TASK 210:
SUBSURFACE SITE INVESTIGATION

New Britain-Hartford Busway Project
Newington Junction Station
144 – 148, 150, & 160 Willard Avenue
Newington, Connecticut

Volume 1 of 3

ConnDOT Assignment No. 202-3153
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Prepared for:

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TABLE OF CONTENTS

		Page #
1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION	1
3.0	LOCAL ENVIRONMENT & RECEPTORS	5
3.1	Groundwater & Topography	5
3.2	Geology	5
4.0	SUBSURFACE INVESTIGATION	6
4.1	Magnetic Survey	6
4.2	Test Pit Excavation	7
4.3	Geoprobe® Soil Borings & Soil Sample Analyses	10
4.4	Groundwater Sample Collection & Analyses	13
4.5	Project Quality Assurance/Quality Control Practices	13
5.0	DISCUSSION OF SAMPLE RESULTS	14
5.1	Regulatory Criteria	14
5.2	Results of Soil Sample Analyses	17
5.3	Results of Groundwater Sample Analyses	19
5.4	Quality Assurance/Quality Control Samples	20
6.0	DISCUSSION OF AFFECTED RESOURCES	20
6.1	Soil Areas of Environmental Concern	21
6.2	Groundwater Area of Environmental Concern	22
6.3	Low Level Areas of Environmental Concern	22
7.0	RECOMMENDATIONS	23
8.0	LIMITATIONS	24

Figures

Figure 1 - Site Location Plan	2
Figure 2a – Task 210 Project Area	4
Figure 2b – Task 210 Project Area & Magnetic Anomalies	8
Figure 2c – Task 210 Project Area & Test Pit Locations	9
Figure 2d – Task 210 Project Area & Sampling Locations	11

Table of Contents (continued)

Tables

Table 1(a) to 1(j)	Results of Geoprobe® Boring Soil Sample Analyses
Table 2(a) to 2(d)	Results of Groundwater Sample Analyses

Appendices

Appendix A	CTDOT Access Agreement Forms – Volume 1
Appendix B	Boring Logs – Volume 1
Appendix C	Test Pit Photographs – Volume 1
Appendix D	Soil Sample Laboratory Reports – Volume 2
Appendix E	Groundwater Sample Laboratory Reports – Volume 2
Appendix F	QA/QC Sample Laboratory Reports – Volume 3

1.0 INTRODUCTION

On behalf of the Connecticut Department of Transportation (ConnDOT), Maguire Group Inc. has conducted a Task 210 - Subsurface Site Investigation for the 144 – 148 Willard Avenue, 150 Willard Avenue, and 160 Willard Avenue properties in Newington, Connecticut. This Task 210 - Subsurface Site Investigation was completed in association with the New Britain to Hartford Busway, Newington Junction Station in Newington, Connecticut. Based upon a review of the preliminary construction plans, the anticipated construction activities will involve total right-of-way taking of the 144 – 148 Willard Avenue, 150 Willard Avenue, and 160 Willard Avenue parcels. This Task 210 – Subsurface Site Investigation was conducted on the 144 – 148 Willard Avenue, 150 Willard Avenue, and 160 Willard Avenue properties. Figure 1 depicts the project area.

The purpose of the Task 210 - Subsurface Site Investigation is to verify the absence or presence and location of subsurface contamination within the 144 – 148, 150, and 160 Willard Avenue property boundaries. It is anticipated that Task 310 Plans and Specifications will subsequently be prepared to assess construction related activities (i.e. proper storage, classification, transport and disposal of contaminated materials), in relationship to the environmental conditions prevalent within the project limits, as well as to specify remedial work to be included in the Contract Bid Documents.

2.0 SITE DESCRIPTION

The Task 210 - Subsurface Site Investigation was conducted on the three properties located at 144 – 148 Willard Avenue, 150 Willard Avenue, and 160 Willard Avenue, that will comprise the proposed Newington Junction Station. The 144 – 148 Willard Avenue property comprises approximately 0.44 acres and houses a one-story industrial building that was constructed in 1951. The building currently houses R & R Precision Tool, a welding company, and a landscaping company. Former tenants of the site include a rubber products company, an awning company, a plumbing and heating company, several machine shops, and an aircraft parts

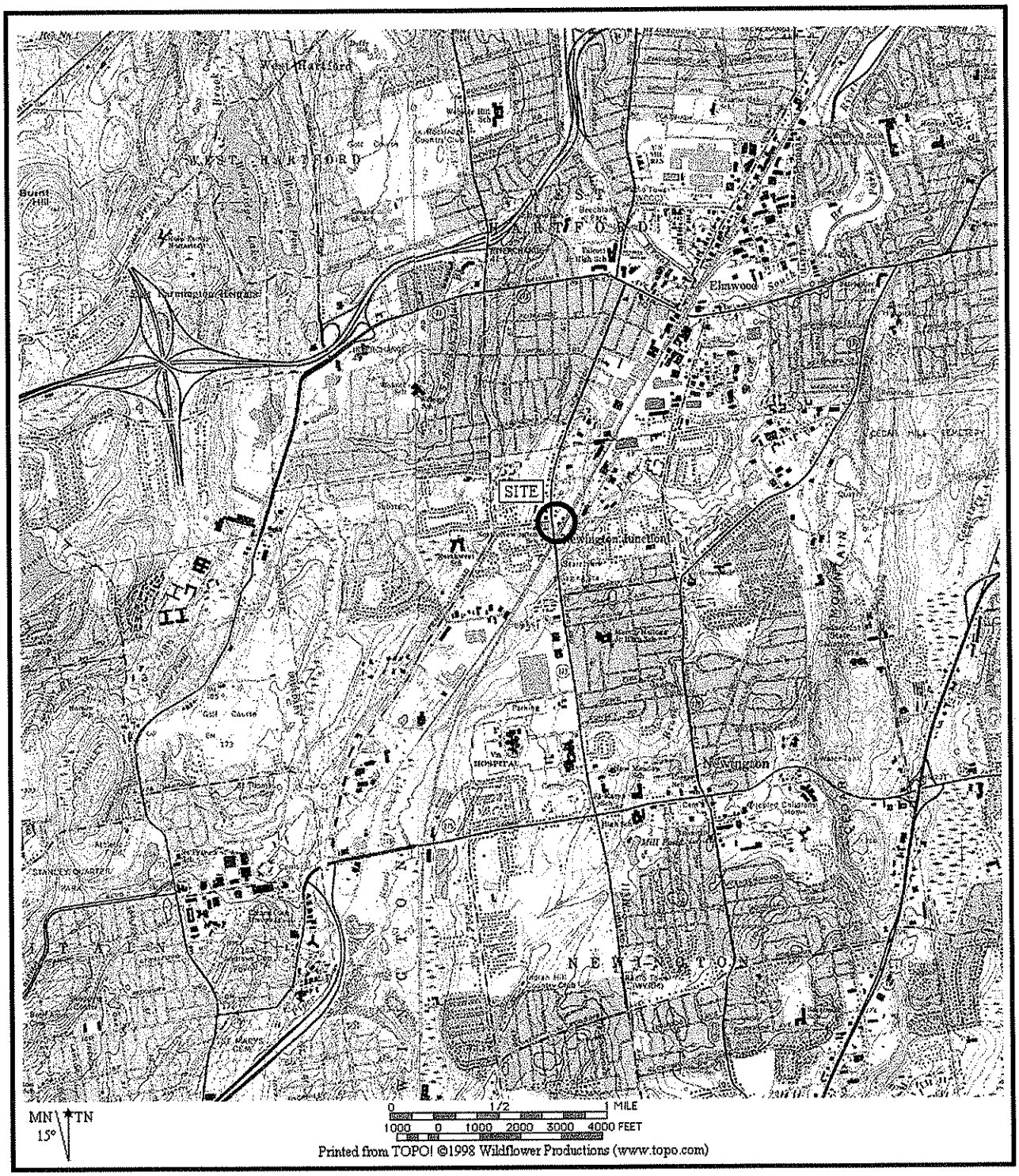


FIGURE 1 – SITE LOCATION PLAN

Newington Junction Station: 144 – 148, 150, & 160 Willard Avenue

New Britain to Hartford Busway Project

Newington, Connecticut

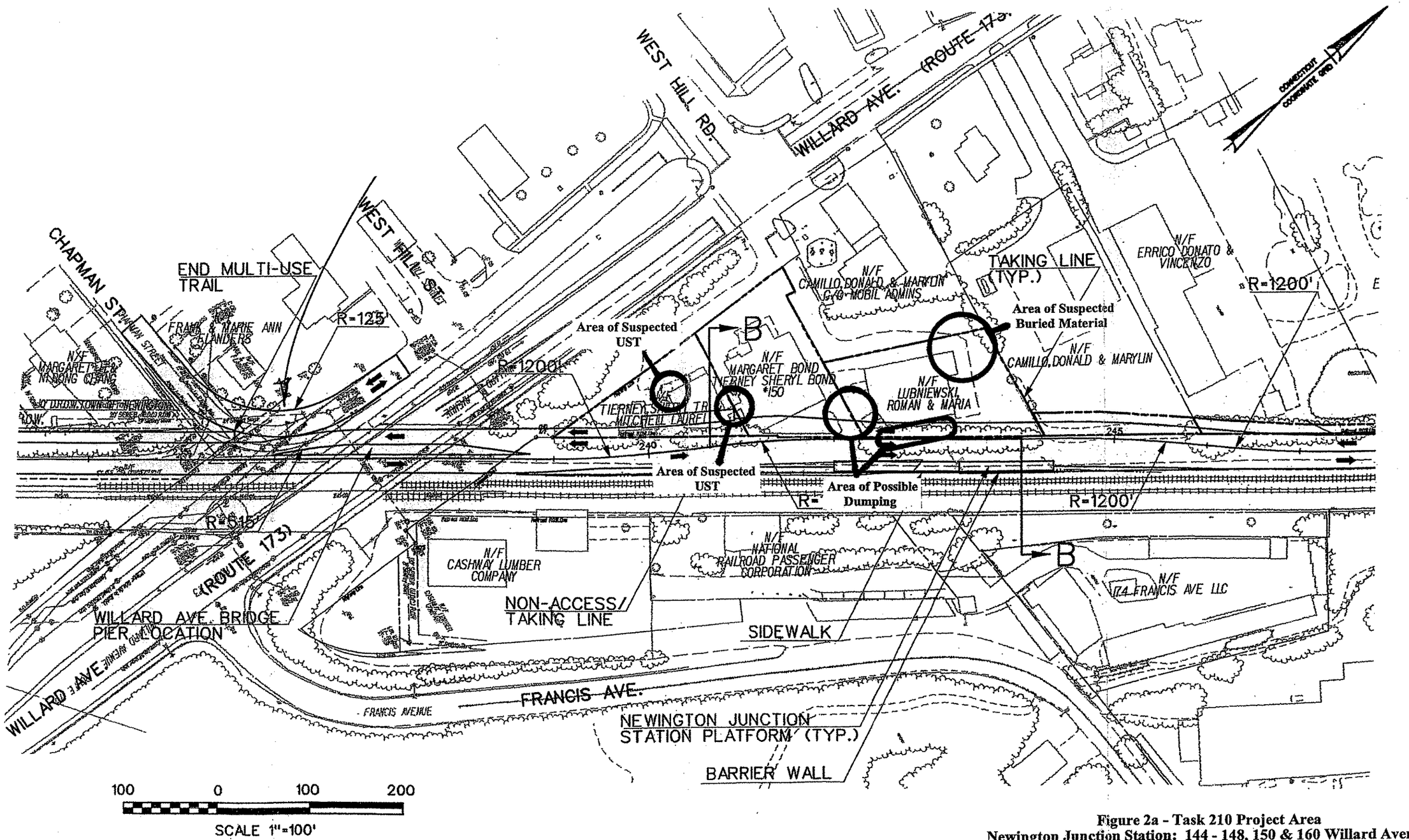


Figure 2a - Task 210 Project Area
Newington Junction Station: 144 - 148, 150 & 160 Willard Avenue
New Britain-Hartford Busway
Newington, Connecticut

manufacturer. Based upon information obtained from CTDOT Rights-of-Way personnel, there is reportedly an underground septic tank located beneath the building that is utilized for the disposal of waste oil. Evidence of the septic tank could not be found during the site investigation activities and a review of the Town of Newington's records. In addition, the CTDOT Rights-of-Way personnel indicated that possible illegal dumping activities have occurred along the eastern exterior of the building and along the southern loading dock area.

