



REMEDIAL ACTION WORK PLAN

**90 Bay Spring Avenue
Barrington, Rhode Island**

September 7, 2017

Prepared for:

Bay Spring Realty Company
909 North Main Street
Providence, Rhode Island 02904

Prepared by:

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ES&M Project No. 7131A

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1.0 INTRODUCTION

On behalf of Bay Spring Realty Company and in accordance with Section 9.00 of the Rhode Island Department of Environmental Management (RIDEM) Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases, dated March 31, 1996; as amended August 1996, February 2004 and November 2011 (Remediation Regulations), Environmental Strategies & Management, Inc. (ES&M) is pleased to present this Remedial Action Work Plan (RAWP) for the property located at 90 Bay Spring Avenue (Plat 2, Lot 154) in Barrington, Rhode Island (the Site). A Locus Map is included as Figure 1 and a Site Plan, depicting the Site parcel boundaries is included as Figure 2.

1.1 *Previous Uses of the Site*

The Site was formerly an artificial leather manufacturing facility for the O'Bannon Corporation dating back to at least the 1920s. The Site included several chemical storage tanks, waste disposal areas, a laboratory, coating and wash rooms, a garage and storage facilities. ASTM Phase I and II site assessment activities and previously existing environmental information indicates that the following hazardous materials were used on the Site:

- Solvents
- Acids
- Acetone
- Cutting oil
- Hydraulic fluid
- Plating solutions and lubricants
- Fuel oil
- Sodium and zinc cyanides

1.2 *Past Site Investigation Findings*

A *Phase II Oil and Hazardous Waste Assessment* for the property located at 90 Bay Spring Avenue, was completed by Geisser Engineering Corporation (Geisser Engineering) in February 1992. The property investigated during the February 1992 assessment was comprised of both eastern and western sections, which are currently designated on the Town of Barrington Tax Assessor's Tax Map No. 2 as Lot 12 (the property adjoining the Site to the east across the Annawamscutt Brook), and Lot 154 (the Site), respectively. The following is a summary of information obtained from the 1992 Phase II report regarding lot 154:

- The property was historically owned by the O'Bannon Corporation and produced textile and narrow fabrics in conjunction with another mill located at 85 Bay Spring Avenue.
- Lot 154 (the Site) was historically developed and contained manufacturing buildings, tank farms, storage buildings, and sheds. At the time of the inspection, the following observations were noted: a slab of the former nitrated cotton storage building; concrete cradles which historically supported solvent and acids ASTs; a slab of the alcohol still and No. 12 storage

building and an opening which may have been an underground acid storage pit; an empty 265-gallon AST located next to the No. 2 Stock House; three (3) electrical transformers owned by the Narragansett Electric Company, which are not expected to contain PCBs; and a ditch filled with discarded clay pipes and rusted iron debris, which was observed on the southern section of Lot 154.

- In August 1992, one (1) monitoring well (MW-3) was installed on Lot 154 (the Site) to a depth of approximately 20 feet and one (1) monitoring well (MW-4) was installed in the location of the former Pickle House on Lot 154 (the Site) due to acid storage tanks that were historically located there.
- Two (2) composite soil samples were collected from the two (2) former locations of the solvent and acid tanks. Laboratory analytical results did not indicate any exceedances of applicable RIDEM soil criteria.
- A composite groundwater sample was submitted for laboratory analysis for VOCs, TPH, and PCBs. Laboratory analytical results reported a benzene concentration of 6 micrograms per liter (ug/L), which exceeds the applicable RIDEM GA groundwater objective for benzene (5 ug/L). The benzene concentration was not considered an imminent health threat as the property is connected to the municipal water system.

An *Update - Environmental Report* for the property located at 90 Bay Spring Avenue was completed by Geisser Engineering in January 1995. Investigation of the property was conducted to address any significant changes or site conditions which may have occurred since the completion of the 1992 Phase II report. Based on the inspections of the property and abutting properties, and interview with a representative of the owners of the property, and a review of environmental records at the RIDEM, Geisser Engineering concluded that the property had not been downgraded or changed for the worst since the completion of the 1992 Phase II site assessment.

A letter regarding "*Test pits on Bay Spring Street Property*" dated June 30, 2003 was prepared by Geisser Engineering. The following is a summary of information obtained from the 2003 letter report:

- In May 2003, four (4) test pits (TP-1 through TP-4) ranging in depth from 3-feet to 8-feet were excavated on Lot 154 (the Site).
- A slurry and watery liquid was observed in TP-4, located to the south of the former acid pit area. The slurry appeared to originate from surrounding clay piping. No sample was collected from this location and the nature of the slurry was undetermined.
- Soil samples were collected from test pits as well as shovel-dug hand excavations and submitted for laboratory analysis for RCRA 8 metals and TPH.
- Laboratory analytical results reported arsenic concentrations that exceed applicable RIDEM Residential Direct Exposure Criteria at all of the sample locations; one (1) exceedance of iron was reported in a sample collected adjacent to the former Pickle Building on the Site.
- Geisser Engineering concluded the following:

- The Site can be developed with the understanding that underlying debris throughout portions of the property would either have to be removed, or that any proposed structures would have to be supported on pilings.
- Due to the presence of arsenic detected in soil at or above 24 feet below the surface, certain developed areas will need to be overlain with asphalt or rendered inaccessible.
- In addition, during the course of construction activities, laboratory analysis of additional soil samples would be needed to characterize any suspicious material.

An *ASTM Phase I & II Environmental Site Assessment* report dated December 14, 2012 was completed by Resource Control Associates (Resource Controls). The following summarizes the information provided in the 2012 ESA:

- The Site was historically utilized for industrial purposes including artificial leather manufacturing.
- Five (5) solvent storage tanks, seven (7) acid storage tanks, one (1) acetone storage tank and several spent acid storage tanks in concrete pits were historically located on the Site. Documentation pertaining to the proper closure of these storage tanks was not discovered during site assessment activities.
- During test pit excavation on the Site in 2003, a slurry and watery liquid was observed in test pit TP-4, located to the south of the former acid pit area. The slurry appeared to originate from surrounding clay piping. No sample was collected from this location and the nature of the slurry was undetermined.
- Two (2) groundwater monitoring wells were installed on the Site during a subsurface investigation conducted in 1992. The groundwater sample that was submitted for laboratory analysis of VOCs, TPH, and PCBs was a composite of samples from four (4) monitoring wells (two (2) on the Site and two (2) on the property to the east of the Site). Laboratory analytical results reported a benzene concentration of 6 ug/L, which exceeds the applicable RIDEM GA groundwater objective of 5 ug/L.
- The observation of several suspect structures and suspect disposal areas on the Site.
- To further investigate these concerns, Resource Controls developed a scope of work for subsurface investigation to characterize soil and groundwater conditions at the Site, as described below.

On November 21, 2012, Resource Controls conducted a subsurface investigation that included the installation of twelve (12) soil borings, five (5) of which were completed as groundwater monitoring wells, field screening of subsurface soil, and laboratory analysis of selected soil and groundwater samples. Soil boring and monitoring well locations were selected to address recognized environmental conditions identified during ASTM Phase I assessment activities and to maximize coverage of the Site. The locations of the soil borings and monitoring wells are depicted on the Site Plan (Figure 2). Based on field observations, soil screening using a photoionization detector, and sample proximity to locations of identified recognized environmental conditions, selected soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260 B, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270, and RCRA 8 Metals by EPA Methods 7060 A, 6010B, and 7470A.

On November 26, 2012, groundwater samples were collected from monitoring wells MW-1 through MW-5 via low flow sampling procedures. Samples were submitted for laboratory analysis for VOCs by EPA Method 8260B. In addition to VOCs, samples collected from monitoring wells MW-3 through MW-5 were submitted for laboratory analysis of semi-volatile organic compounds (SVOCs) by EPA Method 8270C and Total RCRA 8 Metals by EPA Methods 7060A, 6010B, and 7470A. Groundwater samples were collected again from MW-3 and MW-4 on February 13, 2013 and submitted for laboratory analysis of Total and Dissolved RCRA 8 Metals by EPA Methods 7060A, 6010B, and 7470A.

Results of the ASTM Phase II ESA triggered release notification to the RIDEM.

A *Site Investigation Report* (SIR) dated October 30, 2014 was completed by Resource Controls. The results of the investigation concluded that Site Investigation data suggested that significant wastes/contaminated soil and groundwater had been removed from the Site. Residual PAH and metals impacted soil, and metals and VOC impacted groundwater remained at various locations on the Site.

Resource Controls evaluated various remedial alternatives and recommended the implementation of engineering and institutional controls (Environmental Land Use Restriction (ELUR) and Soil Management Plan (SMP)) at the Site to limit contact with impacted soil and groundwater at the Site. This alternative was recommended as a cost-effective remedial alternative that is in compliance with the intent of the RIDEM Remediation Regulations, is consistent with current and future land use, and manages actual and potential risks to human health and the environment.

A *Site Investigation Report Addendum* dated April 27, 2015 was completed by Resource Controls to address an additional round of groundwater samples collected from select monitoring wells in accordance with a directive from the RIDEM dated February 24, 2015. The goal of the directive was to evaluate the potential impacts of a possible release of VOC-impacted water to the subsurface that may have occurred during a remedial excavation in May 2014. The SIR Addendum concluded that given the calculated Site hydrogeologic properties, had the release that occurred, reported concentrations in the down gradient wells that were sampled in April 2015 would have exhibited elevated concentrations compared with historical data; no such relative elevated concentrations were reported.

A *Site Investigation Report Addendum* dated November 11, 2015 was completed by Resource Controls to address additional concerns identified by the RIDEM. In accordance with a directive from the RIDEM and a subsequent scope of work approval received via email from the RIDEM on June 30, 2015, a supplemental soil investigation and an additional groundwater sampling event were performed in July 2015. The purpose of the additional soil investigation was to further delineate the impact to soil at the Site. Soil analytical results indicated that total arsenic was detected in TP-204 at concentrations exceeding the applicable RIDEM Residential and Industrial/Commercial Direct Exposure Criteria. Groundwater analytical results indicated the following:

- Total and dissolved arsenic were detected in MW-101 at concentrations exceeding the RIDEM GA Groundwater Objectives, and below the MCP GW-3 Ground Standards (intended to be protective of surface water bodies); and
- Trichloroethene was detected in MW-105 above the RIDEM GA Groundwater Objectives, and below the MCP GW-3 Groundwater Standard (intended to be protective of surface water bodies).

Resource Controls did not suggest a change to the previously recommended remedial alternative. The Remedial Decision Letter (RDL) dated May 27, 2016 approves the proposed remedy and is included as Appendix A.

In October 2016, ES&M conducted a remedial design investigation at the Site to further develop an appropriate design for the proposed engineered barrier remedy. J.R. Vinagro Corporation, under the supervision of ES&M personnel, advanced six test pits to depths ranging from 6 to 10 feet below grade level. Soil samples were collected from varying depth intervals for field classification, and additional soil was preserved in pre-cleaned, laboratory supplied containers, and shipped under chain of custody to New England Testing Laboratory in West Warwick, Rhode Island for analysis of total metals, toxicity characteristic leaching procedure (TCLP) metals, and polycyclic aromatic hydrocarbons (PAHs). A summary of soil analytical results is included in Table 1 and a copy of the laboratory analytical report is included as Appendix B.

During completion of the remedial design investigation, accessible debris and concrete was removed from the Site. A total of 471.1 tons of concrete and masonry debris was removed and disposed offsite at a licensed facility. A summary report of debris disposed offsite is included in Appendix B.

1.3 Project Goal (Intended Reuse Plan)

The intended reuse for the Site is to construct new residential buildings that are consistent with the scale and architecture of the neighborhood. In addition to the residential development, the project will also include an associated environmental greenway along the bank of the river.

Construction at the Site is slated to occur in two phases. Phase 1 consists of clearing the Site of solid waste and debris. In October 2016, a total of 471.1 tons of concrete building foundations, footings, and tank cradles were removed for offsite disposal. Phase 1 will also include excavating and grading impacted soil in preparation of a RIDEM approved cap, proper disposal of any excess soils, installing engineered and restrictive barriers, and recording an approved institutional control in the form of an Environmental Land Use Restriction (ELUR) on the lowland portion of the Site where regulated soil will remain, including a Soil Management Plan (SMP) which will address any future activities that may disturb on-Site regulated soils and a Class I land survey. At the completion of Phase 1, a Remedial Action Closure Report will be submitted to the RIDEM and a Letter of Compliance will be requested.

