

Phase I Environmental Site Assessment

123 Greenmanville Avenue
Mystic , Connecticut

Submitted to:

Frederick H. Baumgarten

Submitted by:

Paul Burgess, LLC
36 Elm Street
Stonington, CT 06378

Paul Burgess, P.E., LEP

July 2008

PAUL BURGESS, LLC

Environmental Consulting,
Engineering & Permitting

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I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR Part 312.10. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312, unless otherwise stated herein.

July 2008

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Executive Summary

A Phase I Environmental Site Assessment (ESA) was conducted for Frederick H. Baumgarten on property located at 123 Greenmanville Avenue in Mystic, Connecticut. The site location is indicated on Figure 1.

Site Description

The property consists of a parcel of land and structures located at 123 Greenmanville Avenue in Mystic, Connecticut. The Tax Assessor's designation is Map 172 Block 1 Lot 1. The property is owned by Frederick H. and George A. Baumgarten. A site schematic plan is provided as Figure 2.

A residential home and a detached garage structure exist on the property, which is 1.5 acres according to town assessors' record. A swimming pool is located to the rear of the home. A grass yard extends to the Mystic River. The residential home is two stories with a basement. The garage is one story wood framed structure with a concrete floor. On the south side of the garage a piece of plywood covers a subgrade area that contained a tank, which appeared to be associated with steam heat. The tank top(nut) was opened and the tank appeared empty with no chemical odor. The garage was once part of the Rossie Velvet Mill and the boiler was located across Greenmanville Avenue from the garage. The tank has been subsequently removed by Mr. Baumgarten. On the east central portion of the garage is a whole(approximately 12 inches in diameter) that extends to the old tunnel under the road(old tunnel for coal transport under road). Various piping (presumed heating) were visible in the tunnel.

Site History

An 1879 map of Mystic shows the site as a narrow strip of land adjacent to Greenmanville Avenue; the majority of the site was part of the Mystic River at that time. This is confirmed by an 1898 post card of the Rossie Mill which shows a stone wall along Greenmanville Avenue abutting the Mystic River. The existing house is visible on the postcard directly abutting the river. The 1903 Sanborn map shows the current house structure and a small shed to the north. The depth of the lot at the house location was about 80 feet at that time, compared to over 200 feet currently. The lot has gradually been created by filling in the Mystic River over the years. The 1911 Sanborn shows the dwelling structure and a "coal house" to the north in the current location of the garage structure, and further to the north an "auto" garage. A "boat pier" is also present. By 1924, the coal house structure is indicated as

a “garage 12 cars” with “steam heat, electric lights, and concrete floor”. A “gasol eng” is noted in a small structure to the north of the garage. The site is noted as part of the Rossie Mill. A second similar size garage structure is located to the west. In 1939 the site development has changed although still part of the mill ; the garage structure to the west is no longer present. The site continues to expand by filling to the west. A 1963 Sanborn shows the same structures onsite; the garage structure is indicated as “auto painting”. Aerial photographs reviewed (1934, 1951, 1965 and 1970) show a dark area between the onsite structures and the river. This was coal storage as verified by a 1951 aerial photograph viewed at the Stonington Town Hall.

City Directories where available from circa 1957 through 1979. The 1957, 1960 and 1961 directories listed Charles Lamphere Co. (auto painters) at the site, which is consistent with the 1963 Sanborn. The 1957 directory also lists the Connecticut Cabinet Corp. onsite. No other commercial listings were noted for the site within this time period. Mr. Baumgarten recollection of the site history was that the garage structure was used as a fabric store in the 1950s and 1960s; he had no recollection of auto painting as indicated on the Sanborns and City Directories. The site and site vicinity are on the National Register of Historic places. That document was reviewed and it indicated that the “warehouse”(garage structure) was a former blacksmith shop for the Rossie Mills and by the 1930s was used as a stone cutters workshop.

Environmental Records Review

Based on a review of town land records, no environmental records or liens were identified for the site. There were no CTDEP or USEPA records for the subject site. Several spills and leaking underground storage tanks were on file for the Mystic Seaport. Based on the location of the Mystic Seaport with respect to the subject site, no impacts to the subject site would be anticipated. No CTDEP records were identified for the former Rossie Mill.

This property was also evaluated regarding compliance with the Connecticut Property Transfer Statute (Section 22a-134). This statute pertains to certain property and business transactions involving hazardous waste generators greater than 100 kilograms (220 pounds) in any one month, or other specific site uses since May 1967. The CTDEP had no record of hazardous waste manifests for the subject property and no applicable commercial site uses since May 1967. Therefore, it is my opinion that the Transfer Act does not apply. It is suggested that legal counsel be consulted to confirm this opinion.

Petroleum/Chemical Use

There was no oil or chemical storage observed at the site, other than routine household chemicals and paints. On old oil can storage rack and some empty quart size oil cans were stored in the garage; no leakage was observed. An old gas dispenser was stored inside the

garage. It may have been associated with the 500 gallon gasoline tank that existed below an old structure(gasol eng) north of the garage.

It appears that the Rossie Mill used the subject site for coal storage and for disposal of coal ash and slag from the boiler. The garage was original used for coal storage and then vehicle storage. Sanborns and City Directories indicate that the garage was used for "auto painting" in the late 1950s and early sixties, although the property owner did not recall that use.

Underground Storage Tank (UST) Removal

A 500-gallon steel UST was removed from the site on June 18, 2008 by Kropp Environmental Contractors. It was located adjacent and north of the garage building below a former structure indicated on the Sanborns as "gasol eng".

The fuel lines and tank were removed. The tank was rusted but did not appear to have any apparent holes. The ground below the tank had no petroleum odors. Five soil samples were collected and analyzed and no chemicals were present above CT Department of Environmental Protection(CTDEP) standards.

Previous Site investigations

The following reports previously prepared for the subject site were provided by Mr. Fred Baumgarten and were reviewed in the preparation of this Phase I ESA.

- **Phase I ESA, Catalyst Environmental Consulting, March 1995**
- **Phase II Field Investigation, Atlantic Environmental Services, Inc., November 1995**
- **Letter Report for Environmental Sampling, TRC, January 2000.**

Paul Burgess, LLC conducted an independent evaluation of the chemical data developed during these site investigations. A summary of the data is provided on Figure 3.

The CTDEP soil remediation goals under the Remediation Standard Regulations(RSRs) integrate two soil cleanup criteria: (1) Direct Exposure Criteria (DEC) to protect human health and the environment from risks associated with direct exposure to pollutants in contaminated soil; and (2) Pollutant Mobility Criteria (PMC) to protect groundwater quality

from pollutants that migrate from the soil to groundwater. The site is classified as a GB groundwater area, therefore, the GB PMC apply.

Soils to which both criteria apply must be remediated to a level that is equal to the more stringent criteria. Residential DEC (RDEC) and separate commercial/industrial DEC (IDEC) have been established by CTDEP for most chemicals. The RDEC have been used to evaluate data at this site based on the land use. The DEC applies to soil up to 15 feet below ground surface. However, with the proper environmental land use restriction (ELUR) preventing disturbance, contaminated soil can remain 4 feet below grade or below pavement and 2 feet of sub-base material (clean fill).

The GB PMC apply only to soils above the seasonal high groundwater table. Past investigations at the site have reported the groundwater table to be approximately 3 feet bgs near the shoreline to about 6.5 feet below grade on the west side of the garage. The CTDEP RSRs have an exemption for the PMC if the polluted fill is polluted only with coal ash, wood ash, coal fragments, asphalt pavement, or any other combinations. However, the fill cannot be polluted with any volatile organic compounds to use this exemption. Volatile organic compounds are present in this fill. This exemption would require further review and input from CTDEP.

Statistical evaluation of soil data is allowed under the RSRs as an alternative compliance measure. Data from soil boring B-6 was not included because it is too elevated to be used in the statistical analysis. The statistical evaluation is a calculation of the 95% upper confidence level of the arithmetic mean of all sample results within a release area. Because this site has been completely filled, the release area is considered the entire site for this calculation.

- Benzo(b)fluoranthene was detected above the RDEC(1000 parts per billion(ppb)) in sample B-2(0-1 feet bgs). A statistical evaluation of all other 0-4 feet soil samples analyzed for PAHs indicated compliance 675 ppb. Only 9 samples were available for the analysis which is less than what normally would be considered an adequate number of samples.
- Borings B-3(4-6) and GP-8(4-6) contained PAHs above the RDEC and the GB PMC. These samples are judged to be in compliance with the GB PMC because they are above the seasonal high water table. These samples are below 4 feet therefore they could be considered inaccessible with the proper environmental land use restrictions.
- Boring B-6 exceeds the RDEC and the GB PMC for TPH and PAHs. There are no alternative compliance methods available in the RSRs to achieve compliance.