The 150 Willard Avenue property comprises approximately 0.43 acres and houses a multi-story building that was constructed in 1952. The building currently houses Advanced Plumbing and Heating, D & D Precision Tool, and an odd job contractor. Former tenants of the site include a generator and air compressor company, a pump company, various machine shops, and a sailboat company. Five (5) groundwater monitoring wells are located on the property. Based upon information obtained from CTDOT Rights-of-Way personnel, there reportedly is an abandoned, unregistered underground storage tank (UST) located in the area between the 150 Willard Avenue building and the 160 Willard Avenue building located to the south.

The 160 Willard Avenue property comprises approximately 0.27 acres and contains a one-story office/warehouse building that was constructed in 1953 and a small office/residential building that was constructed in 1900. The larger building houses a martial arts studio and the smaller building appears to be utilized for office space. Former tenants of the site include a construction company and a sailboat company. Based upon information obtained from CTDOT Rights-of-Way personnel, there reportedly is an abandoned, unregistered underground storage tank (UST) located along the southwest corner of the building.

The 144 – 148 Willard Avenue property is owned by Roman & Maria Lubniewski, and the 150 and 160 Willard Avenue properties are owned by the Estate of Margaret Bond. The three properties were recommended for additional investigation in a March 2003 Task 120 – Preliminary Site Evaluation report prepared by others and Maguire Group Inc.'s February 2006 Task 110 – Corridor Land Use Evaluation report. The properties that comprise the Newington Junction Station site are depicted in Figure 2a - Task 210 Project Area.

3.0 LOCAL ENVIRONMENT & RECEPTORS

3.1 Groundwater & Topography

The CTDEP's "Environmental GIS Data for Connecticut" depicts the groundwater classification for the site as "GB", which indicates that the groundwater is not suitable for consumption due to waste discharges, spills or leaks of chemicals, or land use impacts, and a public water supply is available. The site and its surrounding properties are connected to the Metropolitan District Commission (MDC) public water distribution system and municipal sewer system. Groundwater was encountered at depths ranging from 2.5 to 8 feet below grade in nearly all of the soil borings. However, groundwater recharge rates were very poor due to the dense, silty soil encountered at the site.

The project area is located within the Park Regional Basin, within the Connecticut Major Drainage Basin. There are no surface water bodies located on the property, although the Piper Brook is located approximately 275 feet east of the site area. Piper Brook is a Class "B" surface water body, which has the designated uses of recreational use, fish and wildlife habitat, agricultural and industrial supply, and other legitimate uses including navigation. The site and the area around the site are relatively flat, although there is a slight regional downward slope to the southeast. Based upon this, it is estimated that surface water runoff at the site flows to the southeast.

3.2 Geology

The CTDEP's "Environmental GIS Data for Connecticut" indicates that the soil in the western portion of the proposed Newington Junction site is Till, which is a poorly sorted, generally non-stratified mixture of grain sizes ranging from clay to large boulders with a sand and silt matrix. The soil in the eastern portion of the site is Fines, which is described as well sorted thin layers of alternating silt and clay or thicker layers of very fine sand and silt. The Bedrock Geological Map of Connecticut, compiled by John Rodgers in 1985, indicates that the bedrock unit underlying the Site area is the Portland Arkose, which is a red-brown arkosic sandstone.

Soils encountered during this investigation consisted of red-brown sand and dense silt units with varying amounts of gravel, clay, and cobbles. Sampler refusal on siltstone or basalt was encountered in the borings advanced in the northern portion of the project site (borings NJ-22, NJ-24, NJ-27, NJ-28, NJ-29, NJ-30, NJ-30, NJ-31, and NJ-33) at depths ranging from six (6) to eight (8) feet below the ground surface.

4.0 SUBSURFACE INVESTIGATION

Based on the current and former industrial uses of the three properties comprising the Newington Junction Station site, a comprehensive sampling program was conducted on the 144 – 148, 150, and 160 Willard Avenue properties. Permission to access the properties was obtained from the property owner (Mr. Roman Lubniewski: 144 – 148 Willard Avenue) and property manager (Mr. Russell Correll: 150 & 160 Willard Avenue), and copies of the CTDOT Access Agreements are enclosed in Appendix A. The following subsections detail the investigation.

4.1 Magnetic Survey

On November 19, 2006 a magnetic survey was conducted at the site in the area to the north, northwest, and west of the 144 – 148 Willard Avenue building, the area to the south of the 150 Willard Avenue building, and the area to the southwest of the 160 Willard Avenue building. The purpose of the magnetic survey was to identify magnetic anomalies that may signify the presence of buried metallic objects such as USTs. The magnetic survey was completed prior to the commencement of the subsurface sampling investigation in order to avoid puncturing any buried USTs that may be present. The magnetic survey was completed utilizing a Schonstedt® GA-92XT magnetic locator and a Metrotech® 9800XT magnetic locator receiver and transmitter.

The magnetic survey indicated the presence of two large magnetic anomalies on the proposed Newington Junction site. The first anomaly (Magnetic Anomaly #1) was found to the south of the 150 Willard Avenue building, in the area of the suspected, abandoned UST. The second anomaly (Magnetic Anomaly #2) was found in the area to the southwest of the 160 Willard Avenue building, in an area of a suspected UST. Three smaller anomalies (Magnetic Anomaly #3, #4, and #5) were also found to the west and northwest of the building situated on the 144 – 148 Willard Avenue property. Four of the five magnetic anomalies encountered during the magnetic survey were investigated via exploratory test pit excavations. The locations of the magnetic anomalies are depicted on Figure 2b – Task 210 Project Area & Magnetic Anomalies.

4.2 Test Pit Excavation

On November 19, 2006, four (4) test pits were advanced on the proposed Newington Junction site, in the vicinity of four of the five magnetic anomalies detected by the magnetic survey. Magnetic Anomaly #2 located adjacent to the southwest corner of the 160 Willard Avenue building was not investigated per the CTDOT due to its location beneath asphalt pavement adjacent to the main entrance to the building and primary parking area, as well as the MDC's inability to locate the underground water service to the building. The test pits were advanced by Logical Environmental Solutions utilizing a John Deere backhoe, under the supervision of MGI. The locations of the test pits are depicted on Figure 2c - Task 210 Project Area & Test Pit Locations. Photographs taken during the test pit excavations are included at the end of the report in Appendix C.

The first test pit (Test Pit #1) was excavated within the area of Magnetic Anomaly #1. The test pit revealed the presence of a steel UST that was heavily pitted and full of liquid that appeared to be groundwater (Photograph 1). The tank was approximately three (3) feet in diameter and approximately four (4) feet long. No evidence of contaminated soil was encountered adjacent to the top and sides of the UST that were exposed during the test pit excavation. However, the area beneath the UST was not disturbed due to concerns of rupturing the tank. Undisturbed soil samples from the edge of the tank areas were collected during the advancement of the Geoprobe® borings (borings NJ-8 & NJ-9), which are discussed in Section 4.3 of this report. The test pit was backfilled with native materials and compacted to the original grade of the site.

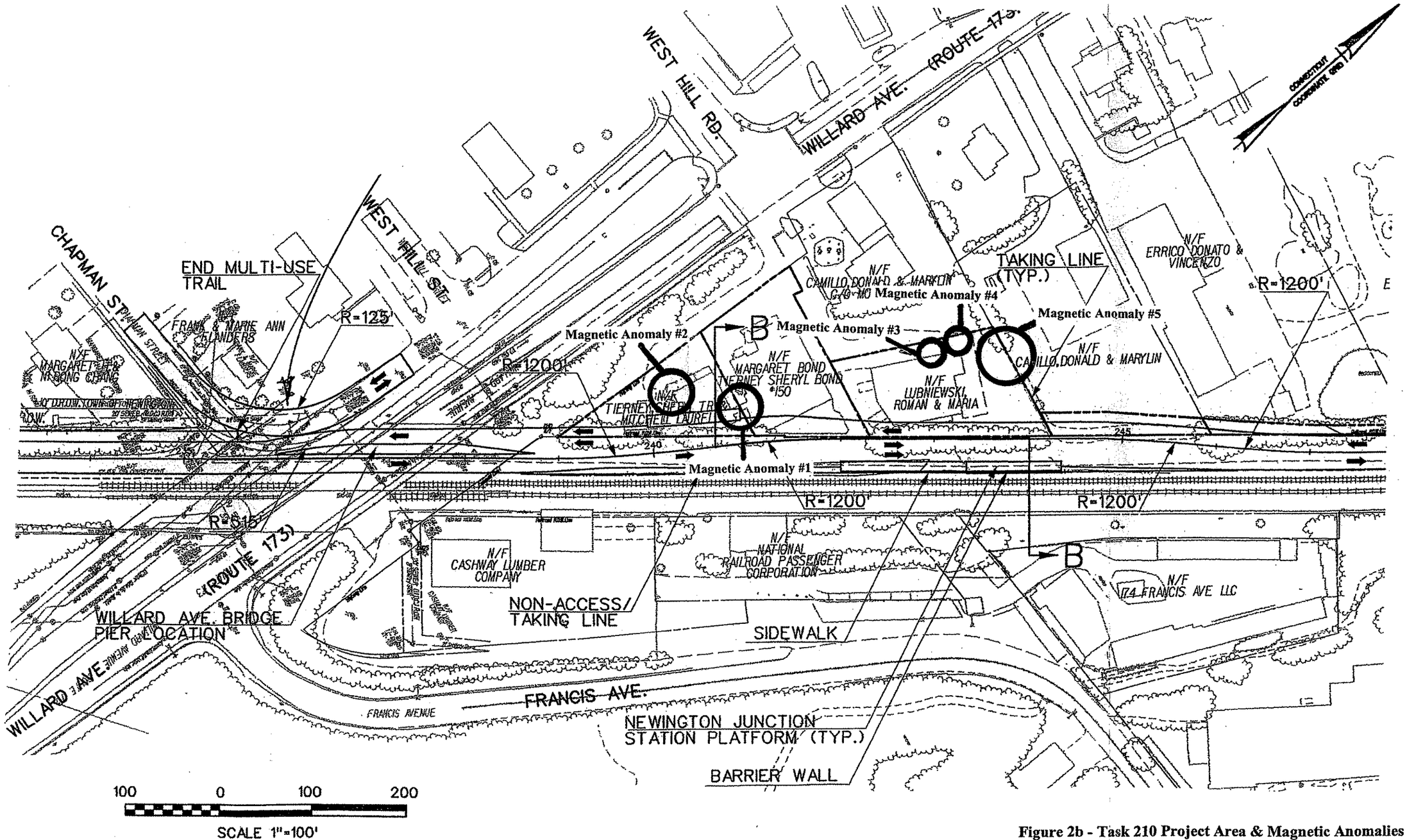
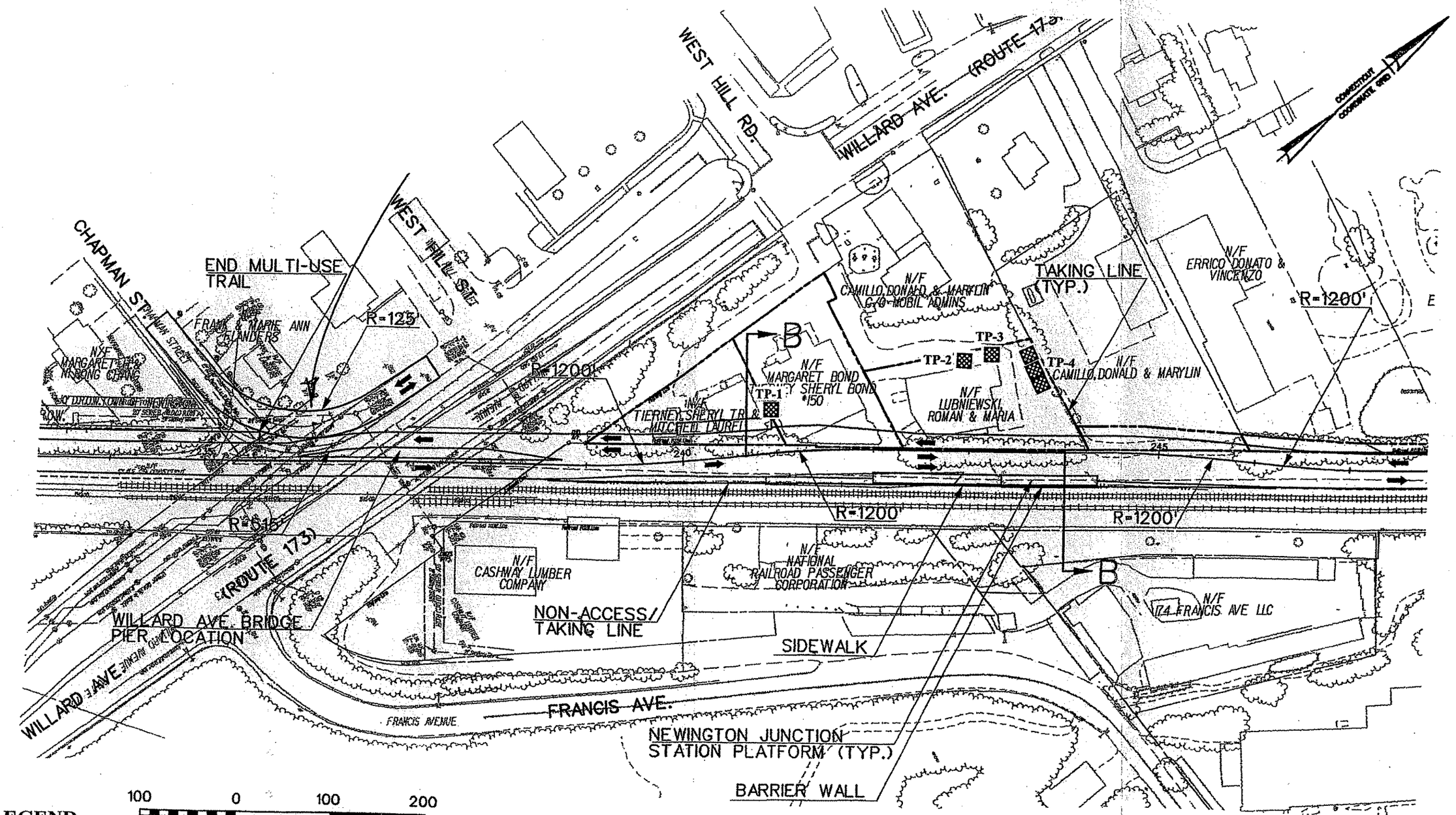