Phase 2 of the Site redevelopment will involve the remaining construction activities needed to complete the residential build-out (i.e. asphalt pavement and stormwater/drainage infrastructure [if not already completed during Phase 1], buildings, sidewalks, walkways, landscaping, etc.). Phase 2 must be conducted in accordance with the RIDEM approved ELUR (including a Post Remediation SMP), which shall be recorded following the completion of Phase 1 capping activities.

2.0 REMEDIAL OBJECTIVES [SECTION 9.02]

As required by Rule 9.02 of the Remediation Regulations, the following sections specify the remedial objectives for all media associated with the proposed remedies. Although the Site is located within a GA groundwater area, public records indicate that the surrounding neighborhood is serviced by the

public water supply system. Future development at the Site will also be serviced by the public water supply system.

2.1 Groundwater Objectives

GA groundwater objectives apply to the Site. Groundwater classified GA are groundwater resources which are known or presumed to be suitable for drinking water use without treatment. Remedial objectives include addressing VOC, TPH, and metals in the Site's groundwater.

2.2 Surface Water and Sediment Objectives

Impacts to surface water and sediment were not identified during the Site Investigation process, as such, remedial objectives have not been proposed for these media.

2.3 Soil Objectives

The proposed remedial objective to address VOC, PAH, and metals impacted soil is the RIDEM Method 1 Residential Direct Exposure Criteria and the GA Leachability Criteria.

2.4 Air Objectives

Impacts to indoor air were not identified during the Site Investigation process; as such, remedial objectives have not been proposed for this media.

3.0 PROPOSED REMEDY [SECTION 9.03]

3.1 Remedial Design

In accordance with Section 8.0 and Rule 7.04 of the Remediation Regulations, ES&M evaluated a number of remedial alternatives to target contaminated media at the Site, including: no further action, excavation and off-site disposal, and engineering and institutional controls. Details of this evaluation are presented in Section 7.0 of the SIR dated October 30, 2014.

As discussed in the SIR, ES&M selected Alternative 2 (implement engineering and institutional controls (Environmental Land Use Restriction (ELUR) and Soil Management Plan (SMP) at the Site to limit contact with the impacted soil and groundwater at the Site) as a cost-effective remedial alternative that is in compliance with the intent of the Remediation Regulations, is consistent with current land use, and manages actual and potential risks to human health and the environment.

The proposed engineering barrier shall consist of building structures, asphalt or concrete surfacing materials, two (2) feet of clean fill and/or one (1) foot of clean fill underlain by a geotextile liner. The minimum specifications of the geotextile liner are included within the Construction Phase Soil Management Plan included as Appendix C. Institutional controls shall include an ELUR with a Soil Management Plan (SMP), which will outline the procedures for managing the soil on Site should future disturbance of the engineered barrier or impacted soil be required. A Site Plan showing the location of engineering controls to be placed on the Site is included as Figure 3 and Barrier Cross Section Details are shown on Figure 4. A draft ELUR and SMP were prepared in accordance with Section 9.00 of the

RIDEM Remediation Regulations and are included as Appendix D. Upon RIDEM approval, the ELUR will be finalized and recorded at the Town of Barrington Land Evidence Records.

3.2 Prevention of Infiltration/Migration of Contaminants

It is ES&M's opinion that the remedial design (engineered barrier, ELUR, and SMP) is sufficient to prevent the migration of contaminants off the Site. Any unsuitable impacted soil will be excavated and removed from the Site.

To prevent the migration of volatile organic vapors to indoor air, the ELUR shall restrict the construction of structures over groundwater containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department approved GA Groundwater Objectives set forth in the Remediation Regulations.

3.3 Prevention of Direct Contact with Contaminants

It is ES&M's opinion that the remedial design (engineered barrier, ELUR, and SMP) is sufficient to prevent direct contact with site contaminants.

3.4 Elimination of Volatilization and Entrainment of Contaminants

The engineering and institutional controls will manage potential chlorinated VOC vapor intrusion impacts in the area of the former cistern. Given the nature of the contamination present in remaining portions of the Site, volatilization of hazardous substances from soil or groundwater into proposed site buildings is not expected. Engineering controls proposed for the Site shall prevent entrainment of contaminants.

3.5 Management of Surface Water Runoff

The remedial design (engineered barrier, ELUR, and SMP) is sufficient to control and redirect surface water runoff to infiltrate on-site in areas where clean soil or impacted soil below leachability concerns are located.

4.0 POINTS OF COMPLIANCE [SECTION 9.06]

Pursuant to the Remediation Regulations, points of compliance for soil are points where soil objectives shall be obtained; these points of compliance may be based on direct exposure to humans or on protection of groundwater.

Points of compliance at the accessible portions of the Site are defined as soil within two feet of the ground surface and not located directly beneath an approved cap (i.e. earthen barriers and/or alternative capping materials).

The proposed Remedial Action includes the excavation and onsite reuse (as needed for site redevelopment and grading needs) or offsite disposal of impacted soil, placement of engineering

controls over accessible regulated soils within two feet of the ground surface and the installation of a restrictive barrier (fencing) to limit access to natural soils along the river. An ELUR and SMP will be implemented to maintain the engineering controls.

5.0 PROPOSED SCHEDULE FOR REMEDIATION [9.07]

The Remediation Regulations require a schedule for implementation of the proposed remedial action. Implementation of the proposed remedial action is anticipated during the Fall of 2017. A general timeline for each of the proposed tasks are included in the table below.

TASK	FREQUENCY	PROJECTED TIMELINE
Installation of Engineering Controls	Once	Following RIDEM approval of RAWP (Fall 2017)
Record ELUR	Once	Following placement of Phase 1 engineered controls
ELUR (engineering control) Inspections	Annually	First annual inspection anticipated in Fall 2018

6.0 CONTRACTORS AND/OR CONSULTANTS [SECTION 9.08]

Qualified and knowledgeable personnel from ES&M have been conducting investigations at the Site and will be responsible for oversight of remedial alternatives. The contact person at ES&M is as follows:

Mark J. House
Environmental Strategies & Management, Inc.
474 Broadway, Pawtucket, RI 02860
401-728-6860 ext. 207

The redevelopment contractor has not yet been determined. Contact information for the contractor shall be provided to the RIDEM via email once selected.

Upon implementation of the remedy and performance of the initial annual inspection, the property owner with direct knowledge of past and present conditions of the Site shall continue the evaluation of the compliance status and annual inspection of the Site.

7.0 SITE PLAN [SECTION 9.09]

An Existing Conditions Plan showing conditions at the Site including environmental sample locations, structural features, surface materials, points of compliance, and abutting property owners is included as Figure 2. Other plans showing the engineered barrier details are included as Figure 3 and Figure 4.

8.0 DESIGN STANDARDS AND TECHNICAL SPECIFICATIONS [SECTION 9.10]

This section of the RAWP has been prepared under the supervision of the following Registered Professional Engineer in the State of Rhode Island:

Robert C. Atwood, PE, LSP
Environmental Strategies & Management, Inc.
474 Broadway, Pawtucket, RI 02860
401-728-6860 ext. 202

Technical specifications for all cap types being proposed in this RAWP can be found on Figure 4; and within the Construction Phase Soil Management Plan (Appendix C).

As outlined in the Construction Phase Soil Management Plan, prior to bringing off-site fill material onto the Site, the contractor shall submit documents for review and approval by the Engineer, certifying all fill material is "clean." Documents must include laboratory reports that include analysis for priority pollutant 13 metals, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and volatile organic compounds. All analytical results must meet the RIDEM Residential Direct Exposure Criteria for soil as summarized in the Remediation Regulations.

The exact identification of construction materials and the type of equipment to be used will be identified based on the subsequent contractor bid evaluation and cost analysis results.

No laboratory or pilot-scale tests were obtained or needed to determine the effectiveness of the proposed remedial action.

9.0 SET-UP PLANS [SECTION 9.11]

Contour and/or grading of the Site redevelopment plans shall be completed and inspected by the Engineer prior to the construction of the engineered barrier. Pre-operational staging and/or construction requirements/activities are outlined in the Construction Phase Soil Management Plan (Appendix C) with Sections 1.03 (Delivery, Storage and Handling) and 3.03 (Management of Impacted/Contaminated Soil).

Any stockpiled materials, including clean fill, must be underlain and covered with polyethylene sheeting and be secured at the end of each day with all appropriate erosion and sediment controls (i.e. hay bales, rocks, silt fencing) to limit the loss of the cover and protect against storm-water and wind erosion. These appropriate sedimentation and erosion controls must be in place and in proper working order at all times until all disturbed areas are stabilized and capped as proposed. Within reason, the storage location will be selected to limit unauthorized access to the materials (i.e. away from public thoroughfares). No regulated soil will be stockpiled on-site for greater than thirty (30) days. In the event that stockpiled soils pose a risk or threat of leaching hazardous materials, a proper leak-proof container (i.e. drum or lined roll-off) or secondary containment will be required and utilized.

Appropriate precautions and means shall be exercised to prevent and control dust arising out of all construction operations from becoming a nuisance to abutting property owners or surrounding neighborhoods. Dust control shall also protect residents and staff, per best-practices industry standards. Pavements adjoining Site excavation areas shall be kept broomed off and washed clean of excess materials wherever and whenever directed. Repeated daily dust control treatment shall be provided to satisfactorily prevent the spread of dust until the engineered cap construction is complete and until earth stockpiles have been removed, and all construction operations that might cause dust have been completed.

If so directed by the Engineer, the Contractor shall furnish and apply calcium chloride for supplemental control of dust. Calcium chloride shall conform to the requirements of AASHTO M. 144 (ASTM D-98) except that the pellet form and the flake form shall be equally acceptable. Calcium chloride shall be applied only at the locations, at such times and in the amount as may be directed by the OWNER. It shall be spread in such a manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

10.0 EFFLUENT DISPOSAL [SECTION 9.12]

Effluent disposal is not applicable at the Site because no products or by-products will be generated during the remedial action. Excess regulated soil or solid waste generated during the construction of the engineered barriers is to remain onsite for analytical testing in order to determine the appropriate disposal and/or management options. The excess regulated soil will be managed in accordance with the Construction Phase SMP (Appendix C).

11.0 CONTINGENCY PLAN [SECTION 9.13]

A Site-Specific Health and Safety Plan (HASP) is included as Appendix E and will be available on-Site during the duration of remedial activities. The HASP identifies OSHA safe work practices, and includes a contingency plan identifying emergency coordinators and emergency response procedures.

The Project Director, Mr. Mark J. House will be the emergency coordinator for the field activities associated with this RAWP. The Project Director is available at the following contact number:

Office Phone: (401) 728-6860 ext. 207

Cellular Phone: (401) 749-6757

The HASP also includes the RIDEM Project Manager's, Mr. Nicholas Noons' telephone number (401-222-2797 ext. 7517).

Based on the results of the Site Investigation activities, there is no evidence of flammable or reactive materials on Site.

12.0 OPERATING LOG [SECTION 9.14]

Environmental Professional oversight is proposed for the majority of remedial action implementation to confirm specification compliance and support project requisitions. Oversight to be provided shall include the following:

- Inspection of contour and/or grading of the Site prior to the construction of the engineered barrier;
- Management of soil excavation, movement, and disposal; and
- Confirmation of compliance with engineered cap specifications.

An operations log to document activities associated with the implementation of the remedial action will be completed by an Environmental Professional each day the remedial actions are observed. General information that will be recorded on the operations log will include subcontractors and equipment used on-site, hours worked, summary of work performed, waste disposal information (i.e., volume of waste taken offsite, disposal location, and a description of problems identified and response actions taken). In addition, and in accordance with Rule 9.14, the following items will also be included:

- Records of any analyses collected as part of the remedial action; and
- Instances of implementation of the Contingency Plan, or HASP.

A copy of the Operating Log is provided in Appendix F. Completed Operating Logs will be readily available at the Site during implementation of the remedial activities and will be included as part of the Remedial Action Closure Report.

13.0 SECURITY PROCEDURES [SECTION 9.15]

Appropriate OSHA safe work practices shall be employed during the construction of the engineered barriers. Security fencing with monitored entry and exit areas will be employed before, during, and after construction activities. No additional security procedures are required for the proposed remedial approach.

