Quality Assurance Project Plan Addendum
Phase III Environmental Site Assessment
Former Textile Mill

28-36 Bridge Street
Willimantic, Connecticut

March 2010
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FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill
146 Hartford Road
Manchester, Connecticut 06040

1.0 TITLE AND APPROVAL PAGE

Document Title	**QUALITY ASSURANCE PROJECT PLAN ADDENDUM PHASE III ENVIRONMENTAL SITE ASSESSMENT FORMER TEXTILE MILL 28-36 BRIDGE STREET WILLIMANTIC, CONNECTICUT**
Prepared by:	**FUSS & O'NEILL, INC. 146 HARTFORD ROAD MANCHESTER, CONNECTICUT 06040**
Telephone Number:	860-646-2469
Project Director:	Robert S. Potterton, Jr., LEP, CPG
Signature:	
Project Manager:	Robert R. Kovach, II, LEP, CPG
Signature:	
QA Officer:	Marilee D. Gonzalez
Signature:	
EPA Project Manager:	Jessica Dominguez
Signature:	
EPA QA Chemist:	Nora Conlon
Signature:	

QUALITY ASSURANCE PROJECT PLAN ADDENDUM
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONN.

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* Indicates sections, tables, figures, and appendices incorporated within the Generic Quality Assurance Project Plan for the State of Connecticut Department of Economic and Community Development Brownfields Assessment Program Hazardous Substance and Petroleum Sites.

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2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The following is a list of key personnel responsible for management and implementation of this Brownfields Phase III Environmental Site Assessment (ESA). Any questions regarding project status should be directed to the principal contact. A project management organization chart is provided as Figure 2-1.

DECD Principal Contact:	Brian A. Dillon Project Manager, Connecticut Department of Economic and Community Development 860-270-8156 brian.dillon@po.state.ct.us
Willimantic Whitewater Partnership Principal Contact:	Dan Mullins President, Willimantic Whitewater Partnership, Inc. 860-617-8287 willimanticwhitewater@charter.net
USEPA Project Manager:	Jessica Dominguez USEPA – Region I 617-918-1429 dominguez.jessica@epa.gov
Fuss & O'Neill Project Director:	Robert S. Potterton, Jr., CPG, LEP Fuss & O'Neill, Inc. 860-646-2469 ext. 5511 BPotterton@FandO.com
Fuss & O'Neill Project Manager/ Health and Safety Manager:	Robert R. Kovach, II, CPG, LEP Fuss & O'Neill, Inc. 860-646-2469 ext. 5248 BKovach@FandO.com
Quality Assurance Officer:	Marilee D. Gonzalez Fuss & O'Neill, Inc. 860-646-2469 ext. 5350 MGonzalez@FandO.com
Fuss & O'Neill Project Hydrogeologist/ Health and Safety Supervisor/ Project Data Management:	Marilee D. Gonzalez Fuss & O'Neill, Inc. 860-646-2469 ext. 5350 MGonzalez@FandO.com
Analytical Laboratories:	Bobbi Aloisa Phoenix Environmental Laboratory 888-642-4321 bobbi@phoenixlabs.com

3.0 INTRODUCTION

The following Quality Assurance Project Plan (QAPP) Addendum provides a framework for a proposed Phase III Environmental ESA to be conducted on behalf of the State of Connecticut Department of Economic and Community Development (DECD) on a parcel located at 28-36 Bridge Street in Willimantic, Connecticut (the Site). In June 2006, Fuss & O'Neill, Inc. submitted a Generic QAPP (RFA #06247) document to the Quality Assurance Unit of the United States Environmental Protection Agency (USEPA) for the Capitol Region Council of Governments Metro-Hartford Community-Wide Brownfields Assessment Program. The format for that document was developed from the USEPA's Brownfields Quality Assurance Project Plan Guidance Document. The Generic QAPP defines the overall field and laboratory procedures to be used by the Fuss & O'Neill, Inc. (Fuss & O'Neill) for Brownfields Assessment Program activities. The Generic QAPP contains several attachments, which include field sampling Standard Operating Procedures (SOPs), field laboratory SOPs, and fixed laboratory SOPs. The Generic QAPP was approved by the USEPA on June 20, 2006. The format for this site-specific QAPP Addendum closely follows the generic document previously submitted to the USEPA. This QAPP Addendum describes scope activities for the 28-36 Bridge Street parcel only. The Site does not include adjacent and nearby parcels.

3.1 Site Description and History

The subject Site, 28-36 Bridge Street, consists of an approximately 3.45-acre parcel located on the east side of Bridge Street in a commercial zone of Willimantic, Connecticut (Windham County). A portion of a United States Geological Survey (USGS) topographic map showing the subject Site location is provided as Figure 3-1. The Site is owned by Willimantic Whitewater Partnership Incorporated and contains a former gasoline station office building (Figure 3-2). The office building and a former four-bay garage building were constructed in 1962 and 1964, respectively. The garage was reportedly used as a car wash. Cooperative Oil and various gasoline stations occupied the Site from 1964 until 1988. Prior to the 1940s, the property was occupied by a cotton mill that was constructed in the 1820s and several residential structures. The Site is accessed from Bridge Street by two curb cuts. The northerly cut accesses the former gasoline and heating oil business area including a paved parking and driveway area and two pump islands. The southerly curb cut accesses the area of the former four-bay garage building and gravel/unpaved parking and driveway areas. An unpaved driveway extends around the rear (east side) of the office building. An unpaved area extends eastward along the northern property boundary, with a lightly wooded area that extends along the western bank of the Willimantic River.

The topography of the Site is relatively flat, with the exception of steep downward slopes on the western bank of the Willimantic River.

3.2 Project Definition

This section provides a summary of previous environmental investigation reports that contain descriptions of areas of concern (AOCs), locations of AOCs, and a summary of constituents of concern.

3.2.1 Previous Environmental Investigations and Areas of Concern

Pinecrest Environmental Services, LLC (Pinecrest) was retained by Willimantic Whitewater Partnership, Inc. to complete a Phase I/Phase II ESA for the property located at 28-36 Bridge Street in December 2006. Six areas of the Site were investigated. These areas have been designated as AOCs by Fuss & O'Neill, Inc. and are as follows:

- Historical Textile Mill Operations and Fill Materials (AOC-01)
- Former Gasoline Dispensing Activities (AOC-02)
- Gasoline Underground Storage Tank Area (AOC-03)
- Fuel Oil Distribution Activities (AOC-04)
- 20,000-Gallon Fuel Oil Underground Storage Tank (AOC-05)
- Former Car Wash Building (AOC-06)

The purpose of the Phase II field investigation was to assess the potential presence of soil and/or groundwater contamination at these AOCs. The investigation consisted of the completion of a ground penetrating radar survey, the excavation of 13 test pits (TP-1 through TP-13), the drilling of 20 exterior soil borings (GP-1 through GP-20), the installation of two monitoring wells (MW-1 and MW-2), and the collection of five surficial soil samples (SS-01 through SS-05). Soil and groundwater samples were collected and analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, extractable total petroleum hydrocarbons (CTETPH), polychlorinated biphenyls (PCBs) by EPA Method 8082, the heavy metals antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc by mass analysis and synthetic precipitation leaching procedure (SPLP), and/or polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270C.

Sampling data from the investigation indicated that soil contamination is present in excess of Connecticut Department of Environmental Protection (CTDEP) criteria at several areas of the Site including historic fill materials and the areas of the former and current Site USTs and heating oil fueling area. Pinecrest recommended that a Phase III investigation be conducted to delineate the vertical and horizontal extent of contamination prior to implementing a remedial action plan for the Site.

Based on groundwater results, Pinecrest indicated that it was unlikely that groundwater remediation would be required at the Site, although the installation of additional monitoring wells and quarterly groundwater monitoring would be required to confirm this assumption and to achieve groundwater compliance.