Figure 2b - Task 210 Project Area & Magnetic Anomalies
Newington Junction Station: 144 - 148, 150 & 160 Willard Avenue
New Britain-Hartford Busway
Newington, Connecticut



100 0 100 200

SCALE 1"=100'

LEGEND

TP = Test Pit

Figure 2c - Task 210 Project Area & Test Pit Locations
Newington Junction Station: 144 - 148, 150 & 160 Willard Avenue
New Britain-Hartford Busway
Newington, Connecticut

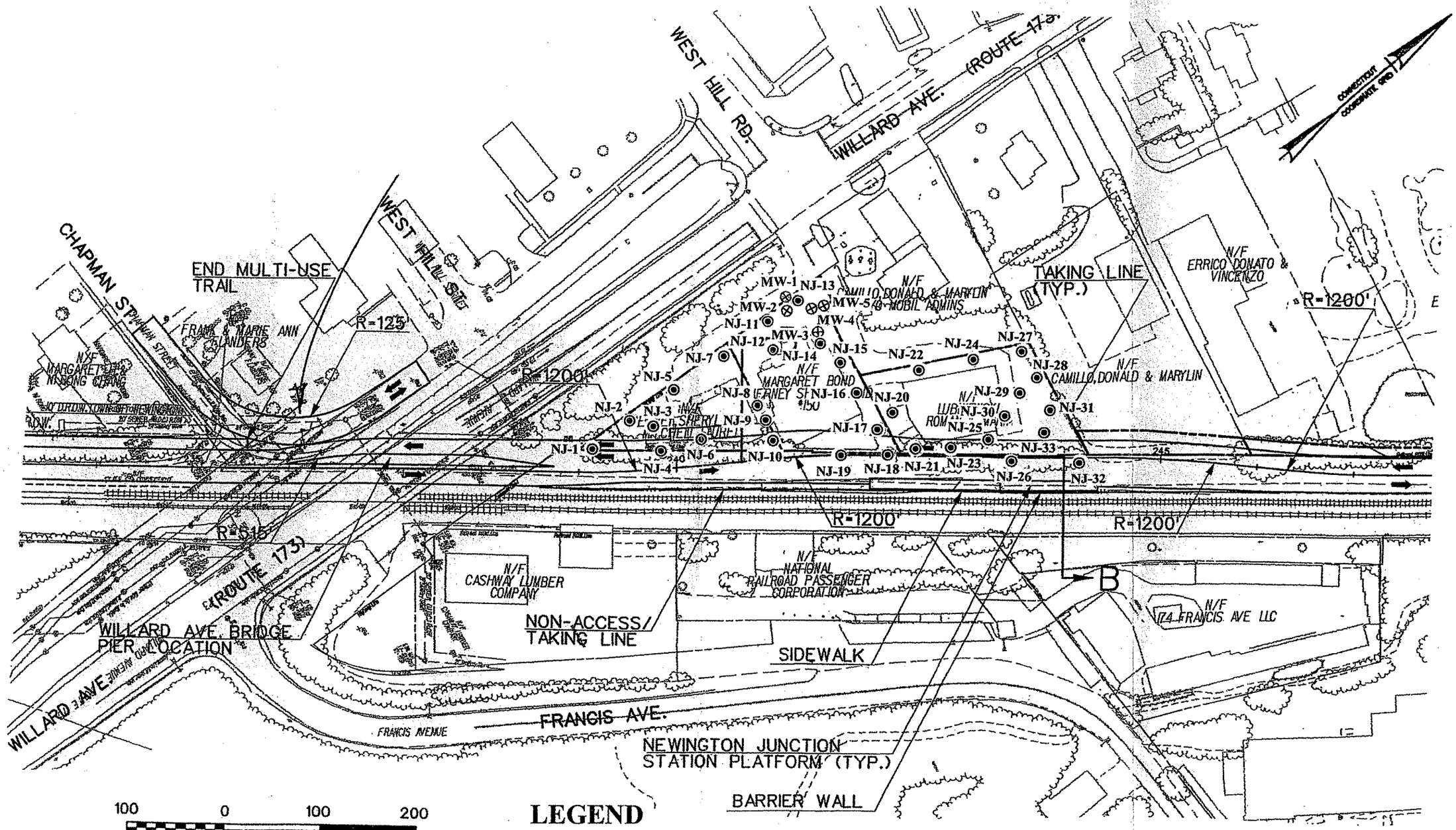
The second test pit (Test Pit #2) was excavated within the area of Magnetic Anomaly #3 to a depth of approximately four (4) feet. The test pit revealed the presence of several one (1) to two (2) foot chunks of concrete containing steel rebar, likely from the former building located on the property (Photograph 2). No evidence of contaminated soil was encountered in the test pit, and the excavation was backfilled with native materials and compacted to the original grade of the site.

The third test pit (Test Pit #3) was excavated within the area of Magnetic Anomaly #4 to a depth of approximately four (4) feet. The test pit revealed the presence of a large, steel brake rotor for a truck within the first six-inches of the soil. No evidence of contaminated soil was encountered in the test pit, and the excavation was backfilled with native materials and compacted to the original grade of the site.

The fourth test pit (Test Pit #4) was excavated within the area of Magnetic Anomaly #5 to a depth of approximately four (4) feet. The test pit revealed the presence of a large steel plate, and surficial debris including steel pipes, an automotive air filter, and a small amount of garbage, as well as a concrete footing containing steel rebar from a former onsite building (Photographs 3 & 4). No evidence of contaminated soil was encountered in the test pit, and the excavation was backfilled with native materials and compacted to the original grade of the site.

4.3 Geoprobe® Soil Borings & Soil Sample Analyses

On November 20, 21, and December 3, 2006, thirty-three (33) Geoprobe® soil borings (NJ-1 through NJ-33) were advanced on the 144 – 148, 150, and 160 Willard Avenue properties. The Geoprobe® borings were advanced by Logical Environmental Solutions, under the direction of MGI. The locations of the Geoprobe® soil borings are depicted on Figure 2d - Task 210 Project Area & Sampling Locations.



LEGEND

- ◉ NJ = Geoprobe Boring
- ⊗ MW = Existing Monitoring Well

Figure 2d - Task 210 Project Area & Sampling Locations
Newington Junction Station: 144 - 148, 150 & 160 Willard Avenue
New Britain-Hartford Busway
Newington, Connecticut

Due to the inability of the MDC to locate and mark-out the underground water service to the 144 – 148, 150, and 160 Willard Avenue properties, the NJ-2, NJ-3, and NJ-12 borings were advanced utilizing the manual Geoprobe® slide hammer to a maximum depth of two (2) feet. In addition, due to accessibility issues, borings NJ-1, NJ-6, NJ-18, NJ-19, NJ-26, and NJ-32 were advanced utilizing the manual Geoprobe® slide hammer to a maximum depth of four (4) feet or refusal. The remaining Geoprobe® soil borings were advanced to 12 feet below grade or sampler refusal utilizing a 4-foot long, 2-inch diameter Macro Core Sampler with dedicated acetate liners.

The soil samples were visually inspected in the field for staining, and described as to physical characteristics and soil type. In addition, the soil samples were screened in the field for total volatile organic compounds utilizing a Photovac photoionization detector (PID). Soil boring logs were generated in the field by MGI field personnel. The boring logs denote the types of soil encountered, the depth to groundwater and/or bedrock, the total depth reached in each boring, and the highest observed PID reading. Copies of the boring logs are included at the end of this report in Appendix B.

Based upon field screening results and visual observations, one (1) soil sample from each boring was placed in glassware supplied by Spectrum Analytical Laboratory, and stored in an ice-filled cooler. At boring locations NJ-8, NJ-9, NJ-16, NJ-24, NJ-27, and NJ-33 two (2) soil samples (shallow and deep) from the borings were placed in laboratory-supplied glassware and stored in an ice-filled cooler. The analyses of all soil samples included volatile organic compounds (VOCs) utilizing EPA Method 8260, base neutral/acid extractable (BNAs) semi-volatile organic compounds utilizing EPA Method 8270, petroleum hydrocarbons utilizing the Connecticut ETPH method, pesticides utilizing EPA Method 8081A, polychlorinated biphenyls (PCBs) utilizing EPA Method 8082, and total and SPLP RCRA 8 metals.

The Geoprobe® soil borings were back-filled and patched upon completion utilizing clean sand and/or hydrated bentonite. All down-hole sampling equipment was decontaminated in accordance with Maguire's October 2006 Task 210 - Subsurface Site Investigation Work Plan.

