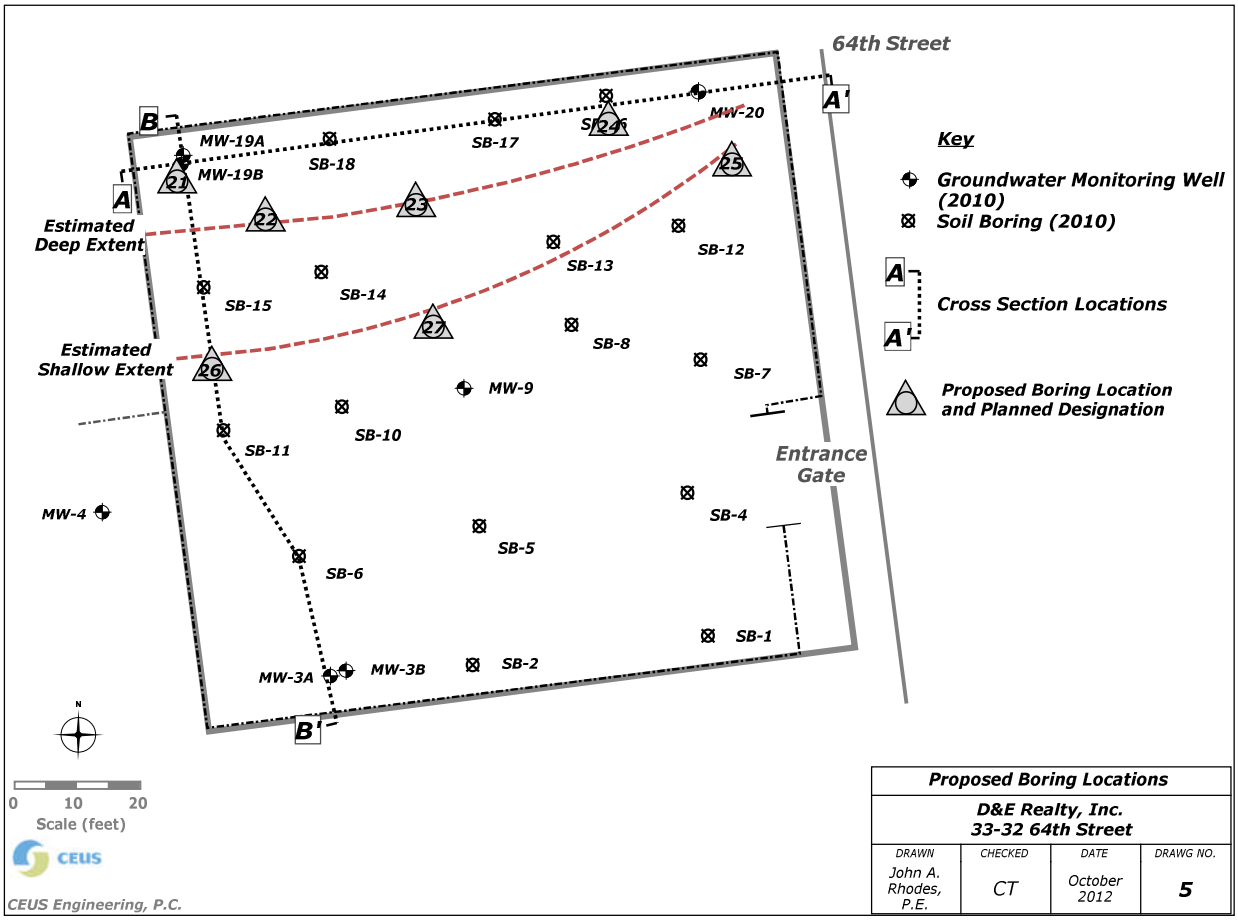

64th Street
A
A'
B
B'
MW-19A
MW-19B
MW-20
SB-17
SB-18
SB-24
21
22
23
24
25
26
27
Estimated Deep Extent
Estimated Shallow Extent
SB-15
SB-14
SB-13
SB-12
SB-8
SB-7
MW-9
SB-10
SB-11
Entrance Gate
MW-4
SB-4
SB-5
SB-6
SB-1
MW-3A
MW-3B
SB-2
Key
Groundwater Monitoring Well (2010)
Soil Boring (2010)
Cross Section Locations
Proposed Boring Location and Planned Designation
N
0
10
20
Scale (feet)
CEUS
CEUS Engineering, P.C.
Proposed Boring Locations
D&E Realty, Inc.
33-32 64th Street
DRAWN
John A. Rhodes, P.E.
CHECKED
CT
DATE
October 2012
DRAWG NO.
5