Pinecrest concluded that for the Site to achieve compliance with the CTDEP Remediation Standard Regulations (RSRs) shallow soil (0-4 feet) in areas of contamination would need to be addressed and an Environmental Land Use Restriction (ELUR) limiting deeper soil from being disturbed would be required. Alternative SPLP analysis could potentially achieve compliance in some or all areas. The construction of an engineering cap and/or building could also be used in some areas to achieve compliance.

As part of a subsequent review of the Phase I/II site characterization data during Phase III scope development, Fuss and O'Neill identified the locations of a historical "waste house" (AOC-07) and a former boiler house (AOC-08) as additional AOCs.

3.2.2 Constituents of Concern

Based on Fuss & O'Neill's experience with similar sites and a review of available documentation pertaining to historical and current operations at the Site, the following general classes of constituents of concern (COCs) were identified:

- *Volatile organic compounds (VOCs)* associated with petroleum products
- *Polynuclear aromatic hydrocarbons (PAHs)* associated with petroleum products
- *Petroleum hydrocarbons* associated with petroleum products
- *Polychlorinated biphenyls (PCB)* associated with used oils, transformer dielectric fluid and building materials
- *Metals* associated with fill materials, gasoline, and automotive fluids

The analytical methods presented in the table below were selected to evaluate the AOCs. These methods were selected because they are capable of achieving analytical detection limits less than the baseline numeric RSR clean-up criteria applicable to the Site.

Constituent of Concern (COC)	Analytical Method
Aromatic and halogenated VOCs	USEPA Method 8260
Polynuclear aromatic hydrocarbons	USEPA Method 8270
Petroleum hydrocarbons	Connecticut ETPH Method
PCBs	USEPA Method 8082
RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)	USEPA Methods 6010, 7470, 7471

3.3 Plan Objective

Fuss & O'Neill will conduct a Phase III Environmental Site Assessment (ESA) of the Site on behalf of DECD. The Phase III ESA is being conducted to characterize areas of environmental concern (AOCs) related to historical textile mill operations or subsequent filling of the Site identified during previous investigations and to make release determinations at areas of the Site where investigations have not yet been conducted. This will enable an evaluation to be made as to the potential impacts to human health or the environment of contaminants at the Site and/or potential liabilities or risk that may impact redevelopment of the property as a recreational area. Our Phase III assessment does not include evaluation of AOCs related to historical gasoline dispensing and fuel oil distribution activities on the Site, as specified by DECD. A site plan showing proposed Phase III sampling locations is attached as Figure 3-2.

The Phase III ESA will be conducted in general conformance with the Site Characterization Guidance Document published by the CTDEP September 2007 and will meet the requirements for projects funded under the USEPA Brownfield Site Assessment Grant program.

As part of developing the proposed Phase III ESA Scope of Work, Fuss & O'Neill reviewed the March 2007 Phase I/II ESA report prepared by Pinecrest Environmental Services, LLC. Identification of historical activities, including areas requiring investigation and the locations of previous sample points are based solely on information provided in this report or by DECD. Upon completion of our review, Fuss & O'Neill identified four AOCs at the Site related to historical textile mill and/or vehicle maintenance activities on the Site. Release determination and/or characterization sampling is proposed in each of these areas as part of our Phase III Scope of Work. Proposed activities at each of the four AOCs are discussed below.

AOC-01: Historical Mill Operations and Fill Areas

Phase II activities at the Site in 2007 identified fill materials across much of the southern and eastern portions of the Site, including the presence of ash and soil containing elevated concentrations of polynuclear aromatic hydrocarbons (PAHs) in the SB-17 boring beneath the south-central portion of the Site. Given the presence of fill materials over a significant portion of the Site to depths 12 or more feet below grade, potential excavation of this material as a remediation strategy to achieve RSR compliance, if necessary, is deemed impractical. More feasible alternatives include a potential land use restriction or use of statistical or other compliance options available under the RSRs. However, in order to implement alternative compliance strategies, collection of additional data is necessary to characterize the fill material and/or release(s) associated with historical mill operations.

Fuss & O'Neill proposes to advance six soil borings in areas where former mill buildings and/or fill materials are likely to be present to supplement previous sampling. Soil borings will be advanced to 15 feet below grade or to bedrock, whichever is shallower. One soil sample will be collected from within the top four feet of soil at each sampling location. One or more deep soil samples will be collected for potential contingent analysis. The shallow soil sample from each boring will be analyzed for ETPH, VOCs, PAHs, and for total RCRA 8 metals. Samples containing elevated concentrations of one or more target metals will additionally be analyzed for leachable metals using the Synthetic Precipitation Leaching Procedure (SPLP) to evaluate compliance with the RSR pollutant mobility criteria (PMC). If organic target analytes or elevated concentrations of metals are detected in a shallow sample, the deeper sample from that location will be analyzed for the analyte or analyte group of interest. The holding times for extraction or analysis of each of the parameters on the proposed analyte list are at least 14 days from sample collection. The Project Manager will ensure that selection and analysis of contingent samples is accomplished within the time window between the standard laboratory turnaround time of five business days anticipated for this project and holding time deadlines for analytes of interest. One of the proposed borings located downgradient of the area of fill will be completed as an overburden monitoring well. Well construction details are discussed below.

AOC-06: Former Car Wash Building

A former building south of the existing service station office building on the Site was reportedly used as a car wash during operation of the gasoline station, and subsequently was used for storage and apparent unauthorized vehicle service activities until its demolition within the past

two years. Previous sampling conducted beneath the floor slab of the former building and along the north side of the former building identified elevated concentrations of arsenic, lead, and mercury in shallow soil. Proposed Phase III activities in this area are designed to delineate the extent of identified metals exceedances and rule out the presence of petroleum- or VOC-related impacts to soil.

Fuss & O'Neill proposes to advance four soil borings in this area to 15 feet below grade, or to the bedrock surface, whichever is shallower. Samples will be collected from each boring within the top four feet of soil. A deeper sample will also be collected from each location and held for potential contingent analysis. The shallow soil sample in each boring will be analyzed for ETPH, VOCs, and for total RCRA 8 metals (i.e. arsenic, barium, cadmium, chromium, mercury, lead, selenium, and silver). Selected samples exhibiting concentrations indicative of a release of one or more of the target metals will additionally be analyzed for leachable metals to evaluate compliance with the PMC. Selection and analysis of contingent analytes will be accomplished using the same protocol as for the AOC-01 samples.

AOC-07: Historical Waste House

Historical Sanborn fire insurance mapping for the Site indicated the past presence of a "waste house" at the southwestern corner of the Site, presumably associated with the textile mill. No information regarding the types of wastes stored within the building was noted, which leaves open the potential that hazardous substances may have been stored there. This area was not investigated as part of the previous Phase I/II ESA.

Fuss & O'Neill proposes advancement of four soil borings in the area of the historical waste house to a depth of 15 feet below grade, or to the bedrock surface, whichever is shallower. This sampling is designed to determine if there is evidence of a contaminant release and if it is associated with the Historical Waste House. One of the four soil borings will subsequently be completed as a monitoring well. Samples will be collected from each boring within the top four feet of soil. A deeper sample will also be collected from each location and held for potential contingent analysis, if necessary. The shallow soil sample in each boring will be analyzed for ETPH, VOCs, and for total RCRA 8 metals. Samples exhibiting concentrations indicative of a release of one or more of the target metals will be analyzed for leachable metals to evaluate compliance with the PMC. Selection and analysis of contingent analytes will be accomplished using the same protocol as for the AOC-01 samples.

AOC-08: Former Boiler House Area

Historical Sanborn fire insurance mapping for the Site showed that a boiler house associated with the former textile mill was located on the northeastern portion of the Site. Sampling conducted as part of the previous Phase I/II ESA did not adequately characterize this portion of the Site. Based on the use of coal-fired boilers and presumed operation of associated mechanical systems, the potential exists that coal ash, oils, and/or other hazardous substances may have been used or stored in the area of the former boiler house, and that associated releases may have occurred due to spills, leaks, or filling activities.