4.4 Groundwater Sample Collection & Analyses

Two (2) groundwater grab samples (NJ-4 GW and NJ-9 GW) were collected from borings in which sufficient groundwater was encountered. The groundwater grab samples were collected by placing dedicated PVC screen and riser casing into the borehole. Dedicated polyethylene tubing was inserted into the casing and groundwater was drawn through the tubing using a low-flow peristaltic pump. In addition, the five groundwater monitoring wells (designated MW-1 through MW-5) located on the 150 Willard Avenue property were sampled during this investigation. Prior to sampling, the wells were purged at least three (3) well volumes in order to ensure that a representative groundwater sample was obtained. The wells were sampled according to the CTDEP's "Low Flow Sampling Procedures" and EPA's "Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells" utilizing dedicated tubing and a low-flow peristaltic pump All of the groundwater samples were placed in laboratory-supplied glassware, and stored in an ice-filled cooler. The groundwater samples were analyzed for VOCs (EPA Method 8260), petroleum hydrocarbons (Connecticut ETPH), BNAs (EPA Method 8270), pesticides (EPA Method 8081A), PCBs (EPA Method 8082), and total RCRA 8 metals.

4.5 Project Quality Assurance/Quality Control Practices

To assess the collection of samples in the field in terms of the sampling techniques and decontamination procedures followed, quality control and quality assurance samples were collected during sampling activities. Four (4) trip blank samples were prepared by Spectrum Analytical Laboratory and two (2) field blank samples were collected in the field. The field and trip blank samples were stored with the daily samples in the sample cooler until subsequent delivery to the laboratory. The FB-1 field blank water sample was collected by pouring laboratory supplied de-ionized water through an acetate liner and macro-core cutting shoe, and collecting the rinsate in appropriate sample containers. The FB-2 field blank sample was collected by directly pouring the laboratory supplied de-ionized water into the appropriate sample containers to check the quality of the de-ionized water, glassware, and laboratory sample

handling and analytical procedures. Due to insufficient de-ionized water provided by the laboratory, the FB-1 field blank was only analyzed for VOCs (Method 8260) and total RCRA 8 metals, and the FB-2 field blank was analyzed for VOCs (method 8260), BNAs (Method 8270), and total RCRA 8 metals. The trip blank samples were analyzed for VOCs (Method 8260).

All samples collected in the field were stored in a manner that preserved the integrity of the sample chemistry. Samples intended for organic analyses were stored in an ice-filled cooler until delivery to the laboratory. Chain-of-Custody (COC) forms were filled out and accompanied all samples collected as a legal record of possession of the sample. The COC was initiated in the field and accompanied the containers during sample collection, transportation to the lab, analysis, and final disposal of the sample. All sampling equipment was either dedicated to a specific sample or was decontaminated prior to and between each use. Sampling equipment was not placed near solvents, gasoline, or materials that may have impacted the sample integrity.

5.0 DISCUSSION OF SAMPLE RESULTS

5.1 Regulatory Criteria

The CTDEP adopted Remediation Standard Regulations (Regulations of Connecticut State Agencies, Section 22a-133k-1 to 3 and 22a-133q-1) as of January 31, 1996. The Remediation Standard Regulations (RSRs) apply to any site undergoing voluntary remediation under Public Acts 95-183 or 95-190, a transfer of an "establishment" under Public Act 95-183, or any site as ordered by the CTDEP Commissioner. The Regulations also outline the processes for establishing alternative site-specific numerical standards for certain sites, upon approval by the CTDEP.

The RSRs criteria applicable to the soil, sediment, and groundwater sampled during this investigation are summarized below. The application of these RSRs to the results of the laboratory analyses from this investigation is discussed in subsections 5.2 and 5.3 of this section.

Soils Criteria: The RSRs are organized into two sets of criteria: the Direct Exposure Criteria (DEC) and the Pollutant Mobility Criteria (PMC). The DEC and PMC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation. Please refer to the RSRs for a complete explanation of the Regulations.

Direct Exposure Criteria

The purpose of the Direct Exposure Criteria (DEC) is to protect human health from risks associated with the direct contact with or ingestion of various common soil contaminants. The DEC are applicable to soil within approximately fifteen (15) feet of the ground surface. Concentrations of contaminants are evaluated based upon mass-based analyses and different criteria are established for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of a land use restriction on the property.

The DEC are not applicable to inaccessible soils, including soil more than four (4) feet below the ground surface, two (2) feet below pavement greater than three (3) inches thick, or below an existing building, provided that an Environmental Land Use Restriction (ELUR) is placed in effect for the property.

Pollutant Mobility Criteria

The purpose of the Pollutant Mobility Criteria (PMC) is to evaluate the potential for contaminants to leach from the soil in concentrations that may degrade groundwater quality. Different numerical criteria are established for GA and GAA groundwater areas, versus GB groundwater areas. Since the site is situated in a GB groundwater area, the least stringent criteria apply.

Groundwater Criteria: Contaminants in the groundwater are compared either to background quality or the Groundwater Protection Criteria (GPC), the Volatilization Criteria, as well as the Surface Water Protection Criteria (SWPC). The GPC, Volatilization Criteria, and SWPC are briefly explained in the following sub-sections, in relation to how they would be applicable to the types of analyses conducted on the soil samples collected for this investigation.

Groundwater Protection Criteria

The purpose of the Groundwater Protection Criteria is to protect the groundwater quality in areas that have the potential to use groundwater as a drinking water resource (GA & GAA groundwater classification areas). Since the site is situated in a GB groundwater area, the GPC do not apply.

Volatilization Criteria

The purpose of the Volatilization Criteria standard is to ensure that volatile organic compounds (VOCs) in groundwater do not pose an unacceptable risk to human health due to the inhalation of VOCs that may enter into a structure on the property. The Volatilization Criteria only apply when impacted groundwater is located within fifteen (15) feet of the ground surface or any structure. Different criteria exist for residential and commercial/industrial properties. The use of the less stringent commercial/industrial standards requires the placement of an ELUR on the property. Since groundwater was located within fifteen (15) feet of the ground surface, the Volatilization Criteria apply to this Site.

Surface Water Protection Criteria

The purpose of the Surface Water Protection Criteria (SWPC) standards are to ensure that groundwater discharging to a surface water body will not adversely effect surface water quality. Since groundwater likely discharges to the Piper Brook, the SWPC apply to contaminants detected in the groundwater.

5.2 Results of Soil Sample Analyses

Soil samples collected during the advancement of the Geoprobe® borings were sent to Spectrum Analytical Laboratory for laboratory analyses. Summaries of the laboratory results from the Geoprobe® boring soil samples are presented in Tables 1(a) to 1(j), which are located at the end of this report, and copies of the soil sample analytical results are included in Appendix D. The following summarizes the results of the analyses conducted on the soil samples.

Varying concentrations of petroleum hydrocarbons were detected in all of the borings from Below Reporting Limits (BRL) to 273 parts per million (ppm). However, none of the soil samples contained petroleum hydrocarbons at concentrations that exceed any applicable CTDEP RSR criteria.

The 2 to 4 foot sample collected from boring NJ-16 contained the VOC chlorobenzene (0.0121 ppm) at a concentration that does not exceed any applicable CTDEP RSR criteria. The 4 to 8 foot sample from boring NJ-16 also contained the VOCs chlorobenzene (0.44 ppm), 1,4-dichlorobenzene (0.0152 ppm), and methyl tert-butyl ether (MTBE, 0.0102 ppm) at concentrations that do not exceed any applicable CTRDEP RSR criteria.

The 4 to 8 foot sample from boring NJ-21 contained the VOC sec-butylbenzene (0.0149 ppm) at a concentration that does not exceed any applicable CTDEP RSR criteria. No other soil samples contained detectable concentrations of VOCs.

Several BNA compounds were detected at varying total concentrations ranging from BRL to 32.779 ppm in the NJ-1, NJ-3, NJ-5, NJ-66, NJ-10, NJ-17, NJ-18, NJ-19, NJ-20, and NJ-32 soil samples. Four (4) soil samples contained concentrations of BNAs that exceed applicable CTDEP RSR Criteria. The 0 to 2 foot soil sample from boring NJ-1 contained the compound chrysene (1.04 ppm) at a concentration that exceeds its respective GB PMC of 1 ppm.

The 2 to 4 foot soil sample from boring NJ-5 contained the compounds benzo(a)anthracene (2.23 ppm), benzo(a)pyrene (2.82 ppm), benzo(b)fluoranthene (2.42 ppm), benzo(k)fluoranthene (3.45 ppm), chrysene (3.59 ppm), and indeno(1,2,3-cd)pyrene (1.21 ppm) at concentrations that exceed their respective GB PMC. The compounds benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene were also detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

The 0 to 2 foot soil sample from boring NJ-6 contained the compound benzo(b)fluoranthene (1.02 ppm) at a concentration that exceeds its respective GB PMC and Residential DEC of 1 ppm.

The 2 to 4 foot soil sample from boring NJ-20 contained the compounds benzo(a)anthracene (1.61 ppm), benzo(a)pyrene (1.75 ppm), benzo(b)fluoranthene (1.29 ppm), benzo(k)fluoranthene (1.18 ppm), and chrysene (1.83 ppm) at concentrations that exceed their respective GB PMC.

The compounds benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were also detected at concentrations that exceed their respective Residential DEC. In addition, the compound benzo(a)pyrene was detected at a concentration that exceeds its Commercial/Industrial DEC.

Pesticides were detected in the NJ-5, NJ-6, NJ-23, and NJ-26 soil samples at varying concentrations. The pesticide 4,4-DDT was detected in the NJ-5 (0.0112 ppm), NJ-6 (0.0064 ppm), NJ-23 (0.521 ppm), and NJ-26 (0.067 ppm) soil samples at low concentrations that do not exceed any applicable CTDEP RSR criteria. The NJ-23 (0.0844 ppm) and NJ-26 (0.0103 ppm) soil samples also contained the pesticide 4,4-DDE at low concentrations that do not exceed any applicable CTDEP RSR criteria. The NJ-26 soil sample also contained the pesticides chlordane (0.0878 ppm), a-chlordane (0.0128 ppm), and g-chlordane (0.00674 ppm). The concentration of chlordane detected in the NJ-26 soil sample exceeds its GB PMC of 0.066 ppm. No other samples contained detectable concentrations of pesticides.

The 1 to 3 foot soil sample from boring NJ-18 contained total PCBs at a concentration of 0.0837 ppm (PCB-1254: 0.0348 ppm and PCB-1260: 0.0489 ppm) that do not exceed any applicable CTDEP RSR criteria. No other soil samples contained detectable concentrations of PCBs.

Total and leachable concentrations of the metals arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were detected at varying concentrations in the soil samples. The 0 to 2 foot sample collected from boring NJ-26 contained total lead at a concentration of 622 ppm, which exceeds its Residential DEC of 500 ppm. No other samples contained total or leachable metals at concentrations that exceed any applicable CTDEP RSR criteria.

5.3 Results of Groundwater Sample Analyses

The two groundwater grab samples (NJ-4 GW and NJ-9 GW) collected during the advancement of the Geoprobe® borings and the five monitoring well samples (MW-1 through MW-5) were sent to Spectrum Analytical for laboratory analyses. Summaries of the laboratory results from the groundwater samples are presented in Tables 2(a) through 2(d), which are located at the end of this report, and copies of the groundwater analytical results are included in Appendix E. The following summarizes the results of the analyses conducted on the groundwater samples.

The groundwater samples did not contain detectable concentrations of petroleum hydrocarbons, BNAs, pesticides, and PCBs. The NJ-4 groundwater sample contained the VOCs cis-1,2-dihcloroethene (1.4 parts per billion [ppb]) and tetrachloroethene (1.1 ppb) at low concentrations that do not exceed any applicable CTDEP RSR criteria. The MW-1 groundwater sample contained the VOCs methyl tert-butyl ether (MTBE, 116 ppb), tert-amyl methyl ether (10.8 ppb), ethyl tert-butyl ether (1.0 ppb), and tert-butanol (324 ppb) at concentrations that do not exceed any applicable CTDEP RSR criteria. In addition, the MW-3 (1.2 ppb) and MW-4 (6.2 ppb) groundwater samples contained MTBE at low concentrations that do not exceed any applicable CTDEP RSR criteria.

