

**Adirondack Regional Business Incubator Site
36 Elm Street**

City of Glens Falls, New York

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Site Investigation Report

**New York State Assistance
Contract No. C303163
ERP Project No. E557019**

May 2008



Engineers • Environmental Scientists • Planners • Landscape Architects

**2 Corporate Plaza
264 Washington Avenue Extension
Albany, New York 12203**

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36 Elm Street
City of Glens Falls

Environmental Restoration Project

Site Investigation Report
New York State Assistance Contract No. C303163
ERP Project No. E557019

May 2008

Prepared For:

Greater Glens Falls Local Development Corporation
42 Ridge Street
Glens Falls, New York 12801

Attn: Mr. Thomas Donohue
Tel: (518) 761-3883

Prepared By:

Barton & Loguidice, P.C.
Engineers, Environmental Scientists, Planners, Landscape Architects
2 Corporate Plaza
264 Washington Avenue Extension
Albany, New York 12203

Attn: Mr. Stephen Le Fevre, P.G.
Tel: (518) 218-1801

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Executive Summary

An Environmental Restoration Project Site Investigation was completed at the proposed Adirondack Regional Business Incubator site (36 Elm Street, a former garment factory and automobile facility) in the City of Glens Falls, Warren County, New York. The property consists of a 0.14-acre lot situated on the southwest side of Elm Street approximately 100 feet northwest of its intersection with South Street.

The investigation and associated interim remedial measures (IRMs) were completed as part of an Environmental Restoration Project funded in part by the 1996 Clean Water/Clean Air Environmental Bond Act (State Assistance Contract No. C303163). The investigation and associated activities were performed under the guidelines of the Environmental Restoration Program regulated by the New York State Department of Environmental Conservation (NYSDEC). The IRMs included the removal of asbestos-containing materials (ACM) and flaking lead paint from the structure, as well as removal of residual wastes and affected structures, including four (4) aboveground storage tanks (ASTs) located in the concrete block AST vault in the building's basement, the sand backfill material from the AST vault, a boiler tank and piping, and contaminated soil piles (12 tons). Containers of chemicals and cleaning agents, light ballasts containing polychlorinated biphenyls (PCB), gas cylinders, and other miscellaneous debris were also removed. Residual sludge and fluid present in a 1000-gallon underground storage tank (UST) were removed. The UST was partially excavated to provide access for inspection and sampling, and then filled with cement grout and closed in place.

The field investigation activities included a review of available records and interviews with adjacent property owners, a geophysical survey of the Site, and the installation of subsurface soil borings and groundwater monitoring wells at both on-site and off-site locations. Specifically, because the building footprint encompasses the

entire property limits, it was necessary to install several soil borings/monitoring wells at off-site perimeter locations in order to properly define the magnitude and extent (if any) of subsurface soil and groundwater contamination at the site, and to fully characterize site hydrogeologic conditions.

Several samples were collected as part of the investigation, including surface soil samples; subsurface soil samples from the soil borings, UST excavation and beneath the concrete vault that had surrounded the four (4) basement ASTs; groundwater samples from the temporary and permanent monitoring wells; residual fluids remaining in the 1000-gallon UST; indoor/outdoor soil vapor samples; and sub-slab soil vapor samples.

The results of these activities indicated the presence of residual petroleum-based contaminants, semi-volatile organic compounds (SVOCs), in one (1) subsurface soil boring and groundwater sample (B&L-6), which is located off-site just beyond the south corner of the building perimeter. Some of the contaminants exceeded their respective NYSDEC Part 375 Recommended Soil Cleanup Objectives (SCOs) for Commercial Use. However, because monitoring well B&L-6 is located off-site, the minor contamination encountered at this particular sampling location is not considered to be the result of on-site operations or conditions. Furthermore, the chemical signature of the constituents indicates the presence of weathered coal tar. Historical use of the neighboring property as an automotive repair facility is the likely off-site source of contamination responsible for the detections of residual petroleum-based contaminants at monitoring well B&L-6. Therefore, remediation of the soil and groundwater at off-site boring location B&L-6 will not be pursued.

Several metals (antimony, iron, manganese, lead, selenium, and sodium) were also detected in groundwater samples from all monitoring wells. Levels for several of these metals exceeded NYSDEC Part 703 Groundwater Standards. Exceedances for

total lead were present in monitoring wells B&L-6 (off-site) and B&L-7; however, given the observed turbidity present in the field samples, it is likely that these results are due primarily to lead bound to sediment, and therefore are not representative of actual groundwater quality. Regardless, the presence of a slightly elevated lead concentration in monitoring well B&L-7 (whether dissolved or sediment-bound) may result in a groundwater usage restriction at the site.

Clearance soils collected from the excavation sidewall and beneath the UST did not exhibit volatile organic compounds (VOCs) or SVOCs at levels exceeding Part 375 SCOs for Commercial Use. Similarly, no compounds were detected above Part 375 SCOs for Commercial Use in either of the AST clearance samples from beneath the concrete vault. As an interim remedial measure, the UST was closed in place and the ASTs were removed.

1.0 Introduction

The Greater Glens Falls Local Development Corporation (GGFLDC) is the current owner of the property at 36 Elm Street, a roughly 0.14 acre parcel located in the City's central business district. Figure 1 shows the location of the property relative to the surrounding area. The project site includes a 17,550 square foot, three-story masonry building with a basement. The building footprint encompasses the entire limits of the property. Figure 2 shows the location of the property and neighboring parcels.

The GGFLDC was awarded funding from the New York State Department of Environmental Conservation (NYSDEC), under the provisions of the Environmental Restoration Program (ERP), to conduct a Site Investigation and related activities at the subject parcel. The project site (Site) structure was constructed in the 1920's, and was predominantly used as a shirt and lingerie manufacturing facility from 1920 to 1970, with the exception of a short time in the 1930s, when the Site also included an automobile repair shop (in addition to auto repair facilities that were formerly located on the neighboring property to the south). There were four (4) 500-gallon capacity aboveground storage tanks (ASTs) located in the basement that were previously used to store fuel oil for the building's heating system. The tanks, which have reportedly been out of service for 30 years, were contained within concrete block walls and the entire enclosure was filled with sand.

According to a January 2003 Phase I Environmental Site Assessment Report of the Site prepared by Clough, Harbour & Associates (CHA) of Albany, New York, an underground storage tank (UST) of unknown capacity and contents was suspected to exist along the east side of the building. The CHA Phase I ESA report also discussed the identification of suspect asbestos-containing materials (ACMs) in the basement and throughout the three-story building, as well as the potential presence of lead-based paint. Other potential environmental concerns identified in the CHA Phase I ESA report

included the historical use of neighboring properties and their potential impact on the subject parcel. Specifically, a gasoline station at one time existed on Elm Street to the northeast, immediately opposite the Site, and an auto repair facility was located adjacent to the south side of the property. Both of these facilities no longer exist.

The ERP project included interim remedial measures (IRMs) encompassing the removal of the abandoned AST's, including the concrete block tank vault and sand backfill material that housed the tanks, as well as the removal of the boiler tank and associated piping, the asbestos-contaminated soil piles and miscellaneous debris. In addition, the presence of the UST along the northeast side of the building was confirmed during a geophysical investigation, and the IRM included closure of that structure in place. The Site investigation included the investigation of subsurface soil and groundwater conditions, characterization of soil and sub-slab vapor, as well as further evaluation and testing of the ACM present in the basement area.

The Site investigation was conducted in accordance with the 1997 NYSDEC Guidance Document for the "Brownfield Program" (DER 97-4058) and NYSDEC Draft DER-10 "Technical Guidance for Site Investigation and Remediation," December 2002 (DER-10). The Standards, Criteria, and Guidance (SCGs) utilized for this project included, but were not limited to, the following publications: NYSDEC DRAFT DER-10 Technical Guidance for Site Investigation and Remediation, December 2002 (DER-10), 6 NYCRR Part 375 Environmental Remediation Programs, December 2006, NYSDEC T.O.G.S. 1.1.1 – Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations, 6 NYCRR Parts 700-706 – Water Quality Standards, 10 NYCRR Part 5 of the State Sanitary Code – Drinking Water Supplies, and NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

Tank closure activities were performed in accordance with Environmental Protection Agency (EPA), NYSDEC and petroleum industry guidelines. Site activities were conducted in accordance with the approved Site Investigation Work Plan, containing a Sampling and Analysis Plan, Health and Safety Plan, and a Citizen Participation Plan. The results of the investigation are the subject of this report.

1.1 Purpose of Report

This report presents the findings of the Site investigation specific to the characterization of existing hydrogeologic and environmental conditions and the presence and extent of contaminants at the Site. The results of the field activities were used to assess the existing contamination and to evaluate potential exposure targets. The report also presents an evaluation of potential Remedial Alternatives completed following the synthesis of data collected during the Site investigation. This evaluation was based on identifying methods to prevent, minimize or eliminate the presence and possible release of contaminants from the Site. Within this general framework, emphasis was placed on identifying technically feasible, cost-effective and environmentally sound solutions where necessary.

1.2 Site Background

1.2.1 Site Description

The property at 36 Elm Street in the City of Glens Falls, Warren County, New York is referred to as the “Adirondack Regional Business Incubator Brownfield Project,” and has been assigned Project No. E557019 by NYSDEC. The 0.14 acre parcel is located on the southwest

side of Elm Street, approximately 100 feet northwest of the intersection of Elm Street and South Street. The project Site is designated on the City of Glens Falls tax map as parcel number 309.28-1-13.

The subject Site is bordered to the northeast by Elm Street, and the properties located immediately across the street on the northeast side of Elm Street consist of a parking lot and a commercial food and drink establishment (Sandy's Clam Bar). A commercial building directly abuts the south wall of the building structure, while both commercial and residential buildings exist further to the south. To the east, the Site is bordered by a three-story commercial building that contains retail shops on the first floor, with a combination of office space and apartments on the second and third floors. A narrow, locked alleyway separates the two buildings on the east side. To the northwest, the building structure is bordered by a single-story commercial building that is currently occupied by a Labor-Ready office. A driveway exists between the subject structure and the Labor-Ready office.

The masonry building structure at 36 Elm Street was most recently used by ABC Equipment for the storage of restaurant supplies and equipment. Specifically, all three (3) floors of the building (including the basement area) were used for the storage of dishes, tables, chairs and stools, stainless steel sinks, appliances, and miscellaneous cleaning supplies.

The Site structure, which is currently unheated, was formerly heated by a fuel oil-fired boiler system that was located in the east corner of the basement. According to the CHA Phase I ESA report, the fuel burner component of the system had been removed from the basement,

but the boiler tank and four (4) ASTs that supplied the boiler unit with fuel oil remained. The heating system had reportedly not been used for the past thirty (30) years. The utilities at the Site consist of public water and sewer, electricity, and natural gas (though not actively used), with electricity being the only utility that is actively used.

As described in the CHA Phase I ESA report, the three-story building was constructed in the 1920s for use as a shirt manufacturing facility, and the structural components of the building remain unchanged since that time. The basement area consists of a concrete floor with concrete walls, with the exception of the northwest wall, which is constructed with stone. The boiler tank and piping associated with the former heating system occupy the east corner of the basement, while the freight elevator that services the three-story building can be accessed in the north corner of the basement. The upper floors contain bare wooden floors, painted concrete walls, and suspended tin ceilings. During the performance of asbestos abatement activities (as described herein), all of the windows in the upper floors were subsequently removed and the openings boarded up. According to information gathered by CHA, the building contains a flat, layered roof system that is covered with a rubber membrane unit.

1.2.2 Site History

The CHA Phase I ESA report states the subject property was used for residential purposes prior to the construction of the existing building in the early 1920s. As previously noted, the three-story structure was used from the early 1920s through the 1940s as a shirt factory, and then from the 1950s through the early 1970s for the manufacture of ladies

garments. Based on the review of City of Glens Falls telephone directories, CHA was also able to determine that the McNaughton & Hughes Auto Repair facility occupied a portion of the structure during the 1930s. The chronology of property ownership, as presented in the CHA Phase I ESA report is presented below:

Site Ownership History	
Company Name	Date of Ownership
U.J. Limited Partnership	July 1998 to present
Jack Lebowitz	July 1998
Jack and Philip Lebowitz	October 1971 to July 1998
Iser Realty Corporation	February 1956 to October 1971
Simon Milberg	April 1955 to February 1956
Milestone Undergarment Corporation	August 1952 to April 1955
Milestone Foundation	June 1948 to August 1952

The potential environmental concerns associated with the Site are due to the prior use of a fuel oil-fired heating system in the building structure, including the presence of four (4) ASTs and a boiler tank that remained in the basement area; the former use of the Site as an automobile repair facility in the 1930s; the presence of ACM and lead-based paint throughout the entire structure; the presence of potential PCB-containing light ballasts in the building; and potential off-site impacts associated with the prior operation of automobile repair and gasoline station facilities in the immediate surrounding area. Specifically, the CHA Phase I ESA report states that during the 1950s and 1960s a gasoline station existed across from the subject parcel at 37 Elm Street, and from the period of the 1920s through the 1960s an automobile repair facility was located in the building directly abutting the south side of the structure.