- Arsenic was detected in Atlantic boring GP-10 at 24.2 parts per million(ppm); the CTDEP direct exposure criteria standard is 10 ppm. Catalyst in the Phase I collected a sample from the “beach” and analyzed it for metals. Arsenic was detected at 25 ppm and total lead at 510 ppm(CTDEP criteria 400 ppm). Based on the property line for the site, this beach sample may not have been collected from the subject property. All TRC sample results were well below CTDEP standards for arsenic and chromium. A total of 17 soil sampled have been analyzed for metals. A statistical evaluation was conducted and arsenic(7 ppm) and lead (96 ppm) were calculated to be below CTDEP criteria. The RSRs state that no sample used in the statistical evaluation shall be greater than twice the CTDEP criteria. Two arsenic samples (24.2 and 25 ppm) exceeded this requirement. CTDEP has allowed this deviation on a case by case basis.
- Total petroleum hydrocarbons were detected in a soil sample collected from below the tank in the “crawl space” below the garage floor above CTDEP criteria. It is unclear if this detection is related to the fill or some other source.
- The statistical compliance evaluation conducted for other fill samples could be presented and discussed with CTDEP for input.

Conclusions

- The 500 gallon gasoline UST was removed and no evidence of contamination above CTDEP standards was detected.
- The tank in the crawl space has been removed. It appears this tank was associated with the steam heating system rather than dye waste as previously reported by others. Catalyst collected a soil sample from the areas near the tank and it contained total petroleum hydrocarbons above CTDEP standards. The soil was resampled by Paul Burgess, LLC and total petroleum hydrocarbons were not detected.
- The area near soil boring B-6 should be further investigated to determine the extent of contamination and then remediate this area.

1. Introduction

1.1 Purpose

This Phase I Environmental Site Assessment (ESA) provides a professional opinion regarding the identification of *recognized environmental conditions* pertaining to the potential presence of hazardous substances or petroleum products at this property. The American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E 1527-00)* was used as a guide in conducting this project. A recognized environmental condition, as defined by ASTM, means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum product into structures on the property or into the ground, groundwater, or surface water on the property. In addition, this ESA was conducted in general conformance with the United States Environmental Protection Agency's (EPA), *All Appropriate Inquiries Final Rule*, effective November 1, 2006 (40CFR Part 312).

Paul Burgess, LLC was retained by Frederick H. Barmgarten to conduct this ESA. The scope of the ESA was as follows.

- Conduct a records review, which includes certain environmental records and historic use information. This information is described in more detail in this report.
- Assess potential receptors (i.e., groundwater, surface water, and water supplies).
- Describe the site geology.
- Perform a reconnaissance of the site and accessible areas of adjacent properties.
- Conduct interviews with current owners and occupants of the property.
- Summarize any previous environmental investigations conducted at the site.
- Oversee an underground storage tank(UST) removal and collect confirmation soil samples for chemical analysis.
- Provide an opinion regarding the site's status as an "Establishment," pursuant to Connecticut's Transfer Act.
- Summarize the findings relative to the potential presence of hazardous substances or petroleum products at the subject property and identify recognized environmental conditions.

The scope of services for this project did not include asbestos or lead paint/radon surveys.

1.2 Background

1.2.1 Property Location and Ownership

The property consists of a parcel of land and structures located at 123 Greenmanville Avenue in Mystic, Connecticut. The Tax Assessor's designation is Map 172 Block 1 Lot 1. The Assessor's cards, map, and property deed are included in Appendix A. The property is owned by Frederick H. and George A. Baumgarten. The site location is shown in Figure 1 and a schematic site plan is provided as Figure 2.

A review of available land title records was conducted to determine previous site ownership to the extent practicable within the limits of this project scope. This review should not be considered a complete title search. Assessor's and Town Clerk records indicate the following property ownership summary.

- Mystic River Realty to Frederick H. and George A. Baumgarten, November 1988
- Harry W. Baumgarten to Mystic River Realty, November 1963
- John Rossie to Harry Baumgarten January 1963
- Mystic River Industrial Corp. to J Rossie Velvet Mills , February 1939

During the ownership of John Rossie and J. Rossie Velvet Mills, it was owned by several entities of the mill and the subject property appear to have contained 3 separate parcels, which now comprise the subject site.

An electronic search of land records at the Stonington Town Clerk's office did not identify any Connecticut Department of Environmental Protection (CTDEP) or US Environmental Protection Agency(USEPA) orders or liens recorded on the land records for the subject site.

1.2.2 Adjacent Land Use

The land use is mixed commercial and residential along Greenmanville Avenue(Route 27). North of the parcel is a small restaurant known as Kitchen Little. Northeast on the opposite side of the road is a residential neighborhood. Directly east of the side across the road is the former Rossie Velvet Mill(Rossie Mill), which was a textile mill. It is currently used by Mystic Seaport(warehouse, watercraft storage, shipping/receiving) according to building signage. Further to the east are Mystic Little League ball fields. To the south is Seaman's Inn(restaurant) associated with the Mystic Seaport, located further to the south. The Mystic River abuts the site to the west.

2. Site History

The objective of evaluating the history of the property is to develop an understanding of previous on-site and adjacent land uses and occupancies that could have caused a release of hazardous substances or petroleum products. This information is used to help identify the potential of past uses having led to recognized environmental conditions in connection with the property. The goal of this aspect of the study is to review standard historical sources to identify obvious uses of the property back to its first developed use.

The site history of a property may be compiled from available atlas maps, United States Geological Survey (USGS) topographic maps, Sanborn Fire Insurance (Sanborn) maps, aerial photographs, city directories, property tax files, recorded land title records, and building department records. All site history sources may not be available or may not necessarily be reviewed to meet the stated goal. City directories were reviewed at the Connecticut State Library.

An 1879 map of Mystic shows the site as a narrow strip of land adjacent to Greenmanville Avenue; the majority of the site was part of the Mystic River at that time. This is confirmed by an 1898 post card of the Rossie Mill which shows a stone wall along Greenmanville Avenue abutting the Mystic River. The existing house is visible on the postcard directly abutting the river. The 1903 Sanborn map shows the current house structure and a small shed to the north. The depth of the lot at the house location was about 80 feet at that time, compared to over 200 feet currently. The lot has gradually been created by filling in the Mystic River over the years. The 1911 Sanborn shows the dwelling structure and a “coal house” to the north in the current location of the garage structure, and further to the north an “auto” garage. A “boat pier” is also present. By 1924, the coal house structure is indicated as a “garage 12 cars” with “steam heat, electric lights, and concrete floor”. A “gasol eng” is noted in a small structure to the north of the garage. The site is noted as part of the Rossie Mill. A second similar size garage structure is located to the west. In 1939 the site development has changed although still part of the mill ; the garage structure to the west is no longer present. The site continues to expand by filling to the west. A 1963 Sanborn shows the same structures onsite; the garage structure is indicated as “auto painting”. Aerial photographs reviewed at the CT State Library show consistent structures onsite as the Sanborns and validate the filling onsite. The 1934, 1951, 1965 and 1970 photographs show a dark area between the onsite structures and the river. It is likely that this was coal storage as subsequently discussed.

City Directories where available from circa 1957 through 1979. The 1957, 1960 and 1961 directories listed Charles Lamphere Co. (auto painters) at the site, which is consistent with

the 1963 Sanborn. The 1957 directory also lists the Connecticut Cabinet Corp. onsite. No other commercial listings were noted for the site within this time period. Mr. Baumgarten recollection of the site history was that the garage structure was used as a fabric store in the 1950s and 1960s; he had no recollection of auto painting as indicated on the Sanborns and City Directories.

Mr. Frederick Hermes a long time worker in the Rossie Mill provided an oral history to the Mystic Seaport. This history provides some relevant information regarding the subject property. Coal was brought to the subject site by schooners and then barges to supply the boiler at the Rossie Mill. Coal was stored onsite, including adjacent to the river, and transported to the boiler via a tunnel under the road(still partially visible). An electric battery operated cart were used to transport coal through the tunnel to the boiler. The garage was used for vehicle storage in later years of the mill operation. Dye wastes were discharged to the Mystic River; the discharge location was not reported. The site and site vicinity are on the National Register of Historic places. That document was reviewed and it indicated that the "warehouse" (garage structure) was a former blacksmith shop for the Rossie Mills and by the 1930s was used as a stone cutters workshop.

Copies of select site historical information are provided in Appendix B.

3. Potential Receptors

3.1 Groundwater

Groundwater below and near the project area is classified by the CTDEP as a GB groundwater area (Reference 1). The GB classification indicates (1) groundwater within highly urbanized areas or areas of intense industrial activity; and (2) areas where public water supply service is available. The groundwater may not be suitable for direct human consumption because of waste discharges, spills or leaks of chemicals, or land-use effects. The state's goal is to prevent further degradation by preventing additional discharges that would cause irreversible contamination.

3.2 Surface Water

The nearest surface water to the site is the Mystic River which directly abuts the site to the west. This surface water is classified by the CTDEP as SB, designating the waters for marine fish, shellfish, and wildlife habitats, recreation, industrial supply, and other legitimate uses, including navigation (Reference 1).