14.0 SHUT-DOWN, CLOSURE AND POST-CLOSURE REQUIREMENTS [SECTION 9.16]

Following recording of the ELUR, annual documentation shall be submitted to the RIDEM certifying that the engineering controls implemented at the Site are being maintained and inspected in accordance with the ELUR. The engineering controls will limit access to and contact with impacted soil. Future management of residual soil contamination at the Site shall be performed in accordance with the ELUR and Soil Management Plan, included as Appendix D.

15.0 INSTITUTIONAL CONTROLS AND NOTICES [SECTION 9.17]

A draft ELUR requiring maintenance of institutional controls such as building structures, pavement, concrete, and landscaped areas in accordance with Rule 8.09 of the Remedial Regulations is included as Appendix D for RIDEM review and approval.

Public notification letters to abutting property owners, easement holders, the Town of Barrington, tenants, and employees regarding the substantive findings of assessment efforts, and the opportunity for public review and comment on the technical feasibility of the preferred remedial alternative was completed prior to submittal of this RAWP.

16.0 COMPLIANCE DETERMINATION [SECTION 9.18]

Following completion of the proposed Phase 1 Remedial Action, achievement of remedial objectives shall be documented in a Remedial Action Closure Report (including cap thickness confirmatory results) to be prepared and submitted to the RIDEM along with a letter requesting the issuance of a Letter of Compliance. A copy of the recorded ELUR will be submitted to the RIDEM.

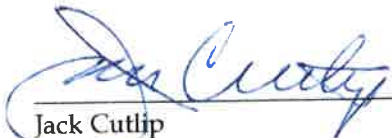
Notification of future redevelopment and construction shall be made to the RIDEM in a manner consistent with the requirements of Section 9.00 of the Remediation Regulations. Best soil management practices shall be employed at all times. At the completion of work, all exposed soils are required to be recapped in Department approved engineering controls consistent with or better than the site surface conditions prior to the work that took place. These measures must be consistent with the Department approved ELUR recorded on the property and the Post Remediation Soil Management Plan.

Notification will also be made to the public in accordance with the prepared Public Involvement Plan.

17.0 CERTIFICATION REQUIREMENTS [SECTION 9.19]

This Remedial Action Work Plan was completed in accordance with Section 9.00 of the RIDEM Remediation Regulations; the following signed statements are included with regard to this RAWP:

As the Performing Party responsible for the submittal of this Remedial Action Work Plan, we certify that the Remedial Action Work Plan is a complete and accurate representation of the contaminated site and the release and contains all known facts surrounding the release to the best of our knowledge.



Jack Cutlip
Bay Spring Realty Co.

As the preparer of this Remedial Action Work Plan, we certify that information contained within the Remedial Action Work Plan is complete and accurate to the best of our knowledge.

ENVIRONMENTAL STRATEGIES & MANAGEMENT, INC.



Mark J. House
Vice President and Senior Scientist



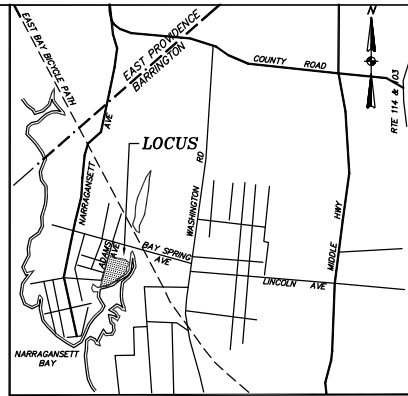
Source: Rhode Island Geographic Information System (RIGIS)
 2015 Topographic Map - Bristol, Rhode Island-Massachusetts Quad



LOCUS MAP

**90 BAY SPRING AVENUE
 BARRINGTON, RHODE ISLAND**

DRAWN BY	PROJECT	PRINT DATE	FIGURE
BPC	7131A	07/06/2016	1

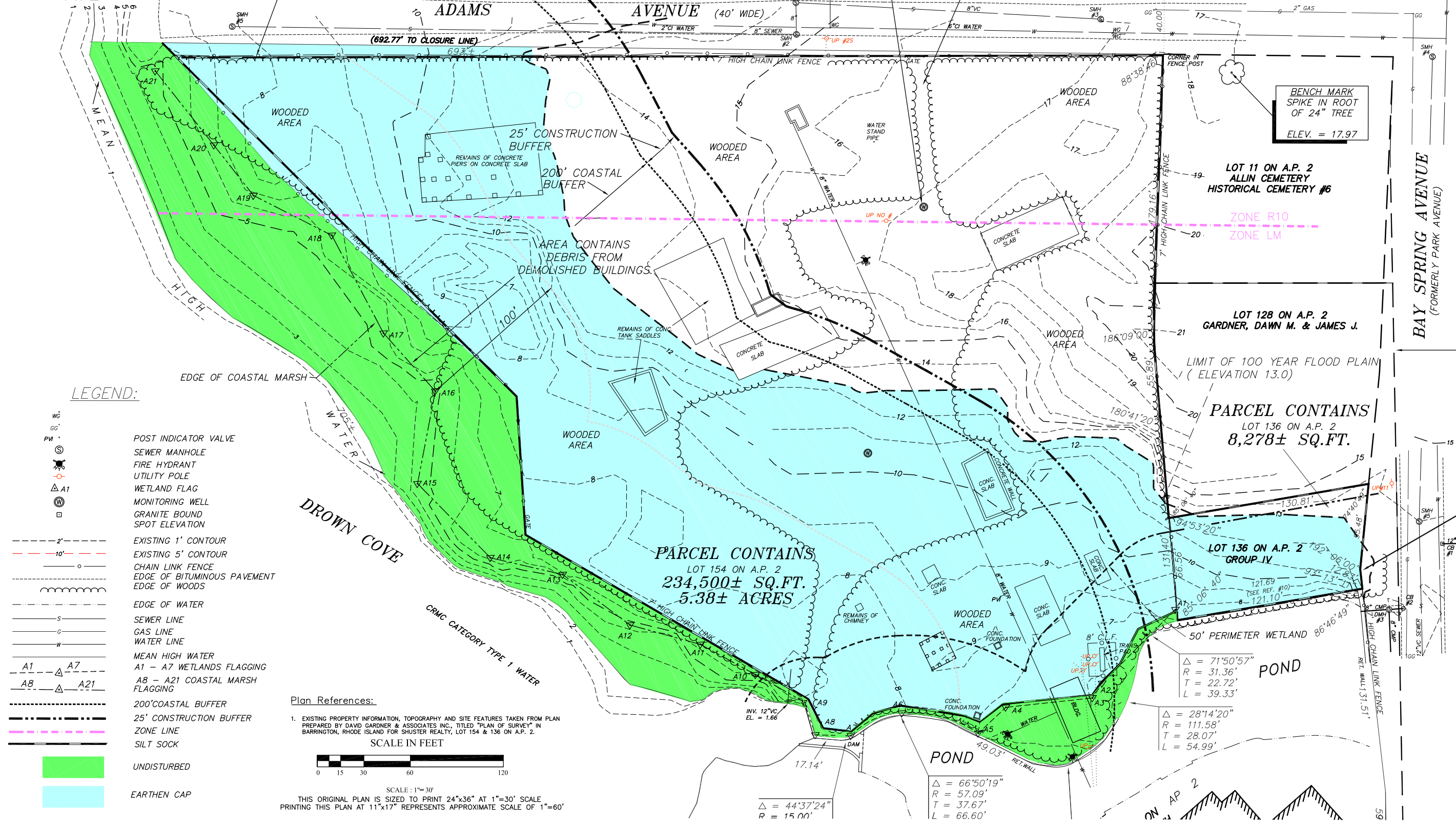
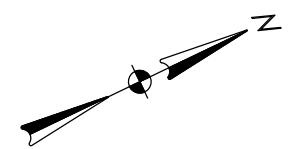


LOCATION MAP
NOT TO SCALE

INSTALL SILT-SOCK
STRAW WATTLES AS SHOWN

BENCH MARK
TOP OF
MONITORING WELL
ELEV. = 17.11

BENCH MARK
SPIKE IN ROOT
OF 24" TREE
ELEV. = 17.97



LEGEND:

- WG 6" POST INDICATOR VALVE
- GG 6" SEWER MANHOLE
- PW 6" FIRE HYDRANT
- UP 6" UTILITY POLE
- A1 WETLAND FLAG
- W MONITORING WELL
- GR GRANITE BOUND
- SE SPOT ELEVATION
- 2' EXISTING 1' CONTOUR
- 10' EXISTING 5' CONTOUR
- CHAIN LINK FENCE
- EDGE OF BITUMINOUS PAVEMENT
- EDGE OF WOODS
- EDGE OF WATER
- S SEWER LINE
- G GAS LINE
- W WATER LINE
- A1 - A7 MEAN HIGH WATER
- A1 - A7 WETLANDS FLAGGING
- A8 - A21 COASTAL MARSH FLAGGING
- 200' COASTAL BUFFER
- 25' CONSTRUCTION BUFFER
- ZONE LINE
- SILT SOCK
- UNDISTURBED
- EARTHEN CAP

Plan References:

- EXISTING PROPERTY INFORMATION, TOPOGRAPHY AND SITE FEATURES TAKEN FROM PLAN PREPARED BY DAVID GARDNER & ASSOCIATES INC., TITLED "PLAN OF SURVEY" IN BARRINGTON, RHODE ISLAND FOR SHUSTER REALTY, LOT 154 & 136 ON A.P. 2.



SCALE: 1"=30'
THIS ORIGINAL PLAN IS SIZED TO PRINT 24"x36" AT 1"=30' SCALE
PRINTING THIS PLAN AT 11"x17" REPRESENTS APPROXIMATE SCALE OF 1"=60'

ES&M
ENVIRONMENTAL & ENGINEERING SOLUTIONS
474 BROADWAY, PAWTUCKET, RI 02880 (401)726-6860

PREPARED FOR:
BAY SPRING REALTY CO.
909 North Main Street
Providence, RI 02904

SHEET TITLE:
SITE PLAN
90 BAY SPRING AVENUE
BARRINGTON, RI

Project No. 7131A
Designed By: RGM
Drawn By: EMD
Checked By: RCA
Date: FEB. 2017
Scale: 1"=30'

