"TOMORROWS ANALYTICAL SOLUTIONS TODAY"

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Mr. Girish Desai New York State Department of Environmental Conservation 50 Circle Road Stony Brook, NY 11790-3409

March 5, 2018

Re:

Limited Sub-Surface Soil Investigation, and on-going Soil Vapor Intrusion Monitoring Work Plan for 115 Old Country Road Site No. 130199 Carle Place NY.

Dear Mr. Girish;

Pursuant to our conversation Long Island Analytical Laboratories Inc. (LIAL) is pleased to submit the following work plan for review and comment in connection with the above referenced site.

### SITE LOCATION-

The 115 Old Country Road site is located at 115 Old Country Road, Carle Place NY on the North side of Old Country Road and West of Glen Cove Road. The 115 Old Country Road site is located in Nassau County and the Town of North Hempstead, and is identified as Section 9, Block 670, Lot 55. The 115 Old Country Road Site is 4.65 acres and is currently a commercial shopping center. The 115 Old Country Road Site is not listed on the Registry of Inactive Hazardous Waste Disposal Sites in New York.

# HISTORY & CRONOLOGY-

According to information obtained from a Site Characterization Investigation Report dated April 2013, and a Sub-Slab Depressurization System Remedial Design Work Plan dated May 2013 prepared by Edgewater Environmental, Inc. located at 10 Adams Place Huntington, NY 11746, the following information is provided. Historical usage of the site beginning in 1962 and continuing for several decades indicates that Johnson & Hoffman Manufacturing (J&H) manufactured metal specialty products at its facility located at 40 Voice Road in Carle Place, which included the use of several chlorinated solvents. The J&H Site is located north of 115 Old Country Road, and North of the of the Long Island Railroad tracks. J&H's activities contaminated soil and groundwater at its Voice Road Facility and the contamination migrated off-site. J&H entered into an agreement with the NYSDEC to investigate and remediate its onsite and off-site contamination. As part of the J&H's required off-site investigation, in March and April of 2008, ERM, J&H's consultant, conducted testing at the 115 Old Country Road site. consisting of groundwater samples and a soil vapor intrusion (SVI) study. ERM collected subslab soil gas, indoor air and outdoor air samples as part of the SVI study. The sub-slab and indoor air samples taken by ERM at the 115 Old Country Road were collected from a then vacant unit. ERM reported that the sub-slab and indoor samples from the vacant space contained 1, 1, 1-Trichloroethane (TCA) and Tetrachloroethene (PCE). Both PCE and Trichloroethene (TCE) were used at the J&H site.

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Although J&H's consultant, ERM, suggested that the dry cleaner formerly located at 115 Old Country Road may be a source of the detected PCE, there was no documented release of PCE by the dry cleaner. In addition, there was no documented current or past use of TCA at the 115 Old Country Road Site. Furthermore, the groundwater samples taken by ERM did not detect any elevated levels of PCE or TCA.

In March of 2009, Impact Environmental conducted sub-slab soil vapor and indoor air sampling at the 115 Old Country Road site. Impact Environmental reported finding levels of TCA, PCE, and TCE in the sub-slab sample, and levels of PCE and TCE in the indoor air sample. There was no documented current or past use of TCE at the 115 Old Country Site, although there was documented use of TCE at J&H.

In December 2009, Edgewater, on behalf of the respondent, collected a sub-slab soil vapor sample from the existing probe installed by ERM, in what was at the time a vacant space. The sub-slab TCE & PCE concentrations found by Edgewater were about half the concentrations previously reported by ERM.

In February 2010, Edgewater installed a sub-slab depressurization system (SSDS) under the vacant space consisting of two independent suction wells and blowers. This system was installed and began operating before the occupancy of the new tenant. A standard in-line blower system was installed. A pilot test documented sufficient vacuum beneath the slab with the blowers operating in tandem or independently. Two separate systems were installed, one along the east wall and one along the west wall in the tenant space with two separate extraction wells installed approximately 40 feet from the front wall. All piping was six (6) inch diameter PVC pipe. The extraction wells were constructed of slotted schedule 40 PVC and hand-dug to a depth of approximately 40 inches below the slab. The annular spaces around the wells were packed with pea gravel and the slab grade finished with concrete. The piping continued vertically along the walls and then above the drop ceiling toward the rear of the building. Two 220 CFM radon-type blowers (one for each extraction well) were installed immediately outside the tenant space in the enclosed alleyway, and the blowers exhausted to the roof level. The exhaust piping extends two (2) feet above the roof line. Three (3) flush-mount soil vapor probes were installed in the front of the tenant space and the vapor probe previously installed in the rear of the space was re-installed so it was flush to the slab and not causing a trip hazard.