3.3 Water Supply

The site vicinity is supplied potable water by the Aquarion Water Company.

4. Site Geology

The site geology has been compiled from existing published information and previous subsurface site investigations by others.

4.1 Surficial

According to the 1992 *USGS Surficial Materials Map of Connecticut*, the project area by sand and gravel overlying sand. Based on soil borings conducted onsite by others, these natural deposits are overlain by 6-8 feet of fill including coal ash, cinders and slag.

4.2 Bedrock

According to the 1985 *USGS Bedrock Geological Map of Connecticut*, bedrock geology underlying the site is listed as Mamacoke Formation, medium grained gneiss..

4.3 Groundwater Flow

The flow direction of groundwater is controlled mainly by topography. However, flow is also influenced by aquifer type, depth to bedrock, watercourses near the site, groundwater use, and subsurface structures. Generally, groundwater flows from topographic high points to low points. Based on the topography of the site and vicinity, local groundwater flow is predicted to flow to the west/southwest toward the Mystic River.

5. Environmental Records Review

5.1 Environmental Database Search

The following standard, environmental record sources have been reviewed. The approximate minimum search distances from the subject site are shown as follows. The maximum search distance was reduced to 1/8 mile because of the urban nature of the site vicinity.

Environmental Record	Approximate Minimum Search Distance
Federal NPL Site List	1/8 mile
Federal CERCLIS List	1/8 mile
Federal CERCLIS NFRAP List	Site and adjoining properties
Federal RCRA TSD Facilities List	1/8 mile
Federal RCRA Generators List	Site and adjoining properties
Federal ERNS List	Site
State List of Hazardous Waste Sites	1/8 mile
State Landfill and/or Solid Waste Disposal Sites	1/8 mile
State Leaking Underground Storage Tank List	1/8 mile
State Registered Underground Storage Tank Information	Site and adjoining properties
State Spills	Site and adjoining properties
CTDEP Leachate and Wastewater Discharge Source	Site and adjoining properties
Municipal Records	Site

The environmental data search was conducted by Environmental Data Resources, Inc. (EDR). The EDR report is included in Appendix C. A summary of the results is provided herein. For complete details about the search and findings, refer to the provided report. Other database search results, which are not summarized below, are provided in the report.

5.1.1 EPA National Priorities List

The National Priorities (Superfund) List (NPL) is the EPA database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program.

The subject property (including sites within the specified search distance) is not listed on the NPL.

5.1.2 EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

CERCLIS contains data on potentially hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and private persons, pursuant to

Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for, or on the NPL, and sites that are in the screening and assessment phase for possible inclusion on the NPL.

As of February 1995, CERCLIS sites designated “No Further Remedial Action Planned” (NFRAP) have been removed from CERCLIS.

The subject property(including sites within the specified search distance) is not listed on the CERCLIS List or the NFRAP list.

5.1.3 Resource Conservation and Recovery Information System (RCRIS)

This Resource Conservation and Recovery Act (RCRA) database includes select information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. These sites are referred to as hazardous waste generators (small and large quantity) and treatment, storage, and/or disposal facilities (TSDF).

The site is not included on the RCRIS list. Mystic Seaport Museum, Inc (75 Greenmanville Avenue) is listed as a small quantity hazardous waste generator of ignitable waste and lead. The subject property, including sites within the specified search distance, is not listed on the RCRA TSDF list.

5.1.4 RCRA Corrective Action Report (CORRACTS)

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

There were no identified CORRACTS sites within the specified search distance.

5.1.5 EPA Emergency Response Notification System (ERNS) List

The ERNS List is a database of information on the sudden and/or accidental release of hazardous substances, including petroleum. This list includes facility spill information reported to the EPA and the Coast Guard (National Response Center).

The subject property is not listed on this system.

5.1.6 State Hazardous Waste List

CTDEP compiled an inventory of sites in Connecticut. The inventory is used to identify toxic or hazardous waste disposal sites, and to determine the type and amount of such wastes at each site. The inventory does not assess the effect that the sites may present to public health or the environment. This inventory identifies sites that have been used for disposal to prioritize them for the implementation of appropriate cleanup measures.

The subject property (including sites within the specified search distance) is not listed on the NPL.

5.1.7 State Landfill List

There were no identified landfills within the specified search distance.

5.1.8 State Leaking Underground Storage Tank (UST) List

The Mystic Seaport(35 Greenmanville) and Mystic Seaport Museum(75 Greenmanville) are listed as leaking underground storage tank sites associated with former USTs. These releases are not expected to impact the subject property.

5.1.9 State Registered USTs

There are no records of registered USTs on the subject site. A gasoline tank did exist onsite as discussed in Section 8.5.1.

5.1.10 State Spills Records

The EDR report or CTDEP files did not have records of any spills for the subject parcels.

5.1.11 CTDEP Leachate and Wastewater Discharge Sources

The CTDEP Leachate and Wastewater Discharge Sources list is an inventory of surface and groundwater discharge sources and other potential environmental areas of concern (e.g., spills, landfills, septage lagoons).

No CTDEP-documented leachate or wastewater discharge sources were found concerning the subject site or adjoining sites.

5.1.12 Connecticut Property Transfer Act Filings

Past records of transfer of this property were not found pursuant to the provisions of the Transfer Act (Connecticut General Statute 22a-134).

5.2 Connecticut Department of Environmental Protection

A review of specific CTDEP files was conducted. The following property owners and businesses were included in the CTDEP file search.

- Frederick H. and George A. Baumgarten(subject property)

- Mystic Seaport
- Seaman's Inn
- Rossie Velvet Mill
- Kitchen Little

Site-specific file information (including, but not limited to, orders, environmental reports, site analytical data, permits, application forms, and other correspondence) was requested regarding the current/former owners and businesses listed above. No information was identified for the subject property. CTDEP spills information for nearby properties is summarized below and is included in Appendix C:

- September 1982- Mystic River at Seaman's Inn Parking Lot- Fuel oil sheen in river, source unknown(file closed)
- March 1984- Mystic Seaport – 1 gallon cyanide- no spill(file closed)
- May 1989- Mystic Seaport- Fuel oil tank failure
- February 1992- Mystic Seaport south parking lot- Car gas tank leak- spill cleaned.
- September 1993- Mystic Seaport Museum-Above ground tank failure- 150 gallons; contaminated soil removed; status listed as open.
- August 1995- 75 Greenmanville Ave.- 1 gallon antifreeze- spill closed.
- November 1998- Mystic Seaport- Stillman Building, 75 Greenmanville Ave, Removal of 2 USTs and contaminated soil; status listed as closed.
- October 2002- Kitchen Little- ½ gallon antifreeze, cleaned case closed.

These spills and leaking tanks are located south of the subject site and are not anticipated to impact the site. The Kitchen Little spill was small and cleaned up and is not anticipated to impact the subject property.

A specific written request was made to CTDEP regarding any hazardous waste manifest records that may be on file for the subject property; none were identified (see correspondence in Appendix C).

5.3 Municipal Environmental Regulatory Review

The Stonington Building Department has some old files for the subject property relating to approvals for a sign(July 1973) and use of building as woodworking and retail store(August 1977). They also had a tank removal permit dated June 11, 2008. This was issued to Kropp Environmental and pertains to the recently removed tank. The tank removal is discussed in Section 8.5.1.

6. Interviews

Information requested included knowledge or documentation regarding any past local, state, or federal environmental inspections of the site; any environmental correspondence, orders, violations or liens regarding the property; any past or ongoing releases of hazardous substances or petroleum products; or any other relevant information that would suggest the potential presence of a recognized environmental condition.

Mr. Fred Baumgarten, property owner , was contacted to inquire on the issues noted above. He had no knowledge of any environmental issues other than the UST that was recently removed from the site. He did provide me copies of previously prepared environmental reports for the property as discussed in Section 7.

7. Summary of Previous Environmental Reports

The following reports were provided by Mr. Fred Baumgarten and were reviewed in the preparation of this Phase I ESA. These reports are summarized below and copies are included in Appendix D. Previous site investigation data is summarized on Figure 3.

Phase I ESA, Catalyst Environmental Consulting, March 1995

The Phase I conclusions relative to environmental risks are summarized below.

- The presence of fill material of questionable quality including materials from the Rossie Mill. Analytical testing by Catalyst of exposed material from the “beach” indicated the presence of arsenic and lead in excess of CTDEP direct exposure criteria.
- A suspected UST onsite
- Former commercial and industrial uses of the site
- The presence of an above ground storage tank in the crawl space beneath the garage.
- The former Rossie Mill located directly upgradient of the site.
- The Mystic Seaport leaking underground storage tanks
- Arsenic and chromium were detected in a “beach” sample above CTDEP criteria.
- Total petroleum hydrocarbons were detected in a soil sample collected from below the tank in the “crawl space” below the garage floor above CTDEP criteria. *The soil was resampled by Paul Burgess, LLC and total petroleum hydrocarbons were not detected.*
- A soil sample was collected from the tunnel which contained total petroleum hydrocarbons above CTDEP criteria. The report stated that access to the tunnel was from the Rossie Mill structure and this sample was collected below the sidewalk in from of the subject site. It would appear that this sample was collected on State road property.