1
SHEET 1 OF 2

GENERAL NOTES

- EXISTING UTILITIES HAVE BEEN PLOTTED FROM BEST AVAILABLE DATA AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND NOTIFY THE APPROPRIATE UTILITY AUTHORITY OR COMPANY, EXTREME CAUTION SHALL BE USED WHEN WORKING IN THE VICINITY OF EXISTING UTILITIES.
- LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND PIPES, CONDUITS, AND STRUCTURES, AS SHOWN, ARE APPROXIMATE ONLY, BASED ON FIELD SURVEYS AND THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL MAKE, AT HIS EXPENSE, SUCH SUPPLEMENTAL INVESTIGATIONS, INCLUDING BORINGS AND TEST PITS, AS HE DEEMS NECESSARY TO DETERMINE THE EXACT LOCATION OF UTILITIES AND STRUCTURES. ANY EXPENSE AND/OR DELAY OCCASIONED BY UTILITIES AND STRUCTURES, OR DAMAGED THERETO INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- BEFORE PROCEEDING WITH CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE STATE OF RHODE ISLAND UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM (DIG SAFE) AT 1-800-225-4977.
- ELEVATIONS SHOWN ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929, MSL=0.00
- THE DRAWING INDICATES THE APPROXIMATE LOCATION OF BORINGS TAKEN FOR PURPOSES OF THIS PROJECT. THEY INDICATE THE SUBSURFACE CONDITIONS AT THE LOCATIONS OF THE BORINGS ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE BORING LOGS. GROUNDWATER LEVELS INDICATED ON THE BORING LOGS ARE THOSE EXISTING AT THE TIME SUBSURFACE INVESTIGATIONS WERE MADE AND DO NOT NECESSARILY REPRESENT PERMANENT GROUNDWATER LEVELS.
- THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES TO WITHIN THE PROJECT LIMITS AS SHOWN ON THE SITE PLAN. (PROJECT LIMIT LINE IS THE PROPERTY LINE)
- THE CONTRACTOR SHALL MAINTAIN ALL EXCAVATIONS IN A DRY CONDITION.
- NO SEPARATE PAYMENT OR ALLOWANCE SHALL BE MADE FOR DEWATERING, THE COST FOR ALL DEWATERING SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF WORK AS LISTED IN THE BID FORM OR UNDER MEASUREMENT & PAYMENT.
- ALL PAVEMENT DISTURBED SHALL BE REPAIRED WITH PERMANENT PAVEMENT.
- ALL GRASS, AND PAVEMENT AREAS DISTURBED OUTSIDE OF THE PROJECT LIMITS BY CONSTRUCTION OPERATIONS SHALL BE REPLACED AND RESTORED, IN KIND, AT NO ADDITIONAL EXPENSE TO THE OWNER.
- WHERE EXISTING MATERIALS ARE ENCOUNTERED WHICH, IN THE OPINION OF THE ENGINEER, ARE UNSUITABLE FOR BEDDING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL, AS SPECIFIED, OR AS OTHERWISE DIRECTED.
- ALL EXISTING PIPE, SUBSURFACE STRUCTURES, PAVEMENTS, EXCESS EXCAVATED MATERIALS, DEBRIS, TRASH, VEGETATION AND MISCELLANEOUS MATERIALS REMOVED DURING THE INSTALLATION OF ALL PROPOSED PIPING, AND STRUCTURES, EXCEPT SALVAGEABLE ITEMS, SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS, OFF THE PROJECT SITE, AT NO ADDITIONAL COST TO THE OWNER
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN SHEETING AND BRACING, AS NECESSARY, TO PROTECT WORKMEN AND THE PUBLIC ON OR NEAR THE SITE, PREVENT INJURIOUS CAVE-INS OR EROSION, LOSS OF GROUND AND MAINTAIN ALL ADJACENT STRUCTURES AT ALL TIMES IN FULL ACCORDANCE WITH OSHA REGULATIONS.
- PAVING SHALL BE COMPLETED IN ACCORDANCE WITH THE RIDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
- CONTRACTOR SHALL PROVIDE 8' HIGH TEMPORARY CONSTRUCTION FENCING FOR THE DURATION OF THE PROJECT.
- DUST CONTROL, USING CALCIUM CHLORIDE OR OTHER APPROVED METHOD, SHALL BE PROVIDED DURING ALL EARTH WORK ACTIVITIES.
- ALL ON-SITE STOCKPILED CONTAMINATED SOIL MATERIAL MUST BE COVERED WITH 6 MIL. POLY SHEET DURING OFF WORK HOURS.

UTILITY NOTES:

- EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. BUILDING SERVICE CONNECTIONS (ELECTRIC, GAS, TELEPHONE, WATER AND SANITARY) ARE NOT SHOWN. CONTRACTOR IS TO ASSUME SERVICES ARE PRESENT TO ALL BUILDINGS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH THE "DIG SAFE LAW" ENACTED BY R.I. LEGISLATURE BILL NO. 79S-291, WHICH BECAME EFFECTIVE JULY 1, 1979 AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY, SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE STATE.
- ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE CAPPED.
- UTILITY SERVICE CONNECTIONS SHALL BE MAINTAINED TO ALL EXISTING FACILITIES TO REMAIN.
- FIRE HYDRANTS SHALL NOT BE REMOVED FROM SERVICE WITHOUT WRITTEN AUTHORIZATION FROM THE FIRE DEPARTMENT OR THE WATER AUTHORITY.
- ALL UTILITY POLE RELATED WORK SHALL BE BY OTHERS.

RIDEM PERMIT (S)

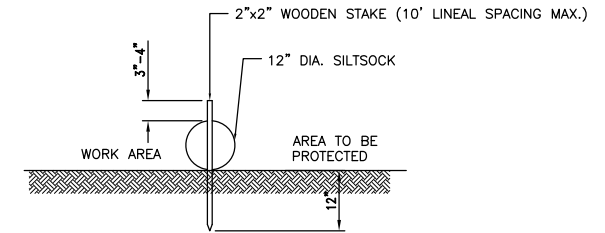
ALL WORK SHALL BE IN FULL CONFORMITY WITH THE PERMITS ISSUED BY RIDEM FOR THE PROJECT.

FILL MATERIAL

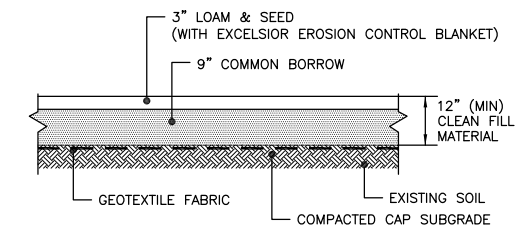
PRIOR TO BRINGING OFF-SITE FILL MATERIAL ONTO THE SUBJECT SITE THE CONTRACTOR SHALL SUBMIT DOCUMENTS FOR REVIEW AND APPROVAL BY THE ENGINEER, CERTIFYING THAT ALL FILL MATERIAL BROUGHT ONTO THE SITE FROM ANOTHER LOCATION AS CLEAN FILL BY ANALYSIS FOR PRIORITY POLLUTANT 13 METALS, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL PETROLEUM HYDROCARBONS AND VOLATILE ORGANIC COMPOUNDS. ALL ANALYTICAL RESULTS MUST MEET THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM) RESIDENTIAL DIRECT EXPOSURE CRITERIA FOR SOIL.

EROSION CONTROL AND SOIL STABILIZATION PROGRAM

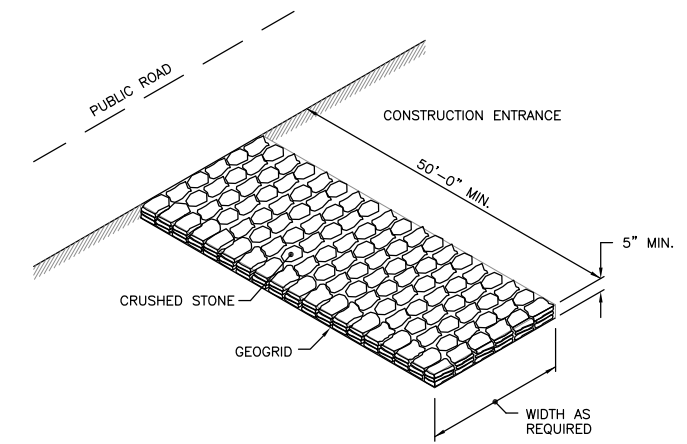
- EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE ROADWAY DRAINAGE SYSTEM, ADJACENT PROPERTY, THE RIVER AND ADJACENT WETLANDS.
- STAKED HAY BALES AND/OR SILT SOCKS OR SILT FENCES SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND AS REQUIRED TO PREVENT SEDIMENTATION ONTO ADJACENT PROPERTIES AND THE RIVER AND ADJACENT WETLANDS.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, SILT FENCING AND HAY BALES AND/OR SILT SOCKS SHALL BE INSTALLED IN LOCATIONS SHOWN ON THE PLANS AND MAINTAINED IN EFFECTIVE CONDITION UNTIL DISTURBED AREAS HAVE BEEN STABILIZED WITH ESTABLISHED VEGETATION. FOLLOWING SUCCESSFUL STABILIZATION OF DISTURBED AREAS, ALL SILT FENCING AND HAY BALES SHALL BE REMOVED FROM THE SITE. PRIOR TO REMOVAL OF THE SILT FENCING AND HAY BALES, ALL ACCUMULATED TRAPPED SEDIMENT MUST BE REMOVED AND DISPOSED BY THE CONTRACTOR.
- PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL PROVIDE A WRITTEN STORMWATER MANAGEMENT PLAN IN CONFORMANCE WITH PARE CORPORATIONS BRANCH STREET DEVELOPMENT PLANS, RIDEM PRELIMINARY DETERMINATION SUBMISSION DATED SEPTEMBER 25, 2014 REVISED DECEMBER 5, 2014
- UNTIL VEGETATIVE COVER IS ESTABLISHED AND DISTURBED AREAS ARE STABILIZED, ACCUMULATED SEDIMENTS SHALL BE REMOVED AS SOON AS SEDIMENTS HAVE ACCUMULATED TO A DEPTH OF 6 INCHES.
- CONSTRUCTION ACTIVITIES AND DISTURBANCE SHALL BE KEPT TO WITHIN THE LIMIT OF DISTURBANCE (LOD). AREAS OUTSIDE THE LOD SHALL REMAIN UNDISTURBED.
- THE CONTRACTOR SHALL INITIATE APPROPRIATES VEGETATIVE PRACTICES, TEMPORARY OR PERMANENT, ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NO MORE THAN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN (21) DAYS.
- ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE.
- TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS, SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE OWNER.
- HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
- ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED.
- STOCKPILES OF SOIL SHALL HAVE NO SLOPE STEEPER THAN 2:1 AND SHALL BE SURROUNDED BY STAKED HAY BALES OR SILT SOCKS. STOCKPILES OF CONTAMINATED SOIL SHALL ALSO BE COVERED WITH 6 MIL. POLY. SHEETING DURING OFF WORK HOURS.
- PIPE INLETS AND OUTFALLS SHALL BE PROTECTED BY HAY-BALE FILTERS OR SILT FENCE UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED.
- TEMPORARY SOIL STOCKPILES AND DEPOSITION AREAS FOR CONSTRUCTION MATERIAL SHALL BE LOCATED OUTSIDE WETLANDS AREAS AND ASSOCIATED BUFFERS AND SHALL BE SURROUNDED BY STAKED HAY BALES.
- TEMPORARY VEGETATION AND/OR HAY MULCHING SHALL BE USED TO PROTECT BARE AREAS AND STOCKPILES FROM EROSION. BARE EARTH SLOPES AND SOIL STOCKPILES SHALL BE KEPT TO A MINIMUM AT ALL TIMES. TEMPORARY SEEDING OR MULCHING SHALL BE INSTALLED ON ALL BARE EARTH PRIOR TO ENDING CONSTRUCTION FOR WINTER OR AS OTHERWISE NECESSARY. THE RECOMMENDED SEEDING DATES FOR TEMPORARY SEEDING ARE: MARCH 1 THRU JUNE 15 AND AUGUST 15 THRU OCTOBER 1, IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.
- OUTLET PROTECTION DURING THE CLEANING AND FLUSHING OF PIPES IS REQUIRED. IF OUTLET PROTECTION AT AN OUTFALL IS NOT FEASIBLE, THEN THE OUTLET OF THE LAST STRUCTURE TO BE CLEANED SHALL BE PLUGGED TO CAPTURE ALL MATERIALS FLUSHED FROM THE PIPES. AFTER THE MATERIALS ARE REMOVED FROM THE DRAINAGE STRUCTURE, THE OUTLET MAY BE UNPLUGGED TO RESUME NORMAL FUNCTIONING.
- ALL HAY BALES AND SILT FENCE SHALL BE INSTALLED WITH THE LOWER 6 INCHES BURIED AND BACKFILLED WITH COMPACTED SOIL MATERIAL. WHEN USED IN COMBINATION, A SUFFICIENT AMOUNT OF THE SILT FENCE SHALL BE PLACED IN THE TRENCH SO THAT THE HAY BALE STAKES ARE DRIVEN THROUGH THE FABRIC OF THE FENCE.
- THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST ONE FOOT INSIDE OF EROSION CONTROLS. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED, AT NO COST TO THE OWNER.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT/REPLACE ALL CONTROLS AS NEEDED. THE CONTRACTOR IS RESPONSIBLE FOR CARRYING OUT NECESSARY MAINTENANCE DURING ALL PHASES OF PROJECT CONSTRUCTION.
- ADDITIONAL HAY BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL REFERENCE THE "R.I. EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, LATEST EDITION, AS A GUIDE.
- ALL TEMPORARY EROSION CONTROLS SUCH AS CHECK DAMS, CB INLET PROTECTION, ETC. SHALL BE MAINTAINED IN PROPER WORKING CONDITION BY THE CONTRACTOR DURING CONSTRUCTION. MAINTENANCE IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETED OR UNTIL MAINTENANCE IS ACCEPTED BY THE OWNER.
- SEDIMENT DEPOSITS SHOULD BE REMOVED FROM PERIMETER SEDIMENT CONTROLS AND CHECK DAMS WHEN SEDIMENT REACHES A DEPTH OF APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS.