The groundwater samples contained the metals arsenic, barium, cadmium, chromium, lead, and silver at varying total concentrations. The NJ-9 GW groundwater grab sample contained total arsenic (0.0066 ppm), lead (0.0802 ppm), and silver (0.0197 ppm) at elevated concentrations that exceed their SWPC of 0.004 ppm, 0.013 ppm, and 0.012 ppm, respectively. No other metals were detected at concentrations that exceed any applicable CTDEP RSR criteria.

5.4 Quality Assurance/Quality Control Samples

The trip blank (TB-1 & TB-2) samples did not contain detectable concentrations of VOCs. The FB-2 field blank sample contained the VOC toluene (1.3 ppb) and total barium (0.0066 ppm) at low concentrations. The presence of toluene and barium in the FB-2 field blank sample is negligible and is likely due to laboratory contamination because the laboratory-supplied de-ionized water was poured directly into the sample containers. No other contaminants were detected in the field blank samples. Copies of the analytical reports associated with the quality assurance/quality control samples are included in Appendix E.

6.0 DISCUSSION OF AFFECTED RESOURCES

Based upon the results of laboratory analyses performed on the soil and groundwater samples for this Task 210 investigation, four (4) areas of environmental concern (AOEC) for soil, and a Groundwater Area of Environmental Concern (GWAOEC) have been identified where contaminants are present at concentrations that exceed applicable CTDEP RSR criteria. In addition, one (1) large low-level area of environmental concern (LLAOEC) has been identified, where contaminants were detected at concentrations below applicable CTDEP RSR standards, but above laboratory detection limits. The locations of the AOECs, GWAOEC, and the LLAOEC within the project area are discussed in the following sections.

In addition, the magnetic survey conducted at the site indicated the presence of two magnetic anomalies in the area to the west of the 150 Willard Avenue building and adjacent to the southwest corner of the 160Willard Avenue building. A test pit advanced in the area to the west of the 150 Willard Avenue building indicated the presence of an unregistered, abandoned UST

on the property. The UST was heavily pitted and full of liquid that appeared to be groundwater. The tank was approximately three (3) feet in diameter and approximately four (4) feet long. No evidence of contaminated soil was encountered adjacent to the top and sides of the UST that were exposed during the test pit excavation. However, the area beneath the UST was not disturbed due to concerns of rupturing the tank. Soil samples collected from borings NJ-8 and NJ-9, which were advanced adjacent to the UST did not contain contaminants at concentrations exceeding CTDEP RSR criteria. The magnetic anomaly detected adjacent to the southwest corner of the 160 Willard Avenue building was not investigated at this time per the CTDOT due to its location beneath asphalt pavement adjacent to the main entrance to the building and primary parking area, as well as the MDC's inability to locate the underground water service to the building. The magnetic anomaly is located in an area of a suspected abandoned UST.

6.1 Soil Areas of Environmental Concern

AOEC #1: Sample NJ-1:

Analytical results from the soil sample collected from boring NJ-1 indicate the presence of BNA (chrysene) contamination at an elevated concentration in soil ranging from 0 to 2 feet below grade. The contamination detected exceeds the GB PMC.

AOEC #2: Samples NJ-5 & NJ-6:

Analytical results from the soil samples collected from borings NJ-5 and NJ-6 indicate the presence of BNA contamination at elevated concentrations in soil ranging from 0 to 4 feet below grade. The contamination detected exceeds the GB PMC, Residential DEC, and Commercial/Industrial DEC.

AOEC #3: Sample NJ-20:

Analytical results from the soil sample collected from boring NJ-20 indicate the presence of BNA contamination at elevated concentrations in soil ranging from 2 to 4 feet below grade. The contamination detected exceeds the GB PMC, Residential DEC, and Commercial/Industrial DEC.

AOEC #4: Sample NJ-26:

Analytical results from the soil sample collected from boring NJ-26 indicate the presence of pesticide (chlordane) and total lead contamination at elevated concentrations in soil ranging from 0 to 2 feet below grade. The contamination detected exceeds the GB PMC and Residential DEC.

6.2 Groundwater Area of Environmental Concern

GWAOEC #1: Sample NJ-9 GW:

Analytical results from the NJ-9 GW groundwater sample indicate the presence of total arsenic, total lead, and total silver contamination at elevated concentrations that exceed the SWPC. The groundwater throughout the site is also impacted with VOCs at low concentrations that do not exceed any applicable CTDEP RSR criteria, but may impact allowable construction dewatering discharge permit limits. Therefore, all construction dewatering fluids generated within the project site shall be considered contaminated and must be pumped to approved containers for filtration or sediment settling, and sampled prior to discharge or disposal in accordance with applicable regulations and permit requirements. Active remediation of the groundwater at the site is not recommended due to the GB classification of the site and the availability of a public water supply.

6.3 Low Level Areas of Environmental Concern

LLAOEC #A: Samples NJ-3, NJ-4, NJ-10, NJ-16, NJ-17, NJ-18, NJ-19, NJ-21, NJ-23, NJ-25, & NJ-32

Analytical results from the soil samples collected from borings NJ-3, NJ-4, NJ-10, NJ-16, NJ-17, NJ-18, NJ-19, NJ-21, NJ-23, NJ-25, and NJ-32 indicate the presence of petroleum hydrocarbons, VOCs, BNAs, pesticides, and PCBs at concentrations below CTDEP RSR standards. The contaminants were detected in the soil ranging from 0 to 8 feet below grade.

7.0 RECOMMENDATIONS

The results of the Task 210 – Subsurface Site Investigation for the 144 – 148, 150, and 160 Willard Avenue properties, in association with the New Britain to Hartford Busway, Newington Junction Station project in Newington, Connecticut indicate the presence of BNAs, pesticide (chlordane), and total lead contamination in soil samples collected from the each of the three properties comprising the proposed Newington Junction site, at concentrations that exceed applicable RSR criteria. The contamination was detected in soils ranging in depth from 0 to 4 feet below grade. Four (4) Areas of Environmental Concern (AOEC) for soil, one (1) Groundwater Area of Environmental Concern (GWAOEC), and one (1) large Low-Level Area of Environmental Concern (LLAOEC) for soil have been identified within the project area. Task 310 Plans and Specifications are therefore recommended to address proposed construction activities within the Areas of Environmental Concern, Groundwater Area of Environmental Concern, and Low-Level Area of Environmental Concern described in Section 6.0 above.

Additional investigation of the magnetic anomaly detected adjacent to the southwest corner of the 160 Willard Avenue building could be accomplished by use of ground penetrating radar (GPR). In the event that the GPR survey detected an anomaly indicative of a UST and the water service could be located, additional Geoprobe® borings and/or test pits could be conducted in order to determine the size of the UST and the quality of the adjacent soil. However, these investigations would be quite costly and may exceed the cost of removal of the UST. Since these additional investigations are not cost effective, no additional investigations are recommended at this time.

A Task 910 estimate of remedial cost is also recommended for the 150 Willard Avenue property due to the presence of a noncompliant, underground storage tank and possible related contaminated soil. The unregistered tank must be closed in accordance with the Underground Storage Tank Regulations in Sections 22a-449d-101 through 113 of the Regulations of Connecticut State Agencies.

8.0 LIMITATIONS

All work product and reports provided by Maguire Group Inc. (MGI) in connection with the performance of this Task 210 - Subsurface Site Investigation are subject to the following limitations:

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services provided to ConnDOT.

2. In preparing this report, MGI has relied on certain information provided by State and local officials and information and representations made by other parties referenced therein, and on information contained in the files of State and/or local agencies made available to MGI at the time of this investigation. To the extent that such files are missing, incomplete or not provided to MGI, MGI is not responsible. Although there may have been some degree of overlap in the information provided by these various sources, MGI did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this investigation.

3. The conclusions and recommendations contained in this report are based in part upon the data from subsurface explorations. The nature and extent of variations between these explorations may not become evident until further explorations are completed. If variations or other latent conditions become evident, it will be necessary to re-evaluate the conclusions and recommendations of this report.

4. The water level readings made for this investigation were made at the times and conditions stated on the boring logs. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, passage of time and other factors. Should additional data become available in the future, these data should be reviewed by MGI, and the conclusions and recommendations presented herein modified accordingly.

5. Where quantitative laboratory analyses have been conducted by an outside certified laboratory, MGI has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these tests.

6. If the conclusions and recommendations contained in this report are based, in part, upon various types of chemical data then the conclusions and recommendations are contingent upon the validity of such data. These data have been reviewed and interpretations made in the report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by MGI and the conclusions and recommendations presented herein modified accordingly.

7. Chemical analyses were performed for specific parameters during the course of this investigation, as described in the text. However, it should be noted that testing for all known chemical constituents was not performed. The conclusions and recommendations contained in this report are based only upon the chemical constituents for which testing was accomplished.

The following qualifications apply to the undersigned's opinion:

The activities described and opinions included herein are based on information gathered during this exploratory site investigation which was limited in scope in adherence to the terms of our agreement. The professional opinion provided herein is based on the information described in this report.

The information contained herein was prepared for the use of ConnDOT solely in conjunction with the task descriptions for this assignment. The conclusions and recommendations set forth in this report are based on site conditions at the time of the investigation. Future studies and findings could change the contents of this report. The professional opinions presented in this report have been developed by using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental engineering consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions included in this report.

Prepared by:	Approved by:	Reviewed by:
Cindy Knight	David R. Stock, P.E.	Jane Witherell, P.E., L.E.P.
Logical Env. Solutions	Program Manager	Principal Engineer