In June 2010, Edgewater collected sub-slab vapor samples from the two (2) probes located in the vacant tenant space, after the blowers had been operating of several months. The results of this sampling revealed that the TCA concentrations in both samples were significantly lower than the samples collected in March 2008, and December 2009.

Three (3) additional SVI sampling events were conducted at several locations at the 115 Old Country Road site. (1) February 24, 2012: testing was done in and below the Tiger Schulman's and the Sprint Store spaces; (2) November 16, 2012: testing was done in and below the Cups and Bagel Boss spaces; and (3) December 21, 2012: testing was done in and below the Bagel Boss, Cups, and Babi Nails spaces.



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The respondent on or about December of 2013 created a demising wall in the rear of the strip center completely segregating the Dry Cleaners space from any other common areas. The construction of the demising wall was done at the recommendation of the Edgewater in an attempt to minimize any PCE vapors from migrating from the current Dry Cleaner's store to the neighboring stores. Subsequent to the installation of the demising wall on or about the October 2016 the Dry Cleaner vacated the premise, leaving the space vacant for several months. Furthermore the respondent sealed parts of the building slab to help prevent the migration of sub-slab vapors into the indoor spaces.

In March of 2017 Long Island Analytical Laboratories Inc. (LIAL) secured a total of Fifteen (15) sub-slab vapor samples from the following locations as well as verified the vacuum pressure from each of the sampling points. It should be noted that prior to collecting the fifteen (15) sub-slab vapor samples the current SSDS system operating in the western portion of the strip center was turned off for a period of sixty (60) days prior to collection of the samples. Upon securing the samples the current SSDS was turned back on, allowed to operate for a period of 24 hours and the vacuum pressure from each of the four (4) stores being serviced by the SSDS was checked. It should be noted that a continuous open air space spans the entire length of the strip center, from what is now the Falafel Store all the way to what is now the Babi Nails. This air gap varies in size from as little as 2 inches to as much as 8 inches depending on the location. This gap from the bottom of the existing slab to the surface of the soil, allows any vapors to spread throughout the entire space under the existing slab (see attached spider diagram depicting locations and results):

Location	Results TCA Indoor Air	Results TCA Sub-slab	Vacuum Pressure mBar	Vacuum Pressure Inches w/c
Just Falafel	Non-Detect	92.8 ug/m <sup>3</sup>	0.075 mBar	0.0301
Super Cuts	Non-Detect	18.1 ug/m <sup>3</sup>	0.100 mBar	0.0401
Altour Travel*	Non-Detect*	39.1 ug/m <sup>3*</sup>	0.107 mBar	0.0429
Zoups*	Non Detect*	39.1 ug/m <sup>3*</sup>	0.081 mBar	0.0325
Vacant #23	Non Detect	442 ug/m <sup>3</sup>	N/A	N/A
Liquor Store	Non Detect	494 ug/m <sup>3</sup>	N/A	N/A
MRI Store	Non Detect	469 ug/m <sup>3</sup>	N/A	N/A
Phone Store	Non Detect	874 ug/m <sup>3</sup>	N/A	N/A
Lou's Pizza	Non Detect	175 ug/m <sup>3</sup>	N/A	N/A
Bagel Boss	Non Detect	239 ug/m <sup>3</sup>	N/A	N/A
Babi Nails	Non Detect	405 ug/m <sup>3</sup>	N/A	N/A
Vacant Store	Non Detect	203 ug/m <sup>3</sup>	N/A	N/A
Bens Deli	Non Detect	160 ug/m <sup>3</sup>	N/A	N/A
Barnes & Noble #1	Non Detect	647 ug/m <sup>3</sup>	N/A	N/A
Barnes & Noble #2	Non Detect	832 ug/m <sup>3</sup>	N/A	N/A

<sup>\*</sup> Altour travel store & Zoups was one location recently split into two (2) separate stores to accommodate new tenants

The above results indicate that an area of soil near or under the existing slab in the vicinity of what is now know as the Phone Store may be impacted with TCA. It is not believed that the TCA being detected in the sub-slab samples around the Phone Store are from the J&H spill, and is more likely a result of a sudden or non-sudden release of TCA from the Laboratory Furniture Inc. which operated a manufacturing facility located at 115 Old Country Road Carle Place up until the mid to late 1980's.