Phase II Field Investigation, Atlantic Environmental Services, Inc. November 1995

This Phase II included drilling 10 borings and two temporary wells. Five soils samples and two groundwater samples were collected. The soil results are summarized on Figure 3. Groundwater was analyzed for volatile organic compounds(VOCs), metals, and semivolatile organic compounds. None were detected above CTDEP criteria.

Letter Report for Environmental Sampling, TRC, January 2000.

This investigation included eight borings and three temporary groundwater monitoring wells. Soil and groundwater samples were collected for chemical analyses. A summary of the report findings follows:

- Trace levels of VOCs were found in soils and groundwater below CTDEP criteria.
- A groundwater sample collected from a location downgradient of the UST indicated the presence of petroleum hydrocarbons.
- Near surface soils to the west of the garage(boring B-6) were found to be impacted by petroleum hydrocarbons at concentration above CTDEP criteria. The source or extent is unknown.
- Fill at several sample locations contained polyaromatic hydrocarbons, possibly as a result of cinders or coal ash in the fill.
- Arsenic previously found in a soil sample from the river bank was not found to be present at high concentrations in any of the tested samples.
- Other than downgradient of the petroleum tank, significant impacts to the groundwater were not noted.

Paul Burgess, LLC conducted an independent evaluation of the chemical data developed by these investigations.

The CTDEP soil remediation goals under the Remediation Standard Regulations(RSRs) integrate two soil cleanup criteria: (1) Direct Exposure Criteria (DEC) to protect human health and the environment from risks associated with direct exposure to pollutants in contaminated soil; and (2) Pollutant Mobility Criteria (PMC) to protect groundwater quality from pollutants that migrate from the soil to groundwater. The site is classified as a GB groundwater area, therefore, the GB PMC apply.

Soils to which both criteria apply must be remediated to a level that is equal to the more stringent criteria. Residential DEC (RDEC) and separate commercial/industrial DEC (IDEC) have been established by CTDEP for most chemicals. The RDEC have been used to evaluate data at this site based on the land use. The DEC applies to soil up to 15 feet below ground surface. However, with the proper environmental land use restriction (ELUR) preventing disturbance, contaminated soil can remain 4 feet below grade or below pavement and 2 feet of sub-base material (clean fill).

The GB PMC apply only to soils above the seasonal high groundwater table. Past investigations at the site have reported the groundwater table to be approximately 3 feet bgs near the shoreline to about 6.5 feet below grade on the west side of the garage at B-6. The CTDEP RSRs also have an exemption for the PMC if the polluted fill is polluted only with coal ash, wood ash, coal fragments, asphalt pavement, or any other combinations. However, the fill can not be polluted with any volatile organic compounds to use this exemption.

Volatile organic compounds are present in this fill. This exemption would require further review and input from CTDEP.

Statistical evaluation of soil data is allowed under the RSRs as an alternative compliance measure. Data from soil boring B-6 was not included because it is too elevated to be used in the statistical analysis. The statistical evaluation is a calculation of the 95% upper confidence level of the arithmetic mean of all sample results within a release area. Because this site has been completely filled, the release area is considered the entire site for this calculation.

- Benzo(b)fluoranthene was detected above the RDEC(1000 parts per billion(ppb)) in sample B-2(0-1 feet bgs). A statistical evaluation of all other 0-4 feet soil samples analyzed for PAHs indicated compliance 675 ppb. Only 9 samples were available for the analysis which is less than what normally would be considered an adequate number of samples.
- Borings B-3(4-6) and GP-8(4-6) contained PAHs above the RDEC and the GB PMC. These samples are judged to be in compliance with the GB PMC because they are above the seasonal high water table. These samples are below 4 feet therefore they could be considered inaccessible with the proper environmental land use restrictions.
- Boring B-6 exceeds the RDCE and the GB PMC for TPH and PAHs. There are no alternative compliance methods available in the RSRs to achieve compliance.
- Arsenic was detected in Atlantic boring GP-10 at 24.2 parts per million(ppm); the CTDEP direct exposure criteria standard is 10 ppm. Catalyst in the Phase I collected a sample from the "beach" and analyzed it for metals. Arsenic was detected at 25 ppm and total lead at 510 ppm(CTDEP criteria 400 ppm). Based on the property line for the site, this beach sample may not have been collected from the subject property. All TRC sample results were well below CTDEP standards for arsenic and chromium. A total of 17 soil sampled have been analyzed for metals. A statistical evaluation was conducted and arsenic(7 ppm) and lead(96 ppm) were calculated to be below CTDEP criteria. The RSRs state that no sample used in the statistical evaluation shall be greater than twice the CTDEP criteria. Two arsenic samples (24.2 and 25 ppm) exceeded this requirement. CTDEP has allowed this deviation on a case by case basis.
- Total petroleum hydrocarbons were detected in a soil sample collected from below the tank in the "crawl space" below the garage floor above CTDEP criteria. The soil was resampled by Paul Burgess, LLC and total petroleum hydrocarbons were not detected.

The statistical calculations are provided in Appendix E.

8. Site Reconnaissance

The objective of the site reconnaissance is to inspect the subject property and accessible areas of adjacent properties to determine the presence or potential of a release of hazardous substances or petroleum products in order to identify recognized environmental conditions.

8.1 Inspection Personnel

The subject property was inspected on June 18, 2008 by Paul Burgess, P.E., LEP, of Paul Burgess, LLC. I was accompanied by Mr. Fred Baumgarten, property owner, during the site inspection. Site photographs are provided in Appendix F.

8.2 Building Description and Observations

8.2.1 Building Description

A residential home and a detached garage structure exist on the property. A swimming pool is located to the rear of the home. The residential home is two stories with a basement. The garage is one story wood framed structure with a concrete floor. On the south side of the garage a piece of plywood covers a subgrade area that contained a tank, which appeared to be associated with steam heat. The tank top (nut) was opened and the tank appeared empty with no chemical odor. The garage was once part of the Rossie Velvet Mill and the boiler was located across Greenmanville Avenue from the garage. The tank has been subsequently removed by Mr. Baumgarten. On the east central portion of the garage is a hole (approximately 12 inches in diameter) that extends to the old tunnel under the road (old tunnel for coal transport as previously discussed). Various piping (presumed heating) were visible in the tunnel.

8.2.2 Building Heating

The residential home is heated by an oil fired furnace located in the basement. The garage is not heated. The Sanborns suggest it was once heated by steam from the Rossie Mill.

8.2.3 Observed Interior Stains or Corrosion

Not applicable.

8.2.4 Observed Interior Drains or Sumps

There was one floor drain observed in the center of the garage floor. The drain was inspected and no oily residue was noted. The specific discharge location of the drain is unknown.

8.2.5 Wastewater Disposal

Town of Stonington records indicate the home was connected to sewer in 1973. Stonington staff said it was likely that prior sewer discharge was to the Mystic River.

8.3 Site Description and Observation

8.3.1 Site Description

Assessor's records indicate that parcel is 1.5 acres. The site is generally grassed and extends west to the Mystic River.

8.3.2 Pits, Ponds, Lagoons, Odors, Stressed Vegetation

None observed.

8.3.3 Stained Soil or Pavement

There were no exterior stained soil areas apparent.

8.3.4 Solid Waste

There was no significant solid waste visible on the parcels.

8.4 Oil/Chemical Storage

8.4.1 Current

There was no oil or chemical storage observed at the site, other than routine household chemicals and paints.

On old oil can storage rack and some empty quart size oil cans were stored in the garage; no leakage was observed. An old gas dispenser was stored inside the garage. It may have been associated with the 500 gallon gasoline tank that existed below an old structure (gasol eng) north of the garage.

8.4.2 Past Chemical Storage/Waste Generation

It appears that the Rossie Mill used the subject site for coal storage and for disposal of coal ash and slag from the boiler. The garage was original used for coal storage and then vehicle storage. Sanborns and City Directories indicate that the garage was used for "auto painting" in the late 1950s and early sixties, although the property owner did not recall that use.

8.5 On-Site Storage Tanks

8.5.1 Underground Storage Tanks (UST)

A map “Map showing easement acquired from Mystic River Realty Corp. by State of Connecticut dated January 1980 shows a “filler pipe” south of the residential structure. It is unclear if this was an underground storage tank. Mr. Baumgarten stated he was not aware of an underground storage tank in this area.

A 500-gallon steel UST was removed from the site on June 18, 2008 by Kropp Environmental Contractors who was contracted by Mr. Baumgarten. It was located adjacent and north of the garage building below a former structure indicated on the Sanborns as “gasol eng”.