1.2.3 Previous Investigations

Following the completion of the CHA Phase I ESA, a Phase II ESA report was issued by CHA in November 2003. A copy of this report is included in Appendix A for the reader's use and information. A summary of the Phase II ESA findings are presented below:

- Based on the laboratory analysis of soil and groundwater samples collected from a soil boring/monitoring well (B-1/MW-1) located on the northeast side of the building in the sidewalk, and a soil boring (B-2) in the basement (refer to Figure 3), there is no apparent evidence of subsurface soil or groundwater contamination related to previously identified on-site and off-site potential environmental concerns.
- The laboratory analysis of two sand samples collected from the northeast side of the tank vault exhibited low level concentrations of VOCs, SVOCs, metals, and polychlorinated biphenyls (PCBs). However, the detected concentrations were below the applicable NYSDEC Part 375 Commercial Use SCO guidance values.
- Based on the collection and laboratory analysis of 17 suspect ACM samples, ACM was found to be present in the aircell-type pipe insulation present in the basement and second and third floors of the building, in the window glazing on the building's windows, and in the layered roof system underlying the rubber membrane roof.

- The laboratory analysis of three paint chip samples collected from the first, second, and third floors of the building revealed that lead-based paint is present. Only the paint chip sample collected from the third floor contained greater than 0.5 percent (0.5%) lead by weight.

1.2.4 Recognized Environmental Concerns

The recognized environmental concerns (RECs) associated with the Site included potential residual contaminants associated with the four (4) ASTs and boiler tank present in the basement area; potential subsurface petroleum contamination associated with an outdoor UST; the former use of the Site as an automobile repair facility; the presence of ACM and lead-based paint at various locations in the building structure; the presence of PCB-containing light ballasts in the building; and the potential off-site impacts associated with the prior operation of automobile repair and gasoline station facilities in the immediate surrounding area.

The following tables summarize the historical analytical test results for subsurface soil, sand backfill (from the AST vault located in the basement), and groundwater samples collected at the Site by CHA personnel in September and October of 2003.

Phase II Subsurface Soil Sample Analytical Results (October 2003)					
Location	Compound	Recorded Value	Soil Cleanup Obj. to Protect GW	Rec. Soil Cleanup Objective (ppm)	Exceedance of Regulatory Limit
Soil Boring MW-1 (12 to 16 ft bgs)	VOCs	Not Detected	Varies	Varies	No
	SVOCs	Varies	Varies	Varies	No
	Metals	Below Background	--	Site Background	No
	PCBs	Not Detected	10.0 ppm	1.0	No
Soil Boring B-2 (2 ft bgs)	VOCs	Varies	Varies	Varies	No
	SVOCs	Varies	Varies	Varies	No
	Metals	Below Background	--	Site Background	No
	PCBs	Not Detected	10.0 ppm	1.0	No

CHA personnel collected two (2) sand samples (designated as SAN-1 and SAN-2, respectively) from the AST vault located in the basement area. The samples were collected by coring a hole in the concrete vault wall approximately six inches above the concrete floor surface and extracting a sample of sand with the use of a hand auger. Sand sample SAN-1 was collected from the northwest side of the vault at the west end, while sand sample SAN-2 was collected from the northwest side of the vault at the east end.

Phase II Sand Sample Analytical Results (October 2003)					
Location	Compound	Recorded Value	Soil Cleanup Obj. to Protect GW	Rec. Soil Cleanup Objective (ppm)	Exceedance of Regulatory Limit
SAN-1 (west end of vault)	VOCs	Varies	Varies	Varies	No
	SVOCs	Varies	Varies	Varies	No
	Metals	Below Background	--	Site Background	No
	PCBs	0.07 ppm	10.0 ppm	1.0	No
SAN-2 (east end of vault)	VOCs	Varies	Varies	Varies	No
	SVOCs	Varies	Varies	Varies	No
	Metals	Below Background	--	Site Background	No
	PCBs	0.018 ppm	10.0 ppm	1.0	No

CHA collected a representative groundwater sample from monitoring well MW-1, which is located on the northeast side of the building (see Figure 2), and had the sample analyzed for the same list of parameters as the subsurface soil and sand samples.

Phase II Groundwater Sample Results (October 2003)				
Location	Compound	Recorded Value	Water Quality Standard (ppb)	Exceedance of Regulatory Limit
MW-1	VOCs	Varies	Varies	No
	SVOCs	Varies	Varies	No
	Metals	Varies	Varies	No
	PCBs	Not Detected	0.1	No

1.2.5 Report Organization

This report is organized into three (3) major sections (including this introductory section), with appropriate subsections within each division. Tables and figures are located following the text, prior to the appendices in the back of the document.

Section 2.0 presents the Site Investigation Report and the findings of the Site characterization phase of the project. Within this section, information is presented regarding the Site investigation methodologies, the Site's physical setting, the nature and extent of contamination, contaminant fate and transport, and the baseline risk assessment. This section concludes with a discussion of the apparent areas of concern and the associated level of risk regarding residual contamination.

The references used for the Site Investigation and Remedial Alternatives Report are presented in Section 3.0.

2.0 Site Investigation Report

2.1 Site Investigation

The following section discusses the methodologies used during the field activities to collect the data necessary to characterize the physical and environmental conditions at the Site and to determine the appropriate level of remedial work required to bring the Site into compliance with the guidelines of the NYSDEC ERP.

2.1.1 Site Survey and Preparation of Site Map

A planimetric Site base map was prepared from a survey completed by Van Dusen and Steves Land Surveyors at a scale of 1" = 10'. The survey data was used to develop a Base Site Plan for the presentation of data collected during the investigation (i.e., groundwater elevation contours, extent of contaminated soil and groundwater, etc.). The base map identifies the property boundaries, utility poles, adjacent streets and properties, and other distinguishing features present at the Site.

2.1.2 Geophysical Survey

A geophysical survey was performed by Radar Solutions International (RSI). The purpose of the survey was to map buried structures and or anomalies that may have environmental significance, and to identify areas of concern during the intrusive subsurface investigation. This survey utilized a GEONICS Model EM-61 induction meter, which is a highly-sensitive metal detector, to map subsurface

structures at the Site. RSI also used a GSSI SIR-200 digital radar system and a 400 MHz antenna to collect ground penetrating radar (GPR) data in an area grid system with lines spaced 2.5 to 5 feet apart, oriented parallel and perpendicular to the building. The GPR signal penetrated to a maximum depth of 5 feet below grade.

The contoured EM-61 results identified large concentrations of buried metal northeast of the Site building, suggestive of a UST. The GPR data also suggested the presence of an approximately 1,000 gallon UST at this location.

The EM-61 data also identified an anomaly indicating buried metal in the alley between the Site building and the Labor-Ready building, however, no GPR data was coincident with it. According to RSI, the size of the anomaly was suggestive of a small waste-oil tank, (55 to 275 gallons). No further investigation of this anomaly was completed since the location was not on the property.

GPR data identified other targets, especially in the alley between the Site building and the Labor-Ready building. RSI attributes these to multiple closely spaced utilities.

The complete geophysical survey report, including EM-61 and GPR data contour figures, is bound separately as Appendix B.

2.1.3 Site Inspection

A Site inspection team visited the Site prior to intrusive investigations and IRMs to catalog the types and amounts of waste/hazardous materials present on the property. The following conditions were observed:

Exterior Site Observations

Utilities – Utilities at the Site consist of public water and sewer, electricity, and natural gas. Electricity is the only utility that is actively used. Utility locations were marked by the New York State Dig Safe Request and verified by a municipal Sewer and Water representative prior to Site work.

USTs – There was evidence of one (1) UST located on the northeast side of the building (along Elm St), as indicated by the fill and vent ports observed from the sidewalk.

Interior Site Observations

Miscellaneous Debris – Containers and jars of commercial dishwashing liquid and chlorinated cleaning agents were observed throughout the Site.

Asbestos – Asbestos-containing materials were previously identified by CHA to be present at the Site. Based on the collection and laboratory analysis of 17 suspect samples, ACM was found to be present in the aircell-type pipe insulation present in the basement and second and third floors of the building, in the window glazing on the building's windows, and in the layered roof system underlying the rubber membrane roof.

ASTs – Four (4) 500-gallon ASTs were located within a concrete block enclosure in the basement of the building and the enclosure was filled with sand. According to the CHA Phase I ESA report, the tanks have been out of service for 30 years and were previously used to store fuel oil for the building's heating system.

Boiler Tank – A boiler tank and associated piping were observed in the east corner of the basement of the building. The fuel burner had been removed from the Site.

Lead Paint – Based on the age of the structure, it is not surprising that lead-based paint was found at the Site. Peeling paint surfaces were also observed. Laboratory analyses confirmed that lead was present, and paint from the third floor contained greater than 0.5 percent lead by weight.

Light Fixtures – Fluorescent light fixtures were located throughout the building.

Site Inspection Summary

Based on the presence of fill ports and vent lines, it appeared that one (1) UST existed on the Site, located on the northeast side of the building exterior. Four (4) ASTs were also observed on the Site. ACM was previously identified to be present at the Site. Miscellaneous containers and jars of commercial dishwashing liquid and chlorinated cleaning agents were observed inside the building.

2.2 Subsurface Investigation

2.2.1 *Subsurface Soil Boring Investigation*

The subsurface soil boring investigation was conducted on May 16 and 18, 2007. The investigation consisted of the installation of eight (8) soil probes by direct push methods by Zebra Environmental Corp. The purpose of the investigation was to delineate the presence and extent of contaminants in subsurface soil and/or groundwater that may have been impacted by the on-site tanks, in addition to potential off-site sources of concern referenced in the CHA Phase I ESA report. Monitoring wells were installed at all soil boring locations. Three (3) soil borings and monitoring wells were installed in the basement of the Site (see Figure 3), and five (5) were installed at off-site locations surrounding the property boundaries. Figure 4 shows the location of the soil borings. Figure 5 shows the location of the monitoring wells.

Each probe hole was installed with successive pushes of a 5-ft long Macro-Core[®] barrel sampler, lined with a new acetate liner. Each 5-ft section of soil was removed from the hole for field characterization. Borings surrounding the building perimeter were advanced to 20 feet below grade, and the basement borings were advanced between 8 and 9 feet below the basement floor. The soil cores retrieved from each 5-ft sampling interval were logged and characterized for soil type, color, moisture saturation, and indications of visual and/or olfactory petroleum contamination.

Subsurface Site conditions are dominated by a well-sorted medium to fine brown sand with little fine gravel. Groundwater was encountered at all locations, generally between 11 and 12 feet below grade outside the building and approximately 2 feet below the basement floor. Bedrock was not detected in any of the borings.

A Photo-Ionization Detector (PID) was utilized to screen the soil samples in the acetate liners from each probe hole for the presence of petroleum products. Headspace readings were obtained by compositing soil from each 5-ft core interval in a sealed plastic bag and allowing the sample to equilibrate with ambient air temperature. As detected by the PID, the peak concentration and the sustained vapor concentration were recorded. Low level (<5 ppm) or null PID readings were observed throughout the depth of all borings. The above information is included in the Subsurface Boring Logs found in Appendix C.

Based upon the field screening results and the depth of groundwater, one soil sample from each boring was selected for laboratory analysis. Samples collected were analyzed for volatile (VOCs - EPA Method 8260+MTBE), semi-volatile (SVOCs - EPA Method 8270), Target Analyte List metals (TAL, EPA Method 6010B), polychlorinated biphenyls (PCBs, EPA Method 8082), and Total Petroleum Hydrocarbons (TPH). The analytical results and associated tables are discussed further in Section 2.8 and are bound separately in Appendix D.

2.2.2 Monitoring Well Installation

Permanent monitoring wells were installed at off-site outdoor boring locations B&L-2, B&L-3, B&L-4, B&L-5, and B&L-6 (see Figure 5). The outside wells consisted of two-inch diameter PVC with ten-feet of 0.010-slot screen set between 18 and 19 feet below grade and appropriate lengths of riser. A washed silica sand pack was placed around the screen to at least two feet above the top of the screened interval. Granular bentonite was placed in the well annulus from the top of the sand pack to approximately one foot below the ground surface. The bentonite was then hydrated with distilled water in order to create a seal. The outside and off-site wells were then fitted with a flush mount well box and concrete.

Temporary monitoring wells were installed at indoor (basement) boring locations B&L-1, B&L-7, and B&L-8 (see Figure 5). The basement wells consisted of one-inch diameter PVC with five-feet of 0.010-slot screen set between 8 and 9 feet below the basement floor, with riser extending to approximately one foot above the floor (leaving one-foot of stick-up) . A washed silica sand pack was placed around the screen to at least one foot above the top of the screened interval. Granular bentonite was placed in the well annulus extending from the top of the sand pack to the basement floor surface. The bentonite was then hydrated with distilled water in order to create a seal. All wells were manually developed for approximately one hour. The monitoring well installation logs are included in Appendix C. A typical permanent well construction detail can be found in Appendix E.