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The above results also indicate that there may be a second source of impacted soil near or under what is now the Barnes & Noble Store.

Based on the LIAL findings it appears that the PCE found by ERM, Impact Environmental, and Edgewater Environmental, was due to normal daily operational activities of a Dry Cleaner, although the Dry Cleaning Equipment was contained inside an "Air Tight" room in accordance with local regulations, continuous opening and closing of the doors leading into the room certainly would have released PCE into the surrounding areas compromising the results. This is confirmed by the fact that the PCE levels in the ambient air samples were found to be nondetect after the departure of the Dry Cleaning Store.

# PROPSOSED LIMITED SUB-SURFACE SITE INVESTIGATION-

In an attempt to locate and delineate any sources of TCA impacted soil in the areas that have previously exhibited elevated Sub-Slab Vapor levels of TCA specifically the area near and around the Phone Store, and Barnes & Noble the following scope of work is recommended:

- A series of Thirteen (13) soil boring shall be advanced using a standard Geoprobe equipped with a five (5) foot macrocore sampler, capable of securing discrete two (2) inch diameter soil core samples starting at grade level and continuing to the groundwater interface or refusal is encountered. A total of four (4) soil borings shall be strategically placed bracketing the northern and southern perimeters of the Vacant Store #23, Liquor Store, MRI Store, and the Phone Store. Additionally nine (9) soil borings shall be strategically placed bracketing the West, North and East perimeters of the Barnes & Noble Store.
- All soil borings shall be field screened for organic vapors using a portable Photoionization Detector (PID Meter) and visually inspected for overt signs of petroleum/solvent impact. In the event that any elevated PID readings or overt sign of petroleum/solvent impact is noted, a soil sample from that depth shall be secured and submitted for Volatile Organic Hydrocarbons via EPA Method 8260C. In the event that no elevated PID readings or overt signs of petroleum/solvent impact is noted in any of the core samples of a particular boring location, than a soil sample shall be secured at the groundwater interface or the depth refusal is encountered, and submitted for analysis of Volatile Organic Compounds via EPA Method 8260C. If elevated PID readings are detected in multiple soil samples in a soil boring location, more than one (1) soil sample will be secured.
- All soil samples shall be collected and preserved in strict accordance with New York State Department of Health NYSDOH ELAP protocol. All samples shall be analyzed by the LIAL laboratory located in Holbrook, NY 11741 ELAP # 11693.
- A total of five (5) groundwater samples shall be secured from the site and analyzed for Volatile Organic Hydrocarbons via EPA Method 8260. (Please refer to spider diagram attached for proposed locations of soil and groundwater borings).
- Two (2) soil vapor points shall also be advanced and tested in the rear and front parking lots up-gradient and down-gradient of the Vacant Store #23, Liquor Store, MRI Store, and the Phone Store.
- One (1) soil vapor point shall be advanced in the common hallway directly behind the Phone Store, which has routinely exhibited the highest sub-slab levels of TCA.



# PROPOSED SOIL VAPOR INTRUSION MONITORING-

A total of Eleven (11) sub-slab, and Eleven (11) indoor ambient samples, and Two (2) outside controls samples, shall be secured and tested in strict accordance with NYSDOH Guidance for Soil Vapor Intrusion in New York State, dated October 2006. (Please refer to spider diagram attached for proposed locations of the sub-slab, indoor ambient, and outside control samples).

#### SUMAMRY-

Based on historical data, several onsite inspections, and recent Soil Vapor Intrusion data, it is the opinion of LIAL that one (1) or possibly two (2) small areas of soil near or under the existing strip center has been impacted with TCA, resulting in elevated levels of Sub-Slab Vapors of TCA. It is not clear as to the exact location of the impacted soil, nor has the source of the impacted soil been determined, at this time.