TABLES

TABLE 1(a) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-1 0'-2'	NJ-2 0'-2'	NJ-3 1'-3'	NJ-4 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	65.7	BRL	58.4	49.4	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)						
Anthracene	0.826	BRL	BRL	BRL	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	0.821	BRL	0.603	BRL	1 ppm	1/7.8 ppm
Benzo(a)pyrene	0.876	BRL	0.725	BRL	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.828	BRL	0.775	BRL	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	0.656	BRL	BRL	BRL	1 ppm	84/780 ppm
Chrysene	***1.04***	BRL	0.795	BRL	**1 ppm**	1,000/2,500 ppm
Fluoranthene	2.36	BRL	1.47	BRL	56 ppm	1,000/2,500 ppm
Phenanthrene	1.62	BRL	BRL	BRL	40 ppm	1,000/2,500 ppm
Pyrene	1.83	BRL	1.15	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	10.857	BRL	5.518	BRL		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	2.84	BRL	3.2	3.05		10/10 ppm
Barium	60.0	15.4	107	89.8		4,700/140,000 ppm
Cadmium	0.523	2.84	0.819	0.559		34/1,000 ppm
Chromium	16.0	3.61	22.2	16.9		100/100 ppm
Lead	47.6	41.1	142	57.9		500/1,000 ppm
Mercury	BRL	BRL	BRL	0.111		20/610 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.017	0.0129	0.023	0.0225	1.0 ppm	
Chromium	BRL	BRL	0.0066	BRL	0.5 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(b) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-5 2'-4'	NJ-6 0'-2'	NJ-7 4'-8'	NJ-8 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	207	172	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)						
Anthracene	0.999	BRL	BRL	BRL	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	***2.23***	0.788	BRL	BRL	**1 ppm**	1/7.8 ppm
Benzo(a)pyrene	***2.82***	0.926	BRL	BRL	**1 ppm**	**1/1 ppm**
Benzo(b)fluoranthene	***2.42***	***1.02***	BRL	BRL	**1 ppm**	1/7.8 ppm
Benzo(g,h,i)perylene	1.18	BRL	BRL	BRL	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	***3.45***	0.968	BRL	BRL	**1 ppm**	84/780 ppm
Chrysene	***3.59***	0.966	BRL	BRL	**1 ppm**	1,000/2,500 ppm
Fluoranthene	6.22	2.37	BRL	BRL	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	***1.21***	BRL	BRL	BRL	**1 ppm**	1/7.8 ppm
Phenanthrene	2.75	1.06	BRL	BRL	40 ppm	1,000/2,500 ppm
Pyrene	5.91	2.02	BRL	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	32.779	10.118	BRL	BRL		
Pesticides - Method 8081 (ppm)						
4,4-DDT	0.0112	0.0064	BRL	BRL	No Standard	1.8/17 ppm
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	2.29	2.42	3.06	BRL		10/10 ppm
Barium	59.9	66.2	174	38.2		4,700/140,000 ppm
Cadmium	0.645	0.676	0.559	0.483		34/1,000 ppm
Chromium	16.3	16.6	34.2	15.1		100/100 ppm
Lead	74.1	97.2	13.4	13.5		500/1,000 ppm
Mercury	BRL	0.0798	BRL	BRL		20/610 ppm
Silver	BRL	BRL	BRL	4.27		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0172	0.0182	0.0552	0.0176	10.0 ppm	
Chromium	BRL	BRL	0.007	BRL	0.5 ppm	
Lead	0.011	BRL	BRL	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(c) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-8 4'-8'	NJ-9 2'-4'	NJ-9 4'-8'	NJ-10 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	66.3	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)						
Benzo(a)anthracene	BRL	BRL	BRL	0.481	1 ppm	1/7.8 ppm
Benzo(a)pyrene	BRL	BRL	BRL	0.544	1 ppm	1/1 ppm
Benzo(b)fluoranthene	BRL	BRL	BRL	0.604	1 ppm	1/7.8 ppm
Benzo(k)fluoranthene	BRL	BRL	BRL	0.503	1 ppm	84/780 ppm
Chrysene	BRL	BRL	BRL	0.568	1 ppm	1,000/2,500 ppm
Fluoranthene	BRL	BRL	BRL	1.27	56 ppm	1,000/2,500 ppm
Phenanthrene	BRL	BRL	BRL	0.623	40 ppm	1,000/2,500 ppm
Pyrene	BRL	BRL	BRL	1.08	40 ppm	1,000/2,500 ppm
Total BNAs	BRL	BRL	BRL	5.673		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	2.59	2.4	2.12	4.26		10/10 ppm
Barium	87.0	78.9	131	83.5		4,700/140,000 ppm
Cadmium	0.55	0.71	0.674	1.0		34/1,000 ppm
Chromium	20.5	18.5	29.6	18.9		100/100 ppm
Lead	40.0	77.0	29.3	92.2		500/1,000 ppm
Mercury	0.0925	0.16	BRL	0.0888		20/610 ppm
Selenium	BRL	BRL	1.96	BRL		340/10,000 ppm
Silver	2.84	3.75	6.01	4.75		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0375	0.0185	0.0715	0.0214	10.0 ppm	
Chromium	BRL	BRL	0.0112	BRL	0.5 ppm	
Lead	BRL	0.0076	0.0078	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(d) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-11 2'-4'	NJ-12 0'-2'	NJ-13 2'-4'	NJ-14 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	3.71	2.79	4.83	4.05		10/10 ppm
Barium	110	71.5	81.2	89.0		4,700/140,000 ppm
Cadmium	BRL	0.421	BRL	0.428		34/1,000 ppm
Chromium	18.6	15.3	23.9	16.6		100/100 ppm
Lead	39.7	56.0	11.2	18.2		500/1,000 ppm
Mercury	0.0607	0.0893	BRL	0.056		20/610 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0132	0.0092	0.0585	0.0308	10.0 ppm	
Chromium	BRL	BRL	0.0116	BRL	0.5 ppm	
Lead	BRL	BRL	0.0076	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(e) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-15 2'-4'	NJ-16 2'-4'	NJ-16 4'-8'	NJ-17 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	196	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
Chlorobenzene	BRL	0.0121	0.44	BRL	20 ppm	500/1,000 ppm
1,4-Dichlorobenzene	BRL	BRL	0.0152	BRL	15 ppm	26/240 ppm
Methyl Tert-Butyl Ether	BRL	BRL	0.0102	BRL	20 ppm	500/1,000 ppm
BNAs - Method 8270 (ppm)						
Fluoranthene	BRL	BRL	BRL	0.596	56 ppm	1,000/2,500 ppm
Total BNAs	BRL	BRL	BRL	0.596		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	6.21	6.41	5.55	5.87		10/10 ppm
Barium	118	132	136	168		4,700/140,000 ppm
Chromium	24.2	25.7	24.5	24.4		100/100 ppm
Lead	14.7	14.3	11.4	13.0		500/1,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0196	0.0286	0.0643	0.0445	10.0 ppm	
Chromium	BRL	BRL	0.0089	0.0061	0.5 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(f) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.:	NJ-18	NJ-19	NJ-20	NJ-21	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
Sample Depth:	1'-3'	0'-2'	2'-4'	4'-8'		
CT ETPH - (ppm)	133	104	183	273	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)						
sec-Butylbenzene	BRL	BRL	BRL	0.0149	14 ppm	500/1,000 ppm
BNAs - Method 8270 (ppm)						
Acenaphthylene	BRL	BRL	0.771	BRL	84 ppm	1,000/2,500 ppm
Anthracene	BRL	BRL	0.792	BRL	400 ppm	1,000/2,500 ppm
Benzo(a)anthracene	0.699	BRL	***1.61***	BRL	**1 ppm**	**1**/7.8 ppm
Benzo(a)pyrene	0.826	BRL	***1.75***	BRL	**1 ppm**	**1/1 ppm**
Benzo(b)fluoranthene	0.907	BRL	***1.29***	BRL	**1 ppm**	**1**/7.8 ppm
Benzo(g,h,i)perylene	BRL	BRL	0.719	BRL	42 ppm	1,000/2,500 ppm
Benzo(k)fluoranthene	0.957	BRL	***1.18***	BRL	**1 ppm**	84/780 ppm
Bis(2-ethylhexyl)phthalate	1.2	BRL	BRL	BRL	11 ppm	44/410 ppm
Chrysene	0.843	BRL	***1.83***	BRL	**1 ppm**	1,000/2,500 ppm
Fluoranthene	1.74	BRL	3.08	BRL	56 ppm	1,000/2,500 ppm
Indeno(1,2,3-cd)pyrene	BRL	BRL	0.654	BRL	1 ppm	1/7.8 ppm
Phenanthrene	BRL	BRL	2.07	BRL	40 ppm	1,000/2,500 ppm
Pyrene	1.56	0.624	3.47	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	8.732	0.624	19.216	BRL		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)					Not Applicable	
PCB-1254	0.0348	BRL	BRL	BRL		1/10 ppm
PCB-1260	0.0489	BRL	BRL	BRL		1/10 ppm
Total PCBs	0.0837	BRL	BRL	BRL		1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	7.42	4.74	3.59	1.91		10/10 ppm
Barium	45.2	64.0	96.1	261		4,700/140,000 ppm
Cadmium	3.18	1.04	0.714	0.726		34/1,000 ppm
Chromium	53.2	21.7	22.8	23.6		100/100 ppm
Lead	92.4	100	62.0	24.7		500/1,000 ppm
Mercury	0.242	0.199	0.0836	0.0528		20/610 ppm
Silver	1.94	BRL	BRL	7.26		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0125	0.0106	0.0193	0.0379	10.0 ppm	
Lead	0.009	BRL	BRL	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(g) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-22 2'-4'	NJ-23 2'-4'	NJ-24 2'-4'	NJ-24 4'-8'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081 (ppm)						
4,4-DDE	BRL	0.0844	BRL	BRL	No Standard	1.8/17 ppm
4,4-DDT	BRL	0.521	BRL	BRL	No Standard	1.8/17 ppm
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	6.07	3.22	5.19	6.31		10/10 ppm
Barium	167	86.4	126	158		4,700/140,000 ppm
Cadmium	BRL	0.774	BRL	BRL		34/1,000 ppm
Chromium	28.1	16.7	24.1	28.1		100/100 ppm
Lead	12.9	49.3	11.7	12.8		500/1,000 ppm
Mercury	BRL	0.168	BRL	BRL		20/610 ppm
Selenium	BRL	1.75	BRL	BRL		340/10,000 ppm
Silver	BRL	2.47	BRL	BRL		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0862	0.0112	0.07	0.0089	10.0 ppm	
Chromium	0.0108	BRL	0.0078	BRL	0.5 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(h) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-25 2'-4'	NJ-26 0'-2'	NJ-27 2'-4'	NJ-27 4'-8'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	29.0	48.2	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081 (ppm)						
Chlordane	BRL	***0.0878***	BRL	BRL	**0.066 ppm**	0.49/2.2 ppm
a-Chlordane	BRL	0.0128	BRL	BRL	No Standard	No Standard
g-Chlordane	BRL	0.00674	BRL	BRL	No Standard	No Standard
4,4-DDE	BRL	0.0103	BRL	BRL	No Standard	1.8/17 ppm
4,4-DDT	BRL	0.067	BRL	BRL	No Standard	1.8/17 ppm
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	3.44	6.04	6.87	5.91		10/10 ppm
Barium	111	462	173	126		4,700/140,000 ppm
Cadmium	0.752	3.56	BRL	BRL		34/1,000 ppm
Chromium	36.7	34.4	28.5	22.0		100/100 ppm
Lead	55.9	***622***	12.8	10.8		**500**/1,000 ppm
Mercury	0.19	0.261	BRL	BRL		20/610 ppm
Silver	3.34	4.94	BRL	BRL		340/10,000 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0146	0.0424	0.0937	0.115	10.0 ppm	
Chromium	BRL	0.0136	BRL	0.0128	0.5 ppm	
Lead	BRL	0.0303	BRL	0.0086	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(i) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-28 2'-4'	NJ-29 4'-8'	NJ-30 2'-4'	NJ-31 2'-4'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	BRL	BRL	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)	BRL	BRL	BRL	BRL		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm					Not Applicable	
Arsenic	7.43	2.06	9.92	2.21		10/10 ppm
Barium	113	141	142	119		4,700/140,000 ppm
Cadmium	BRL	0.495	0.545	0.586		34/1,000 ppm
Chromium	23.0	16.9	25.2	23.6		100/100 ppm
Lead	22.4	10.7	79.8	18.1		500/1,000 ppm
Mercury	BRL	BRL	0.301	BRL		20/610 ppm
SPLP RCRA 8 Metals - ppm						Not Applicable
Barium	0.0209	0.0128	0.0181	0.0676	10.0 ppm	
Chromium	BRL	BRL	BRL	0.0066	0.5 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 1(j) - Results of Geoprobe Boring Soil Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Boring I.D.: Sample Depth:	NJ-32 0'-2'	NJ-33 2'-4'	NJ-33 4'-8'	CTDEP PMC GB Groundwater Area	CTDEP DEC Residential/ Commercial & Industrial
CT ETPH - (ppm)	56.2	BRL	BRL	2,500 ppm	500/2,500 ppm
VOCs - Method 8260 (ppm)	BRL	BRL	BRL		
BNAs - Method 8270 (ppm)					
Benzo(a)pyrene	0.68	BRL	BRL	1 ppm	1/1 ppm
Benzo(b)fluoranthene	0.66	BRL	BRL	1 ppm	1/7.8 ppm
Chrysene	0.792	BRL	BRL	1 ppm	1,000/2,500 ppm
Fluoranthene	1.53	BRL	BRL	56 ppm	1,000/2,500 ppm
Pyrene	1.04	BRL	BRL	40 ppm	1,000/2,500 ppm
Total BNAs	4.702	BRL	BRL		
Pesticides - Method 8081 (ppm)	BRL	BRL	BRL		
PCBs – Method 8082 (ppm)	BRL	BRL	BRL	Not Applicable	1/10 ppm
Total RCRA 8 Metals – ppm				Not Applicable	
Arsenic	2.77	4.41	2.66		10/10 ppm
Barium	81.6	140	158		4,700/140,000 ppm
Cadmium	0.621	0.536	0.528		34/1,000 ppm
Chromium	15.1	20.0	19.6		100/100 ppm
Lead	82.1	45.0	11.7		500/1,000 ppm
Mercury	0.0738	0.114	BRL		20/610 ppm
SPLP RCRA 8 Metals - ppm					Not Applicable
Barium	0.0258	0.0152	0.0149	10.0 ppm	
Chromium	BRL	BRL	BRL	0.5 ppm	
Lead	0.0116	0.0104	BRL	0.15 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 2(a) - Results of Groundwater Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Sample I.D.:	NJ-4 GW	NJ-9 GW	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb)				
cis-1,2-Dichloroethene	1.4	BRL	None Established	860 ppb/None Established
Tetrachloroethene	1.1	BRL	88 ppb	1,500/3,820 ppb
BNAs - EPA Method 8270 (ppb)	BRL	BRL		
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	
Total RCRA 8 Metals – ppm				Not Applicable
Arsenic	BRL	***0.0066***	**0.004 ppm**	
Barium	0.142	0.359	None Established	
Chromium	0.0127	0.0758	0.11 ppm	
Lead	0.0095	***0.0802***	**0.013 ppm**	
Silver	BRL	***0.0197***	**0.012 ppm**	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 2(b) - Results of Groundwater Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Sample I.D.:	MW-1	MW-2	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb)				
Methyl Tert-Butyl Ether	116	BRL	None Established	50,000/50,000 ppb
Tert-Amyl Methyl Ether	10.8	BRL	None Established	None Established
Ethyl Tert-Butyl Ether	1.0	BRL	None Established	None Established
Tert-Butanol	324	BRL	None Established	None Established
BNAs - EPA Method 8270 (ppb)	BRL	BRL		
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	
Total RCRA 8 Metals – ppm				Not Applicable
Barium	0.27	0.178	None Established	
Cadmium	BRL	0.0026	0.006 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 2(c) - Results of Groundwater Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Sample I.D.:	MW-3	MW-4	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	BRL	None Established	Not Applicable
VOCs - EPA Method 8260 (ppb)				
Methyl Tert-Butyl Ether	1.2	6.2	None Established	50,000/50,000 ppb
BNAs - EPA Method 8270 (ppb)	BRL	BRL		
Pesticides - EPA Method 8081A (ppb)	BRL	BRL		
PCBs - EPA Method 8080 (ppb)	BRL	BRL	0.5 ppb	
Total RCRA 8 Metals – ppm				Not Applicable
Barium	0.196	0.24	None Established	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