Figure 6

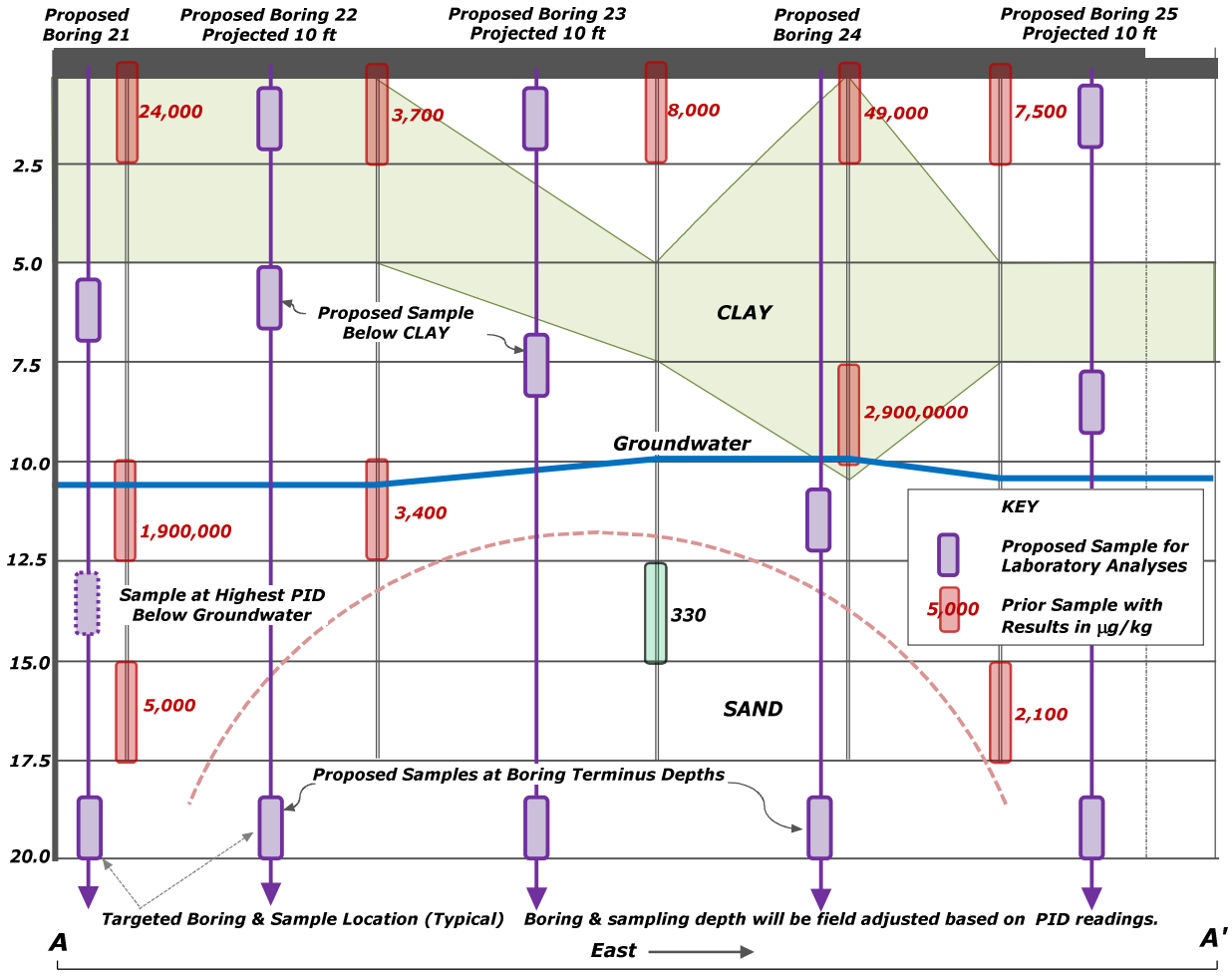
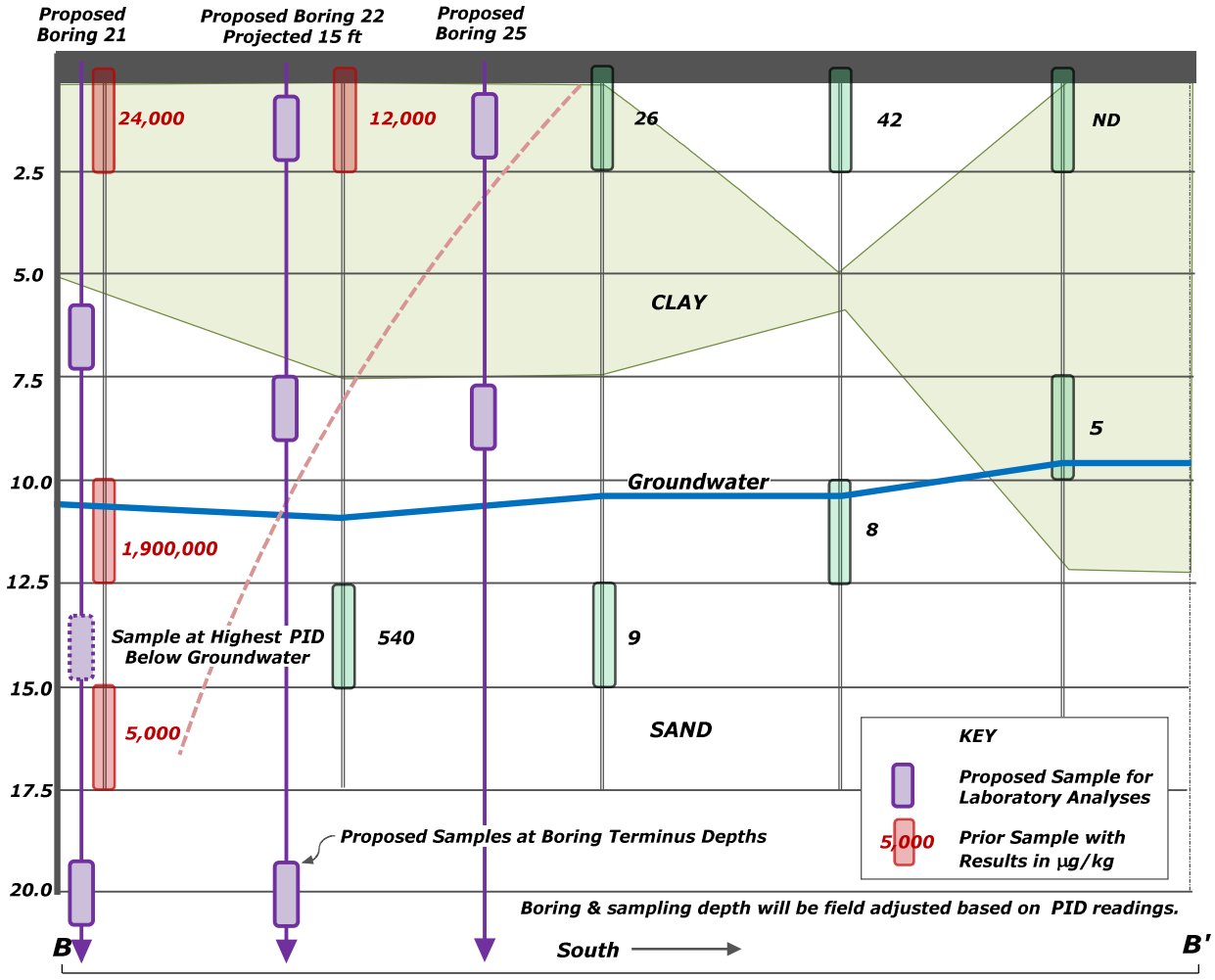