Fortunately, none of the indoor ambient air samples collected have exhibited any detectable levels of TCA, and therefore has not triggered the "Mitigate" requirement as per the NYSDOH Guidance for Soil Vapor Intrusion in New York, dated October of 2006.

The purpose of the proposed sub-surface investigation, and Soil Vapor Intrusion Monitoring is to attempt to locate and delineate the source(s) of TCA on the subject site, as well as to comply with the "Monitor" recommendation outlined in the NYSDOH Guidance for Soil Vapor Intrusion in New York, dated October of 2006.

Should a source(s) of TCA be identified as a result of this investigatory action, appropriate remedial action inclusive of a remedial action work plan shall be submitted to the NYSDEC for review and comment.

Should the Sub-Slab and Indoor ambient data indicated that the levels require Mitigation, than an additional Sub-Slab Depressurization System Remedial Design Work Plan shall be submitted to the NYSDEC for review and comment, addressing the individual stores that may require Mitigation.

# QUALITY ASSURANCE PROJECT PLAN-

Sub-slab soil vapor and indoor and ambient air samples will be collected in accordance with the protocols described in the NYSDOH October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York guidance document.

The sub-slab vapor samples will be collected from temporary sampling points installed in the floor slab. A ¾ inch diameter hole will be drilled through the concrete floor slab. The temporary point will be drilled using a rotary hammer drill. The boring will be initially advanced to the bottom of the concrete slab to determine the thickness of the slab, and then advanced an additional inch into the sub-slab annulus to create an open cavity to prevent potential obstructions during sampling. A ¼ inch diameter Teflon tube will be inserted into the hole and sealed in place with modeling clay. The Teflon tubing will be removed from the temporary point and the point will be sealed with concrete upon completion of the sampling. The quality control requirements, sub-slab soil vapor and air sampling procedures are described below.



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**Field quality control** will be maintained during all field activities. All field quality control procedures will be followed according to this Quality Assurance Project Plan and documented in bound ledgers.

**Field Measurements** measurement data generated during field activities that are incidental to collection of samples for analytical testing or unrelated to sampling will be recorded in a bound field ledger book, when and if applicable. These activities may include:

- Identify any chlorinated Volatile Organic Hydrocarbons or related products used or stored on the subject site.
- Record weather conditions, including precipitation, outdoor temperature, barometric pressure, wind speed, and direction at least 24 to 48 hours prior to sampling.
- Prepare a sampling site map which will include the site building(s), sampling locations, location of potential interferences, compass orientations, building footings and paved areas.
- Record building ventilation conditions, such as an active heating system, at the time of sampling.
- Record pertinent observations, such as odors and readings from field instrumentation, such as a Photoionization detector.

**Tracer Gas Testing** Tracer gas field-testing using helium gas will be performed on all implants prior to sampling to verify the integrity of each implant seal and to limit the possibility of sample dilution and or contamination from surface air.

The tracer gas field test will consist of sealing the area surrounding the implant with a Stainless Steel canister and introducing helium underneath the canister to ensure that the area where the probe intersects the ground is immersed in the tracer gas. A helium detector will be connected to the soil vapor/sub-slab vapor implants, in accordance with Section 2.7.5 of the NYSDOH October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York document, and tracer gas concentrations in the space above the slab but contained in the stainless steel vessel will be recorded on the chain of custody.

Sample Collection the sub-slab vapor samples will be collected as follows for laboratory analysis:

- Enter the designated sample identification, collection date and time, and the name of the sample collector, and record the equipment used to collect the sample.
- Lay plastic sheeting over the sampling area to provide a clean surface.
- Insert Teflon tubing to each sampling port and apply helium beneath the stainless steel canister.
- Confirm the tracer gas in not penetrating the slab through any leaks, cracks, and or holes.
- Ensure that the initial SUMMA canister pressure is -30 PSI to start, and that the flow rate is not greater than 0.2 liters per minute.
- Evacuate a maximum of three implant volumes prior to sample collection and connect the tubing to a summa canister.
- Following the setup of all summa canisters, open each valve and record time.