Fuss & O'Neill proposes advancement of five soil borings in the area of the former boiler house to a depth of 15 feet below grade, or to the bedrock surface, whichever is shallower. This sampling is designed to determine if there is evidence of a contaminant release from the former boiler house. Samples will be collected from each boring within the top four feet of soil. A deeper sample will also be collected from each location and held for potential contingent analysis. The shallow soil sample in each boring will be analyzed for ETPH, PAHs, PCBs, and for total RCRA 8 metals. Samples exhibiting concentrations indicative of a release of one or more of the target metals will be analyzed for leachable metals to evaluate compliance with the PMC. Selection and analysis of contingent analytes will be accomplished using the same protocol as for the AOC-01 samples.

3.4 Data Quality Objectives

The concentration of the COCs in the soil will be evaluated on a preliminary basis relative to State remediation standards. The Connecticut RSRs, sections 22a-133k-1 through -3 of the Regulations of Connecticut State Agencies were adopted on January 30, 1996. The RSRs contain procedures to evaluate whether actions (e.g., remediation or institutional controls) will be required to abate identified releases of hazardous substances and hazardous waste.

The RSRs require that the nature and extent of release areas be fully characterized prior to making final determinations with respect to RSR compliance. Because the property has no Environmental Land Use Restrictions and is located in a GB-classified groundwater area, comparisons will be made to the following RSR criteria:

Soil - Residential (Res) and Industrial/Commercial (I/C) Direct Exposure Criteria (DEC) and baseline GB PMC. The RSR Standards for Soil Remediation (RCSA Section 22a-133k-2) require that soil that has been polluted as a result of a release of hazardous waste or substance be remediated to meet the DEC to protect against the effects of human contact or ingestion of contaminants. Soil must also meet the PMC, which are intended to prevent impacts to groundwater which could result from leaching of contaminants in soil.

The RSRs also define specific alternatives to strict compliance with the baseline numeric DEC and PMC by including self-implementing options, exceptions, and variances. These alternatives include environmental isolation of the contamination (environmentally isolated soils), rendering the contamination inaccessible (inaccessible soils), and institutional or engineered controls. Variances exist for areas covered by widespread polluted fill or for soils that exclusively contain coal, wood ash or asphalt fragments.

Based on the Site's location in a GB-designated area, the GB PMC apply to any polluted soils that might be present at the site. Regardless of the Site's use, the ResDEC apply to all properties located in the State of Connecticut unless an ELUR is executed on the Site's land records indicating that the parcel can only be used for industrial/commercial purposes.

Groundwater – RSR Surface Water Protection Criteria (SWPC) and the proposed Res and I/C Volatilization Criteria (VC), or background conditions if the Site's groundwater has been

affected by an off-site source of contaminants. Updated Res and I/C VC have been proposed by the CTDEP, and are currently being enforced by policy, pending formal revision of the RSRs.

The SWPC are applicable to any groundwater which ultimately discharges to a surface water body and are designed to be protective of aquatic organisms. For any environmental investigation, all groundwater in Connecticut is inferred to ultimately discharge to a surface water body.

The VC represent concentrations of volatile organic compounds above which adverse indoor air quality impacts may occur. Based on current regulations, the VC are considered for areas where groundwater is within 15 feet of the ground surface or lowest occupied level of a structure and/or within 15 feet of a structure intended for human occupancy. However, in March 2003, the CTDEP proposed revisions to the VC. The proposed revisions increase compliance depth from 15 feet to 30 feet below grade and specify risk-based compliance criteria for several compounds. Although the proposed criteria have not yet been promulgated as regulation, the CTDEP has indicated they expect environmental professionals to use the proposed criteria when making compliance decisions, as indicated above. The VC are specific to a site's land use (i.e., residential versus industrial/commercial); however, as with the DEC, the execution of an ELUR on the site's land records is required to use the I/C criteria.

4.0 SAMPLING DESIGN

To achieve the objectives for this investigation, the following field investigation program is proposed. This field investigation will include both soil sampling and groundwater sampling. Proposed sample locations, including those for each AOC, are shown on Figure 3-2. The planned field activities include the following:

- The advancement of 19 soil borings, including those at proposed monitoring well locations, using a direct-push drill rig. Borings may be advanced manually if the drill rig cannot access a planned sampling location, by hollow stem auger if direct-push drilling is ineffective or if necessary, test pits will be conducted using a backhoe
- The installation and development of at least three groundwater monitoring wells
- The collection of five groundwater samples using low-flow methods
- Field screening of soil samples for VOCs using a photo ionization detector (PID) or flame ionization detector (FID)
- The analysis of soil samples
- The analysis of groundwater samples

A summary of the proposed subsurface investigation and anticipated laboratory analyses are outlined in Table 4-1. Phoenix Environmental Laboratories, Inc. (Phoenix) located in Manchester, Connecticut will be used for fixed-based laboratory analysis for this project.

The number of soil samples anticipated to be analyzed by the laboratory for each constituent of concern is listed in the table below. The number of field duplicate samples per constituent is indicated in parentheses.

Parameter	Number of Samples
VOCs	14 (1)
ETPH	19 (1)
PAHs	11 (1)
PCBs	5 (1)
RCRA 8 Metals	19 (1)
SPLP Metals	7 (1)

In addition, five groundwater samples will be analyzed for VOCs, ETPH, PAHs, and/or total RCRA 8 Metals, assuming that the previously installed monitoring wells are capable of producing groundwater samples. The table below summarizes the proposed groundwater samples. The number of field duplicate samples per constituent is indicated in parentheses.

Parameter	Number of Samples
VOCs	5 (1)
ETPH	5 (1)
PAHs	3 (1)
Total RCRA 8 Metals	5 (1)

4.1 Site Mark-out

Prior to initiating field work associated with this investigation, potential sampling locations will be marked at the Site. As required by law, the State-wide underground utility locating service will be contacted prior to commencement of subsurface sampling activities to mark the location of public underground utilities in the vicinity of the property.

4.2 Soil Borings

Soil borings will generally be advanced to depths of up to 15 feet below grade or to the bedrock surface, whichever is shallower. Boring depths may be shallower in areas where surface spills are the release mechanism being evaluated. Soil sampling locations and sampling depths were selected based on a review of observations and historical information provided in previous reports. The sampling locations were chosen to delineate identified release areas or to make release determinations at potential release areas not previously investigated.

Soil stratigraphy and observations regarding potential contamination will be logged by a field scientist. Screening results and physical observation will be used to select samples that are suspected to contain the highest concentrations of contaminants for fixed-base laboratory analysis. PID/FID screening results will be used to select samples for laboratory analysis of VOCs, PAHs, and ETPH. If no evidence of contamination is observed, then soil samples to be submitted for analysis will be selected based on the conceptual model of the release mechanism.

To assess the potential for metals to leach from the soil and impact groundwater quality, selected soil samples will be analyzed by the laboratory for metals after extraction by the synthetic precipitation leaching procedure (SPLP) technique. Samples will be selected for SPLP analysis using the mass result divided by 20 screening technique. In the SPLP method, soil samples are extracted with an amount of extraction solvent equal to 20 times the weight of the soil (e.g., it is diluted by a factor of 20). The extract from the soil sample is then analyzed for the chemical of concern. If 100 percent of the chemical of concern is mobile, then, in theory, 100 percent of the chemical would be extracted into the extraction solvent. Therefore, division of the mass concentration by 20 can be used to determine if it is theoretically possible to exceed regulatory limits (e.g., pollutant mobility criteria).

Soil samples (generally two from each soil boring) will be collected and submitted to a fixed-base laboratory. At least one sample from each boring will be submitted for ETPH and RCRA 8 Metals analyses and for additional analyses based on the substances used or stored within the AOC, using methods listed in Section 5.0 of this site-specific QAPP Addendum. These analyses include VOCs, PAHs, and/or PCBs. If extremely high concentrations of ETPH are detected in soil, these samples will also be analyzed for flash point to evaluate whether the soil is flammable or combustible.