SILT SOCK DETAIL
NOT TO SCALE



EARTHEN BARRIER W/ GEO-TEXTILE
NOT TO SCALE



NOTE: SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

CONSTRUCTION ACCESS
NOT TO SCALE

Project No.	7131A
Designed By:	RGM
Drawn By:	EMD
Checked By:	RCA
Date:	FEB. 2017
Scale:	AS SHOWN
<p>2</p> <p>SHEET <u>2</u> OF <u>2</u></p>	

PREPARED FOR:
BAY SPRING REALTY CO.
909 North Main Street
Providence, RI 02904

SHEET TITLE:
**NOTES & DETAILS
90 BAY SPRING AVENUE
BARRINGTON, RI**

ES&M
ENVIRONMENTAL & ENGINEERING SOLUTIONS
474 BROADWAY, PAWTUCKET, RI 02880 (401)726-6860



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

REMEDIAL DECISION LETTER

May 27, 2016

File No. SR-01-0106

(Formerly Case No. 2013-024)

Mr. Jack Cutlip, Real Estate Manager
Bay Spring Realty Company
909 North Main Street
Providence, RI 02904

RE: Bay Spring Realty Company
90 Bay Spring Avenue
Barrington, Rhode Island
Plat Map 2 / Lot 154

Dear Mr. Cutlip:

On November 9, 2011, the Rhode Island Department of Environmental Management's (the Department) Office of Waste Management (OWM) amended the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of contaminated sites in order to eliminate and/or control threats to human health and the environment in a timely and cost-effective manner. A Remedial Decision Letter (RDL) is a formal, written communication from the Department that approves a site investigation, identifies the preferred remedial alternative and authorizes the development of a Remedial Action Work Plan (RAWP) in order to achieve the objectives of the environmental clean-up.

In the matter of the above-referenced property (the Site), the Department's OWM is in receipt of the following documentation submitted pursuant to the Remediation Regulations in response to the reported release at the Site:

1. Hazardous Material Release Notification Form, received by the Department on May 17, 2013, and prepared by Resource Control Associates, Inc. (RCA);
2. Notification to Abutters: Site Investigation & Public Notification List, received by the Department on March 31, 2014, and prepared by RCA;
3. Notification to Abutters: Site Investigation & Public Notification List, received by the Department on May 22, 2014, and prepared by RCA;

4. Underground Storage Tank Closure Assessment Report, received by the Department on August 1, 2014, and prepared by RCA;
5. Site Investigation Report, received by the Department on October 30, 2014, and prepared by RCA;
6. Site Investigation Report Addendum, received by the Department on May 7, 2015, and prepared by RCA;
7. Site Investigation Report Addendum, received by the Department on December 2, 2015, and prepared by RCA;
8. Response to E-Mail Comments Dated December 23, 2015, received by the Department on February 5, 2016, and prepared by RCA;
9. Notification to Abutters, received electronically by the Department on February 24, 2016, and prepared by RCA; and
10. Response to Post-Site Investigation Public Comments, received by the Department on May 24, 2016, and prepared by RCA.

Collectively, these documents define “Existing contamination” at the Site, and fulfill the requirements of a Site Investigation Report (SIR) as described in Rule 7.08 of the Remediation Regulations. In addition, according to our records, public notice was conducted to all abutting property owners, tenants, easement holders, and the municipality, regarding the substantive findings of the completed investigation in accordance with Rules 7.07(A)(ii) and 7.09 of the Remediation Regulations. The opportunity for public review and comment on the technical feasibility of the proposed remedial alternatives commenced on February 18, 2016 and the period closed on March 10, 2016. An extension of the comment period was requested by multiple residents and the comment period was extended from the initial closing date of March 2, 2016. Public comments were received regarding technical terminology, risks to sensitive receptors, contaminants of concern at the Site, the proposed remedial alternatives, the future use of the property, and many other issues related to the proposed redevelopment of the site.

Due to the overwhelming interest in the remediation and proposed redevelopment of the Site, a public meeting was held on March 16, 2016 at the Bay Spring Community Center located at 170 Narragansett Ave, Barrington. Representatives from the Department and Resource Control Associates, Inc. were in attendance to present the findings of the site investigation and to answer any questions pertaining to the remediation of the Site. In addition, a representative from Shuster Realty was in attendance, on behalf of Bay Spring Realty Company, to answer any questions pertaining to the proposed redevelopment of the site. Public comments were accepted for ten (10) days following the meeting. However, no additional comments related to the technical feasibility of the proposed remedy were received. All of the comments received were formally responded to in writing on May 13, 2016 by Resource Control Associates, Inc.

The preferred remedial alternative, as stated in the SIR, consists of the following conceptual measures:

- The encapsulation of site soils that exceed the Department's Method 1 Residential Direct Exposure Criteria (RDEC) with a Department approved engineered control consisting of either two (2) feet of clean fill, one (1) foot of clean fill underlain with a geotextile fabric, four (4) inches of pavement above six (6) inches of clean subgrade, or equivalent.
- Development (i.e. buildings and/or subsurface structures) shall be prohibited in areas of the property where residual volatile organic compound (VOC) contamination has been identified in groundwater unless said development includes a Department approved vapor intrusion mitigation technology (e.g. sub-slab depressurization system, vapor barriers, etc.).
- Groundwater monitoring for VOCs will be conducted on a quarterly basis and include monitoring wells MW-3, MW-5 and MW-105. Groundwater monitoring shall continue until three consecutive quarters of analytical results demonstrate compliance with the Department's GA Groundwater Criteria.
- The integrity of the cap shall be preserved through the recording of an Environmental Land Usage Restriction (ELUR) on the deed for the entire property. The ELUR shall require the performance of annual inspections to document the status of the ELUR and the condition of the engineered controls at the Site. The ELUR shall include a soil management plan (SMP), which will address post remediation activities that disturb onsite soils. The ELUR, once approved by the Department, shall be recorded for the property (Plat Map 2, Lot 154) in the Land Evidence Records for the Town of Barrington and a recorded copy forwarded back to the Department within fifteen (15) days of recording.

The Department hereby approves the SIR, with the above identified preferred remedial alternative, and requires a RAWP be submitted for review and approval, and implemented, to achieve the objectives of the environmental clean-up, in accordance with the following conditions:

1. In accordance with Sections 8.00 and 9.00 of the Remediation Regulations, a RAWP, ELUR, and SMP shall be submitted for Department review and approval within sixty (60) days from the date of this letter. The RAWP shall describe all of the technical details, engineer design elements, and schedules associated with the implementation of the proposed remedy. All of the subsections outlined in Section 9.00 of the Remediation Regulations must be included in order to facilitate the review and approval of the RAWP. If an item is not applicable to this Site, simply state that it is not applicable and provide an explanation in the RAWP.
2. Pursuant to Rule 10.02 of the Remediation Regulations, an application fee for Remedial Action Approvals in the amount of one thousand (\$1,000.00) dollars shall be made payable to the State of Rhode Island General Treasurer and remitted to the Office of Management Services with the attached Remedial Action Approval Application Fee Form. Receipt of

this Remedial Action Approval Application Fee is required prior to the Department's RAWP review.

3. Once the Department reviews the RAWP for consistency with Sections 8.00 and 9.00 of the Remediation Regulations, any written comments generated and forwarded as a result of the review(s) shall be incorporated forthwith into a RAWP Addendum, to be submitted for final approval.
4. Upon finalization of the RAWP, the Department will issue a Remedial Approval Letter (RAL), signifying Department approval. All remedial measures required by the Department shall be implemented, in accordance with the approved schedule, to ensure all applicable exposure pathways at the site are appropriately addressed.

Please be advised that the Department reserves the right to require additional actions under the aforementioned Remediation Regulations at the Property should any of the following occur:

- Conditions at the Site previously unknown to the Department are discovered;
- Information previously unknown to the Department becomes available;
- Policy and/or regulatory requirements change; and/or
- Failure by Bay Spring Realty Company or any future holder of any interest in the Property to adhere to the terms and conditions of the Department approved RAWP, schedule, RAL, ELUR and/or SMP for the Property.

If you have any questions regarding this letter or would like the opportunity to meet with Department personnel, please contact me by telephone at (401) 222-2797, ext. 7517, or by E-mail at nicholas.noons@dem.ri.gov.

Sincerely,



Nicholas J. Noons
Sanitary Engineer
Office of Waste Management

Cc: Kelly Owens, RIDEM/Office of Waste Management
Ashley Blauvelt, RIDEM/Office of Waste Management
Julie Freshman, Resource Control Associates, Inc.

Attachment: Remedial Action Approval Application Fee Form

ES&M QAQC Review Log

Lab	Project Number	Sample Date	Matrix	CAM Form Included?	Lab Presumptive Certainty?	QC Performance Standards Met?	Reporting Limits Achieved?	All Analytes Reported?	Data Usability Status
NETLAB	C1007-28	10/4 - 10/5/2016	Soil	NA	NA	NA	NA	NA	Usable

Sample ID	Date	Lab ID	Matrix	Analysis	Sample ID	Date	Lab ID	Matrix	Analysis
TP-301A (0-2')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-303 (0-2')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs
TP-301A (2-8')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-303 (2-6')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs
TP-301B (0-2')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-304 (0-2')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs
TP-301B (2-6')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-304 (2-6')	10/5/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs
TP-302 (0-2')	10/4/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-305 (0-2')	10/4/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs
TP-302 (2-8')	10/4/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs	TP-305 (2-8')	10/4/2016	Not Applicable	Soil	Metals, TCLP Metals, SVOCs

Rhode Island Site - CAM is not applicable

All surrogate, method blank, Laboratory Control Sample (LCS) and LCS duplicate results were reviewed. This report was deemed usable by Angela Boyd on 10/25/16.



REPORT OF ANALYTICAL RESULTS

NETLAB Case Number C1007-28

Prepared for:

ES&M
273 West Main Street
Norton, MA 02766

Report Date: October 17, 2016

Director
New England Testing Laboratory, Inc.
Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.

59 Greenhill Street, West Warwick, RI 02893

(401) 353-3420

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on October 7, 2016. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is C1007-28.

Custody records are included in this report.

Site: Bay Spring Realty, Barrington, RI

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
TP-301A (0-2')	10/5/2016	Soil	Table II
TP-301A (2-8')	10/5/2016	Soil	Table II
TP-301B (0-2')	10/5/2016	Soil	Table II
TP-301B (2-6')	10/5/2016	Soil	Table II
TP-302 (0-2')	10/4/2016	Soil	Table II
TP-302 (2-8')	10/4/2016	Soil	Table II
TP-303 (0-2')	10/5/2016	Soil	Table II
TP-303 (2-6')	10/5/2016	Soil	Table II
TP-304 (0-2')	10/5/2016	Soil	Table II
TP-304 (2-6')	10/5/2016	Soil	Table II
TP-305 (0-2')	10/4/2016	Soil	Table II
TP-305 (2-8')	10/4/2016	Soil	Table II

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Total Metals		
Arsenic	3050B	6010C
Barium	3050B	6010C
Cadmium	3050B	6010C
Chromium	3050B	6010C
Lead	3050B	6010C
Mercury	NA	7471B
Selenium	3050B	6010C
Silver	3050B	6010C
TCLP Extraction	1311	NA
Arsenic	3010A	6010C
Barium	3010A	6010C
Cadmium	3010A	6010C
Chromium	3010A	6010C
Lead	3010A	6010C
Mercury	NA	7470A
Selenium	3010A	6010C
Silver	3010A	6010C
Semi-Volatile Organic Compounds	3546	8270D

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, USEPA/OSW.