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- Periodically check the pressure of each summa canister to ensure proper function.
- After 8 hours have elapsed, close each valve and record the time, and pressure remaining in the summa canister.
- Label the sample, record the canister ID number, and complete chain of custody.

**Field Duplicate** a field duplicate sample from one (1) of the indoor ambient sample locations will be collected and submitted to the analytical laboratory to provide means to assess the quality of the data resulting from the field sampling program. The duplicate samples will be for sampling and analytical reproducibility and will be collected using the same procedures as all other samples.

**Indoor Air and Outdoor Air Samples** An indoor air sample will be collected in the same general area where the sub-slab vapor samples are collected. One outdoor upwind and one outdoor downwind sample shall be collected at the same time as the indoor ambient, and sub-slab samples are secured.

Laboratory Analysis The samples shall be delivered to the Long Island Analytical Laboratory located at 110 Colin Drive Holbrook NY 11741 ELAP # 11693 for analysis via EPA Method TO-15.

An independent third party Data Usability Summary Report (DUSR) will accompany the submitted analytical data. In accordance with the New York Department of Environmental Conservation (NYSDEC) Analytical Services Protocol.

# Health & Safety Plan & Community Air Monitoring Plan

Long Island Analytical Laboratories Inc. (LIAL) will collect soil, soil vapor and groundwater samples as part of a New York State Department of Environmental Conservation (NYSDEC) required Site Characterization at 115 Old Country Road Site in Carle Place, New York. This Health and Safety Plan (HASP) has been developed to address the potential physical and chemical hazards that employees may face while performing the planned field activities. This HASP establishes procedures to minimize workers exposures through personal protective equipment and safe work practices. This HASP has been developed to meet the requirements of the Occupational Safety and Health Administration (OSHA) regulation Title 29, Code of Federal Regulations, Part 1910.120, Hazardous Waste Operations and Emergency Response (OSHA 1989).

Responsibilities Michael Veraldi has been designated as the Site Safety Officer (SSO). He will be responsible for implementing the procedures and safe work practices established in this HASP. In the event that the SSO must leave the site while work is in progress, then James Aufiero shall assume the role of SSO.



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**Site Description** the 115 Old Country Road Site is located at 115 Old Country Road, Carle Place, NY on the north side of Old Country Road and west of Glen Cove Road. The site is located in Nassau County and the Town of North Hempstead, and is identified as Section 9, Block 670, and Lot 55. The Site is 4.65 acres and is currently a commercial shopping center. The 115 OCR Site is part of the larger Country Glen Shopping Center.

Country Glen Associates, a predecessor of Country Glen LLC purchased the site in 1977. Prior to the purchase, the Site had been owned/operated by the Laboratory Furniture Co, which appears to have operated at the site since the early 1950s, and ceased operations in 1985. Most of the original building was demolished by Country Glen in 2004 when the Barnes & Noble bookstore was constructed.

The current tenants in the shopping strip center starting from west to east are as follows:

- Just Falafel
- Super Cuts
- Vacant
- Zoups
- Altour Travel
- Liquor Store
- MRI Store
- Phone Store
- Lou's Pizza
- Bagel Boss
- Babi Nails
- Vacant
- Bens Deli
- Barnes & Noble

The site is generally flat with a strip shopping center facing Old Country Road surrounded by asphalt parking lots. The site is located approximately 106 feet above mean sea level. The upper glacial deposits are located directly below the surface and extend to a depth of 144 feet bgs. The soil consists primarily of coarse grained sand and is characteristic of outwash plain deposits. The water table is located at approximately 50 feet bgs, and the groundwater flows south-southeast. The Magothy aquifer lies below the upper glacial aquifer. This aquifer is 600 feet thick and consists of moderately to highly permeable sediments. The Magothy formation is a primary source of drinking water for this portion of Long Island. The Lloyd aquifer lies below the Magothy aquifer and is 350 feet thick. Below the Lloyd aquifer is bedrock.

The surrounding properties include:

North: LIRR Tracks, commercial buildings, and retail stores.

South: Old Country Road, residential dwellings, and office buildings.

East: Glen Cove Road, and shopping center.

West: Five Story office building.