4.3 Monitoring Well Installation and Groundwater Sampling

Three monitoring wells will be installed as part of the Phase III investigation; one upgradient monitoring well at the northwest corner of the Site, one downgradient of AOC -01, and one downgradient of AOC-07. These wells will provide additional data on groundwater flow direction and groundwater quality. The wells will be installed using the direct-push methodology and constructed using nominal 1.5-inch or 2-inch diameter PVC casing with a five- or ten-foot slotted well screen, depending on the saturated thickness of the unconsolidated deposits where the well is installed. The borehole annulus outside the well will be filled to approximately one to two feet above the well screen with silica sand, then with hydrated bentonite chips to the surface. Wells will be completed at the surface with locking metal standpipes or watertight curb boxes, at the discretion of DECD. Once installed, the wells will be developed using surge-and-pump techniques to establish an unencumbered hydraulic connection with the surrounding aquifer and remove fines to facilitate collection of silt-free groundwater samples. After waiting at least seven calendar days following well development to allow well equilibration, samples will be collected from the three new wells and existing monitoring wells MW-1 and MW-2, using low-flow techniques. Groundwater samples will be analyzed for ETPH, PAHs, VOCs, and/or total RCRA 8 metals.

4.4 Topographic and Elevation Survey

Soil boring locations will be measured in the field relative to existing Site features. The locations and casing elevations of Site monitoring wells will be surveyed to facilitate groundwater elevation calculations. A site plan including the location of soil borings and monitoring wells will be developed. Topographic information will be developed from existing topographic mapping.

5.0 SAMPLING AND ANALYTICAL PROCEDURES AND REQUIREMENTS

Fuss & O'Neill Standard Operating Procedures (SOPs) pertaining to sample collection (soil, sediment, soil vapor, surface water and groundwater) are referenced in Section 5.0, Tables 5-1 through Table 5-4 and Appendices A through D of the Generic QAPP. Phoenix approved SOPs are documented in an April 3, 2008 EPA approval memorandum. Specific SOPs that will be used for this project are identified in Table 5-1 and Table 5-2 of this site-specific QAPP Addendum. All laboratory procedures will be consistent with those specified in Connecticut's Reasonable Confidence Protocols (RCPs).

6.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

Procedures for sample handling and custody requirements are documented in Section 6.0 and Appendix J of the Generic QAPP.

7.0 QUALITY CONTROL REQUIREMENTS

Quality Assurance and Quality Control (QA/QC) samples will be collected for this project. The purpose of these samples is to confirm that laboratory results reflect the condition of the various media in the environment and are not a product of instrument or handling errors.

Each QA/QC sample will be given its own sample code. When more than one QA/QC sample is submitted with a set of samples, they will be interspersed within those samples. The types of QA/QC samples which will be submitted are described in the subsections that follow.

7.1 Equipment Blanks

Equipment blanks will be obtained from equipment that has come into direct contact with samples after decontamination and drying between sample locations. The blanks will be prepared in the field using laboratory-supplied deionized water. This water will then be transferred from that piece of equipment to the sample container.

Sampling equipment that could potentially come into contact with soil or groundwater for this project includes manual soil, direct-push soil, and groundwater sampling equipment. Equipment blanks will be analyzed for the same parameters as samples collected with the piece of equipment used. For most parameters, the sampling device is the only piece of equipment that comes into contact with the sample. The frequency of equipment blank collection will be approximately 1 per 20 samples by piece of equipment.

7.2 Trip Blanks

One trip blank for VOC analysis will be collected each day that VOC samples are collected at the Site to evaluate whether samples have been compromised during handling and transportation. The blank will be prepared by the fixed-base laboratory and will accompany the sample containers from the time they leave the lab until the time they arrive at the lab. Trip

blanks are labeled as samples and submitted with the samples to the fixed-base laboratory for VOC analysis. One set of trip blanks will be prepared and submitted per VOC sample cooler.

7.3 Field Blanks

Field blanks will not be obtained for this project.

7.4 Field Duplicate Samples

Field duplicates will be collected for groundwater and soil samples to check the precision of the laboratory analysis. Field duplicate samples will be collected at the same time as the original sample and will be analyzed for the same parameters. Each field duplicate sample will be assigned a different sample ID than the original set so that the sample identity is blind to the laboratory. One field duplicate sample by matrix will be collected per 20 samples submitted to the laboratory. For water samples, sampling will be in the order of decreasing parameter volatility by alternating between containers in the original set and those in the field duplicate set.

7.5 Field Matrix Spike and Matrix Spike Duplicates

Matrix spike (MS) and a matrix spike duplicate (MSD) samples will be collected. The laboratory Quality Assurance Plan explains the type of quality control checks which are routinely followed. This includes such items as analysis of client reference standards, matrix spikes, blanks, the use of internal standards and surrogate spikes. A MS/MSD is submitted for every 20 samples collected. The laboratory is notified which sample location is collected as a MS/MSD. If the analytical system does not pass the initial QC limits, then the system is determined to be out of control and the cause of the problem must be determined and corrected before measurements can continue. After the problem is corrected, QC measurements are repeated to verify the calibration. If the system still does not meet control limits, the system is re-examined until the problem is corrected.

7.6 Field Sample Control Limits

The standard Fuss & O'Neill field sample control limits for quality control are specified below. If the control limits are not met, the Quality Assurance Officer will investigate the cause of the exceedance and determine the validity of the associated data.

Quality Control Sample	Control Limit
Trip Blank	Less than detection limit*
Field Blank	Less than detection limit*
Equipment Blank	Less than detection limit*
Field Duplicates	± 30% Difference for Water; ± 50% difference for soil, if concentrations are > 2x RL for organic and >4x RL for inorganic parameters**
Field MS/MSD	± 30% Difference for organic parameters; For inorganics, ± 20% difference for water or ± 35% for soil if concentrations are > 5x RL, ± RL for water or ± 2x RL for soil if concentrations are < 5x RL**

* With the exception of common laboratory contaminants of acetone, 2-butanone, methylene chloride, phthalates, and toluene, which will have a control limit of 5X detection limit.
** Discrepancies will be addressed on a case-by-case basis.

7.7 Laboratory Internal Quality Control

The laboratory Quality Assurance Plan explains the type of quality control checks which are routinely followed. These include such items as analysis of client reference standards, matrix spikes, blanks, the use of internal standards and surrogate spikes. All calibrations are checked before sample analysis can begin. If the analytical system does not pass the initial QC limits, then the system is determined to be out of control and the cause of the problem must be determined and corrected before measurements can continue. After the problem is corrected, QC measurements are repeated to verify the calibration. If the system still does not meet control limits, the system is re-examined until the problem is corrected. The QA/QC procedures and analytical precision and accuracy of the methods to be used for this project by Phoenix Laboratories QA/QC Plan and SOPs were approved by EPA on April 3, 2008, as referenced in a memorandum from Richard Siscanaw to Kathleen Castagna (EPA file reference: metro hartford3.doc).

8.0 DATA MANAGEMENT AND DOCUMENTATION

Data management and documentation procedures for this project are presented in Section 8.0 and Figures 8-1 and 8-2 of the Generic QAPP.

9.0 ASSESSMENTS AND RESPONSE ACTIONS

The QA Officer is responsible for determining the need for and implementation of any corrective action measures related to the sampling or analytical procedures. Corrective action will be implemented upon the identification of problems discovered through system audits and analytical data review. If a problem is identified, the QA Officer will:

- Report the problem to the Project Manager,
- Evaluate the problem in accordance with data quality objectives,
- Determine whether implementation of corrective action is required,
- Assign and implement a corrective action, and
- Evaluate the effectiveness of the corrective action.