Proposed Boring 21
Proposed Boring 22 Projected 10 ft
Proposed Boring 23 Projected 10 ft
Proposed Boring 24
Proposed Boring 25 Projected 10 ft
24,000
3,700
8,000
49,000
7,500
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
Proposed Sample Below CLAY
CLAY
2,900,0000
Groundwater
1,900,000
3,400
Sample at Highest PID Below Groundwater
330
KEY
Proposed Sample for Laboratory Analyses
5,000
Prior Sample with Results in µg/kg
5,000
SAND
2,100
Proposed Samples at Boring Terminus Depths
Targeted Boring & Sample Location (Typical)
Boring & sampling depth will be field adjusted based on PID readings.
A
East
A'

Figure 7


Proposed Boring 21
Proposed Boring 22 Projected 15 ft
Proposed Boring 25
24,000
12,000
26
42
ND
2.5
5.0
CLAY
7.5
5
10.0
Groundwater
1,900,000
8
12.5
Sample at Highest PID Below Groundwater
540
9
15.0
5,000
SAND
17.5
Proposed Samples at Boring Terminus Depths
20.0
KEY
Proposed Sample for Laboratory Analyses
5,000
Prior Sample with Results in µg/kg
Boring & sampling depth will be field adjusted based on PID readings.
B
South
B'

APPENDIX 2

Anomaly Field Photograph Log

APPENDIX 3

Project Time Line

Schedule

Schedule for 64th Street, D&E Realty, BCP site. C241106 — **Revised: 4/5/2013**

Task	Start	End	Dur
64th Street, D&E Realty, C241106	3/22/13	7/14/14	480
Revisions to RIWP	3/22/13	4/5/13	15
Approval of RIWP	4/6/13	4/20/13	15
Implementation of RIWP	4/21/13	7/19/13	90
Remedial Investigation Report	7/20/13	8/18/13	30
Department Review of RIR	8/19/13	9/17/13	30
Revisions to RIR	9/18/13	10/17/13	30
Approval of RIR	10/18/13	11/1/13	15
Alternative Analysis (AA)	11/2/13	12/1/13	30
Department Review of AA	12/2/13	12/31/13	30
Draft Remedial Work Plan (RWP)	1/1/14	3/31/14	90
Department Review of Draft RWP	4/1/14	4/30/14	30
Preparation for and Public Review	5/1/14	6/14/14	45
Revisions to RWP	6/15/14	6/29/14	15
Department Approval of RWP	6/30/14	7/14/14	15