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Planned Field Activities the following is a brief description of the planned field activities:

- Drill soil boring to obtain soil and groundwater samples throughout the site.
- Collect soil vapor samples in the rear and front parking areas.
- Conduct soil vapor intrusion sampling inside several stores.

**Hazard Evaluation** the physical and chemical hazards associated with the planned field activities for this site are evaluated in this document.

The physical hazards associated with the planned field activities include the following: potential for being struck by flying and falling objects while working near the Geoprobe rig, slips and falls, due to wet or uneven surfaces, pressurized gasses, pipes, electrical shock, and noise.

The chemical hazards associated with this site are based on the soil and groundwater sampling, and are considered very minimal.

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

Real-time air monitoring for particulate levels at the perimeter of the exclusion zone or work area will be necessary. Particulate monitoring will be performed during earth moving activities, when dust emission due to site conditions are suitable. No dust monitoring will be conducted during wet and rain events.

Even though VOC exposure is not anticipated, periodic monitoring for VOC's may be performed on an as needed basis should the site conditions warrant such monitoring.

VOC's may be monitored at the downwind perimeter of the immediate work area on a continuous basis or as otherwise needed. Upwind concentration should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known to be present.

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



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

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

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review upon request.

# Levels of Protection Level D includes-

Disposable coveralls (optional)
Hard Hat (optional except when advancing soil borings)
Safety Glasses, googles, or face shield (optional)
Chemical Resistant gloves (optional)
Hearing protection, NRR of 35 decibels (optional)

#### Level C includes-

Hard Hat (optional except when advancing soil borings)
Disposal coveralls (optional)
Safety glasses, goggles, or face shield.
Steel toed and shank, chemical resistant boots
Chemical resistant gloves
Hearing protection. NRR of 35 decibels (optional)
Full face air purifying respirator equipped with organic vapor cartridges

To evaluate whether actual field concentrations will require an upgrade in the level of protection, the following action level procedure based upon the existing data has been established for all planned field activities. Air monitoring will be conducted using a PID meter during each task. A 5 parts per million (ppm) reading for a sustained period of 5 minutes in the worker's breathing zone has been selected as an action level based on the presence of chlorinated solvents. If the action level is exceeded, work will be discontinued, the work area will be permitted to vent while the workers move to an area upwind. Work will not resume until the concentrations fall below 5 ppm. If after 30 minutes, the concentration does not fall below the action level, then the work will resume with the level of protection upgraded to Level C. When monitoring indicates that the concentration is below the action level, then downgrading to Level D is permissible. If the monitoring indicates that the concentration exceeds 10 ppm, all work will be discontinued, and workers will move to an area upwind. Work will not be resumed until air monitoring results confirm that the levels are less than 10 ppm.



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**Site Control** prior to the start of the field activities, the SSO will be responsible for the designation of the work zone, support zone, and clean zone. The work zone will be an area surrounding the immediate work being performed, where the greatest potential hazards exist. Only the necessary workers required to perform the work will be permitted in this zone. A support zone will be established for the storage of equipment.

**Equipment Decontamination** the Geoprobe rods, tools, rig and any piece of equipment that comes in contact (directly or indirectly) with the formation, will be decontaminated on site prior to drilling. Equipment will be cleaned at a specific decontamination area, between each borehole, and prior to leaving the site. All on site cleaning activities will be monitored by the field supervisor. In addition to the drilling and sampling equipment, the following equipment will be used during the drilling and sampling of boreholes.

Alconox
Brushes
Plastic Buckets
Distilled water
Potable water
Photo ionization detector (PID)
Sample Containers

The drive rods and/or push rods will be decontaminated after the completion of each boring installation. Disposable gloves will be worn while equipment is cleaned to avoid contamination, and gloves will be changed frequently. The procedure for cleaning sampling equipment is as follows:

- A solution of Alconox and potable water will be prepared in a bucket.
- The rods will be scrubbed and washed with the Alconox solution.
- All equipment will be scrubbed with a brush to remove any adhering particles.
- All equipment will be rinsed with potable water, followed by a final rinse with distilled or deionized water.
- The clean rods will placed on clean plastic sheeting until it is needed. The rods will be handled only when clean gloves are being worn.

Safe Work Practices a pre-entry, tailgate safety meeting will be conducted prior to the start of each task to discuss the associated hazards.