2.2.3 Soil Vapor Monitoring Point Installation

Four (4) soil vapor points were installed by direct push methods by Zebra (see Figure 6). Three (3) points were installed along the northeastern Site boundary and one (1) point was installed in the basement where the concrete slab has been removed. A 6-inch long stainless steel screen was fitted at one end of 3/8-inch inner-diameter polyethylene sample tubing, which was then pulled through a hollow-stemmed rod. The rod was advanced by direct push methods, installing the screen and associated tubing to a target depth immediately above the water table. The three (3) outdoor soil vapor points were advanced 10 feet below grade. The indoor soil vapor point was advanced approximately 8 to 10 inches below grade. Once target depth was obtained, the rod was retracted, leaving the screen at depth with the tubing extended to the ground surface. The exposed tubing was capped and allowed to equilibrate. A washed silica sand pack was placed around the screen to at least one foot above the top of the screened interval. Granular bentonite was placed in the well annulus extending from the top of the sand pack to the surface. The bentonite was then hydrated with distilled water in order to create a seal.

2.2.4 Sub-Slab Vapor Monitoring Point Installation

Two (2) sub-slab vapor points were installed through the basement floor by Zebra. Inside soil vapor points were advanced approximately 8-10 inches below grade. An approximately 3-inch diameter hole was drilled through the basement floor using a concrete core. The hole was extended approximately 2 inches into the underlying material. Polyethylene tubing was inserted into the hole and the annular space was

filled with glass beads and sealed at the surface with granular bentonite. The bentonite was then hydrated with distilled water in order to create a seal. The exposed tubing was capped and allowed to equilibrate. A sub-slab vapor monitoring point schematic is included in Appendix F.

2.2.5 Groundwater Investigation

Temporary monitoring wells were installed to perform a number of functions including:

- To collect water level elevation measurements to determine direction of groundwater flow and seasonal variation in water table conditions.
- To determine the horizontal hydraulic gradient of groundwater flow;
- To characterize levels of contaminants present in the groundwater, if any; and
- To determine potential routes of contaminant migration.

Following installation, each well was developed using disposable bailers to remove several volumes of water from the well. Building perimeter monitoring locations were completed at the surface with flush-mounted manhole boxes, and capped with expandable rubber-seal caps.

Groundwater samples were collected on May 30, 2007 to characterize the existing Site water quality conditions. Samples were collected from wells B&L-2 through B&L-7. The locations of the monitoring wells sampled are depicted on Figure 5.

Prior to sampling, wells were purged in order to collect a representative sample of the formation groundwater. Groundwater Field Sampling Data Sheets are presented in Appendix G. Samples were collected from each location using the following general methodology:

1. The static water level was measured, and recorded to the nearest 1/100th of a foot, using an electronic tape;
2. The volume of water in the well was calculated;
3. Three (3) volumes of well water were purged from each well where possible;
4. Groundwater samples were collected using disposal bailers with the sample bottles filled in the order designated in the Sampling and Analysis Plan;
5. Field measurements including static water level, total depth of well and measured field parameters were logged including the date and time of collection; and
6. Preserved samples were placed in coolers with ice along with the appropriate chain-of-custody forms for transport to laboratory.

Samples were analyzed by Mitkem Corporation. The laboratory test results of the analyzed groundwater samples are discussed in Section 2.8.

2.3 Interim Remedial Measures (IRMs)

The IRMs performed at the Site consisted of asbestos abatement and lead-based paint removal, which was conducted by Action Technical Services, Inc., and tank closure and waste/debris removal activities, which were performed by Paragon Environmental Construction, Inc (PEC). Both firms were part of the public bid IRM, and the GGFLDC entered into a separate contract with each firm. Prior to the implementation of tank closure and waste/debris removal activities, ACM and flaking lead paint were removed from the structure by Action Technical Services, Inc.

2.3.1 Asbestos Abatement and Lead-Based Paint Removal Activities

A supplemental asbestos survey, including abatement design and ACM removal tasks, was completed prior to any subsurface investigation and IRM activities occurring in the basement area to ensure an asbestos-free working environment.

The supplemental pre-demolition survey for ACM was conducted by B&L on May 10, 2006. The asbestos survey consisted of sampling of spoil material and debris suspected or assumed to be ACM due to previous positive sampling results. Specifically, these materials included plaster, sheetrock and joint compound, window glazing, floor tile, wall coatings, pipe and wire insulation, fire brick and roofing materials. The following materials were determined to be ACM, as reported in the Asbestos Survey and Lead-Based Paint Characterization, as presented by B&L in June 2006:

- Floor tile debris
- Window glazing
- Pipe insulation
- Pipe insulation debris
- Built-up roofing under existing rubber roof membrane

In addition to ACM, all of the paint chips that were sampled exhibited detectable lead levels (2.1 percent by weight or less), and were therefore considered lead-based paint according to the Occupational Safety and Health Administration (OSHA) Construction Standard for Lead (29 CFR 1926.62). Any detectable levels of lead are considered as lead-based paint by OSHA.

Following the completion of the Asbestos Survey and Lead-Based Paint Characterization plans and specifications were developed for the removal of ACM and loose and peeling lead-based paint from the structure prior to other IRM activities. The Asbestos Survey and Lead-Based Paint Characterization is attached in Appendix H.

Asbestos and lead-based paint removal was performed by Action Technical Services from February 12, 2007 through March 13, 2007. Clearance air sampling was conducted by B&L to determine that no residual asbestos was present following abatement in accordance with the NYSDOL Industrial Code Rule 56. Asbestos abatement records, including air sampling results and waste disposal documentation, are attached in Appendix I.

2.3.2 UST Closure Activities

One (1) UST, as identified on the northeast side of the Site exterior, was closed in place by PEC at the Site on April 4, 2007. The 1,000-gallon tank was approximately 42 inches in height and 138 inches long, and had approximately 1"-2" of sludge and liquid on the bottom. The residual sludge and liquid (less than 15 gallons) was removed prior to the tank closure process. The tank was emptied and filled with cement grout and closed in place. B&L was present during the tank closure to provide engineering oversight and tank pit site assessment services. Mr. Michael McLean, P.E. of the NYSDEC Region 5 office was also present during a portion of the tank closure activities.

Prior to closure, the residual fluids from the tank were removed. One (1) soil sample from the sidewall was collected near the base of the tank. Following the removal of the fluids, PEC cut a hole in the bottom of the tank and an additional soil sample was collected from below the tank. The samples were sent to Mitkem Corporation for analysis of VOCs (EPA Method 8260), SVOCs (EPA Method 8270) and lead. The results of the soil analyses are summarized in Appendix D (Table 1), and the complete laboratory reports are bound separately.

Low level PID readings were observed in the soil sample collected from below the tank, and in the residual sludge and liquids removed from the bottom of the tank. The tank was cleaned by PEC and inspected by B&L for the presence of holes. A single, quarter-sized hole approximately 10-inches from the bottom on the northeast side (Elm St side) of the tank was observed. The single wall steel tank appeared otherwise in good condition with minimal corrosion noted. Bills of lading and waste

manifests for the UST fluid removal can be found in Appendix J. In-place cleaning (prior to closure in place) certificates and disposal receipts for the fluids that had been contained within the UST can be found in appendix K.

2.3.3 Additional IRM Measures

Additional IRM measures included the removal of residual wastes and affected structures, including the four (4) basement ASTs, concrete block tank vault and sand backfill material (5 tons), boiler tank and piping, and 6.95 tons of soil excavated during the UST test pitting activities. Bills of lading and manifests for the 11.95 tons of soil removed from the site are included in Appendix L. In addition, miscellaneous containers and jars of commercial dishwashing liquid and chlorinated cleaning agents, PCB light ballasts, gas cylinders, and other miscellaneous debris were removed. The bills of lading and hazardous waste manifests for the removal of these materials (where applicable) are attached in appendix M.

2.3.4 Community Air Monitoring Program (CAMP)

All intrusive Site activities required air monitoring in conformance with the NYS Department of Health (NYSDOH) Generic Community Air Monitoring Plan. Real-time monitoring was conducted for volatile organic compounds (VOCs) at the downwind perimeter of each designated work area during intrusive activities.

Volatile organic compounds (VOCs) were monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) using Mini-RAE 2000 meters on a 15-minute logging cycle. Upwind concentrations were measured at the start of each intrusive activity and periodically thereafter to establish background conditions. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeded 10 parts per million (ppm) above background for a 15-minute average, work activities would be temporarily halted. Elevated readings were not encountered during any phase of the project, and therefore work stoppage was not required.

Due to the direct push drilling technique employed in the advancement of the soil borings and the subsequent wet soil conditions encountered at the site, particulate monitoring was not performed during the advancement of the Geoprobe[®] soil borings or the in place closure of the UST underneath the sidewalk area.

2.4 Wetland, Floodplains, and Sensitive Environment Survey

The Site does not appear on New York State Freshwater Wetland Maps or National Wetland Inventory (NWI) Maps. Field visits to the Site did not indicate the presence of freshwater wetlands adjacent to the Site.

The Site is located in a high-density, urbanized setting in the City of Glens Falls, and therefore the sensitive environment survey and ecological risk evaluation was not performed.

2.5 Quality Assurance/Quality Control

Several steps were taken in the field to ensure the integrity of the samples during the Site investigation. These procedures are discussed below.

2.5.1 Decontamination Procedures

The decontamination of non-dedicated equipment and tools used during drilling, well installation and sampling activities was performed in accordance with the procedures outlined in the Work Plan and Sampling and Analysis Plan.

2.5.2 Field and Trip Blanks

The sampling procedures used during the Site investigation involved non-dedicated (disposable) equipment. This included the use of disposal bailers for well development and groundwater sampling, and disposable stainless steel scoops for surface soil sampling. The submission of field blanks, therefore, was not required.

Trip blanks accompanied sample containers throughout all phases of water and/or soil sample collection for VOC parameters. Trip blanks received identical handling as all on-site samples. This methodology ensured that proper bottle preparation and laboratory integrity.

2.5.3 Documentation

The delivery of the samples to the laboratory was accompanied with appropriate chain-of-custody records. Relevant information regarding

the sampling activities was provided on these records, including sampling date and time, sample identification, number of bottles filled at each sampling location, preservatives used, bottle size, sampling method, date and time of shipment, trip/wash blanks included, and release signature.

Sampling data sheets were maintained in the field for each sampling location. Pertinent data, including sample location, date, volume purged, static water level, total well depth, weather conditions, sample appearance, parameters to be analyzed, and the results of field parameter determinations, were appropriately recorded. Sampling data sheets and chain-of-custody records are both provided in Appendix G.

2.6 Data Validation and Data Analytical Analysis

In accordance with the provisions of the Work Plan and Sampling and Analysis Plan, soil and groundwater samples analyzed for closure verification and/or IRM decision making purposes require data validation by a qualified third party Data Validator. Therefore, select analytical laboratory data packages issued by Mitkem Corporation were submitted to Alpha Geoscience of Clifton Park, New York for completeness review and compliance determination. Alpha Geoscience prepared a separate Data Validation Report for each Mitkem Corporation laboratory analysis data package that was submitted for their review. The Alpha Geoscience Data Validation reports, including pertinent correspondence, are included in Appendix O.

Once the analytical laboratory data was successfully validated, data summary tables were prepared for each of the analytical data packages received throughout the Site environmental monitoring program. The summary tables were prepared following thorough review of the data with the guidelines as

outlined by the ASP protocol and the individual laboratory case narratives. The summary tables and data are presented in Appendix D.

2.7 Physical Setting

2.7.1 *Surface Features*

As defined in the Phase I Environmental Site Assessment prepared by CHA, the approximate elevation of the Site is 345 feet above mean sea level (AMSL). The topography of the Site is generally flat. Based upon the Site survey, very little variation exists in surface elevation.

2.7.2 *Climate*

The general climate in Warren County is cool and humid, representative of the Northeastern United States (Pack, 1972). Summers are warm with occasional short periods of high temperatures. Winters are typically long and cold.

Lengthy periods of either abnormally cold or warm weather result from the movement of high pressure (anticyclonic) systems into and through the Eastern United States. Cold winter temperatures prevail over New York whenever Arctic air masses, under high barometric pressure, flow southward from central Canada or from Hudson Bay. High pressure systems often move just off the Atlantic coast, become more or less stagnant for several days, and then a persistent airflow from the southwest or south affects the State. This circulation brings the very warm, often humid weather of the summer season and the mild, more pleasant temperatures during the fall and spring seasons (Pack, 1972).

2.7.3 Surface Water Hydrology

The general overland flow of water within the vicinity of the property follows the generally flat topography, and gently flows to the south towards the Hudson River.