TABLE 2(d) - Results of Groundwater Sample Analyses
New Britain-Hartford Busway Proposed Newington Junction Station
144 – 148, 150 & 160 Willard Avenue
Newington, Connecticut

Sample I.D.:	MW-5	CTDEP Surface Water Protection Criteria	CTDEP Volatilization Criteria Residential/Commercial & Industrial
CT ETPH (ppm)	BRL	None Established	Not Applicable
VOCs - Method 8260 (ppb)	BRL		
BNAs - Method 8270 (ppb)	BRL		
Pesticides - Method 8081A (ppb)	BRL		
PCBs - Method 8080 (ppb)	BRL	0.5 ppb	Not Applicable
Total RCRA 8 – ppm			Not Applicable
Barium	0.064	None Established	
Cadmium	0.0028	0.006 ppm	
Lead	0.0102	0.013 ppm	

BRL – Below Reporting Limits (see laboratory reports for compound specific detection limits)

The compounds listed above are those that were detected - please see laboratory reports for full lists of compounds and their specific detection limits.

APPENDIX A
CTDOT Access Agreement Form

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Town Newington
Project 171-305

Name Roman & Maria Lubniewski
Address 146 Willard Avenue
Newington, CT

Dear Property Owner:

Section 13a-60 of the General Statutes of Connecticut, as revised, provides that the Transportation Commissioner or his agent may enter upon private property for the purpose of conducting surveys, inspections or geological investigations for the location, relocation, construction or reconstruction of any proposed or existing highways.

Section 13a-60 provides that the Transportation Commissioner or his agent shall use care that no unnecessary damage shall result and that the State shall pay damage to the owner for any damage or injury he causes such owner by such entrance or use.

Your consent to the Transportation Commissioner or his agent to enter upon your property for the purpose of carrying out the provisions of this statute is requested.

A signature to authorize entrance upon your property does not indicate your approval or disapproval of the above-noted project.

Please sign in the space provided below and return [redacted] in the enclosed self-addressed stamped envelope. Thank you for your cooperation.

Very truly yours,

Arthur W. Gruhn, P.E.
Chief Engineer

I hereby give my consent to the Transportation Commissioner or his agent to enter upon my property in order to carry out the provisions of Sec. 13a-60 of the 1969 Supplement to the General Statutes and for the purposes as checked.

____ Survey
X Borings, Soundings or Other Tests

Owner [signature] Date 10-10-06
Interviewer [signature] Date 10-10-06

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Town Newington
Project 171-305

Name Sheryl Bond Tierney
Address 150 Willard Avenue
Newington, CT

Dear Property Owner:

Section 13a-60 of the General Statutes of Connecticut, as revised, provides that the Transportation Commissioner or his agent may enter upon private property for the purpose of conducting surveys, inspections or geological investigations for the location, relocation, construction or reconstruction of any proposed or existing highways.

Section 13a-60 provides that the Transportation Commissioner or his agent shall use care that no unnecessary damage shall result and that the State shall pay damage to the owner for any damage or injury he causes such owner by such entrance or use.

Your consent to the Transportation Commissioner or his agent to enter upon your property for the purpose of carrying out the provisions of this statute is requested.

A signature to authorize entrance upon your property does not indicate your approval or disapproval of the above-noted project.

Please sign in the space provided below and return ~~to the attention of Manager, Environmental Engineering~~ in the enclosed self-addressed stamped envelope. Thank you for your cooperation.

Very truly yours,

Arthur W. Gruhn, P.E.
Chief Engineer

I hereby give my consent to the Transportation Commissioner or his agent to enter upon my property in order to carry out the provisions of Sec. 13a-60 of the 1969 Supplement to the General Statutes and for the purposes as checked.

___ Survey
X Borings, Soundings or Other Tests

~~Owner~~ Sheryl H. Tierney Date 11-09-06
~~Interviewer~~ Property Mgr. Date

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Town Newington
Project 171-305

Name Sheryl Tierney & Mitchell Laurel, Trustees
Address 160 Willard Avenue
Newington, CT

Dear Property Owner:

Section 13a-60 of the General Statutes of Connecticut, as revised, provides that the Transportation Commissioner or his agent may enter upon private property for the purpose of conducting surveys, inspections or geological investigations for the location, relocation, construction or reconstruction of any proposed or existing highways.

Section 13a-60 provides that the Transportation Commissioner or his agent shall use care that no unnecessary damage shall result and that the State shall pay damage to the owner for any damage or injury he causes such owner by such entrance or use.

Your consent to the Transportation Commissioner or his agent to enter upon your property for the purpose of carrying out the provisions of this statute is requested.

A signature to authorize entrance upon your property does not indicate your approval or disapproval of the above-noted project.

Please sign in the space provided below and return [redacted] in the enclosed self-addressed stamped envelope. Thank you for your cooperation.

Very truly yours,

Arthur W. Gruhn, P.E.
Chief Engineer

I hereby give my consent to the Transportation Commissioner or his agent to enter upon my property in order to carry out the provisions of Sec. 13a-60 of the 1969 Supplement to the General Statutes and for the purposes as checked.

___ Survey
X Borings, Soundings or Other Tests

Owner [signature] Date 11-09-06
~~Interviewer~~ Property Mgr. Date

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APPENDIX B
Boring Logs

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-1
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	1.3	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-2
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	0.3	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-3
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.5		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble		0.8	Macro Core 0'-3'
2.0					
3.0			3.0		
		Refusal at 3' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 3'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway	**Boring:** NJ-4
Location: Newington Junction - Willard Ave.	**Inspector:** C. Criscuolo
Client: Maguire Group Inc.	**Date:** 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Brown fine to medium SAND & SILT, little fine to coarse Gravel, trace Asphalt (FILL)	1.0	0.2	Macro Core 0'-2'
1.0		Brown fine to medium SAND, little Silt, trace fine Gravel	3.0	1.1	Macro Core 2'-4'
2.0					
3.0		Red-Brown fine to medium SAND, some Silt, trace fine to coarse Gravel	5.0	0.5	Macro Core 4'-8'
4.0					
5.0		Red-Brown SILT, little Clay, trace fine Sand (wet at 8')		0.1	Macro Core 8'-12'
6.0					
7.0					
8.0					
9.0					
10.0					
11.0		End of Boring at 12' Groundwater Grab Sample Collected	12.0		
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry	**Depth to Water:** 8'	**Boring Dia.:** 2"
Rig: Geoprobe 540U	**Boring Depth:** 12'	**Page:** 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-5
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Brown fine to medium SAND & SILT, little fine to coarse Gravel, trace Asphalt (FILL)	1.0	0.2	Macro Core 0'-2'
1.0		Brown fine to medium SAND, little Silt, trace fine Gravel	3.0	0.8	Macro Core 2'-4'
2.0		Red-Brown fine to medium SAND, some Silt, trace fine to coarse Gravel	5.0	0.2	Macro Core 4'-8'
3.0		Red-Brown SILT, little Clay, trace fine Sand (wet at 9')		0	Macro Core 8'-12'
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 9'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-6
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	0.3	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-7
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray-Green fine to medium GRAVEL, little fine to coarse Sand, trace Silt	0.5		
1.0		Red-Brown fine to medium SAND, some Silt, trace fine to coarse Gravel		0.1	Macro Core 0'-2'
2.0			2.5		
3.0		Red-Brown SILT, little fine to medium Sand, trace Clay & fine Gravel		0.4	Macro Core 2'-4'
4.0			4.0		
5.0					
6.0				0.7	Macro Core 4'-8'
7.0					
8.0		Red-Brown SILT, little Clay, trace fine Sand (wet at 9')			
9.0					
10.0				0.1	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 9'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-8
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Brown fine to medium SAND, little Silt, trace fine Gravel	1.0	0.1	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little fine to coarse Gravel & Silt, trace Asphalt (FILL)	2.0		
2.0				1.7	Macro Core 2'-4'
3.0		Red-Brown fine SAND & SILT, trace Clay & fine Gravel (very moist)			
4.0			5.0		
5.0				0.8	Macro Core 4'-8'
6.0		Brown SILT, trace fine Sand & Clay (wet)			
7.0			8.0		
8.0				0.1	Macro Core 8'-12'
9.0		Red-Brown SILT, little Clay			
10.0					
11.0		End of Boring at 12'	12.0		
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 5'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-9
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Dark-Brown fine to medium SAND, little Silt, trace fine Gravel	0.5		
1.0		Red-Brown fine to medium SAND, little fine to coarse Gravel (loose)	2.0	0.4	Macro Core 0'-2'
2.0		Red-Brown fine SAND & SILT, trace Clay & fine Gravel (very moist)	4.0	2.8	Macro Core 2'-4'
4.0		Brown SILT, trace fine Sand & Clay (wet)	8.0	1.8	Macro Core 4'-8'
8.0		Red-Brown SILT, little Clay		0.2	Macro Core 8'-12'
12.0		End of Boring at 12' Groundwater Grab Sample Collected	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 4'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-10
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0				0.1	Macro Core 0'-2'
2.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel			
3.0				0.2	Macro Core 2'-4'
4.0			4.0		
5.0		End of Boring at 4'			
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 4'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-11
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray-Brown fine to medium SAND, little fine to coarse Gravel	1.0	0	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little fine to coarse Gravel & SILT	3.0	0	Macro Core 2'-4'
2.0					
3.0		Brown SILT, trace fine Sand (moist)	5.0	0	Macro Core 4'-8'
4.0					
5.0		Red-Brown SILT, little Clay, trace fine Sand (moist)		0	Macro Core 8'-12'
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway	**Boring:** NJ-12
Location: Newington Junction - Willard Ave.	**Inspector:** C. Criscuolo
Client: Maguire Group Inc.	**Date:** 11-21-06