CASE NARRATIVE:

Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

Semi-volatile Compounds

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Sample: TP-301A (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.07	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-301A (2-8')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.08	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-301B (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.13	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-301B (2-6')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.07	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-302 (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.27	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-302 (2-8')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.10	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-303 (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.26	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	0.03	0.02
Mercury	0.002	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-303 (2-6')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.09	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-304 (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.14	0.02
Cadmium	<0.02	0.02
Chromium	1.41	0.02
Lead	0.03	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-304 (2-6')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.03	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-305 (0-2')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.03	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	0.003	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

Sample: TP-305 (2-8')

Case No. C1007-28

Date TCLP Extracted: 10/11/2016

Date Analyzed*: 10/14/2016, 10/19/2016

<u>TCLP Extractable Metals</u>	<u>Result, mg/L</u>	<u>Detection Limit, mg/L</u>
Arsenic	<0.05	0.05
Barium	0.35	0.02
Cadmium	<0.02	0.02
Chromium	<0.02	0.02
Lead	<0.02	0.02
Mercury	<0.001	0.001
Selenium	<0.05	0.05
Silver	<0.02	0.02

* Date Completed

ND = Not Detected

METALS RESULTS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Metals Analysis Department certifies that the results included in this section have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

New England Testing Laboratory, Inc.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-301A 0-2
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 92.12
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	2.22	1.06	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	15.5	0.53	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	0.72	0.53	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	4.12	0.53	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	8.54	0.53	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.070	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	1.06	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.53	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-301A 2-8
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 97.63
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	ND	1.12	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	7.01	0.56	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.56	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	5.32	0.56	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	2.25	0.56	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.066	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	1.12	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.56	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-301B 0-2
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 93.35
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	3.74	0.99	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	12.6	0.50	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	1.09	0.50	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	6.95	0.50	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	21.2	0.50	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.069	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	0.99	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	67.4	0.50	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-301B 2-6
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 97.68
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	ND	0.90	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	5.35	0.45	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.45	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	1.97	0.45	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	1.25	0.45	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.067	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	0.90	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.45	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-302 0-2
 Date collected: 10/4/16
 Matrix: SOIL
 Solids, %: 91.52
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	3.34	1.04	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	25.8	0.52	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	0.96	0.52	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	5.95	0.52	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	12.3	0.52	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.071	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	1.04	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.52	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-302 2-8
 Date collected: 10/4/16
 Matrix: SOIL
 Solids, %: 97.24
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	1.40	0.92	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	6.79	0.46	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.46	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	2.44	0.46	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	1.38	0.46	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.067	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	0.92	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.46	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-303 0-2
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 91.79
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	3.37	1.04	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	43.5	0.52	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	0.93	0.52	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	8.85	0.52	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	44.8	0.52	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	1.87	0.357	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.04	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.52	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-303 2-6
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 98.89
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	2.71	0.99	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	7.19	0.49	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.49	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	3.34	0.49	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	2.83	0.49	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.066	mg/kg	10/11/16	10/12/16
Selenium	7782-49-2	3051A	6010C	ND	0.99	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.49	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-304 0-2
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 73.7
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	11.4	1.29	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	50.0	0.64	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	2.83	0.64	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	6650	0.64	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	27.4	0.64	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	1.19	0.451	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.29	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	87.2	0.64	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-304 2-6
 Date collected: 10/5/16
 Matrix: SOIL
 Solids, %: 98.19
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	1.08	1.02	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	4.31	0.51	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.51	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	10.1	0.51	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	1.97	0.51	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.067	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.02	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.51	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-305 0-2
 Date collected: 10/4/16
 Matrix: SOIL
 Solids, %: 92.07
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	3.00	1.19	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	16.0	0.60	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	0.68	0.60	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	5.40	0.60	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	13.4	0.60	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	1.10	0.359	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.19	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.60	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Case Number: C1007-28
 Sample ID: TP-305 2-8
 Date collected: 10/4/16
 Matrix: SOIL
 Solids, %: 83.94
 Sample Type: Total

AEG/NC/NB

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Units	Date of Preparation	Date Analyzed
Arsenic	7440-38-2	3051A	6010C	ND	1.25	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	7.43	0.63	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	0.74	0.63	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	5.45	0.63	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	4.40	0.63	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.077	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.25	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.63	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.

NA indicates Not Applicable

All results are reported on a dry weight basis.

METALS RESULTS



Sample ID: Preparation Blank
 Matrix: SOIL
 Solids, %: 100
 Sample Type: Total

AEG/NC/NB

		Preparative	Analytical		Reporting		Date of	Date
Parameter	CAS Number	Method	Method	Result	Limit	Units	Preparation	Analyzed
Arsenic	7440-38-2	3051A	6010C	ND	1.00	mg/kg	10/13/16	10/14/16
Barium	7440-39-3	3051A	6010C	ND	0.50	mg/kg	10/13/16	10/14/16
Cadmium	7440-43-9	3051A	6010C	ND	0.50	mg/kg	10/13/16	10/14/16
Chromium	7440-47-3	3051A	6010C	ND	0.50	mg/kg	10/13/16	10/14/16
Lead	7439-92-1	3051A	6010C	ND	0.50	mg/kg	10/13/16	10/14/16
Mercury	7439-97-6	NA	7471B	ND	0.067	mg/kg	10/13/16	10/14/16
Selenium	7782-49-2	3051A	6010C	ND	1.00	mg/kg	10/13/16	10/14/16
Silver	7440-22-4	3051A	6010C	ND	0.50	mg/kg	10/13/16	10/14/16

ND indicates Not Detected.
 NA indicates Not Applicable
 All results are reported on a dry weight basis.

LABORATORY CONTROL SAMPLE RECOVERY

Internal

Parameter	True Value	Result	Units	Recovery, %	LCL, %	UCL, %	Date Analyzed
Arsenic	13.3	11.7	mg/kg	88	85	115	10/14/16
Barium	66.7	65.1	mg/kg	98	85	115	10/14/16
Cadmium	66.7	61.6	mg/kg	92	85	114	10/14/16
Chromium	66.7	65.3	mg/kg	98	85	115	10/14/16
Lead	66.7	64.4	mg/kg	97	85	115	10/14/16
Mercury	0.133	0.139	mg/kg	104	85	115	10/14/16
Selenium	13.3	12.5	mg/kg	94	85	115	10/17/16
Silver	26.6	27.1	mg/kg	102	85	115	10/14/16

RESULTS: SEMIVOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-301A (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-301A (0-2)
 Sample wt/vol: 15.814 (g/ml) G Lab File ID: B101307.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 7.88 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
91-20-3	Naphthalene	140	U
91-57-6	2-Methylnaphthalene	140	U
208-96-8	Acenaphthylene	140	U
83-32-9	Acenaphthene	140	U
132-64-9	Dibenzofuran	140	U
86-73-7	Fluorene	140	U
85-01-8	Phenanthrene	140	U
120-12-7	Anthracene	140	U
206-44-0	Fluoranthene	140	U
129-00-0	Pyrene	140	U
56-55-3	Benzo(a)anthracene	140	U
218-01-9	Chrysene	140	U
205-99-2	Benzo(b)fluoranthene	140	U
207-08-9	Benzo(k)fluoranthene	140	U
50-32-8	Benzo(a)pyrene	140	U
193-39-5	Indeno(1,2,3-cd)pyrene	140	U
53-70-3	Dibenz(a,h)anthracene	140	U
191-24-2	Benzo(g,h,i)perylene	140	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-301A (2-6)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-301A (2-6)
 Sample wt/vol: 16.054 (g/ml) G Lab File ID: B101308.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 2.37 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
91-20-3	Naphthalene	130		U
91-57-6	2-Methylnaphthalene	130		U
208-96-8	Acenaphthylene	130		U
83-32-9	Acenaphthene	130		U
132-64-9	Dibenzofuran	130		U
86-73-7	Fluorene	130		U
85-01-8	Phenanthrene	130		U
120-12-7	Anthracene	130		U
206-44-0	Fluoranthene	130		U
129-00-0	Pyrene	130		U
56-55-3	Benzo(a)anthracene	130		U
218-01-9	Chrysene	130		U
205-99-2	Benzo(b)fluoranthene	130		U
207-08-9	Benzo(k)fluoranthene	130		U
50-32-8	Benzo(a)pyrene	130		U
193-39-5	Indeno(1,2,3-cd)pyrene	130		U
53-70-3	Dibenz(a,h)anthracene	130		U
191-24-2	Benzo(g,h,i)perylene	130		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-301B (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-301B (0-2)
 Sample wt/vol: 16.009 (g/ml) G Lab File ID: B101309.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 6.65 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
91-20-3	Naphthalene	130		U
91-57-6	2-Methylnaphthalene	130		U
208-96-8	Acenaphthylene	130		U
83-32-9	Acenaphthene	130		U
132-64-9	Dibenzofuran	130		U
86-73-7	Fluorene	130		U
85-01-8	Phenanthrene	130		U
120-12-7	Anthracene	130		U
206-44-0	Fluoranthene	130		U
129-00-0	Pyrene	130		U
56-55-3	Benzo(a)anthracene	130		U
218-01-9	Chrysene	130		U
205-99-2	Benzo(b)fluoranthene	130		U
207-08-9	Benzo(k)fluoranthene	130		U
50-32-8	Benzo(a)pyrene	130		U
193-39-5	Indeno(1,2,3-cd)pyrene	130		U
53-70-3	Dibenz(a,h)anthracene	130		U
191-24-2	Benzo(g,h,i)perylene	130		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-301B (2-6)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-301B (2-6)
 Sample wt/vol: 15.926 (g/ml) G Lab File ID: B101310.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 2.32 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
91-20-3	Naphthalene	130		U
91-57-6	2-Methylnaphthalene	130		U
208-96-8	Acenaphthylene	130		U
83-32-9	Acenaphthene	130		U
132-64-9	Dibenzofuran	130		U
86-73-7	Fluorene	130		U
85-01-8	Phenanthrene	130		U
120-12-7	Anthracene	130		U
206-44-0	Fluoranthene	130		U
129-00-0	Pyrene	130		U
56-55-3	Benzo(a)anthracene	130		U
218-01-9	Chrysene	130		U
205-99-2	Benzo(b)fluoranthene	130		U
207-08-9	Benzo(k)fluoranthene	130		U
50-32-8	Benzo(a)pyrene	130		U
193-39-5	Indeno(1,2,3-cd)pyrene	130		U
53-70-3	Dibenz(a,h)anthracene	130		U
191-24-2	Benzo(g,h,i)perylene	130		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-302 (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-302 (0-2)
 Sample wt/vol: 15.931 (g/ml) G Lab File ID: B101311.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 8.48 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
91-20-3	Naphthalene	140		U
91-57-6	2-Methylnaphthalene	140		U
208-96-8	Acenaphthylene	140		U
83-32-9	Acenaphthene	140		U
132-64-9	Dibenzofuran	140		U
86-73-7	Fluorene	140		U
85-01-8	Phenanthrene	140		U
120-12-7	Anthracene	140		U
206-44-0	Fluoranthene	140		U
129-00-0	Pyrene	140		U
56-55-3	Benzo(a)anthracene	140		U
218-01-9	Chrysene	140		U
205-99-2	Benzo(b)fluoranthene	140		U
207-08-9	Benzo(k)fluoranthene	140		U
50-32-8	Benzo(a)pyrene	140		U
193-39-5	Indeno(1,2,3-cd)pyrene	140		U
53-70-3	Dibenz(a,h)anthracene	140		U
191-24-2	Benzo(g,h,i)perylene	140		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-302 (2-8)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-302 (2-8)
 Sample wt/vol: 16.036 (g/ml) G Lab File ID: B101312.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 2.76 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
91-20-3	Naphthalene	130		U
91-57-6	2-Methylnaphthalene	130		U
208-96-8	Acenaphthylene	130		U
83-32-9	Acenaphthene	130		U
132-64-9	Dibenzofuran	130		U
86-73-7	Fluorene	130		U
85-01-8	Phenanthrene	130		U
120-12-7	Anthracene	130		U
206-44-0	Fluoranthene	130		U
129-00-0	Pyrene	130		U
56-55-3	Benzo(a)anthracene	130		U
218-01-9	Chrysene	130		U
205-99-2	Benzo(b)fluoranthene	130		U
207-08-9	Benzo(k)fluoranthene	130		U
50-32-8	Benzo(a)pyrene	130		U
193-39-5	Indeno(1,2,3-cd)pyrene	130		U
53-70-3	Dibenz(a,h)anthracene	130		U
191-24-2	Benzo(g,h,i)perylene	130		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-303 (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-303 (0-2)
 Sample wt/vol: 15.635 (g/ml) G Lab File ID: B101313.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 8.21 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
91-20-3	Naphthalene	140		U
91-57-6	2-Methylnaphthalene	140		U
208-96-8	Acenaphthylene	140		U
83-32-9	Acenaphthene	140		U
132-64-9	Dibenzofuran	140		U
86-73-7	Fluorene	140		U
85-01-8	Phenanthrene	2200		
120-12-7	Anthracene	210		
206-44-0	Fluoranthene	2700		
129-00-0	Pyrene	3300		
56-55-3	Benzo(a)anthracene	1100		
218-01-9	Chrysene	1500		
205-99-2	Benzo(b)fluoranthene	1100		
207-08-9	Benzo(k)fluoranthene	1000		
50-32-8	Benzo(a)pyrene	1200		
193-39-5	Indeno(1,2,3-cd)pyrene	850		
53-70-3	Dibenz(a,h)anthracene	190		
191-24-2	Benzo(g,h,i)perylene	860		