2.7.4 Site Geology

As previously defined in the Phase I Environmental Site Assessment by CHA, the soils of the Site consist of Oakville loamy fine sand, according to the United States Department of Agriculture's (USDA) Soil Survey for Warren County. This soil type consists of deep, well-drained soils. The Site is located in the northern portion of the Hudson-Mohawk Lowlands Province, which is comprised of surficial geologic deposits that are associated with continental glaciation. The Hudson-Mohawk Lowlands became host area for a large glacial lake, Lake Albany, which extended north from an ice dam in the lower Hudson Valley. Lake Albany expanded as the ice receded and eventually covered the land north to the Lake George/Lake Champlain area and west up the Mohawk Valley. The Site is located a quarter mile from the Hudson River, and the area is comprised of near-shore lacustrine sand deposits that are typically well-sorted and stratified (6 to 65 feet). Bedrock is mapped as Middle Ordovician Trenton and Black River Group limestones, which are overlain throughout the rest of Hudson-Mohawk Lowlands by Middle and Upper Ordovician shale, greywacke, siltstone, and sandstone. The Trenton and Black River Group limestones generally daylight along the northern boundary of the Hudson-Mohawk Lowlands at the Adirondack Foothills.

Deposits encountered at the Site were described during the subsurface investigation as a well sorted medium to fine brown sand with trace medium to fine gravel. The borings were advanced to a maximum of 20 feet and bedrock was not encountered on site. The subsurface boring logs are attached in Appendix C.

2.7.5 Site Hydrogeology

Static water level elevations measured from the top of PVC in overburden groundwater monitoring wells indicated a general groundwater flow direction from west to east. Figure 7 depicts the groundwater contours established during the May 30, 2007 sampling event; Figure 8 depicts the groundwater contours from water level readings obtained on September 20, 2007. The hydraulic gradient was calculated from groundwater elevations collected during the May 2007 and September 2007 sampling events. On both occasions the groundwater gradient was approximately 0.007 ft/ft to the east.

2.7.6 Ecology

Potential wildlife impacts were assessed for the Site during field inspections. The Site area is located in an urban section of the City of Glens Falls, and the land use on and adjacent to the Site consists primarily of light commercial uses. The Site is bordered to the northeast by Elm Street, and the properties located immediately across the street on the northeast side of Elm Street consist of a parking lot and a commercial food and drink establishment. A commercial building directly abuts the south wall of the building structure. The Site is bordered by commercial buildings to the east and northwest. The land-use in the area would

discourage many types of wildlife from utilizing the Site and therefore the potential impacts to wildlife is limited and likely negligible.

Potential species that could inhabit or traverse the Site environs include birds, mice, voles, rats, squirrels, woodchucks, rabbits, raccoons, opossum, and other urban species. The potential pathways for exposure include direct contact with contaminated soils, ingestion of soils, ingestion of contaminated groundwater, and inhalation of contaminant vapors. Of these potential pathways, the most likely vehicle for biota contact would be soil ingestion/contact of subsurface soils. Since contamination is limited to the subsurface, direct contact is only possible from those species that burrow or inhabit burrows; and those species that prey on them. Since no large burrows were observed on the Site, this analysis is limited to mice, voles, and rats being the species that could receive primary exposure to Site contaminants. It is possible that some secondary exposure to contaminants could occur in predators that consume contaminated rodents.

Although the potential exists for exposure to Site contaminants in burrowing species, the risk is anticipated to be slight due to the observed paucity of wildlife on and near the Site.

2.8 Nature and Extent of Contamination

The following section discusses the results of the Site Characterization identifying the contaminant distribution at the Site. The analytical laboratory reports are included in Appendix N.

The GGFLDC purchased the 36 Elm Street property with the intent of renovating the building for use as an incubator facility for privately-owned start-up technology businesses. As such, the goal for remediation at the property is to allow the GGFLDC to return the Site to productive use as commercial property. Therefore, throughout the course of this report the identified contaminants of concern (which are discussed in Section 1.2.4), are compared to NYSDEC Standards. Specifically, soil sample data is compared to NYSDEC Part 375 Soil Cleanup Objectives (SCO) for Commercial Use, while groundwater data is compared to 6 NYCRR Part 703.5 Water Quality Standards.

2.8.1 Soil Boring Program Results

Soil samples collected during the subsurface soil boring program were analyzed for VOCs, SVOCs, Target Analyte List (TAL) Metals, PCBs, and Total Petroleum Hydrocarbons (TPH). The borings were installed following the completion of the IRMs. The summary of the data is presented in Appendix D (Table 3). Only one boring location, B&L-6 (located off site of the southern corner of the Site building, in the OTB parking lot), indicated SVOCs above the Part 375 SCOs for Commercial Use. However, because soil boring B&L-6 is located off-site and exhibits concentrations of SVOC compounds that are not present at any of the on-site sampling points, the minor SVOC contamination is not considered to be a result of on-site operations or conditions. The array of polycyclic aromatic hydrocarbons (PAHs) detected in B&L-6 resembles a signature of weathered coal tar. Elevated compounds include phenanthrene, fluoranthene, pyrene, benzo (a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene. Therefore, it is likely that the elevated detections are due to a weathered coal-tar residual.

Similarly, off-site boring B&L-6 reported a detection of TPH (4,100 mg/kg). According to the January 2003 Phase I Environmental Site Assessment Report of 36 Elm Street prepared by CHA, the property abutting the Site to the southwest (where B&L-6 was installed) was previously used as an auto repair facility. Therefore, it is likely that the TPH detections are a result of the historical use of the neighboring property, rather than due to on-site operations or conditions. The minor

PAH exceedances appear to be localized and of minimal environmental concern.

None of the soil boring samples indicated elevated levels of lead above typical background concentrations.

The following table illustrates the contaminant concentrations that exceeded the NYSDEC Part 375 SCO for Commercial Use from the Site's subsurface soil samples collected as part of the soil boring program:

Parameter	NYSDEC Part 375 (ppm) Commercial Use SCO	Subsurface Soil Samples (ppm)	
		B&L-6	B&L-6 (Diluted)
Volatile Organic Compounds			
No exceedances			
Semi-Volatile Organic Compounds			
Benzo(a)anthracene	5.6	32.0	51.0
Benzo(b)fluoranthene	5.6	36.0	43.0
Benzo(a)pyrene	1.0	30.0	32.0
Indeno(1,2,3-cd)pyrene	5.6	20.0	15.0
Dibenzo(a,h)anthracene	0.56	7.3	5.1
MDL = Minimum Detection Limit ND = Not detected J = Estimated Value			
<i>Items in italics exceed NYSDEC Part 375 Cleanup Values.</i>			
Diluted sample results detected at a sample dilution factor of 20.			
No compounds were detected above standards in samples collected from B&L-1, B&L-2, B&L-3, B&L-4, B&L-5, B&L-7, and B&L-8.			

2.8.2 UST Excavation Soil Results

Clearance soil samples collected from the UST sidewall and beneath the tank bottom were analyzed for VOCs and SVOCs. A summary of the data is presented in Appendix D (Table 1).

No VOCs or SVOCs were detected above Part 375 SCO for Commercial Use from either UST clearance sample. The following table illustrates the contaminant concentrations that were detected in comparison to the Part 375 Commercial use SCOs.

Parameter	NYSDEC Part 375 (ppm) Commercial Use SCO	UST Clearance Samples (ppm)	
		Sidewall	Bottom
Volatile Organic Compounds			
m,p-Xylene	500	ND	0.0074 J
o-Xylene	-	ND	0.0056 J
Xylene (Total)	500	ND	0.013
1,3,5-Trimethylbenzene	190	ND	0.074
1,2,4-Trimethylbenzene	190	ND	0.12
sec-Butylbenzene	500	ND	0.0087 J
4-Isopropyltoluene	-	ND	0.026
Naphthalene	-	ND	0.0083 J
Semi-Volatile Organic Compounds			
None detected			
MDL = Minimum Detection Limit ND = Not detected J = Estimated Value			
Items in italics exceed NYSDEC Part 375 Cleanup Values			

2.8.3 AST Removal Soil Boring Results

Following the removal of the four (4) basement ASTs, soil boring B&L-7 was completed through the raised concrete slab where the sand-

filled concrete vault containing the tanks was formerly located. In addition, soil boring B&L-8 was completed approximately 2 feet southeast of the raised slab, through the basement floor. Borings were advanced to a depth of approximately 9 feet and completed as 1" PVC temporary wells (B&L-7 and B&L-8). Samples were screened for the presence of VOCs using a PID. The samples showed no visual or olfactory evidence of contamination and low-level PID measurements (<2 ppm) were recorded throughout both borings. Based upon the field screening results and the depth of groundwater, one soil sample from each boring was selected for laboratory analysis. Samples collected were analyzed for VOCs, SVOCs, TAL Metals, and PCBs. No compounds were detected above Part 375 SCOs for Commercial Use from either AST clearance sample. The results are shown in Table 3 of Appendix D.

2.8.4 Characterization of Standing Water in Basement

Standing water was present in the basement as a result of the boiler excavation. The standing water, which appeared to be stagnant and quite turbid, was sampled to determine if contamination was present. No VOCs were detected in the sample (SW-1; Table 4); however, several low-level SVOCs were present in exceedance of groundwater standards. A comparison of the detected parameter concentrations to their respective solubility limits indicates that these parameters are likely bound to suspended particulate matter and are not dissolved in water. The sample was reanalyzed by the laboratory (SW-1RE; Table 4) and there were no detections at the laboratory minimum detection limits.

At the request of the NYSDEC, the standing water in the basement was re-sampled for the presence of SVOCs in March 2008. As

summarized in Table 4 below, the analytical results for the March 2008 standing water sample indicate that no SVOC parameters were detected above the laboratory minimum detection limit. Therefore, because no SVOC contamination was encountered in the March 2008 sample, the NYSDEC has agreed that no further action is necessary regarding the standing water in the basement. The sample does not represent groundwater; however, for convenience and because of its subsurface origin, the laboratory results were compared to groundwater standards. The following table summarizes exceedances of 6 NYCRR Part 703.5 Groundwater Standards:

Parameter	NYSDEC Part 703.5 (ppb)	Standing water (ppb)		
		SW-1 2/8/07	SW-1RE 2/8/07	SW-1 3/28/08
Volatile Organic Compounds				
--	--	No exceedances	Not tested	Not tested
Semi-Volatile Organic Compounds				
Benzo(a)anthracene	0.002	4.3J	10U	10U
Chrysene	0.002	4.5J	10U	10U
Benzo(b) fluoranthene	0.002	4.9J	10U	10U
Benzo(k) fluoranthene	0.002	2.7J	10U	10U
Benzo(a)pyrene	0.002	3.1J	10U	10U
Indeno(1,2,3- cd)pyrene	0.002	1.9J	10U	10U
<i>Items in italics exceed NYSDEC Part 703.5 Groundwater Standards.</i> <i>Note that the SW-1 and SW-1RE samples are standing water samples collected in the basement of the building. Although not actual groundwater samples, the results were compared to Part 703 Groundwater Standards.</i> <i>U Indicates that the compound was not detected.</i> <i>J Indicates that the results should be considered approximate.</i>				

2.8.5 Groundwater

Groundwater samples were collected on May 30, 2007 from selected permanent and temporary monitoring wells installed on the Site. The groundwater samples were analyzed for the presence of VOCs,

SVOCs, TAL metals, and PCBs. The results are depicted in Table 5 of Appendix D.

- Three (3) temporary monitoring wells (L-1, B&L-7 and B&L-8) were installed in the basement following the completion of the IRMs. Five (5) permanent off-site monitoring wells (B&L-2 through B&L-6), were installed around the building perimeter to monitor groundwater quality in this area and to determine flow and hydraulic gradient. With the prior concurrence of Mr. Michael McLean of the NYSDEC, groundwater sampling and analysis activities were not performed on existing monitoring well MW-1 that was previously installed by CHA. The following wells were sampled on May 30, 2007: B&L-2, B&L-3, B&L-4, B&L-5, B&L-6, and B&L-7.

No VOCs were detected above groundwater standards in any of the monitoring wells during the sampling event. Off-site monitoring well B&L-6 exhibited several SVOC detections exceeding groundwater standards:

Benzo(a)anthracene
Chrysene
bis(2-Ethylhexyl)phthalate
Di-n-octylphthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene.

However, as indicated by the low solubility of these compounds in water, and as evidenced by the detected concentrations approaching or

exceeding the solubility values, the results are likely a result of the compounds bound to suspended sediment and particulate matter, and are thus not representative of groundwater quality. This conclusion is further supported by high turbidity values (1183.2 NTUs) and the fact that unfiltered samples were analyzed. The following table illustrates the contaminant concentrations that were detected in comparison to 6 NYCRR Part 703.5 Groundwater standards and the solubility of the key compounds in water.