The fuel lines and tank were removed. The tank was rusted but did not appear to have any apparent holes. Photographs are provided in Appendix D. The ground below the tank had no petroleum odors. The tank was located below the previous structure and directly to the north and east of the tank grave were concrete foundation walls. Five soil samples were collected and analyzed for aromatic volatile organics, and total lead synthetic precipitation leachability procedure (SPLP) lead in accordance with CTDEP tank closure requirements. The two tank base samples were also analyzed for extractable total petroleum hydrocarbons. Two sidewall samples were collected where no concrete foundation walls existed and two base samples were collected. Also, one sample from below the gas lines was collected for chemical analysis. No ETPH, aromatic volatile organics or lead was present above CTDEP standards. Low levels of aromatic VOCs were detected but at levels that would not suggest a significant release. Chemical analytical results are provided in Appendix G.

8.5.2 Aboveground Tanks

A 275-gallon fuel oil tank was noted on the basement floor level of the residential home; no evidence of a release was observed but the tank was in an enclosed portion of the basement.

8.6 Polychlorinated Biphenyls (PCBs)

There were no transformers or hydraulic equipment observed on site.

9. Limitations

This ESA was conducted and prepared on behalf of and for the exclusive use of Mr. Frederick Baumgarten and his counsel. No other entity may rely upon the results of the ESA or contents of this report for any reason or purpose whatsoever.

The purpose of this ESA is to evaluate whether hazardous substances or petroleum products may be present in the environment at the site. The opinion that is provided is based on the information described in this report. Future investigations or information that was not available to Paul Burgess, LLC may result in modification of the findings of this report.

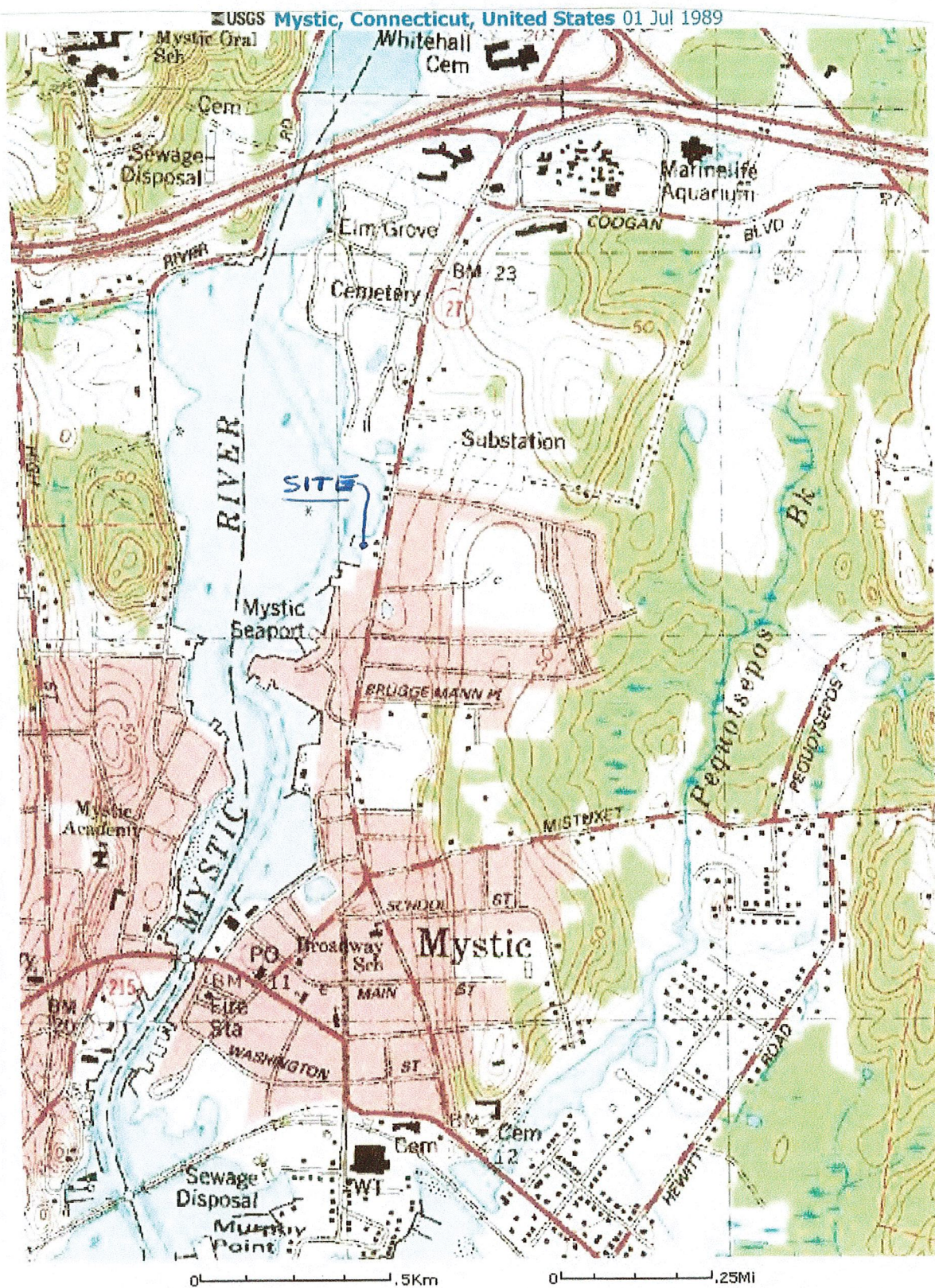
In preparing this report, Paul Burgess, LLC relied on file information provided by state and local officials, and information and representations made available to Paul Burgess, LLC at the time of the report. To the extent that such information is incomplete or inaccurate, Paul Burgess, LLC is not responsible.

Paul Burgess, LLC performed this ESA in accordance with generally accepted practices of engineers and/or scientists providing similar services at the same time, in the same locale, and under like circumstances. No other warranty, expressed or implied, is made as to the professional opinions included by Paul Burgess, LLC in this report. The report does not address 40CFR Part 312.29, *The relationship of the purchase price to the value of the property, if the property was not contaminated*. The buyer should consider the applicability of this provision.

References

1. *Water Quality Classification Map of Thames River, Pawcatuck River, and Southeast Coastal Basins, Connecticut*. Connecticut Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, February 1993.