All utilities and structures will vacuum or hand cleared prior to advancing any soil borings. Utility mark outs shall be called in a minimum of three (3) days prior to any earth excavating activities.

The SSO will inform any and all subcontractors of the potential hazards associated with the site and the planned field activities. A copy of the HASP will be onsite at all times.

No eating, drinking, or smoking will be permitted in the work and support zones.

Calls for help will be made via cellular phone.



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During hazardous weather conditions, such as lighting and thunder storms, work will cease immediately.

**Emergency Plan** on site verbal communications should not be a problem since all tasks will be performed in Level D protection. In the event that the action level is exceeded and personnel are upgraded to Level C protection, verbal communication may become difficult. A universal set of hand signals will then be used as follows:

Hand gripping throat;

Can't Breathe

Grip Partners Wrist,

Leave work area immediately

Hand on top of head,

Need assistance Okay, I'm alright

Thumbs up, Thumbs down.

No. Negative

All job-related injuries and illnesses will be reported to the SSO. If medical attention is needed, the injured worker will be decontaminated (if needed), and if possible, prior to leaving the site. The SSO will investigate the cause of the accident and corrective measures will be taken before the work can resume. It will be the responsibility of the SSO to complete the accident reporting form, OSHA 101.

# **Emergency Telephone Numbers**

Police	911	
Fire	911	

1-516-663-0333
1-800-424-9300
1-800-457-7362
1-516-446-3014
1-516-741-8440

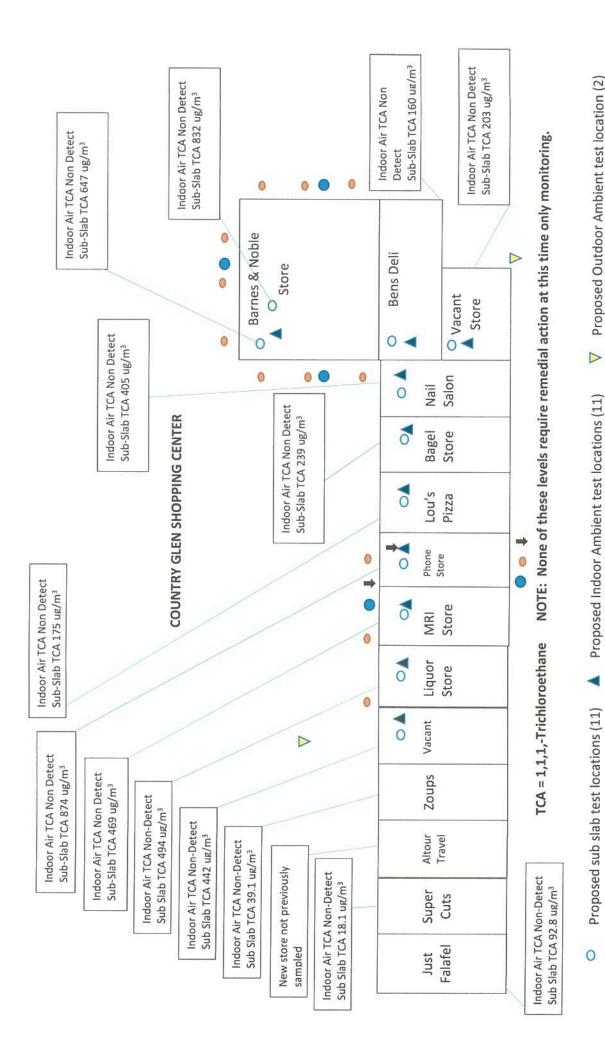
**Hospital Location** the closest hospital to the site is Winthrop University Hospital in Mineola, New York. To get to the hospital from the subject site, proceed west on Old Country Road. Turn right onto Mineola Boulevard. Make a right turn onto 1<sup>st</sup> Street. The hospital entrance is at 259 1<sup>st</sup> Street on the left side.

### Submitted By:

Long Island Analytical Laboratories Inc. 110 Colin Drive Holbrook, New York 11741 1-631-472-3400

Michael Veraldi, President, Director of Laboratories





Old Country Road

Proposed soil vapor locations (3)

Proposed Groundwater locations (5)

Proposed soil boring locations (13)

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