Parameter	NYSDEC Part 703.5 (ppb)	B&L-6	Solubility (ug/L)
Volatile Organic Compounds (ppb)			
<i>No exceedances</i>			
Semi-Volatile Organic Compounds (ppb)			
Naphthalene	10	1 J	
Acenaphthene	20	2 J	
Dibenzofuran	-	2 J	
Fluorene	50	3 J	
Phenanthrene	50	16	1.2
Anthracene	50	5 J	
Carbazole	-	2 J	
Fluoranthene	50	15	
Pyrene	50	11	
Benzo(a)anthracene	0.002	6 J	14
Chrysene	0.002	5 J	1.8 (Insoluble)
Benzo(b)fluoranthene	0.002	5 J	1.2
Benzo(k)fluoranthene	0.002	2 J	0.55
Benzo(a)pyrene	0.002	4 J	3.8 (Insoluble)
MDL = Minimum Detection Limit ND = Not detected J = Estimated Value			
<i>Items in italics exceed NYSDEC Part 703.5 Groundwater Standards.</i>			
No compounds were detected above standards in samples collected from B&L-2, B&L-3, B&L-4, B&L-5, and B&L-7.			

Metals were detected above groundwater standards at all locations during the sample event. Lead was detected at a concentration of 30.3 ug/L at off-site monitoring well location B&L-6, and 50 ug/L at B&L-7, exceeding the standard of 25 ug/L. Due to the high turbidity during sampling (approximately 1190 NTUs) and unfiltered sample collection, it is likely that these results are influenced by lead bound to suspended sediment and particulate matter in the sample, and are thus not representative of groundwater quality conditions. Lead was detected below standards at B&L-2 and B&L-3 and was otherwise not detected during the sample event. The following tables illustrate the contaminant concentrations that exceeded the 6 NYCRR Part 703.5 Groundwater Standards from the Site's monitoring well samples. Note that antimony and selenium were also detected in method blanks. These detections likely represent a laboratory artifact.

Parameter	NYSDEC Part 703.5 (ppb)	B&L-2	B&L-3	DUP B&L-3	B&L-4	B&L-4	B&L-5	B&L-6	B&L-7
Metals (ppb)									
Antimony	3	<i>5 B</i>	<i>9.8 B</i>	<i>5.5 B</i>	<i>4.3 B</i>	<i>5.2168 B</i>	<i>4.2 B</i>	<i>6.8 B</i>	<i>5.9 B</i>
Iron	300	<i>962</i>	<i>3980</i>	<i>4230</i>	34.3 B	79.0415 B	<i>1390</i>	<i>3090</i>	<i>4700</i>
Lead	25	1.1 B	3.5 B	3.4 B	ND	ND	ND	<i>30.3</i>	<i>50</i>
Manganese	300	<i>49.3 B</i>	191	183	4.4 B	4.7421 B	235	82.1	<i>314</i>
Selenium	10	<i>27.9 B</i>	<i>25.2 B</i>	<i>26 B</i>	<i>19.9 B</i>	<i>23.8524 B</i>	<i>37.6</i>	<i>30.3</i>	<i>17.9 B</i>
Sodium	20,000	<i>124,000</i>	<i>185,000</i>	<i>182,000</i>	<i>174,000</i>	<i>1,760,324</i>	<i>160,000</i>	<i>110,000</i>	<i>123,000</i>
MDL = Minimum Detection Limit ND = Not detected J = Estimated Value B = indicates that the compound is found in the method blank and the sample									
<i>Items in italics exceed NYSDEC Part 703.5 Groundwater Standards</i>									

2.8.6 Soil Vapor and Sub-Slab Vapor Monitoring Results

Soil vapor and sub-slab vapor samples were collected on May 25, 2007 from the soil vapor and sub-slab vapor monitoring points installed on Site. The tubing was purged and leak checked and vapor samples were collected in one-liter Summa canisters over a 2-hour time period. In addition, an ambient air sample was collected in the basement area and outside, along Elm Street. Indoor and outdoor vapor samples were collected concurrently. The vapor samples were submitted to Centek Laboratories, LLC for laboratory analysis of VOCs via EPA Method TO-15. The results are shown in Table 6 of Appendix D.

Results were evaluated in accordance with the New York State Department of Health (DOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). In addition, vapor results were compared to EPA target indoor air concentrations (to satisfy prescribed risk level and target hazard index) as cited in the EPA Subsurface Vapor Intrusion Guidance titled Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils. No exceedances of either set of guidance values were detected in any of the vapor samples.

The results of the supplemental soil gas and sub-slab vapor sampling were also compared to indoor and outdoor vapor sampling results. Detections exceeding ambient air conditions are illustrated below:

Parameter	Outdoor Ambient Result	SS-1	SS-2	SV-1	SV-2	SV-3	DUP SV-3	SV-4	Indoor
VOCs (ug/m ³)									
1,2,4-Trimethylbenzene	0.949	1	0.75	0.5 J	ND	ND	1.2	0.6 J	0.55
Carbon tetrachloride	0.256	ND	0.77 J	ND	ND	ND	ND	ND	0.256
Freon 11	0.857	0.8 J	1.4	ND	ND	ND	ND	ND	0.857
Freon 12	1.61	1.3	2.7	0.7 J	ND	ND	ND	ND	0.754
m&p-Xylene	0.927J	1.7	0.93 J	ND	ND	ND	1.3 J	1.1 J	1.32
Methylene chloride	0.53	0.53	0.64	0.39 J	ND	ND	0.49 J	ND	0.53
o-Xylene	0.53J	0.66	ND	ND	ND	ND	ND	ND	0.662
Trichloroethene	0.492	ND	ND	ND	ND	ND	0.71 J	ND	0.437
ND = Not detected J = Estimated Value <i>Items in italics exceed outdoor ambient air results.</i>									

Parameter	Indoor Ambient Result	SS-1	SS-2	SV-1	SV-2	SV-3	DUP SV-3	SV-4	Outdoor
VOCs (ug/m ³)									
1,2,4-Trimethylbenzene	0.55	1	0.75	0.5 J	ND	ND	1.2	0.6 J	0.949
Acetone	1.93	2.4	6.5 J	2	0.8	1.8	16	3.8	19.3
Toluene	0.46	0.92	1.4	ND	ND	0.57	1.5	1	2.45
Trichloroethene	0.437	ND	ND	ND	ND	ND	0.71 J	ND	0.492
ND = Not detected J = Estimated Value <i>Items in italics exceed indoor ambient air results.</i>									

2.9 Contaminant Fate and Transport

2.9.1 Potential Routes of Migration

2.9.1.1 Air Contaminant Transport

The lateral migration of non-particulate airborne contaminants typically occurs as a function of air movement. Vertically, contaminants can also migrate according to their specific

densities and/or as a result of changes in air pressure gradients. Volatilization from groundwater and/or soil is the primary route of airborne contamination. The Site is mostly covered in concrete, including the slab and sidewalks, which minimizes the potential pathway for organic vapors from soil or groundwater to volatilize to the ambient air. Furthermore, since no VOCs were detected in the monitoring well samples, volatilization from groundwater is not a potential pathway. This is further supported by the laboratory test results of the soil vapor and sub-slab vapor monitoring presented above in Section 2.8.6.

2.9.1.2 Soil Contaminant Transport

Elevated SVOCs were detected in the soil sample collected from B&L-6, located off-site near the south corner of the Site building (see Figure 4). The potential route of migration through direct contact or ingestion of soils in this localized area is not of immediate environmental concern because the area is a paved parking lot and the soil is not exposed.

2.9.1.3 Groundwater Contaminant Transport

Detection of SVOCs exceeding groundwater standards occurred at B&L-6 (see Figure 5), located off-site near the south corner of the Site building. However, the detections have been attributed to the presence of SVOCs bound to suspended particulate matter. Lead, which was also detected above standards at B&L-6 and B&L-7, is likely a result of the same phenomenon, and therefore is not considered representative of actual dissolved lead.

Based on the historical use of the Site and adjoining properties, as well as the urbanized city setting, the low level exceedances are likely due to former source residual in soil, and therefore are not of immediate environmental concern. The presence of a slightly elevated lead concentration in monitoring well B&L-7 (whether dissolved or sediment-bound) may result in a groundwater usage restriction at the site.

2.9.2 Contaminant Persistence and Migration

Excavation and removal of recognized environmental concerns located at the Site have eliminated many possible existing sources of contamination at the Site; however, laboratory results indicate an off-site area of concern off the south corner of the Site building (B&L-6). The occurrence of SVOCs in soil at this location suggests the nearby presence of an off-site weathered coal tar source. TPH concentrations at this same location may be associated with historical, off-site releases from a former automotive repair facility located to the southeast of the Site. Therefore, the minor contamination detected at soil boring B&L-6 it is not considered to be a result of on-site operations or conditions.

2.10 Baseline Risk Assessment

The limited extent of off-site contamination indicates that a detailed baseline risk assessment for this Site is not warranted. Nonetheless, it is recognized that a minor off-site contaminant source continues to exist in the form of limited subsurface contaminated soils at an off-site boring location (B&L-6). The limited groundwater exceedances of SVOCs observed in off-site monitoring well MW-6 do not warrant further evaluation of groundwater at the Site.

Similarly, metals in groundwater that were detected above standards generally exhibit minor exceedances and are attributed to compounds bound to suspended particulate matter, and therefore are not considered representative of groundwater quality. Based on the overall results of groundwater sampling and the absence of groundwater use in the Site vicinity, groundwater quality at the Site does not warrant further evaluation.

The following assessment evaluates the observed Site contaminant conditions and the migration potential of these contaminants to determine which exposure pathways represent a level of risk requiring additional Site remediation. Additionally, theoretical exposure pathways were evaluated for possible future events (e.g., Site construction) that would directly expose potential Site workers to these minor contaminants.

2.10.1 Evaluation of Possible Exposure Pathways

Typical exposure pathways for Site contaminants include direct contact with impacted soil or groundwater (absorption pathway), inhalation of vapors from soil or groundwater contamination (inhalation pathway), or ingestion of soil or groundwater contaminants (ingestion pathway). These pathways are discussed briefly below with respect to the Site conditions encountered during the Site Investigation.

2.10.1.1 Evaluation of Absorption Pathway

Site Exterior

There were no detected exceedances of VOCs or metals in soil. SVOCs exceeding Part 375 SCOs for

Commercial Use were detected in soil at off-site boring location B&L-6 in a composite sample collected from 4 to 8 feet. As previously noted, soil boring B&L-6 is located off-site, and therefore there were no SVOC exceedances detected at the Site.

There were no detected exceedances of VOCs in groundwater. Detections of SVOCs exceeding groundwater standards at off-site monitoring well location B&L-6 (see Figure 5) have been attributed to the presence of SVOCs bound to suspended particulate matter. Other metals, including Lead, were also detected above standards at B&L-6 (off-site) and B&L-7, and are likely a result of the same phenomenon. Accordingly, these detections are not considered representative of actual dissolved metals. However, the presence of a slightly elevated lead concentration at monitoring well B&L-7 (whether dissolved or sediment-bound) may result in a groundwater usage restriction at the site. Off-site monitoring well B&L-6 was fitted with a flush-mount well cap and a locking J-cap, thereby eliminating the well as a potential exposure pathway for absorption of contaminants via contact with suspended sediment in groundwater. Furthermore, the pathway for the absorption of contaminants via contact with suspended sediment in groundwater is incomplete due to the depth of the phreatic zone (11 to 13 feet below grade).

Site Interior

Exposed soil from the boiler excavation and removal exists in a pile in the basement area. The soil was analyzed for VOCs, SVOCs, Metals, and PCBs and did not exhibit Part 375 exceedances for the tested parameters.

Exposed standing water is present in the basement area as a result of the boiler excavation. While there were no detected exceedances of VOCs in the initial grab sample of standing water collected in February, 2007, there were several SVOC parameters detected that exceeded groundwater standards. However a second diluted analysis of the standing water sample performed by the laboratory did not detect any SVOCs. Furthermore, the standing water in the basement was re-sampled for SVOCs in March, 2008, and the subsequent laboratory results did not exhibit the detection of any SVOC parameters above the laboratory method detection limit. A comparison of the detected concentrations to the solubility limits of the contaminants indicates that the compounds are not dissolved in water. Therefore, the initial SVOC parameter exceedances have been attributed to the presence of SVOCs bound to suspended particulate matter present in the sample. Other metals, including Lead, were also detected above standards, and are likely a result of the same phenomenon. Accordingly, these detections are not considered representative of actual dissolved metals. Due to the fact that the water is exposed in the basement area, the pathway

for the absorption of suspended sediment in the standing water is potentially complete. However, the Site is locked, thereby restricting this pathway only to authorized persons. Future development of this Site may require specific health and safety measures to reduce the potential for direct contact with the standing water.

2.10.1.2 Evaluation of Inhalation Pathway

Volatile organic compounds (VOCs) represent the primary constituents potentially associated with inhalation risk. VOCs were not detected in Site groundwater, and only low concentrations (below applicable standards) were detected in Site soils. Moreover, other constituents that may pose a potential inhalation risk, such as naphthalene and PCBs, were also detected only at low concentrations in Site soils and were not detected in groundwater. Accordingly, the inhalation pathway is considered incomplete.