Logical Environmental Solutions
354 South River Road
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Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	0.4	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry	**Depth to Water:** Dry	**Boring Dia.:** 2"
Rig: Manual Geoprobe	**Boring Depth:** 2'	**Page:** 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-13
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Gray-Brown fine to medium SAND, little fine to coarse Gravel	1.0	0	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little fine to coarse Gravel & SILT	3.0	0	Macro Core 2'-4'
2.0					
3.0		Brown SILT, trace fine Sand (moist)	5.0	0	Macro Core 4'-8'
4.0					
5.0		Red-Brown SILT, little Clay, trace fine Sand (moist)		0	Macro Core 8'-12'
6.0					
7.0					
8.0					
9.0					
10.0					
11.0		End of Boring at 12'	12.0		
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-14
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
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Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		ASPHALT	0.5		
1.0		Red-Brown fine to medium SAND, little fine to coarse Gravel & Silt	1.0	0	Macro Core 0'-2'
2.0		Red-Brown fine SAND & SILT, trace fine Gravel	2.5		
3.0				0	Macro Core 2'-4'
4.0					
5.0					
6.0				0	Macro Core 4'-8'
7.0		Red-Brown SILT, trace Clay & fine Sand (moist)			
8.0					
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-15
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
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Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		ASPHALT - 3"	0.3		
		Gray fine to medium SAND, little fine to coarse Gravel	1.0	0.1	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel			
2.0			2.5		
3.0				1.3	Macro Core 2'-4'
4.0					
5.0					
6.0				0.1	Macro Core 4'-8'
7.0		Red-Brown SILT, trace Clay & fine Sand (moist)			
8.0					
9.0					
10.0				0	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-16
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
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Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		ASPHALT - 3"	0.3		
		Gray fine to medium SAND, little fine to coarse Gravel	1.0	0.1	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel			
2.0			2.5		
3.0				4.1	Macro Core 2'-4'
4.0					
5.0					
6.0				42.7	Macro Core 4'-8'
7.0		Red-Brown SILT, trace Clay & fine Sand (slight petroleum odor, moist)			
8.0					
9.0					
10.0				0.2	Macro Core 8'-12'
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-17
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL, mixed with Red-Brown fine to medium SAND, trace Silt	1.0	0.1	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	2.5		
2.0				0.2	Macro Core 2'-4'
3.0					
4.0				0	Macro Core 4'-8'
5.0					
6.0					
7.0		Red-Brown SILT, trace Clay & fine Sand (moist)			
8.0				0	Macro Core 8'-12'
9.0					
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-18
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Dark-Gray fine to medium SAND, little Silt & fine to coarse Gravel	1.5	0.8	Macro Core 0'-3'
1.0					
2.0		Red-Brown f-m SAND, little Silt, trace f-c Gravel & Cobble	3.0		
3.0					
4.0		Refusal at 3' on COBBLE			
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 3'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-19
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Dark-Gray fine to medium SAND, little Silt & fine to coarse Gravel	1.5	1.1	Macro Core 0'-2'
1.0		Red-Brown f-m SAND, little Silt, trace f-c Gravel & Cobble	2.0		
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-20
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Red-Brown fine to medium SAND, some Silt, little fine to coarse Gravel		0.3	Macro Core 0'-2'
1.0					
2.0			2.5		
		Dark-Gray fine to medium GRAVEL, little fine to coarse Sand (moist)		1.9	Macro Core 2'-4'
3.0			3.5		
4.0		Red-Brown SILT, trace fine Sand & Clay & fine Gravel (wet at 9')		1.5	Macro Core 4'-8'
5.0					
6.0					
7.0					
8.0				0.3	Macro Core 8'-12'
9.0					
10.0					
11.0		End of Boring at 12'	12.0		
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 9'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-21
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	2.0	0.3	Macro Core 0'-2'
2.0		Red-Brown fine SAND, some Silt, trace fine to coarse Gravel (moist, slight petroleum odor)	5.0	0.8	Macro Core 2'-4'
5.0		Brown to Red-Brown fine to medium SAND, little Silt, trace fine Gravel (petroleum odor)	7.0	48.7	Macro Core 4'-8'
7.0		Red-Brown SILT,trace fine Sand & Clay (wet, petroleum odor)		14.7	Macro Core 8'-12'
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 7'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-22
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Red-Brown fine SAND & SILT mixed with Gray fine to medium GRAVEL	0.5		
		Red-Brown fine to medium SAND, trace Silt	1.0	0	Macro Core 0'-2'
1.0					
2.0					
3.0				0	Macro Core 2'-4'
4.0		Red-Brown SILT, trace fine to medium Sand & Clay & fine Gravel (moist)			
5.0					
6.0				0	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0					
10.0		Refusal at 8' on SILTSTONE			
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-23
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Brown fine to medium SAND, little Silt, trace fine Gravel	1.0	0.3	Macro Core 0'-2'
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel	3.0	0.5	Macro Core 2'-4'
2.0					
3.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & coarse Sand	5.0	0.4	Macro Core 4'-8'
4.0					
5.0		Red-Brown SILT, trace Clay, fine Sand & Gravel	9.0	0.1	Macro Core 8'-12'
6.0					
7.0					
8.0					
9.0		Red-Brown SILT, little Clay	12.0		
10.0					
11.0		End of Boring at 12'			
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 5'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-24
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Red-Brown fine SAND & SILT mixed with Gray fine to medium GRAVEL	0.5		
1.0		Red-Brown fine to medium SAND, trace Silt	1.0	0.1	Macro Core 0'-2'
2.0					
3.0				0.5	Macro Core 2'-4'
4.0		Red-Brown SILT, trace fine to medium Sand & Clay & fine Gravel (moist)			
5.0					
6.0				0.5	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0					
10.0		Refusal at 8' on SILTSTONE			
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-25
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Brown fine to medium SAND, little Silt, trace fine Gravel & Clay	1.0	0.2	Macro Core 0'-2'
1.0					
2.0		Brown fine SAND, some Silt, trace fine to coarse Gravel	3.0	1.7	Macro Core 2'-4'
3.0					
4.0		Red-Brown SILT, trace fine to coarse Gravel & fine Sand (moist)	6.0	0.6	Macro Core 4'-8'
5.0					
6.0					
7.0					
8.0		Red-Brown SILT, little fine to coarse Gravel, trace Silt & fine Sand (TILL)		0	Macro Core 8'-12'
9.0					
10.0					
11.0					
12.0		End of Boring at 12'	12.0		

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: 6'
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 12'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-26
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-20-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	0.6	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-27
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Brown fine to medium SAND, little Silt & fine to medium Gravel	1.0	0	Macro Core 0'-2'
1.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble	4.0	0	Macro Core 2'-4'
4.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble with Sand Lenses (moist)	8.0	0	Macro Core 4'-8'
8.0		Refusal at 8' on SILTSTONE			

5.0, 6.0, 7.0, 9.0, 10.0, 11.0, 12.0

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-28
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0					
1.0				0	Macro Core 0'-2'
2.0					
3.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble		0.4	Macro Core 2'-4'
4.0					
5.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble with layers of Basalt			
6.0				0.3	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0		Refusal at 8' on BASALT			
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-29
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Brown to Red-Brown SILT, little fine to medium SAND, trace fine to coarse Gravel	1.0	0.1	Macro Core 0'-2'
1.0					
2.0					
3.0				1.0	Macro Core 2'-4'
4.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble			
5.0					
6.0				1.2	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0					
10.0		Refusal at 8' on SILTSTONE			
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-30
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 11-21-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		ASPHALT - 1"	0.5		
		Brown fine to coarse SAND & GRAVEL			
1.0		Red-Brown fine to medium SAND, some Silt, little fine to coarse Gravel		0.3	Macro Core 0'-2'
2.0			2.5		
		Dark-Brown to Red-Brown fine to medium SAND, some Silt, little fine to coarse Gravel	3.0	1.9	Macro Core 2'-4'
3.0					
4.0					
5.0		Red-Brown SILT, little fine to coarse Gravel, trace fine Sand & Cobble (moist)			
6.0				0.3	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0					
10.0		Refusal at 8' on SILTSTONE			
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-31
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
1.0		Red-Brown SILT, little fine Sand & fine to coarse Gravel, trace Clay & Cobble		0.2	Macro Core 0'-2'
2.0					
3.0				0.7	Macro Core 2'-4'
4.0					
5.0				0.7	Macro Core 4'-6'
6.0			6.0		
7.0		Refusal at 6' on BASALT			
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 6'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-32
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
		Ground Surface	0.0		
0.0		Gray fine to medium GRAVEL mixed with fine to medium SAND (FILL)	0.4		
1.0		Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Cobble	2.0	0.8	Macro Core 0'-2'
2.0					
3.0		Refusal at 2' on COBBLE			
4.0					
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Manual Geoprobe
Boring Depth: 2'
Page: 1 of 1

GEOPROBE SOIL BORING LOG

Project: New Britain-Hartford Busway
Boring: NJ-33
Location: Newington Junction - Willard Ave.
Inspector: C. Criscuolo
Client: Maguire Group Inc.
Date: 12-3-06

Logical Environmental Solutions
354 South River Road
Tolland, CT 06084
Truck, Portable & ATV/Backhoe-Mounted Geoprobes

Depth (feet)	Symbol	Description	Depth (feet)	PID (ppm)	Sample Interval
0.0		Ground Surface	0.0		
		Brown to Red-Brown fine to medium SAND, little Silt, trace fine to coarse Gravel & Wood Chips	1.0	0.2	Macro Core 0'-2'
1.0					
2.0					
3.0		Red-Brown SILT, trace fine to medium Sand & Clay & fine Gravel		1.8	Macro Core 2'-4'
4.0					
5.0		Grade to Red-Brown SILT, little fine to coarse Gravel, trace Clay & Cobble (TILL, moist)			
6.0				1.6	Macro Core 4'-8'
7.0					
8.0			8.0		
9.0					
10.0		Refusal at 8' on SILTSTONE			
11.0					
12.0					

Soil Description: and = 35-50% some = 20-35% little = 10-20% trace = 1-10%

Driller: Wayne Lineberry
Depth to Water: Dry
Boring Dia.: 2"
Rig: Geoprobe 540U
Boring Depth: 8'
Page: 1 of 1

APPENDIX C
Test Pit
Photographs

Photograph 1: Test Pit #1 excavated within Magnetic Anomaly #1 located on 150 Willard Avenue property. Abandoned steel UST filled with groundwater and many small holes depicted in photo.

Photograph 2: Test Pit #2 excavated within Magnetic Anomaly #3 to the west of the 144 – 148 Willard Avenue building. Depicted is concrete chunk containing steel rebar.

Photograph 3: Test Pit #4 excavated within Magnetic Anomaly #5 to the northwest of the 144 – 148 Willard Avenue building. Depicted is a steel plate that was buried within the first 6-inches of the soil.

Photograph 4: Test Pit #4 excavated within Magnetic Anomaly #5 to the northwest of the 144 – 148 Willard Avenue building, along the property boundary. Depicted are surficial scrap metal and a small amount miscellaneous debris and garbage.