Figures

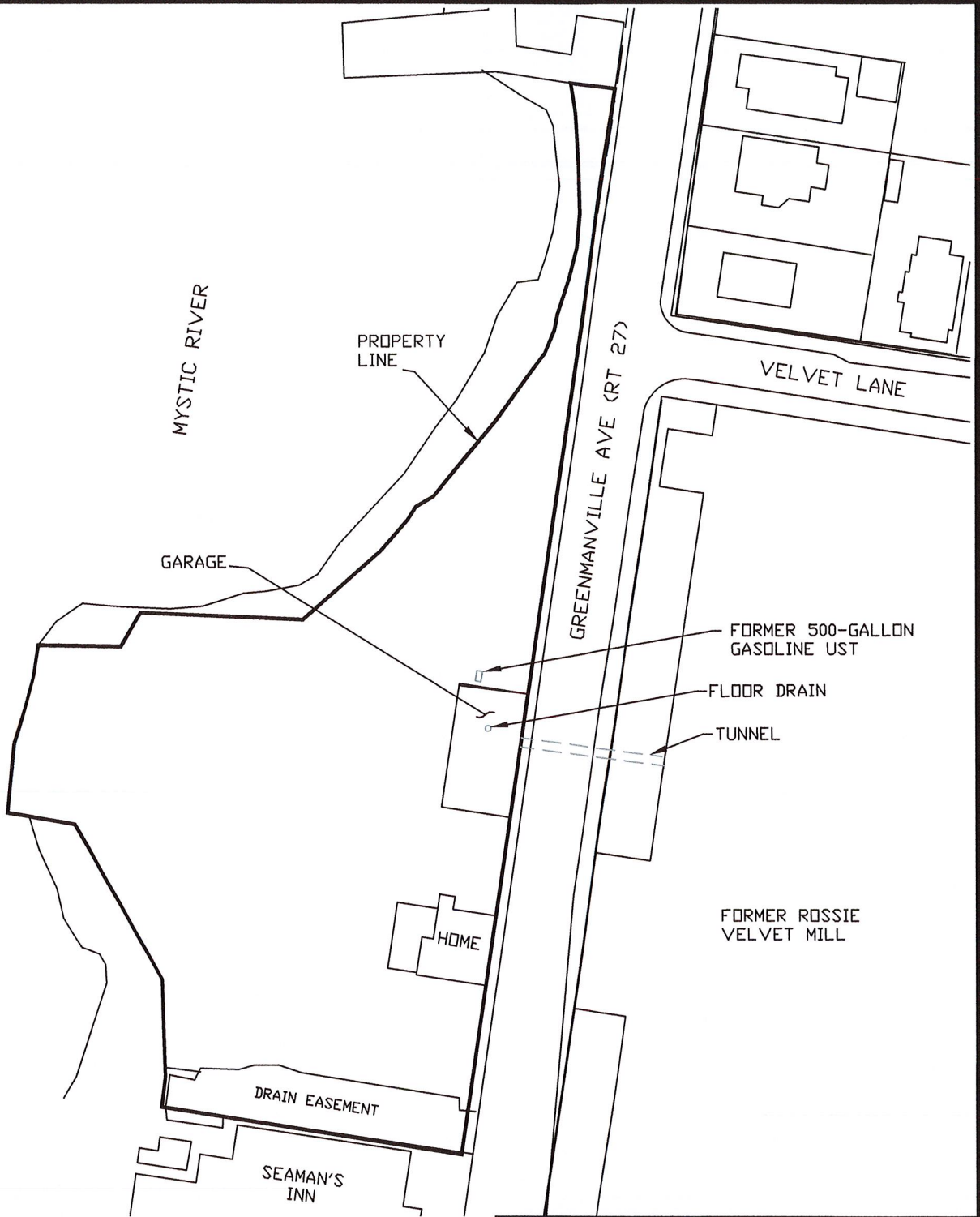


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ENGINEERING & PERMITTING

FIGURE 1

SITE LOCATION MAP



NOTE: BASE MAP FROM TOWN OF STONINGTON ASSESSOR'S MAP.



PAUL BURGESS, LLC

ENVIRONMENTAL CONSULTING,
ENGINEERING & PERMITTING

FIGURE 2

SITE LOCATION:

SITE PLAN

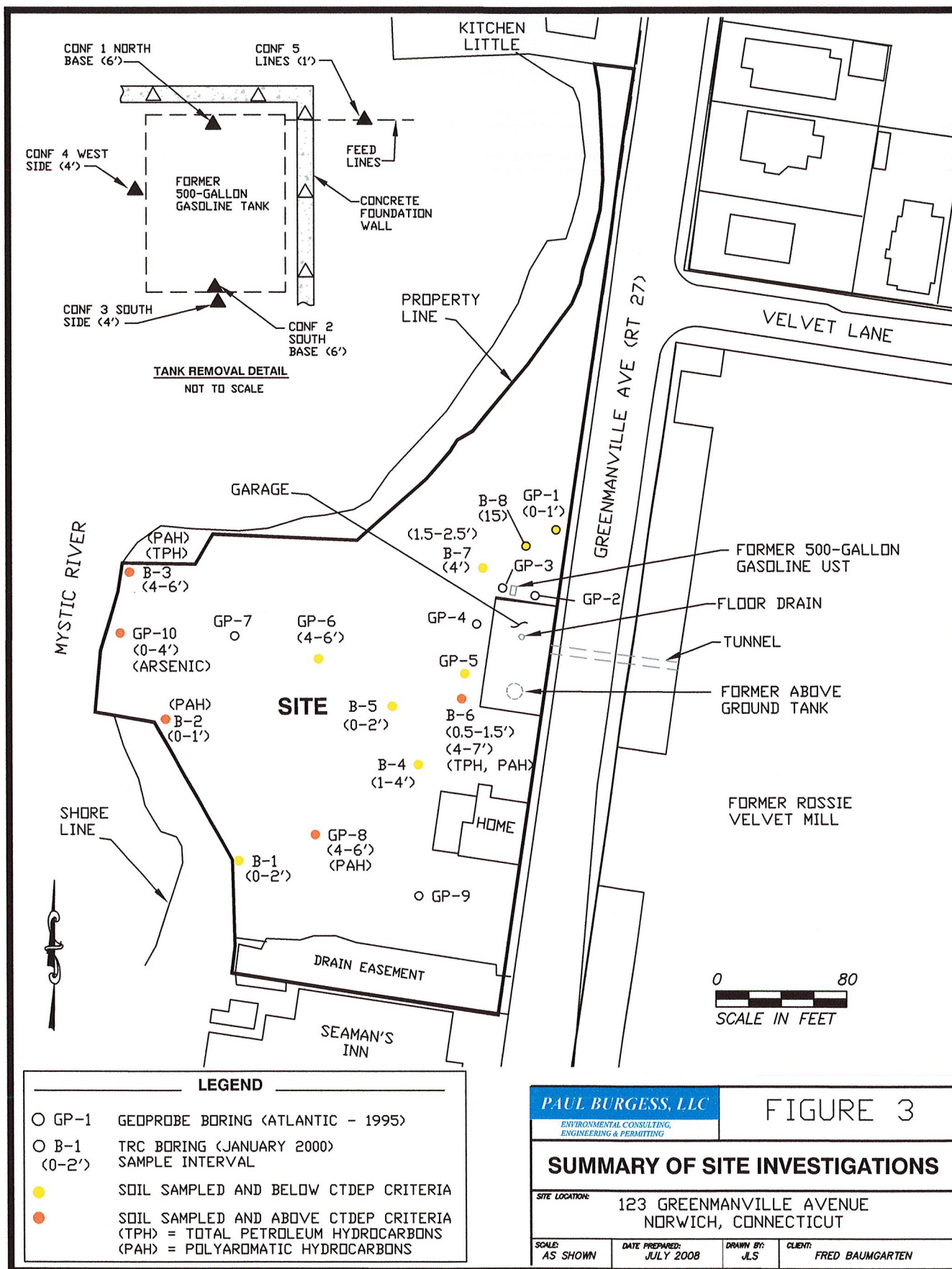
123 GREENMANVILLE AVENUE
MYSTIC, CONNECTICUT

SCALE:
AS SHOWN

DATE PREPARED:
JULY 2008

DRAWN BY:
JLS

CLIENT:
FRED BAUMGARTEN



Appendix A

Assessor's Map and Field Card

Powered by Vision Appraisal Technology



MBLU : 172/ 1/ 1/ 1/
Location: 123 GREENMANVILLE AVE
Owner Name: BAUMGARTEN GEORGE A & FREDERIC H
Account Number: 00046800

Parcel Value

Item	Appraised Value	Assessed Value
Buildings	107,600	75,300
Xtra Bldg Features	0	0
Outbuildings	10,300	7,200
Land	569,600	398,800
Total:	687,500	481,300

Owner of Record

BAUMGARTEN GEORGE A & FREDERIC H
 925 CANAL ST
 BRISTOL, PA 19007

Ownership History

Owner Name	Book/Page	Sale Date	Sale Price
BAUMGARTEN GEORGE A & FREDERIC H	305/ 809	11/14/1988	0
MYSTIC RIVER REALTY CORP	145/ 517	11/27/1963	0

Land Line Valuation

Size	Zone	Neighborhood	Appraised Value	Assessed Value
1.50 AC		0700	569,600	398,800

Construction Detail

Building # 1		
STYLE Conventional	Grade: Average	Stories: 2 Stories
Occupancy 1	Exterior Wall 1 Clapboard	Exterior Wall 2 Wood Shingle
Roof Structure: Gable/Hip	Roof Cover Asph/F Gls/Cmp	Interior Wall 1 Drywall/Sheet
Interior Flr 1 Inlaid Sht Gds	Interior Flr 2 Hardwood	Heat Fuel Oil
Heat Type: Hot Water	AC Type: None	Total Bedrooms: 00
Total Bthrms: 0	Total Half Baths: 0	

Building Valuation

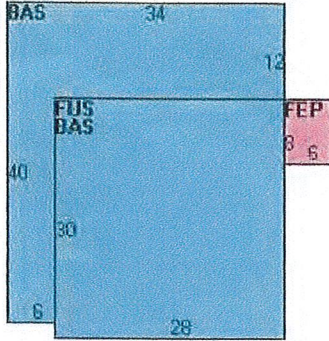
Living Area: 2,256 square feet	Replacement Cost: 179,390	Year Built: 1945
Depreciation: 40%	Building Value: 107,600	