2.10.1.3 Evaluation of Ingestion Pathway

Site Exterior

All nearby residents and businesses are on public water provided by the City of Glens Falls, making exposure pathways for the ingestion of contaminants bound to sediment suspended in groundwater incomplete. The site exterior is paved, making the exposure pathway for the

ingestion of contaminated soil in the Site exterior incomplete.

Site Interior

Exposed standing water is present in the basement area as a result of the boiler excavation. There were no detected exceedances of VOCs in the grab sample; however there were several detections of metals, including lead, at concentrations of potential concern. These detections have been attributed to the presence of contaminants bound to suspended particulate matter, and therefore are not considered representative of actual water quality. Due to the fact that the water is exposed in the basement area, the pathway for the ingestion of suspended sediment in the standing water is complete. The Site is locked, thereby restricting this pathway to authorized persons. Future development of this Site may require specific health and safety measures to reduce the potential for direct contact with the standing water.

2.10.1.4 Baseline Risk Assessment Summary

No exposure pathways were identified at the Site exterior or off-site. However, the presence of SVOC contaminants bound to suspended sediment present in the standing water in the basement area suggests that under current conditions, exposure pathways

are complete with respect to these contaminants. The following table presents the existing contaminant pathways present at the Site:

Summary of Existing Possible Exposure Pathways				
Source Location	Pathway	Potential Receptor	Population Exposed	Results of Evaluation
On-Site	Absorption	Standing Water	Wildlife Human Receptors	Pathway Exists to persons on Site due to contaminated sediment in standing water present in the basement area
	Ingestion	Standing Water	Wildlife Human Receptors	Pathway Exists to persons on Site due to contaminated sediment in standing water present in the basement area

Future subsurface construction activities on site may result in one or more of the above exposure pathways being complete for potential Site workers or wildlife. In the event that future Site activities include disturbing the remaining contaminated media, appropriate site-specific health and safety measures would need to be incorporated into the project work plan. The following table presents the contaminant pathways possible under future scenarios at the Site:

Site Conceptual Future Exposure Scenarios				
Source	Pathway	Potential Receptor	Population Exposed	Results of Evaluation
On and Off-Site	Absorption Ingestion	Groundwater	Human Receptors	Pathway Exists if construction occurs on property exposing groundwater
On and Off-Site	Protection of Groundwater Quality	Drinking Water Well	Human Receptors	Pathway exists if future on-site drinking water supply well was located on property
On and Off-Site	Absorption Ingestion	Subsurface Soil	Human Receptors	Pathway exists if construction occurs on property exposing subsurface soil

2.11 Site Investigation Summary and Conclusions

2.11.1 Site Characterization Summary

A phased Site investigation of the GGFLDC 36 Elm Street property included the completion of the following Interim Remedial Measures:

- Asbestos abatement and lead-based paint removal;
- In-place closure of an underground storage tank;
- Removal of four (4) aboveground tanks, including the concrete block tank vault and sand backfill material that housed the tanks, as well as the removal of the boiler tank, associated piping, and contaminated soil piles; and
- Removal of miscellaneous totes of hazardous materials (i.e. chemicals/cleaning agents/gas cylinders)

Site characterization activities included a geophysical survey, a subsurface boring and well installation program, a groundwater and soil sampling program, and a soil vapor and sub-slab vapor sampling program. The results of the Site investigation indicated that the subsurface soils are primarily comprised of well sorted, medium to fine brown sand with trace medium to fine gravel, and that groundwater is present at depths of approximately 11-ft below grade.

Clearance soil sampling associated with the in-place closure of the UST showed no exceedances of Part 375 Commercial Use Soil Cleanup Objectives.

Subsurface soil sampling and analysis indicated one (1) off-site location (B&L-6) with elevated SVOCs in comparison to background sample concentrations, including several parameters which exceed Part 375 Commercial Use SCOs and resemble the chemistry of a weathered coal-tar residual. The exceedances are limited to SVOCs with minimum detection limits and are marginal and localized. The location is off the south corner of the Site building in the adjoining property parking lot. Subsurface soil impacts appear to be unrelated to on-site operations or conditions and limited to this localized off-site area, and no complete exposure pathway exists due to paved Site conditions.

Groundwater at the Site is present at approximately 11-feet below grade. Monitoring wells were installed and sampled as part of the investigation. Off-site monitoring well location B&L-6 exhibited elevated concentrations of several SVOCs, specifically PAHs; there were no other exceedances of VOCs or SVOCs reported. Metals exceeding groundwater standards include antimony, iron, manganese, selenium, and

sodium. Lead was also detected marginally above the standards at B&L-6 (off-site) and B&L-7. Due to the low solubility of the PAHs, these detections have been attributed to the presence of contaminants bound to suspended particulate matter and therefore are not considered representative of actual water quality. Based on the overall results of the subsurface investigation, the minor groundwater impacts do not appear to warrant additional evaluation. However, the presence of a slightly elevated lead concentration at B&L-7 (whether dissolved or sediment-bound) may result in a groundwater usage restriction at the site.

2.11.2 Fate and Transport Summary

Soil

The distribution of contaminants in soil is attributed to historical operations at adjoining properties, as indicated by the localized presence of low level SVOCs in the subsurface soil sample (B&L-6) collected off-site, near the south corner of the 36 Elm Street building.

The presence of semi-volatile PAHs in the subsurface soil at off-site boring location B&L-6 is likely a remnant of source material in direct contact with the soil, and is less likely to be a function of groundwater transport. The general tendency for these contaminants to remain immobile indicates that these constituents are not likely to migrate from their present position. There were no other exceedances detected in the subsurface soil.

The UST closure was conducted as part of the IRMs. The 1,000-gallon tank was approximately 42 inches in the vertical dimension and 138 inches in length and had approximately 1"-2" of sludge and liquid on the bottom. The residual sludge and liquid (less than 15 gallons) was removed prior to the tank closure process. The tank was emptied and filled with cement grout and closed in place. No SVOCs or VOCs were detected above standards in the samples collected from the sidewall and excavation bottom.

The AST removal included the removal of four (4) basement ASTs, a concrete block tank vault, and associated sand backfill material. Soil boring B&L-7 was installed directly beneath the former location of the vault containing the ASTs. No VOCs, SVOCs, metals, or PCBs were detected above standards in the soil sample submitted for laboratory analysis.

Groundwater

Monitoring wells (B&L-1 through B&L-8) were installed upon the completion of the IRMs. Low level SVOCs and lead were identified in the groundwater sample collected from the offsite monitoring well at B&L-6. In addition, lead was also exceeded in the groundwater sample collected from B&L-7, located at the former AST location in the basement area. Due to the low solubility of the detected compounds, these detections have been attributed to the presence of contaminants bound to suspended particulate matter, and therefore are not considered representative of actual water quality. Based on the overall results of the subsurface

investigation, the minor groundwater impacts do not appear to warrant additional evaluation. However, the presence of a slightly elevated lead concentration at B&L-7 (whether dissolved or sediment-bound) may result in a groundwater usage restriction at the site.

Exposed standing water is present in the basement area as a result of the boiler excavation. Although there were several detected metals, including lead, exceeding groundwater standards, the results are not considered representative of groundwater quality at the Site.

2.11.3 Risk Assessment Summary

An off-site area of subsurface soil located near the south corner of the Site building (B&L-6) exhibits SVOC exceedances above Part 375 Commercial Use Soil Cleanup Objectives. However, as previously indicated, the minor contamination encountered at this off-site boring location is not considered a result of on-site operations or conditions.

Minor groundwater impacts were detected; however, the results are not considered representative of groundwater quality at the Site due to sample turbidity and the presence of suspended sediment.

Exposed standing water is present in the basement area as a result of the boiler excavation. Although there were several detected metals, including lead, exceeding groundwater standards, the results are not considered representative of groundwater quality at the Site.

Based upon the observed Site conditions, the following exposure pathways may exist:

- One (1) or more exposure pathway exists to persons on the Site due to elevated metals, including lead, concentrations exceeding standards in standing water present in the basement area.
- During future subsurface construction activities, one (1) or more exposure pathways could be complete for potential Site workers or wildlife.

The presence of contaminants both on-site and off-site (to the south at B&L-6) at concentrations above NYSDEC Soil Cleanup.

Objectives and Groundwater Standards, warrants an evaluation of potential additional remedial actions implemented at the exposure scenarios identified above. The Remedial Alternatives Report, presented as a separate document, will evaluate various remedial technologies and develop individual remedial alternatives to address the following objectives:

1. Eliminate (or lower to within acceptable standards) the presence of SVOCs in subsurface soils located off-site, near the south building corner.
2. Eliminate (or lower to within acceptable standards) the presence of lead and other metals above standards in the standing water in the basement area.

Based on the results of off-site monitoring in conjunction with the results of the permanent groundwater monitoring wells installed on-site, further evaluation of the groundwater pathway will not be conducted. Due to the lack of VOCs detected in soil, groundwater, soil vapor, and sub-slab vapor sampling, further evaluation of volatilization of organic vapors from saturated soils will not be conducted.

3.0 References

New York State Department of Environmental Conservation, 1997.
Environmental Restoration Projects, Program ID# DER-97-4058. Division of Environmental Remediation, Bureau of Program Management.

Pack, Dr. A. Boyd, 1972. The Climate of New York. June 1972.

Figure 1
Site Location Map

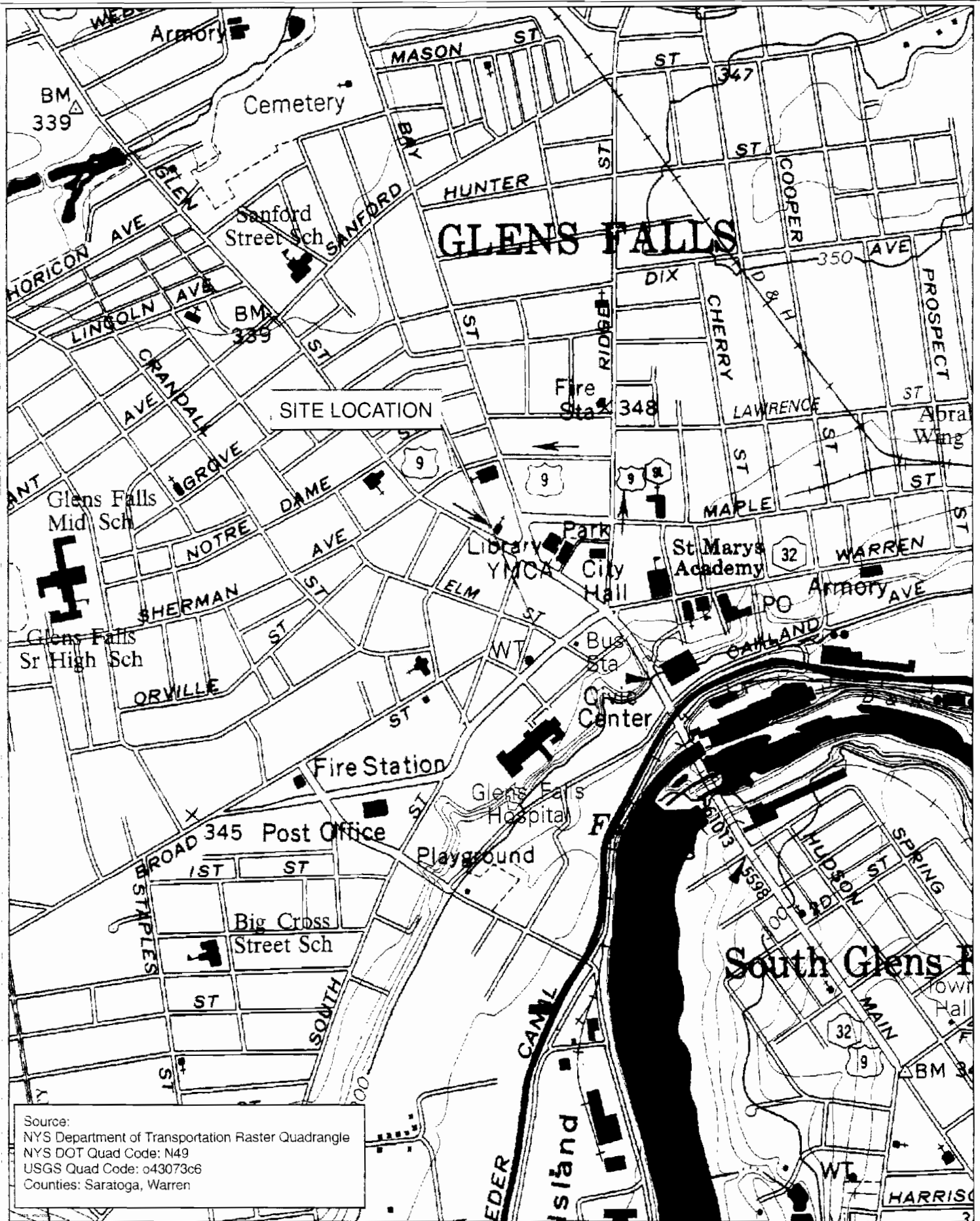
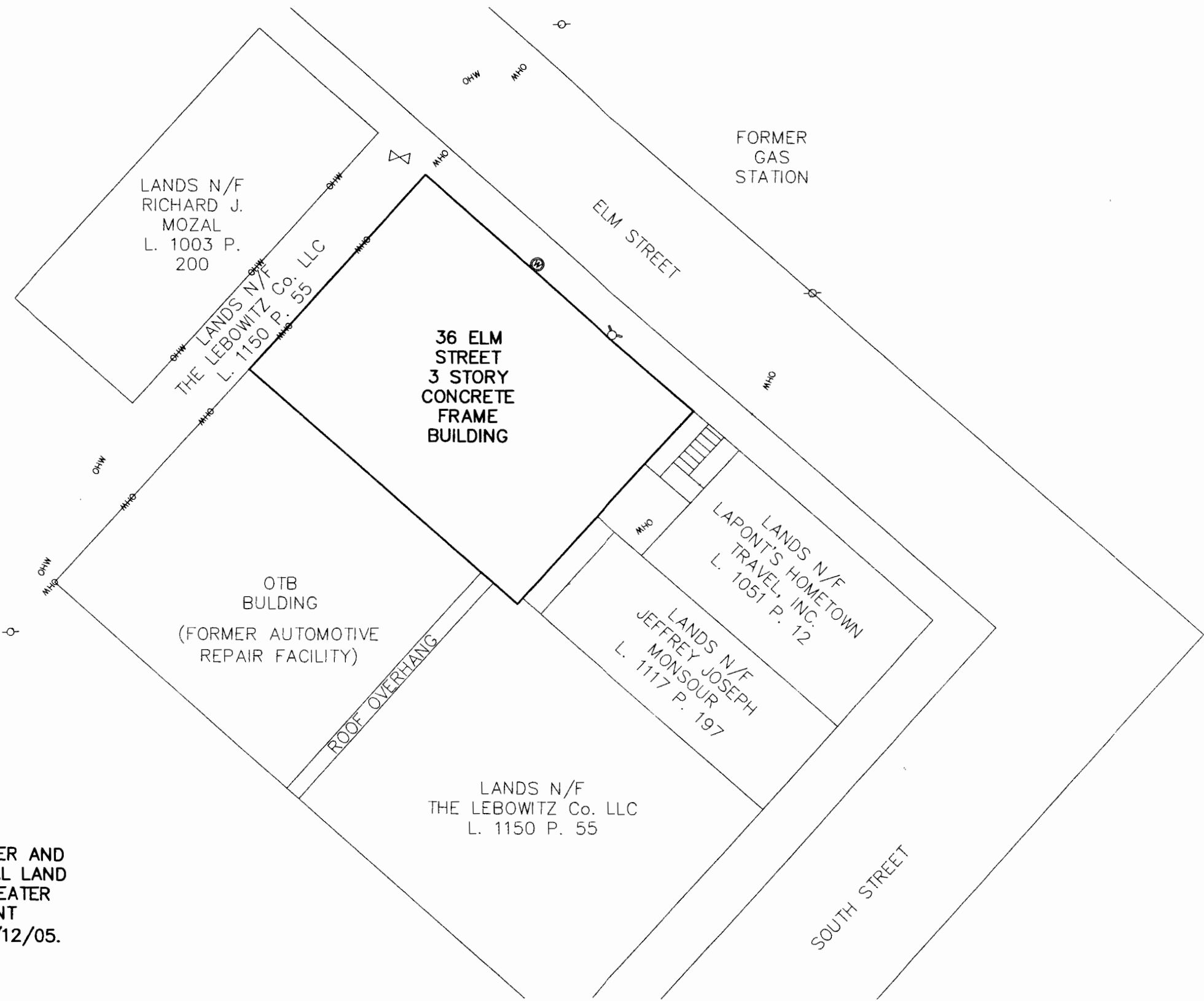