The QA Officer may conduct an on-site audit of the field operations depending on the complexity of the work being performed. The following is a list of possible occurrences that may require corrective action and the corresponding action that would likely take place:

- If any sample bottles break during transit such that insufficient sample is available to complete the analysis, that location will be re-sampled to replace the bottles that have been broken.

- If meters or other sampling equipment break or malfunction during sampling, efforts will be made to repair, re-calibrate, or replace them with back-up equipment.

- If the analysis of trip or equipment blanks indicates the presence of target analytes above acceptable concentrations, re-sampling and reanalysis of samples taken that day may be required.

- If there are unusual changes in detection limits, re-sampling, and re-analysis may be indicated.

- If PCBs are detected at concentrations greater than 1 ppm, Kimberly Tisa (USEPA PCB Coordinator) will be notified by telephone at 617-918-1527, by fax at 617-918-0527, or tisa.kimberly@epa.gov. The clean up and disposal of PCB-containing materials are regulated under the Toxic Substance Control Act (TSCA), 40 CFR Part 761. Remediation of the Brownfield Site must comply with the TSCA regulations for cleanup of PCB contaminated sites.

Assessment and Response Actions for the contract laboratory are referenced in Section 7 of this QAPP Addendum.

10.0 PROJECT REPORTS

Section 10.0 of the Generic QAPP describes the various project reports and audits which will be prepared for this project.

11.0 DATA VERIFICATION AND VALIDATION

The Generic QAPP describes the data verification and validation procedures to be implemented. In addition, data verification and validation will be conducted in general conformance with the Data Quality Assessment and Data Usability Evaluation Guidance Document published in May 2009 by the CTDEP. With reference to Section 11.1 of the Generic QAPP, a modified Tier I level of data validation will be completed for this project. A review of the data package will be completed to ensure that it contains all the required documents and forms. A check of the data will be performed to document that it is accurate and complete to ensure legal defensibility of the data.

12.0 DATA USABILITY

The Data Usability discussion for this QAPP Addendum is presented as section 12.0 of the generic QAPP. In addition to data usability procedures outlined in the Generic QAPP, data usability will be evaluated in general conformance with the Data Quality Assessment and Data Usability Evaluation Guidance Document published in May 2009 by the CTDEP.

13.0 REFERENCES

ASTM, 1997, ASTM Standards Relating to Environmental Site Characterization, American Society For Testing Materials, ASTM Publication Number PCN: 03-418297-38.

CTDEP, 1996, Remediation Standard Regulations, State of Connecticut Department of Environmental Protection, 22a-133k of the Regulations of Connecticut State Agencies.

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Pinecrest Environmental Services, LLC, 2007, Phase I/Phase II Environmental Site Assessment, 28-36 Bridge Street, Willimantic, Windham County, Connecticut; March 2007.

Runnells, D.D., and Lindber, R.D., 1990, Selenium in Aqueous Solutions - The Impossibility of Obtaining a Meaningful Eh using a Platinum Electrode, with Implications for Modeling of Natural Waters, Geology, V.18, N.3, PP. 212-215.

U.S. EPA, Region I, July 1, 1993. Tiered Organic and Inorganic Data Validation Guidelines.

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U.S. EPA, 1986, Test Methods for Evaluating Solid Waste, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC, November 1986, SW-846 Third Edition.

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U.S. EPA, 1983b, Methods of Chemical Analysis for Water and Waste, U.S. Environmental Protection Agency, EPA 600/4-79-020, 1983 rev.

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Whitfield, M., 1974, Thermodynamics Limitations on the Use of the Platinum Electrode in Eh Measurements, Limnol. Oceanogr., V.19, PP. 857-865.

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TABLES

FUSS & O'NEILL

TABLE 4-1
PROPOSED INVESTIGATION FOR AREAS OF CONCERN
PHASE III ENVIRONMENTAL SITE ASSESSMENT
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT

MARCH 2010

AOC Designation	Name	Description	Constituents of Concern	Phase II Activities	Release(s) Detected
AOC-01	Historical Textile Mill Operations and Fill Materials	Oils/lubricants or dyes associated with historical mill operations; debris from building demolition; areas where building foundations and low areas were filled. Fill materials may contain ash, contaminated building materials, and/or other industrial contaminants.	Petroleum Hydrocarbons, VOCs, Metals, PAHs	Test pits TP-01 through TP-13; monitoring well MW-2; surficial soil samples SS-03 through SS-05, boring GP-17	TP-07 - ETPH (552 ppm) and aromatic VOCs; TP-09 - PAHs, Pb (121 ppm total and 0.021 ppm SPLP)), and Hg (0.29 ppm); TP-11 - Pb (3590 ppm total and 0.07 ppm SPLP) and As (10.2 ppm)
AOC-02	Former Gasoline Dispensing Activities	The northwestern portion of the site was used as a gasoline filling station from 1962 through 2002. Several documented surface spills in the area of the fuel dispensers indicated the potential for shallow soil impacts.	Petroleum Hydrocarbons, VOCs, Pb	Borings GP-05, GP-09, and GP-10; surficial sample SS-02	Aromatic VOCs at GP-09 (3-4') - Benzene = 310 ppb
AOC-03	Gasoline UST Area	Two 10,000-gallon gasoline USTs are present to the north of the gasoline station office building. The potential exists for shallow soil impacts due to overfills/spills during transfer operations or subsurface impacts due to leaks from the tanks.	Petroleum Hydrocarbons, VOCs, Pb	Borings GP-03 and GP-06 through GP-08; monitoring well MW-1	ETPH - 640 ppm at GP-03, 210 ppm at GP-06 (7-8'), 310 ppm at MW-01 (20-21')
AOC-04	Fuel Oil Distribution Activities	A fuel oil loading rack is present to the north of the gasoline USTs. This loading rack was used for fuel oil distribution activities between circa 1962 and 2002. The potential exists for leaks or spills during transfer operations to have impacted shallow soil.	Petroleum Hydrocarbons	Borings GP-11 and GP-12; monitoring well MW-1	ETPH - 310 ppm at MW-01 (20-21')
AOC-05	20,000-gallon Fuel Oil UST	A 20,000-gallon fuel oil UST is present to the east of the gasoline station office. This tank was used for storage of oil associated with the fuel oil distribution business. The potential exists for subsurface leaks to have occurred from the tank or appurtenant piping.	Petroleum Hydrocarbons	Borings GP-01 through GP-04; monitoring well MW-1	ETPH 3350 ppm at GP-04 (8-9') and 640 ppm at GP-03 (8-10');Ba - 629 ppm at GP-02 (15-16'); Pb - 86.9 ppm at GP-02 and 52 ppm at GP-04
AOC-06	Former Car Wash Building	A four-bay garage south of the gasoline station office was formerly used as a car wash. The building has subsequently been used for storage, but site inspection observations indicate that informal auto repair activities may have been occurring. Staining and apparently contaminated sediment in the floor drains observed by Pinecrest Environmental Services during the Phase I site visit indicates the potential for sub-slab releases to soil	Petroleum Hydrocarbons, VOCs, Metals	Borings GP-13 through GP-15	As - 13.7 ppm at GP-13 (5-6'); Cu - 73.1 ppm at GP-13; Pb - 943 ppm (0.033 ppm SPLP) at GP-13 and 229 ppm (0.080 ppm SPLP) at GP-15 (1-3'); Hg - 0.770 ppm at GP-13 and 0.180 ppm at GP-15
AOC-07	Historical Waste House	A structure labeled as a "waste house" appeared at the southwestern corner of the property on historical Sanborn mapping when the textile mill was operational. The types of wastes stored in the building were not specified. The potential exists that hazardous materials associated with mill operations may have been stored in this building and could have been released through spills or leaks of these materials.	Petroleum Hydrocarbons, VOCs, Metals	None	TBD
AOC-08	Former Boiler House	The boiler and appurtenant areas occupied the north-central portion of the former mill building complex on the site. Coal, ash, and/or petroleum products may have been deposited on or beneath the ground surface in this area as a result of boiler operation or subsequent mill demolition activities.	Petroleum Hydrocarbons, PAHs, PCBs, Metals	None	TBD

Shaded AOCs are not included in the Phase III investigation per DECD.