Extra Features

Code	Description	Units	Appraised Value
No Extra Building Features			

Outbuildings

Code	Description	Units	Appraised Value
FGR1	GARAGE-AVE	1290 S.F.	10300

Building Sketch**Subarea Summary**

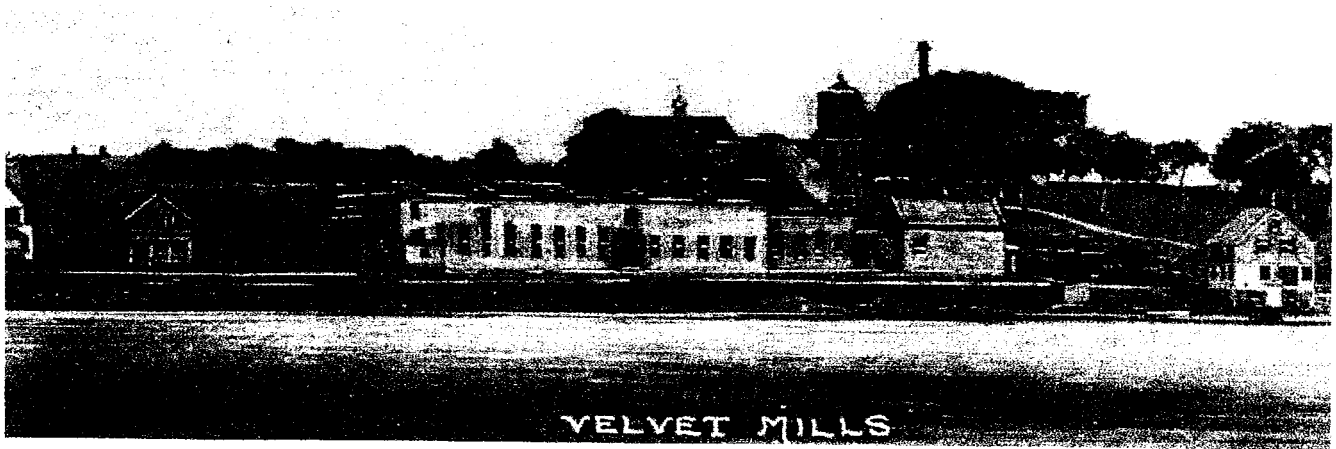
Code	Description	Gross Area	Living Area
BAS	First Floor	1416	1416
FEP	Porch, Enclosed	48	0
FUS	Upper Story, Finished	840	840

Appendix B

Site History Information



BAILEY 1879



213 Richmond

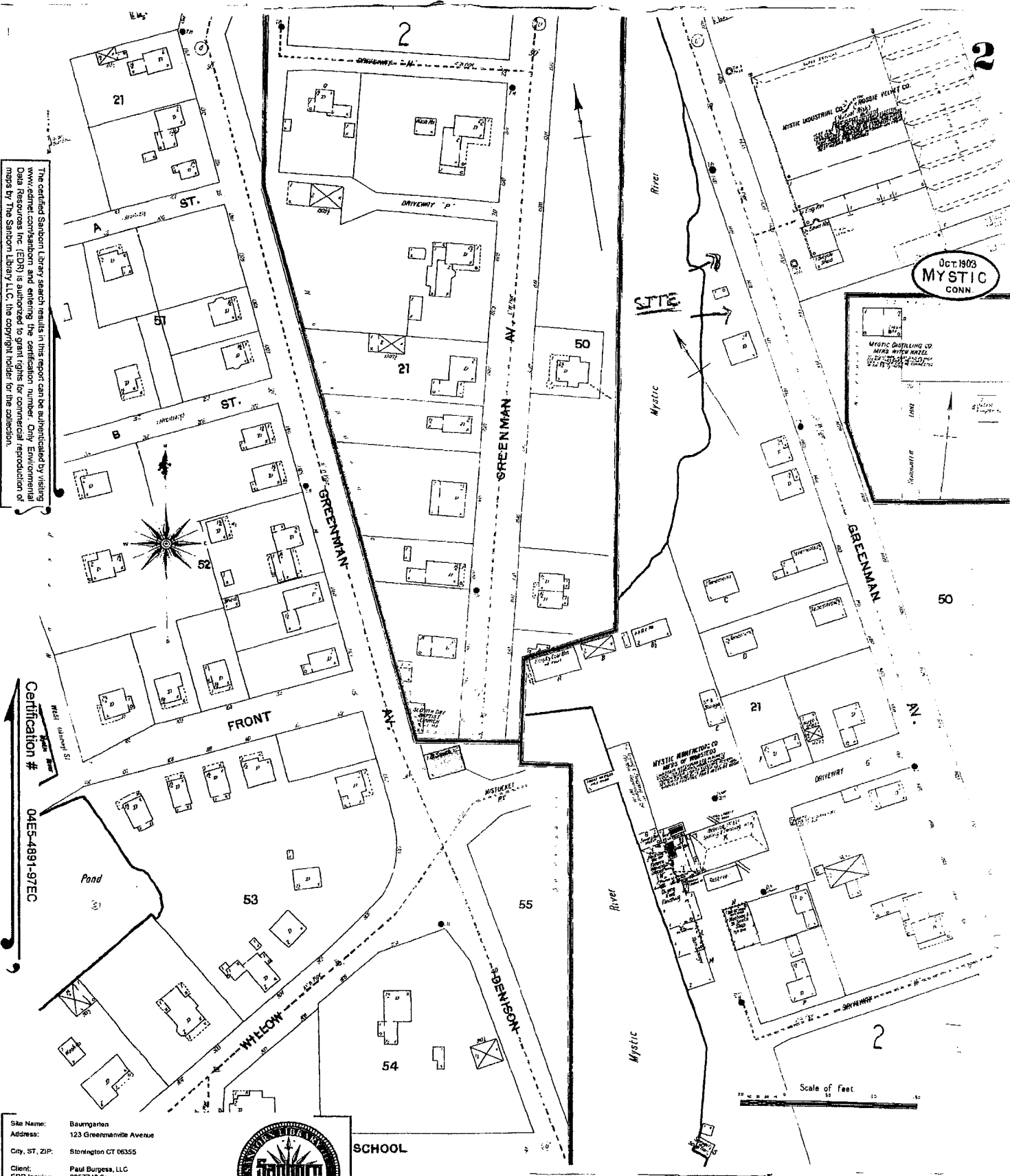
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Certification # 04ES-4891-87EC

Site Name: Baumgarten
Address: 123 Greenmanville Avenue
City, ST, ZIP: Storington CT 06355
Client: Paul Burgess, LLC
EDR Inquiry: 2257740.2s
Order Date: 7/1/2008 10:50:16 AM
Certification #: 04ES-4891-87EC

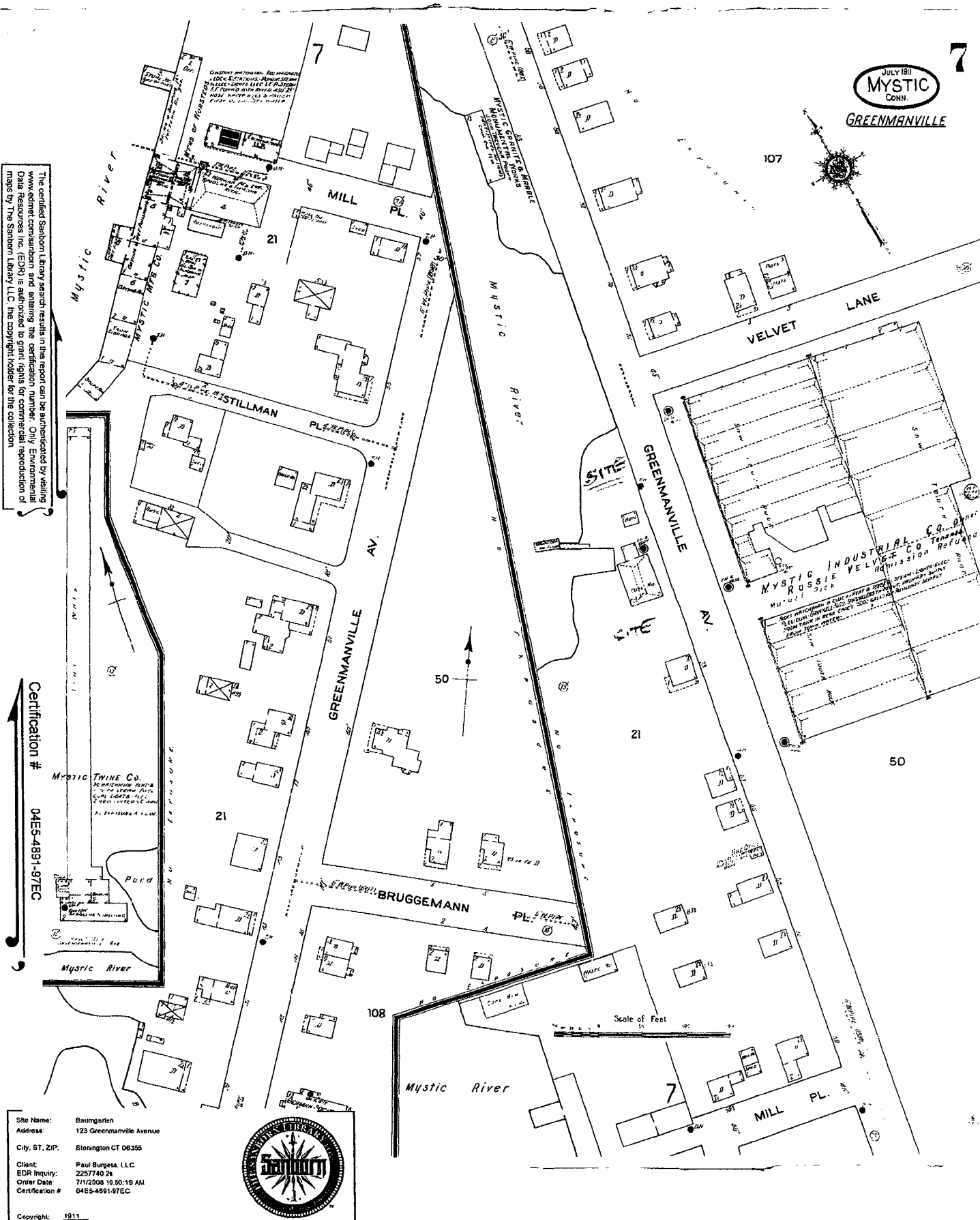


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Certification # 04E5-4891-97ECC