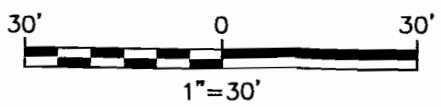
Figure 2
Location Plan

12/5/05-ALB-TAH, 02/13/08-JGS
S:\PROJECTS\1000\1032.001\ACAD\1032001F01.DWG
X: NONE
LM: PLOT
P: BANDLONCHROME.CTB



- LEGEND:
- EXISTING GAS VALVE
 - HISTORIC MONITORING WELL
 - EXISTING HYDRANT
 - EXISTING UTILITY POLE
 - EXISTING OVERHEAD WIRE

MAP REFERENCE:
MAP PROVIDED BY BOLSTER AND ASSOCIATES PROFESSIONAL LAND SURVEYORS, ENTITLED GREATER GLENS FALLS DEVELOPMENT CORPORATION, DATED 10/12/05.



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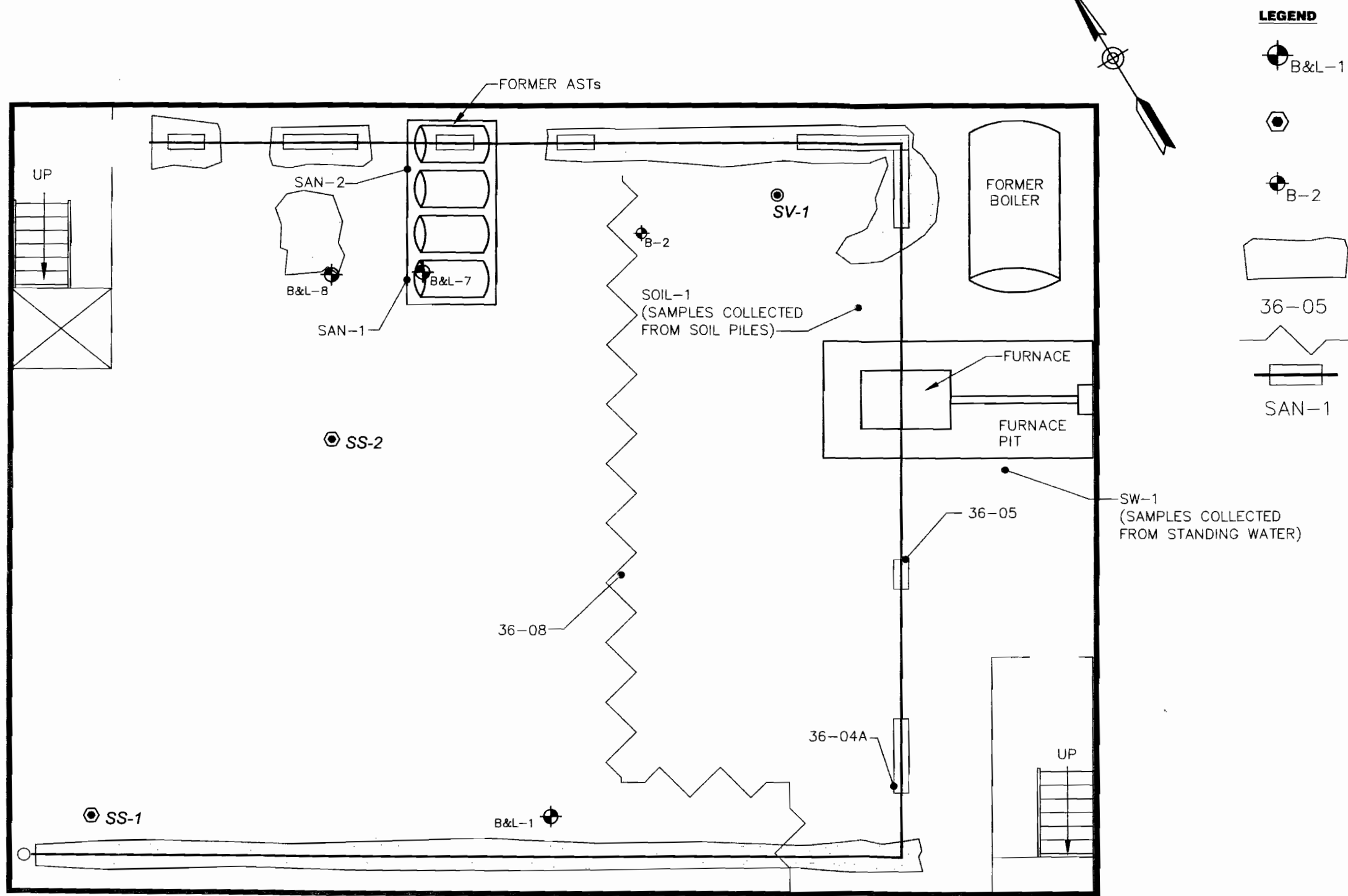
GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)
36 ELM STREET
LOCATION PLAN
CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure
2
Project No.
1032.001

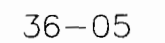
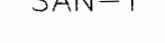
Figure 3
Site Plan, Basement Area

X: XREF(S)_W/_ (ROT/TWIST)
LM: LS=OR L: ON=, OFF=
P: STANDARD.PC3.CTB

01/02/08-SYR-JGS, LAST MODIFIED
I:\SHARED\1000\1032001-A\1032001_FIGURE1



LEGEND

-  B&L-1
- 
-  B-2
- 
-  36-05
- 
- 
-  SAN-1

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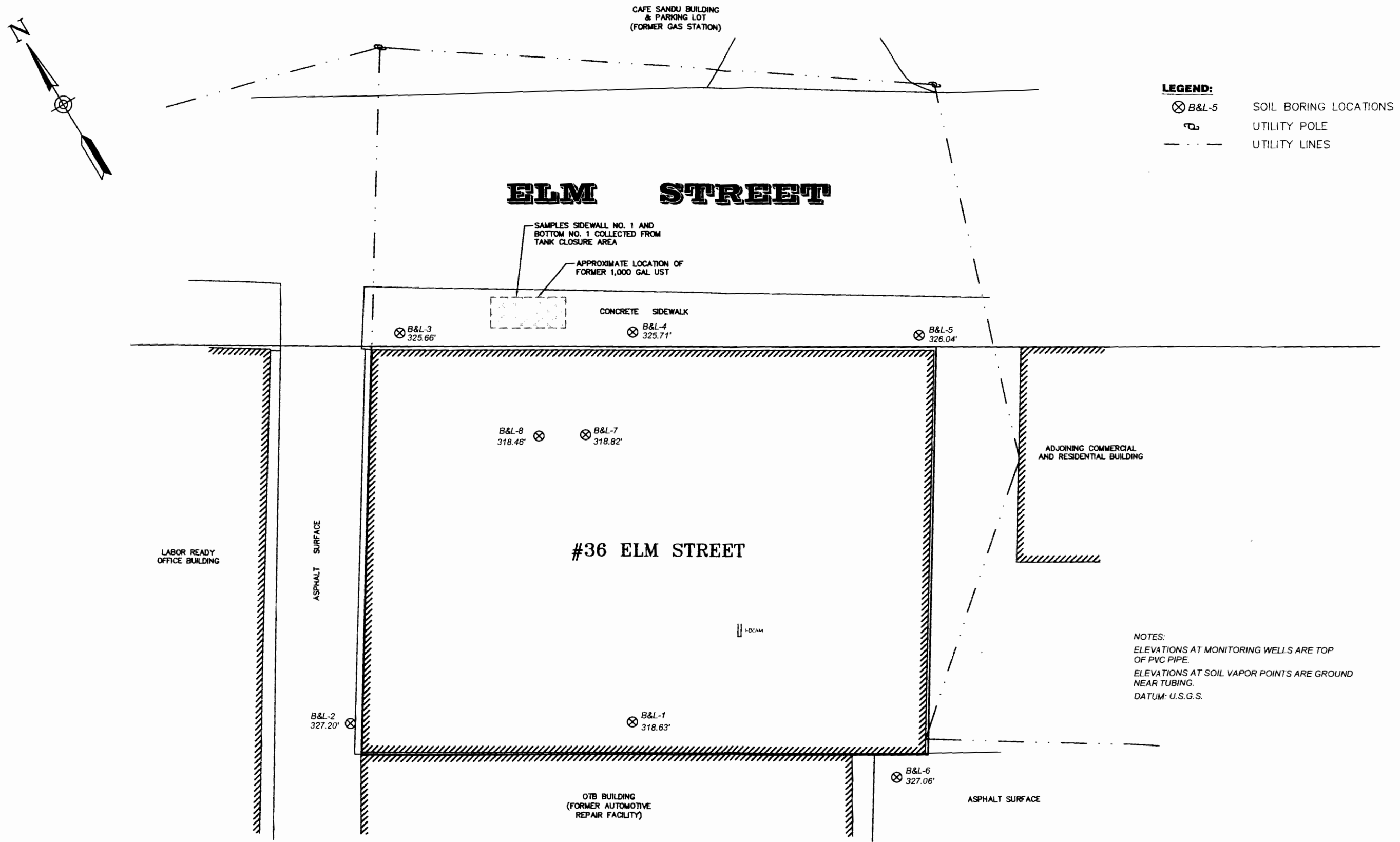
GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)
36 ELM STREET
**SITE PLAN
BASEMENT AREA**
CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure
3
Project No.
1032.001-03F