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TABLE 5-1
FUSS & O'NEILL, INC.
STANDARD OPERATING PROCEDURES
SAMPLE COLLECTION
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

SOP#	Appendix	Project Sampling SOPs
010000	C*	Site Etiquette
020000	C*	Field Notebooks
020100	C*	Sample Identification Numbers
020200	C*	Sample Labels
020300	C*	Field Data Sheets
020400	C*	Chain of Custody Forms
020500	C*	Analytical Parameter Request Forms
020600	C*	Sample Logbooks
030000	C*	Sample Handling
030100	C*	Relinquishing Samples
040000	C*	Decontamination Procedures
050000	C*	Groundwater Monitoring
050010	C*	Field Parameter Monitoring
050020	C*	Sample Filtering
050100	C*	Low Flow Groundwater Sampling – Peristaltic Pump
050400	C*	Geotech Pumps
080000	C*	Soil Sampling
080600	C*	Soil Sampling - VOCs
110100	C*	Direct Push Soil Sampling
110200	C*	Direct Push Groundwater Sampling
110300	C*	GeoProbe Well Installation
160000	C*	Monitoring Well Development

*= SOPs listed in this table are presented in Appendix C of the Generic Quality Assurance Project Plan.

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TABLE 5-2
FUSS & O'NEILL, INC.
STANDARD OPERATING PROCEDURES
FIELD SAMPLING EQUIPMENT
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MIL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

SOP #	Appendix	Field Sampling Instrument SOPs
150100	D*	Calibration and Maintenance of YSI Model 63 SCT Meter
150200	D*	Calibration and Maintenance of YSI Model 85 DO & SCT Meter
150300	D*	Calibration and Maintenance of YSI Model 600 Series Water Analyzer
150400	D*	Calibration and Maintenance of LaMotte 2020 Turbidimeter
150540	D*	Calibration and Maintenance of MiniRAE 2000 Portable VOC Monitor

*= SOPs listed in this table are presented in Appendix D of the Generic Quality Assurance Project Plan.

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TABLE 5-6
PHOENIX ENVIRONMENTAL LABORATORIES METHOD AND SOP REFERENCE TABLE
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

Analytical Method Reference		Project Analytical SOPs			
Appendix Reference	EPA Method Number	Document Title	Laboratory SOP Number	Effective Date	Revision Number
G*	200.7	Inductively Coupled Plasma Optical Emission Spectroscopy, Potables and Wastewaters	504	6/11/2007	1
G*	6010B	Inductively Coupled Plasma Optical Emission Spectroscopy, Non-Potables and Solids	504	6/11/2007	1
G*	8260	Volatile Organics by GC/MS	602.8260/624	3/30/2005	4
G*	8270	Semi-Volatile Organics by GC/MS	601.8270/625	6/4/2007	3
G*	245.1, 7470A/7471A	Mercury (Cold Vapor Technique)	SOPHGrev5	1/3/2006	5
G*	-	Solids – Percent Solids (Total Solids in Solid and Semi-Solid Samples)	325.2540B	3/12/1999	1
G*	CT ETPH	CT ETPH: Analysis of Extractable Petroleum Hydrocarbons (ETPH) Using Methylene Chloride; GC/FID	605.CTETPH	3/16/2005	2
G*	8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SOP8082Rev3	10/27/2005	3

*= SOPs listed in this table are presented in Appendix G of the Generic Quality Assurance Project Plan. Appendix G was revised in 2008 to include Phoenix Environmental Laboratories.

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TABLE 5-8
SAMPLING AND ANALYTICAL METHODS REQUIREMENTS
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

Parameter	Matrix and No. of samples	Sampling SOP	Analytical SOP Ref. Table No.	Container	Preservation	Hold Time
VOCs	Soil (14 samples) QA/QC (2 Trip Blanks, 1 Duplicate)	080000, 080600 , 110100	5-6	**Low Level:** 5 g soil/5 g H_2O 2 oz Glass/T (moisture content)	4°C	Analyze or freeze within 48 hours If frozen, 14 days to analyze
				High Level: 10 g soil/10 g MeOH	4°C	14 days
	Water (5 samples) QA/QC (1 Duplicate)	050000, 050100, 050200, 050300, 050400	5-6	2 x 40 mL VOC vial	1:1 HCl (pH<2) 4°C	14 days
CT ETPH	Soil (19 samples) QA/QC (1 Duplicate)	080000, 110100	5-6	4 oz Glass/T	4°C	7 days extraction 40 days analysis
	Water (5 samples) QA/QC (1 Duplicate)	050000, 050100, 050200, 050300, 050400	5-6	2 x 1000 mL Glass/T	4°C	7 days extraction 40 days analysis

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TABLE 5-8
SAMPLING AND ANALYTICAL METHODS REQUIREMENTS
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

Parameter	Matrix and No. of samples	Sampling SOP	Analytical SOP Ref. Table No.	Container	Preservation	Hold Time
PAHs	Soil (11 samples) QA/QC (1 Duplicate)	080000, 110100	5-6	4 oz Glass/T	4°C	14 days extraction 40 days analysis
	Water (3 samples) QA/QC (1 Duplicate)	050000, 050100, 050200, 050300, 050400	5-6	2 x 1000 mL Glass/T	4°C	7 days extraction 40 days analysis
PCBs	Soil (5 samples) QA/QC (1 Duplicate)	080000, 110100	5-6	4 oz Glass/T	4°C	14 days extraction 40 days analysis
Metals	Soil (19 samples) QA/QC (1 Duplicate)	080000, 110100	5-6	4 oz Glass/T	4°C	6 months except; 28 days for Mercury
	Water (5 samples) QA/QC (1 Duplicate)	050000, 050100, 050200, 050300, 050400	5-6	500 mL Plastic	HNO_3 (pH<2) 4°C	6 months except; 28 days for Mercury