Copyright: 1911

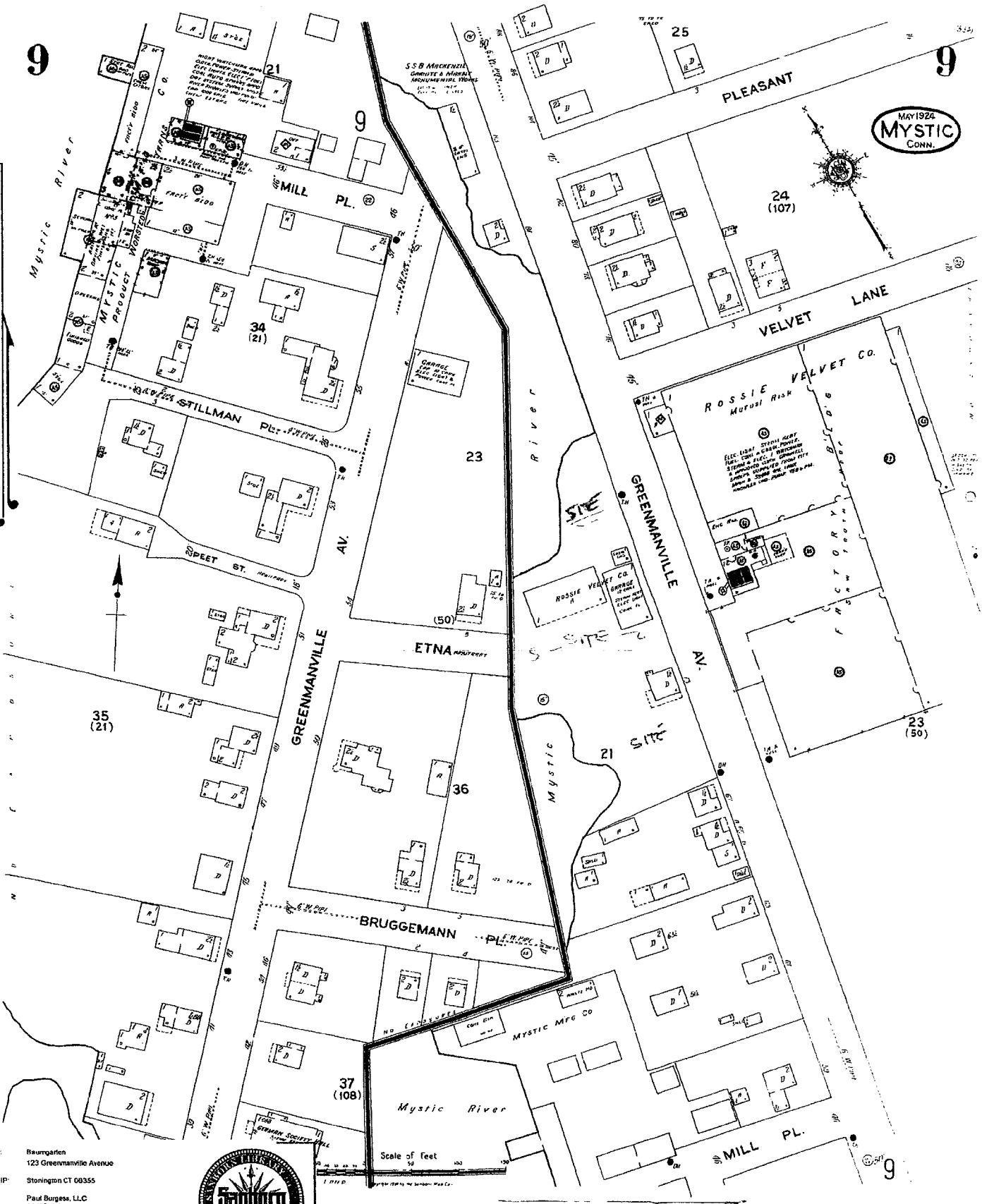


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Order Date: 7/1/2008 10:50:19 AM
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MAY 1924
MYSTIC
CONN.

9

15 9

CONN. 505



GREENMANVILLE

PLEASANT

VELVET LANE

ROSSIE VELVET CO.

GREENMANVILLE

SITE

ROSSIE (ETNA)

GREENMANVILLE

BRUGGEMANN

Mystic River

MILL PL.

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Scale of Feet. 0 50 100

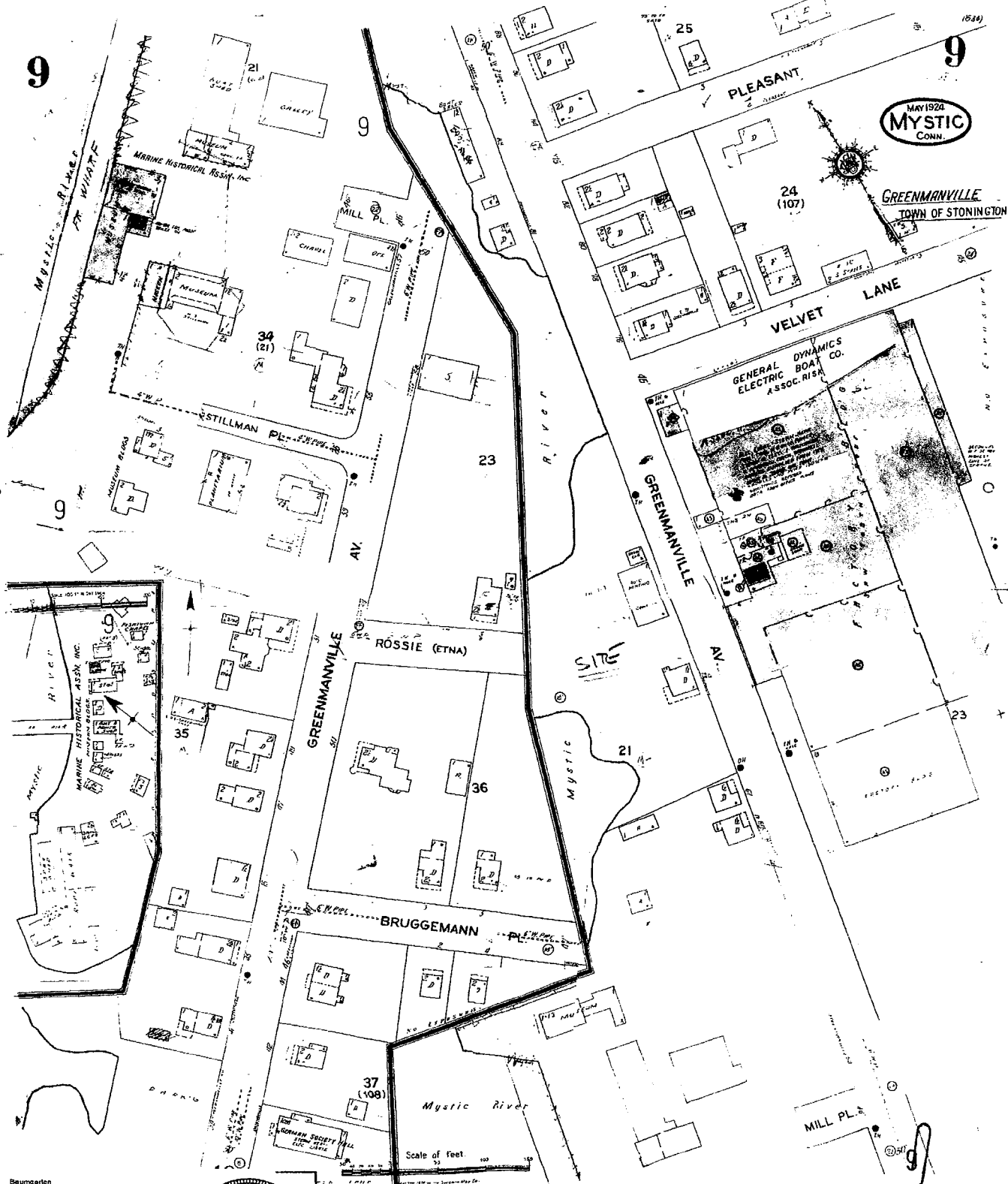
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City, ST, ZIP: Stonington CT 06355
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Certification #: 04E5-4891-97EC

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Appendix C

Regulatory Record Search Information