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-303 (2-6)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-303 (2-6)
 Sample wt/vol: 15.833 (g/ml) G Lab File ID: B101314.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 1.11 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
91-20-3	Naphthalene	130	U
91-57-6	2-Methylnaphthalene	130	U
208-96-8	Acenaphthylene	130	U
83-32-9	Acenaphthene	130	U
132-64-9	Dibenzofuran	130	U
86-73-7	Fluorene	130	U
85-01-8	Phenanthrene	130	U
120-12-7	Anthracene	130	U
206-44-0	Fluoranthene	130	U
129-00-0	Pyrene	130	U
56-55-3	Benzo(a)anthracene	130	U
218-01-9	Chrysene	130	U
205-99-2	Benzo(b)fluoranthene	130	U
207-08-9	Benzo(k)fluoranthene	130	U
50-32-8	Benzo(a)pyrene	130	U
193-39-5	Indeno(1,2,3-cd)pyrene	130	U
53-70-3	Dibenz(a,h)anthracene	130	U
191-24-2	Benzo(g,h,i)perylene	130	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-304 (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-304 (0-2)
 Sample wt/vol: 15.142 (g/ml) G Lab File ID: B101315.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 26.3 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
91-20-3	Naphthalene	180		U
91-57-6	2-Methylnaphthalene	180		U
208-96-8	Acenaphthylene	180		U
83-32-9	Acenaphthene	180		U
132-64-9	Dibenzofuran	180		U
86-73-7	Fluorene	180		U
85-01-8	Phenanthrene	420		
120-12-7	Anthracene	180		U
206-44-0	Fluoranthene	500		
129-00-0	Pyrene	630		
56-55-3	Benzo(a)anthracene	210		
218-01-9	Chrysene	310		
205-99-2	Benzo(b)fluoranthene	200		
207-08-9	Benzo(k)fluoranthene	210		
50-32-8	Benzo(a)pyrene	230		
193-39-5	Indeno(1,2,3-cd)pyrene	180		U
53-70-3	Dibenz(a,h)anthracene	180		U
191-24-2	Benzo(g,h,i)perylene	180		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-304 (2-6)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-304 (2-6)
 Sample wt/vol: 16.198 (g/ml) G Lab File ID: B101316.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 1.81 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
91-20-3	Naphthalene	130	U
91-57-6	2-Methylnaphthalene	130	U
208-96-8	Acenaphthylene	130	U
83-32-9	Acenaphthene	130	U
132-64-9	Dibenzofuran	130	U
86-73-7	Fluorene	130	U
85-01-8	Phenanthrene	130	U
120-12-7	Anthracene	130	U
206-44-0	Fluoranthene	130	U
129-00-0	Pyrene	130	U
56-55-3	Benzo(a)anthracene	130	U
218-01-9	Chrysene	130	U
205-99-2	Benzo(b)fluoranthene	130	U
207-08-9	Benzo(k)fluoranthene	130	U
50-32-8	Benzo(a)pyrene	130	U
193-39-5	Indeno(1,2,3-cd)pyrene	130	U
53-70-3	Dibenz(a,h)anthracene	130	U
191-24-2	Benzo(g,h,i)perylene	130	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TP-305 (0-2)

Lab Name: New England Testing Laboratory Contract: Bay Springs

Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M

Matrix: (soil/water) SOIL Lab Sample ID: TP-305 (0-2)

Sample wt/vol: 15.477 (g/ml) G Lab File ID: B101317.D

Level: (low/med) LOW Date Received: 10/7/2016

% Moisture: 7.93 decanted:(Y/N) N Date Extracted: 10/11/2016

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
91-20-3	Naphthalene	140	U
91-57-6	2-Methylnaphthalene	140	U
208-96-8	Acenaphthylene	140	U
83-32-9	Acenaphthene	140	U
132-64-9	Dibenzofuran	140	U
86-73-7	Fluorene	140	U
85-01-8	Phenanthrene	340	
120-12-7	Anthracene	140	U
206-44-0	Fluoranthene	570	
129-00-0	Pyrene	500	
56-55-3	Benzo(a)anthracene	250	
218-01-9	Chrysene	330	
205-99-2	Benzo(b)fluoranthene	290	
207-08-9	Benzo(k)fluoranthene	270	
50-32-8	Benzo(a)pyrene	220	
193-39-5	Indeno(1,2,3-cd)pyrene	220	
53-70-3	Dibenz(a,h)anthracene	140	U
191-24-2	Benzo(g,h,i)perylene	190	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



TP-305 (2-8)

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: TP-305 (2-8)
 Sample wt/vol: 15.831 (g/ml) G Lab File ID: B101318.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 16.06 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
91-20-3	Naphthalene	150		U
91-57-6	2-Methylnaphthalene	150		U
208-96-8	Acenaphthylene	150		U
83-32-9	Acenaphthene	150		U
132-64-9	Dibenzofuran	150		U
86-73-7	Fluorene	150		U
85-01-8	Phenanthrene	150		U
120-12-7	Anthracene	150		U
206-44-0	Fluoranthene	150		U
129-00-0	Pyrene	150		U
56-55-3	Benzo(a)anthracene	150		U
218-01-9	Chrysene	150		U
205-99-2	Benzo(b)fluoranthene	150		U
207-08-9	Benzo(k)fluoranthene	150		U
50-32-8	Benzo(a)pyrene	150		U
193-39-5	Indeno(1,2,3-cd)pyrene	150		U
53-70-3	Dibenz(a,h)anthracene	150		U
191-24-2	Benzo(g,h,i)perylene	150		U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.



BSS101116

Lab Name: New England Testing Laboratory Contract: Bay Springs
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Matrix: (soil/water) SOIL Lab Sample ID: BSS101116
 Sample wt/vol: 15 (g/ml) G Lab File ID: B101303.D
 Level: (low/med) LOW Date Received: 10/7/2016
 % Moisture: 0 decanted:(Y/N) N Date Extracted: 10/11/2016
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/13/2016
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
91-20-3	Naphthalene	130	U
91-57-6	2-Methylnaphthalene	130	U
208-96-8	Acenaphthylene	130	U
83-32-9	Acenaphthene	130	U
132-64-9	Dibenzofuran	130	U
86-73-7	Fluorene	130	U
85-01-8	Phenanthrene	130	U
120-12-7	Anthracene	130	U
206-44-0	Fluoranthene	130	U
129-00-0	Pyrene	130	U
56-55-3	Benzo(a)anthracene	130	U
218-01-9	Chrysene	130	U
205-99-2	Benzo(b)fluoranthene	130	U
207-08-9	Benzo(k)fluoranthene	130	U
50-32-8	Benzo(a)pyrene	130	U
193-39-5	Indeno(1,2,3-cd)pyrene	130	U
53-70-3	Dibenz(a,h)anthracene	130	U
191-24-2	Benzo(g,h,i)perylene	130	U

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY



Lab Name: New England Testing Laboratory Contract: Bay Springs Realt
 Lab Code: RI010 Case No.: C1007-28 SAS No.: ES+M SDG No.: ES+M
 Level: (low/med) LOW

	EPA SAMPLE NO.	S1 #	S2 #	S3 #	TOT OUT
01	BSS101116	71	69	101	0
02	LSS101116	73	71	110	0
03	TP-301A (0-2)	81	85	121	0
04	TP-301A (2-6)	83	83	123	0
05	TP-301B (0-2)	81	84	120	0
06	TP-301B (2-6)	75	79	110	0
07	TP-302 (0-2)	72	79	118	0
08	TP-302 (2-8)	74	75	117	0
09	TP-303 (0-2)	78	90	128	0
10	TP-303 (2-6)	69	73	117	0
11	TP-304 (0-2)	78	80	120	0
12	TP-304 (2-6)	60	63	129	0
13	TP-305 (0-2)	81	91	127	0
14	TP-305 (2-8)	68	76	104	0

QC LIMITS

S1 = Nitrobenzene-d5 (30-130)
 S2 = 2-Fluorobiphenyl (30-130)
 S3 = Terphenyl-d14 (30-130)

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

Semivolatile Soil Laboratory Control Spike

Date Extracted: 10/11/2016

Date Analyzed: 10/12/2016

	Amount Spiked	Result,	Recovery	Lower Recovery	Upper Recovery
	ug/Kg	ug/Kg	%	Limit	Limit
Naphthalene	3333	2728	82	40	140
2-Methylnaphthalene	3333	2847	85	40	140
Acenaphthylene	3333	2737	82	40	140
Acenaphthene	3333	2754	83	40	140
Dibenzofuran	3333	2647	79	40	140
Fluorene	3333	2814	84	40	140
Phenanthrene	3333	2961	89	40	140
Anthracene	3333	3006	90	40	140
Fluoranthene	3333	3040	91	40	140
Pyrene	3333	3225	97	40	140
Benzo(a)anthracene	3333	3209	96	40	140
Chrysene	3333	3194	96	40	140
Benzo(b)fluoranthene	3333	3383	102	40	140
Benzo(k)fluoranthene	3333	3371	101	40	140
Benzo(a)pyrene	3333	3390	102	40	140
Indeno(1,2,3-cd)pyrene	3333	2946	88	40	140
Dibenz(a,h)anthracene	3333	3115	93	40	140
Benzo(g,h,i)perylene	3333	2998	90	40	140

NEW ENGLAND TESTING LABORATORY, INC.
 59 Greenhill Street
 West Warwick, RI 02893
 1-888-863-8522

C1007-28

CHAIN OF CUSTODY RECORD

PROJ. NO.		PROJECT NAME/LOCATION		SCOPED		SOL		OTHER		NO. OF CONTAINERS		REMARKS	
7131A		Bay Spring Realty Barrington, RI											
CLIENT		ESM											
REPORT TO:		474 Broadway Pawtucket, RI											
INVOICE TO:		enclave@esm-inc.com											
		anavarro@esm-inc.com											
DATE	TIME	GRAB	COMP	SAMPLE ID.									
10/15/16	10:00	X		TP-301A (0-2')	X					1	NA	X	
10/15/16	10:00	X		TP-301A (2-8')	X					1	NA	X	
10/15/16	10:20	X		TP-301B (0-2')	X					1	NA	X	
10/15/16	10:20	X		TP-301B (2-6')	X					1	NA	X	
10/14/16	11:45	X		TP-302 (0-2')	X					1	NA	X	
10/14/16	11:45	X		TP-302 (2-8')	X					1	NA	X	
10/15/16	13:30	X		TP-303 (0-2')	X					1	NA	X	
10/15/16	13:30	X		TP-303 (2-6')	X					1	NA	X	
10/15/16	12:45	X		TP-304 (0-2')	X					1	NA	X	
10/15/16	12:45	X		TP-304 (2-6')	X					1	NA	X	
10/14/16	13:40	X		TP-305 (0-2')	X					1	NA	X	
10/14/16	13:40	X		TP-305 (2-8')	X					1	NA	X	

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Laboratory Remarks:
	10/17/16 09:35	Bruce Goodnow	10-7-16 9:35	Temp. received: 40 Cooled
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Special Instructions:
Bruce Goodnow	10-7-16 2:40		10/7/16 1400	List Specific Detection Limit Requirements:
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Turnaround (Business Days)

**Netlab subcontracts the following tests: Radiologicals, Radon, Asbestos, NCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

APPENDIX A:

Semi-Volatile Data converted from units of PPB to units of PPM

The following data provided in this appendix was created using the data populated from the electronic data deliverable spreadsheets. This data has been converted from units of PPB to units of PPM at the client's request. Although these conversions are checked for accuracy, **only the original hard copy (pdf) result pages can be considered true, valid and legally defensible.**

Sample: TP-301A (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.140	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.140	mg/kg
Acenaphthylene	208-96-8	ND	0.140	mg/kg
Acenaphthene	83-32-9	ND	0.140	mg/kg
Dibenzofuran	132-64-9	ND	0.140	mg/kg
Fluorene	86-73-7	ND	0.140	mg/kg
Phenanthrene	85-01-8	ND	0.140	mg/kg
Anthracene	120-12-7	ND	0.140	mg/kg
Fluoranthene	206-44-0	ND	0.140	mg/kg
Pyrene	129-00-0	ND	0.140	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.140	mg/kg
Chrysene	218-01-9	ND	0.140	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.140	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.140	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.140	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.140	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.140	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.140	mg/kg