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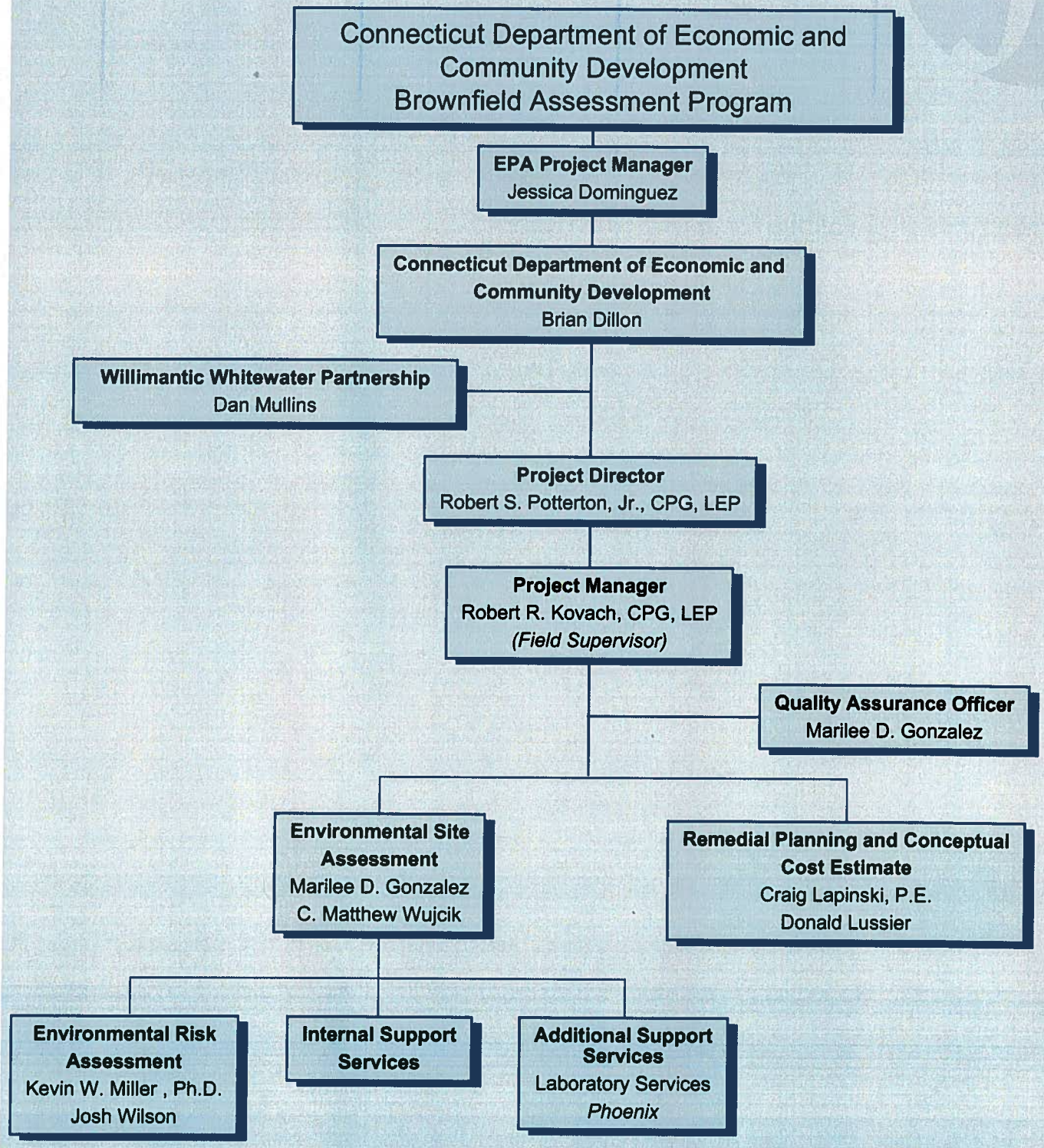
TABLE 5-8
SAMPLING AND ANALYTICAL METHODS REQUIREMENTS
PHASE III ENVIRONMENTAL SITE ASSESSMENT
FORMER TEXTILE MILL
28-36 BRIDGE STREET, WILLIMANTIC, CONNECTICUT
March 2010

Parameter	Matrix and No. of samples	Sampling SOP	Analytical SOP Ref. Table No.	Container	Preservation	Hold Time
SPLP Metals	Soil (TBD)	0080000, 110100	5-6	4 oz Glass/T	4°C	6 months
Mercury	Soil (19 samples) QA/QC (1 Duplicate)	080000, 110100	5-6	4 oz Glass/T	4°C	28 days
	Water (5 samples) QA/QC (1 Duplicate)	050000, 050100, 050200, 050300, 050400	5-6	500 mL Plastic	HNO_3 (pH<2) 4°C	28 days

FIGURES

Figure 2-1
Project Management Organization Chart



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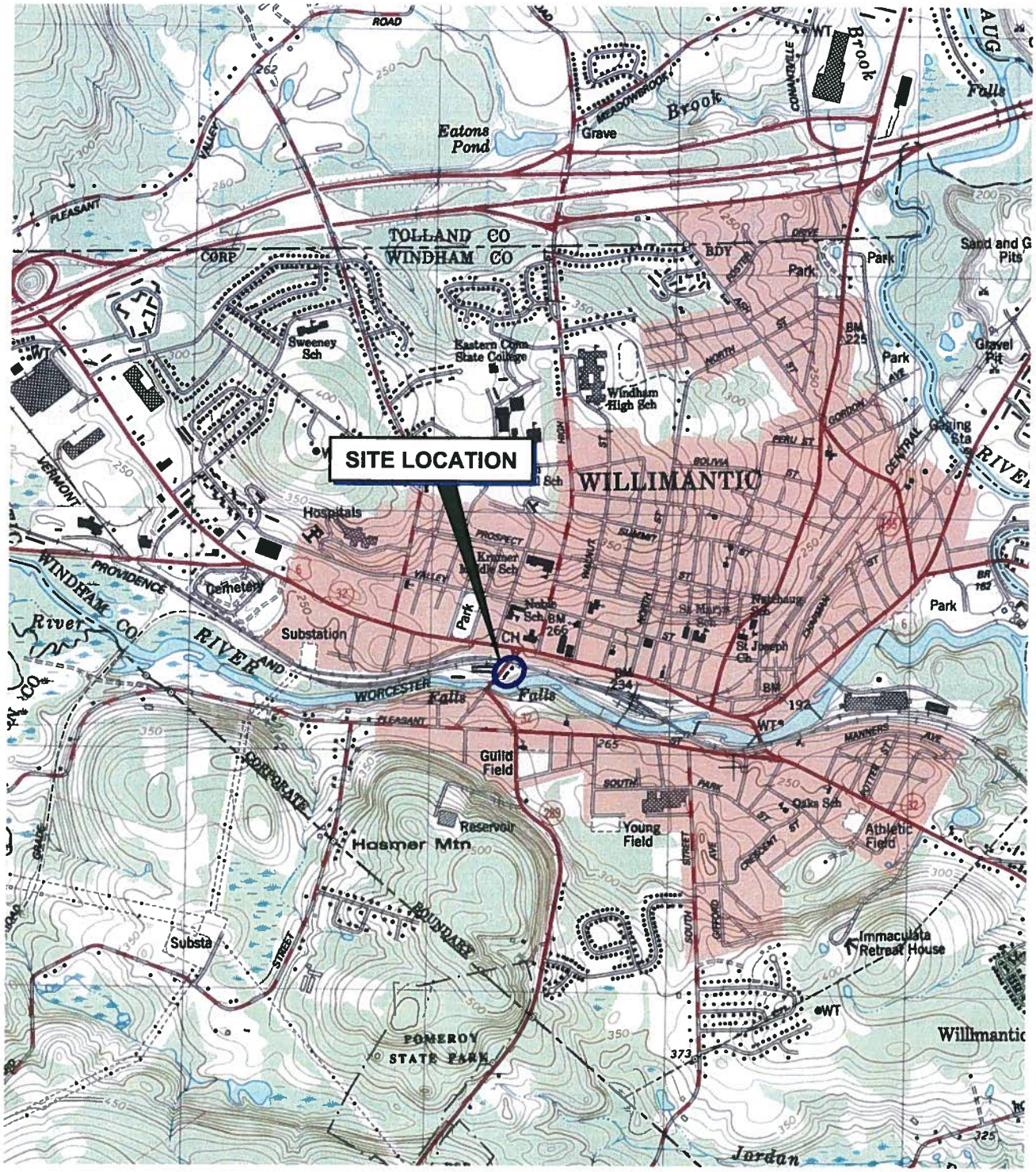
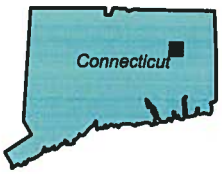


MAP REFERENCE:
THIS MAP WAS PREPARED FROM THE FOLLOWING
7.5 MINUTE SERIES TOPOGRAPHIC MAP:
WILLIMANTIC , CONN. 1984



Quadrangle Location

0 1000 2000
GRAPHIC SCALE

SCALE: 1"=2000'