Figure 4
Soil Boring Locations

X: XREF(S)_W/_ (ROT/TWIST)
LS=, OR L: ON=, OFF=
L: P: STANDARD.PC3.CTB

01/09/08-SYR-JGS
1000\1032001-A\1032001_FIGURE3



SITE PLAN
SCALE: 1"=16'-0"

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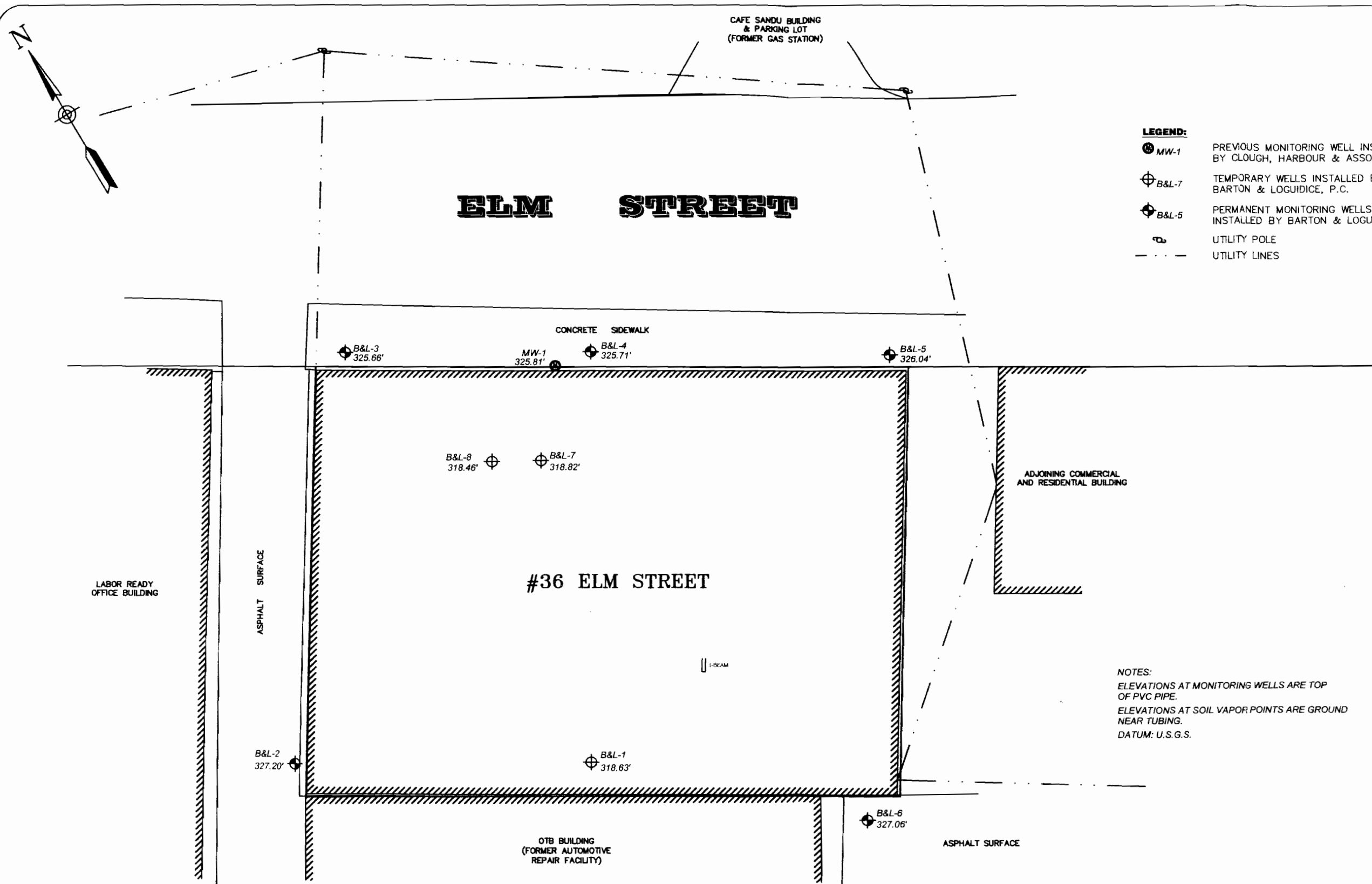
GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)
36 ELM STREET
SOIL BORING LOCATIONS
CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure
4
Project No.
1032.001-04F

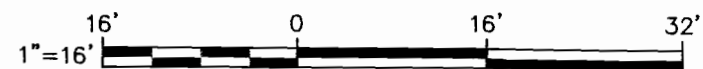
Figure 5
Monitoring Well Locations

X: XREF(S)_W/_L_(ROT/TWIST)
LS=OR L'ON=OFF=
L: STANDARD.PC3.CTB
P:

DATE-OFFICE-ORIGINATOR, LAST MODIFIED
DIRECTORY/FILENAME.EXT



SITE PLAN
SCALE: 1"=16'-0"



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GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)
36 ELM STREET
MONITORING WELL
LOCATIONS
CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure
5
Project No.
1032.001-05F

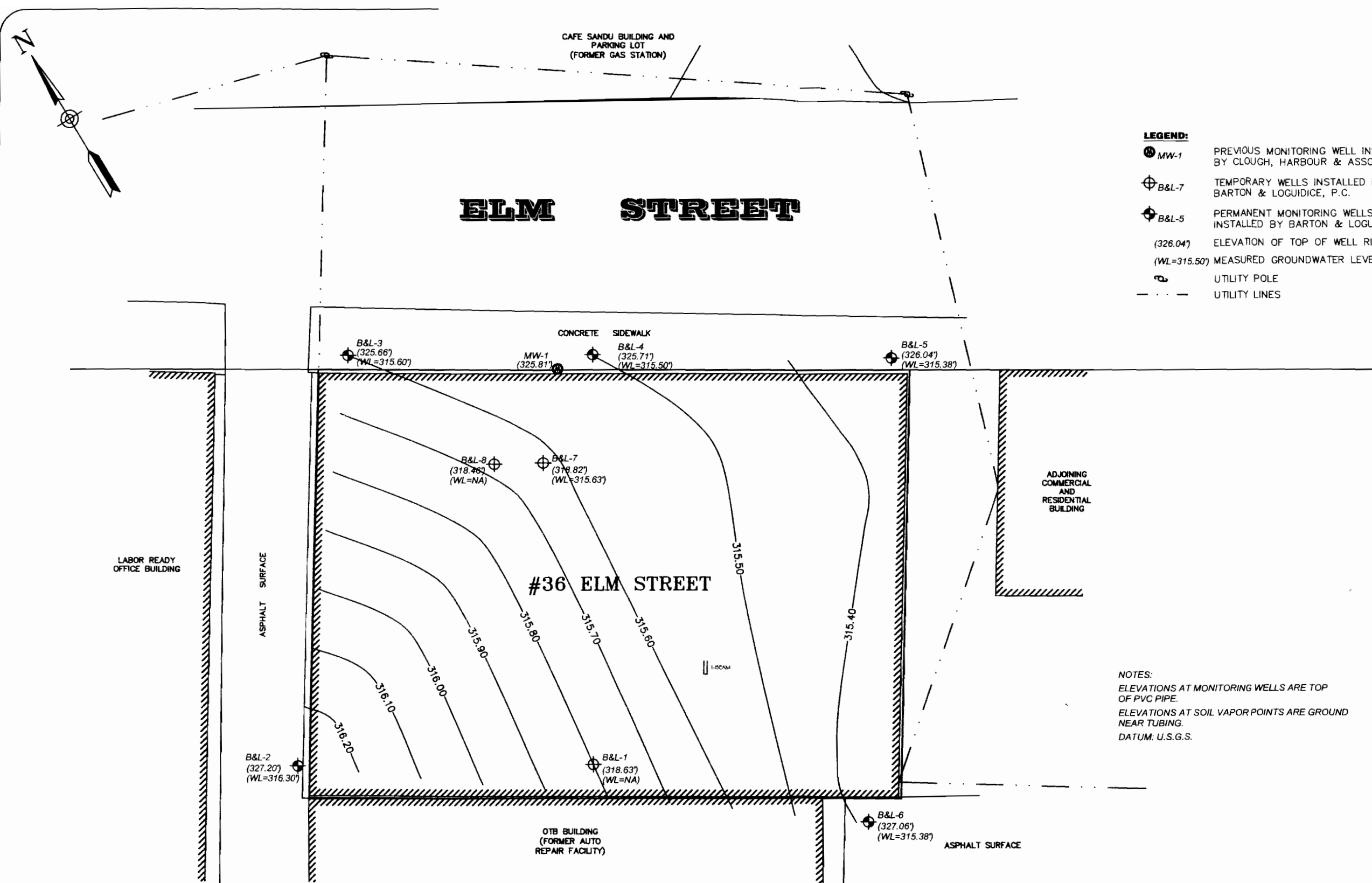
Figure 6
Soil Vapor Point Locations

Figure 7

May 30, 2007 Groundwater Level Contour Map

X: XREF(S)_W/_ (ROT/TWIST)
L: LS= OR L=ON=; OFF=
P: STANDARD.PC3.CTB

DATE-OFFICE-ORIGINATOR, LAST MODIFIED
DIRECTORY/FILENAME.EXT



- LEGEND:**
- MW-1 PREVIOUS MONITORING WELL INSTALLED BY CLOUGH, HARBOUR & ASSOCIATES
 - B&L-7 TEMPORARY WELLS INSTALLED BY BARTON & LOGUIDICE, P.C.
 - B&L-5 PERMANENT MONITORING WELLS INSTALLED BY BARTON & LOGUIDICE, P.C.
 - (326.04') ELEVATION OF TOP OF WELL RISER
 - (WL=315.50') MEASURED GROUNDWATER LEVEL
 - UTILITY POLE
 - UTILITY LINES

NOTES:
ELEVATIONS AT MONITORING WELLS ARE TOP OF PVC PIPE.
ELEVATIONS AT SOIL VAPOR POINTS ARE GROUND NEAR TUBING.
DATUM: U.S.G.S.

SITE PLAN
SCALE: 1"=16'-0"



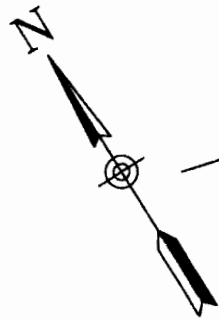
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GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)
36 ELM STREET
MAY 30, 2007
GROUNDWATER LEVEL
CONTOUR MAP
CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure
7
Project No.
1032.001-07F

Figure 8

September 20, 2007 Groundwater Level Contour Map



CAFE SANDU BUILDING AND
PARKING LOT
(FORMER GAS STATION)

ELM STREET

LEGEND:

-  **MW-1** PREVIOUS MONITORING WELL INSTALLED BY CLOUGH, HARBOUR & ASSOCIATES
-  **B&L-7** TEMPORARY WELLS INSTALLED BY BARTON & LOGUIDICE, P.C.
-  **B&L-5** PERMANENT MONITORING WELLS INSTALLED BY BARTON & LOGUIDICE, P.C.
- (326.04') ELEVATION OF TOP OF WELL RISER
- (WL=315.50') MEASURED GROUNDWATER LEVEL
-  UTILITY POLE
- UTILITY LINES

CONCRETE SIDEWALK

B&L-3
(325.66')
(WL=314.07')

MW-1
(325.81')

B&L-4
(325.71')
(WL=314.01')

B&L-5
(326.04')
(WL=313.95')

B&L-8
(318.46')
(WL=314.19')

B&L-7
(318.82')
(WL=314.34')

ADJOINING
COMMERCIAL
AND
RESIDENTIAL
BUILDING

LABOR READY
OFFICE BUILDING

ASPHALT
SURFACE

#36 ELM STREET

I-BEAM

B&L-2
(327.20')
(WL=314.76')

B&L-1
(318.63')
(WL=314.15')

B&L-6
(327.06')
(WL=313.94')

ASPHALT SURFACE

OTB BUILDING
(FORMER AUTO
REPAIR FACILITY)

NOTES:

ELEVATIONS AT MONITORING WELLS ARE TOP
OF PVC PIPE.

ELEVATIONS AT SOIL VAPOR POINTS ARE GROUND
NEAR TUBING.

DATUM: U.S.G.S.

SITE PLAN

SCALE: 1"=16'-0"



Barton
& Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

GREATER GLENS FALLS LOCAL DEVELOPMENT CORPORATION (GGFLDC)

36 ELM STREET

SEPTEMBER 20, 2007
GROUNDWATER LEVEL
CONTOUR MAP

CITY OF GLENS FALLS WARREN COUNTY, NEW YORK

Figure

8

Project No.

1032.001-08F

X: XREF(S) W/_ (ROT/TWIST)
L: LS=, OR L: ON=, OFF=
P: STANDARD.PC3.CTB

1/4/07-SYR-MJ, LAST MODIFIED
1032001-A/1032001_FIGURE8.DWG