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SITE LOCATION MAP

FORMER TEXTILE MILL
28-36 BRIDGE STREET

WILLIMANTIC CONNECTICUT

PROJ. No: 20100033.A10
DATE: MARCH 2010

FIGURE 3-1

20100033\A10\SITELOC.PPT

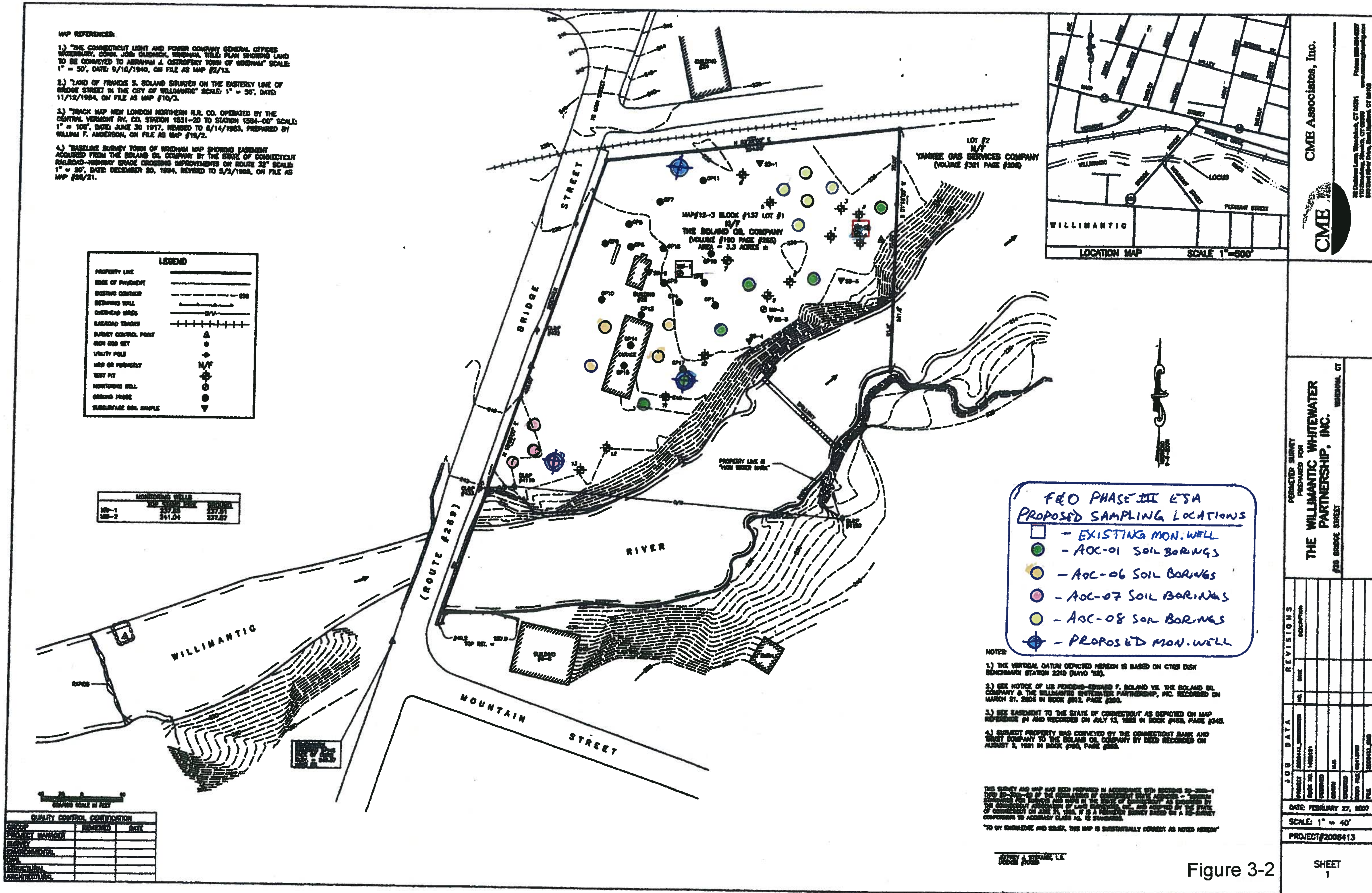
MAP REFERENCES:
1.) "THE CONNECTICUT LIGHT AND POWER COMPANY GENERAL OFFICES WATERBURY, CONN. JOB: OUIDNICK, WINDHAM, TITLE: PLAN SHOWING LAND TO BE CONVEYED TO ABRAHAM J. OSTROFSKY TOWN OF WINDHAM" SCALE: 1" = 50', DATE: 9/10/1940, ON FILE AS MAP #2/13.
2.) "LAND OF FRANCIS S. BOLAND SITUATED ON THE EASTERLY LINE OF BRIDGE STREET IN THE CITY OF WILLIMANTIC" SCALE: 1" = 50', DATE: 11/12/1984, ON FILE AS MAP #10/3.
3.) "TRACK MAP NEW LONDON NORTHERN R.R. CO. OPERATED BY THE CENTRAL VERMONT RY. CO. STATION 1531-20 TO STATION 1584-00" SCALE: 1" = 100', DATE: JUNE 30 1917, REVISED TO 6/14/1963, PREPARED BY WILLIAM F. ANDERSON, ON FILE AS MAP #19/2.
4.) "BASELINE SURVEY TOWN OF WINDHAM MAP SHOWING EASEMENT ACQUIRED FROM THE BOLAND OIL COMPANY BY THE STATE OF CONNECTICUT RAILROAD-HIGHWAY GRADE CROSSING IMPROVEMENTS ON ROUTE 32" SCALE: 1" = 20', DATE: DECEMBER 20, 1994, REVISED TO 5/2/1995, ON FILE AS MAP #26/21.
LEGEND
PROPERTY LINE
EDGE OF PAVEMENT
EXISTING CONTOUR
RETAINING WALL
OVERHEAD WIRES
RAILROAD TRACKS
SURVEY CONTROL POINT
IRON ROD SET
UTILITY POLE
NOW OR FORMERLY
TEST PIT
MONITORING WELL
GROUND PROBE
SUBSURFACE SOIL SAMPLE
MONITORING WELLS
MW-1 237.83 237.51
MW-2 241.04 237.67
BRIDGE STREET
(ROUTE #289)
MAP#19-3 BLOCK #137 LOT #1
N/F
THE BOLAND OIL COMPANY
AREA = 3.3 ACRES ±
LOT #2
N/F
YANKEE GAS SERVICES COMPANY
RIVER
WILLIMANTIC
MOUNTAIN STREET
PROPERTY LINE IS "HIGH WATER MARK"
RAPIDS
LOCATION MAP SCALE 1"=800'
WILLIMANTIC
LOCUS
CME Associates, Inc.
F&O PHASE III ESA
PROPOSED SAMPLING LOCATIONS
- EXISTING MON. WELL
- AOC-01 SOIL BORINGS
- AOC-06 SOIL BORINGS
- AOC-07 SOIL BORINGS
- AOC-08 SOIL BORINGS
- PROPOSED MON. WELL
NOTES:
1.) THE VERTICAL DATUM DEPICTED HEREON IS BASED ON CTDS DISK BENCHMARK STATION 2210 (NAVD '88).
2.) SEE NOTICE OF LIS PENDENS-EDWARD F. BOLAND VS. THE BOLAND OIL COMPANY & THE WILLIMANTIC WHITEWATER PARTNERSHIP, INC. RECORDED ON MARCH 21, 2006 IN BOOK #812, PAGE #280.
3.) SEE EASEMENT TO THE STATE OF CONNECTICUT AS DEPICTED ON MAP REFERENCE #4 AND RECORDED ON JULY 13, 1995 IN BOOK #458, PAGE #345.
4.) SUBJECT PROPERTY WAS CONVEYED BY THE CONNECTICUT BANK AND TRUST COMPANY TO THE BOLAND OIL COMPANY BY DEED RECORDED ON AUGUST 2, 1991 IN BOOK #190, PAGE #283.
"TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON"
PERIMETER SURVEY PREPARED FOR
THE WILLIMANTIC WHITEWATER PARTNERSHIP, INC.
#28 BRIDGE STREET WINDHAM, CT
REVISIONS
JOB DATA
DATE: FEBRUARY 27, 2007
SCALE: 1" = 40'
PROJECT#2006413
SHEET 1
QUALITY CONTROL CERTIFICATION
GROUP REVIEWED DATE
PROJECT MANAGER
SURVEY
ENVIRONMENTAL
CIVIL
STRUCTURAL
ARCHITECTURAL

Figure 3-2