N.D.= Not Detected

Sample: TP-301A (2-8')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-301B (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-301B (2-6')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-302 (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.140	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.140	mg/kg
Acenaphthylene	208-96-8	ND	0.140	mg/kg
Acenaphthene	83-32-9	ND	0.140	mg/kg
Dibenzofuran	132-64-9	ND	0.140	mg/kg
Fluorene	86-73-7	ND	0.140	mg/kg
Phenanthrene	85-01-8	ND	0.140	mg/kg
Anthracene	120-12-7	ND	0.140	mg/kg
Fluoranthene	206-44-0	ND	0.140	mg/kg
Pyrene	129-00-0	ND	0.140	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.140	mg/kg
Chrysene	218-01-9	ND	0.140	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.140	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.140	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.140	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.140	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.140	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.140	mg/kg

N.D.= Not Detected

Sample: TP-302 (2-8')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-303 (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.140	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.140	mg/kg
Acenaphthylene	208-96-8	ND	0.140	mg/kg
Acenaphthene	83-32-9	ND	0.140	mg/kg
Dibenzofuran	132-64-9	ND	0.140	mg/kg
Fluorene	86-73-7	ND	0.140	mg/kg
Phenanthrene	85-01-8	2.200	0.140	mg/kg
Anthracene	120-12-7	0.210	0.140	mg/kg
Fluoranthene	206-44-0	2.700	0.140	mg/kg
Pyrene	129-00-0	3.300	0.140	mg/kg
Benzo(a)anthracene	56-55-3	1.100	0.140	mg/kg
Chrysene	218-01-9	1.500	0.140	mg/kg
Nbenzo(b)fluoranthene	205-99-2	1.100	0.140	mg/kg
Benzo(k)fluoranthene	207-08-9	1.000	0.140	mg/kg
Benzo(a)pyrene	50-32-8	1.200	0.140	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	0.850	0.140	mg/kg
Dibenz(a,h)anthracene	53-70-3	0.190	0.140	mg/kg
Benzo(g,h,i)perylene	191-24-2	0.860	0.140	mg/kg

N.D.= Not Detected

Sample: TP-303 (2-6')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-304 (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.180	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.180	mg/kg
Acenaphthylene	208-96-8	ND	0.180	mg/kg
Acenaphthene	83-32-9	ND	0.180	mg/kg
Dibenzofuran	132-64-9	ND	0.180	mg/kg
Fluorene	86-73-7	ND	0.180	mg/kg
Phenanthrene	85-01-8	0.420	0.180	mg/kg
Anthracene	120-12-7	ND	0.180	mg/kg
Fluoranthene	206-44-0	0.500	0.180	mg/kg
Pyrene	129-00-0	0.630	0.180	mg/kg
Benzo(a)anthracene	56-55-3	0.210	0.180	mg/kg
Chrysene	218-01-9	0.310	0.180	mg/kg
Nbenzo(b)fluoranthene	205-99-2	0.200	0.180	mg/kg
Benzo(k)fluoranthene	207-08-9	0.210	0.180	mg/kg
Benzo(a)pyrene	50-32-8	0.230	0.180	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.180	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.180	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.180	mg/kg

N.D.= Not Detected

Sample: TP-304 (2-6')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.130	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.130	mg/kg
Acenaphthylene	208-96-8	ND	0.130	mg/kg
Acenaphthene	83-32-9	ND	0.130	mg/kg
Dibenzofuran	132-64-9	ND	0.130	mg/kg
Fluorene	86-73-7	ND	0.130	mg/kg
Phenanthrene	85-01-8	ND	0.130	mg/kg
Anthracene	120-12-7	ND	0.130	mg/kg
Fluoranthene	206-44-0	ND	0.130	mg/kg
Pyrene	129-00-0	ND	0.130	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.130	mg/kg
Chrysene	218-01-9	ND	0.130	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.130	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.130	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.130	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.130	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.130	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.130	mg/kg

N.D.= Not Detected

Sample: TP-305 (0-2')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.140	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.140	mg/kg
Acenaphthylene	208-96-8	ND	0.140	mg/kg
Acenaphthene	83-32-9	ND	0.140	mg/kg
Dibenzofuran	132-64-9	ND	0.140	mg/kg
Fluorene	86-73-7	ND	0.140	mg/kg
Phenanthrene	85-01-8	0.340	0.140	mg/kg
Anthracene	120-12-7	ND	0.140	mg/kg
Fluoranthene	206-44-0	0.570	0.140	mg/kg
Pyrene	129-00-0	0.500	0.140	mg/kg
Benzo(a)anthracene	56-55-3	0.250	0.140	mg/kg
Chrysene	218-01-9	0.330	0.140	mg/kg
Nbenzo(b)fluoranthene	205-99-2	0.290	0.140	mg/kg
Benzo(k)fluoranthene	207-08-9	0.270	0.140	mg/kg
Benzo(a)pyrene	50-32-8	0.220	0.140	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	0.220	0.140	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.140	mg/kg
Benzo(g,h,i)perylene	191-24-2	0.190	0.140	mg/kg

N.D.= Not Detected

Sample: TP-305 (2-8')

Case Number: C1007-28

Method: 8270D

Compound Name	CAS Number	Sample Result	Reporting Limit	Units
Naphthalene	91-20-3	ND	0.150	mg/kg
2-Methylnaphthalene	91-57-6	ND	0.150	mg/kg
Acenaphthylene	208-96-8	ND	0.150	mg/kg
Acenaphthene	83-32-9	ND	0.150	mg/kg
Dibenzofuran	132-64-9	ND	0.150	mg/kg
Fluorene	86-73-7	ND	0.150	mg/kg
Phenanthrene	85-01-8	ND	0.150	mg/kg
Anthracene	120-12-7	ND	0.150	mg/kg
Fluoranthene	206-44-0	ND	0.150	mg/kg
Pyrene	129-00-0	ND	0.150	mg/kg
Benzo(a)anthracene	56-55-3	ND	0.150	mg/kg
Chrysene	218-01-9	ND	0.150	mg/kg
Nbenzo(b)fluoranthene	205-99-2	ND	0.150	mg/kg
Benzo(k)fluoranthene	207-08-9	ND	0.150	mg/kg
Benzo(a)pyrene	50-32-8	ND	0.150	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.150	mg/kg
Dibenz(a,h)anthracene	53-70-3	ND	0.150	mg/kg
Benzo(g,h,i)perylene	191-24-2	ND	0.150	mg/kg

N.D.= Not Detected



CONSTRUCTION PHASE SOIL MANAGEMENT PLAN

**90 Bay Spring Avenue
Barrington, Rhode Island**

July 20, 2017

Prepared for:

Bay Spring Realty Company
909 North Main Street
Providence, Rhode Island 02904

Prepared by:

Environmental Strategies & Management, Inc.
273 West Main Street
Norton, MA 02766
(508) 226-1800

ES&M Project No. 7131A

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SECTION 02202

EARTHWORK AND CONSTRUCTION SOIL MANAGEMENT PLAN

1.0 GENERAL

1.01 Description

- A. The work covered under this section includes all activities required to manage soil handled at the Site, including:
1. Performing all operations of excavating, back-filling, compacting, grading, hauling, and other work necessary for the construction of earth work site capping, and appurtenant work in accordance with the Drawings and Specifications.
 2. Installation of shoring and bracing required.
 3. Excavation of structures, unsuitable materials, and their disposal in approved locations. Any surplus excavated materials shall be disposed offsite in approved locations as a work item under this section.
 4. All dust and erosion control requirements.
 5. Protection of existing pipelines, utilities, structures, and new work.
 6. All required authorization to perform work must be obtained by the Contractor prior to any construction work, including Town permits.
 7. All work shall be in full conformity with the permits issued by RIDEM for this project.
- B. DEFINITIONS
1. Earth excavation shall mean the excavation, removal, stockpiling, and/or satisfactory disposal of all materials, within the limits set forth or as directed.
 2. Materials to be excavated shall include organic and inorganic silts, peat, clays, sand, gravel; pavement, cobbles, and boulders; soft or disintegrated rock; brick and concrete masonry; debris and all other obstructions not included in other sections.

- a. Unsuitable materials for use as backfill are defined as organic matter, silt, peat, and solid waste or any combination thereof having unsuitable in-situ bearing properties; and all materials that are too loose or saturated to provide satisfactory bearing when used for backfill.
- b. If unsuitable material is encountered the Contractor shall immediately notify the Engineer and shall not proceed further until instructions are given. No material of any kind may be removed from the site without prior approval by the Engineer.

1.02 Protection

A. TREES AND SHRUBBERY

1. Existing trees and shrubbery to remain shall be protected from injury.
2. All existing trees to remain and which may be damaged by construction operations shall be boxed and protected, and all such protection shall be maintained until completion of work.

B. UTILITIES

1. The Contractor shall verify location of all existing utilities and notify the appropriate utility authority or company, extreme caution shall be used when working in the vicinity of existing utilities. Any damage to existing utilities which are to remain in place shall be repaired by the contractor at no cost to the owner.
2. All existing utilities to be abandoned shall be capped.
3. Utility service connections shall be maintained to all existing facilities to remain.
4. Fire hydrants shall not be removed from service without written authorization from the fire department or water authority.

C. PROPERTY

1. Any damage done due to excavation, backfilling, or settlement of the backfill or injury to persons or damage to property occurring as a result of such damage shall be the responsibility of the Contractor. All costs to repair such damage, in a manner satisfactory to the property Owner, shall be borne by the Contractor, at no additional cost to the Owner.

1.03 Delivery, Storage, and Handling

- A. Prior to bringing off-site fill material on the subject site, the Contractor shall submit documents for review and approval by the Engineer, certifying all fill material brought onto the site from another location as clean fill by analysis for priority pollutant 13 metals, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and volatile organic compounds. All analytical results must meet the Rhode

Island Department of Environmental Management (RIDEM) Residential Direct Exposure Criteria for Soil.

- B. Soil materials to be used at the site shall be stockpiled on site in a manner to prevent erosion or runoff of material and release of dust. The material shall be protected from cross contamination from other materials. Any stockpiled materials, including clean fill, must be underlain and covered with polyethylene sheeting and be secured at the end of each day with all appropriate erosion and sediment controls to limit the loss of the cover and protect against storm-water and wind erosion (i.e. hay bales, rocks, silt fencing).
- C. The Contractor shall be required to use covered trucks during hauling and transportation of soil, remove all loose or adhered soils from the transport vehicle before it leaves the site or crosses any road, and shall sweep and clean pavement of any soil that is deposited onto any roadway continually during work.
- D. Geotextile fabric to be used shall be delivered to the site with each roll labeled by the manufacturer and shall identify manufacturers name, product identification, thickness, length, width, and roll number. Delivery rolls of fabric shall be prepared to ship by appropriate means to prevent damage of material and facilitate off-loading. The on-site storage location provided by the Contractor shall protect the fabric from punctures, abrasions, and excess dirt and moisture.

1.04 Erosion Control

- A. Soil Erosion and Sedimentation Controls shall be provided in accordance with the "Rhode Island Soil Erosion and Sediment Control Handbook" and The RIPDES General Permit for Storm Water Discharge from Construction Activity.
- B. Silt-sock product such as standard durable mesh fabric casing containing a filter media consisting of either recycled construction wood waste, locally produced compost or, if requested, raw wood chips. Also referred to as wattles, filter sock, biorolls or compost filter sock. Silt-sock protection must be provided on the downhill side of the slope, offset six (6) feet from the edge of the excavation in all critical areas, as indicated on the Drawings or as directed by RIDEM.
- C. Site Inspections must be conducted in accordance with "The RIPDES General Permit for Storm Water Discharge from Construction Activity". Site inspections must be conducted by or under the supervision of the owner and operator at least once every seven (7) calendar days and within twenty four (24) hours of each storm event of 0.25 inch or greater in a 24-hour period of time during construction to insure that the erosion controls are intact. Identified deficiencies shall be corrected immediately at no additional expense to the Owner.

1.05 Health and Safety Plan

- A. Prior to the start of work on the site, and no later than ten (10) calendar days after the date of the Notice to Proceed, Contractor shall prepare and submit an initial Site-specific Health and Safety Plan which includes consideration of all known and potential hazards at the site. Work may not proceed at the project site until the Contractor's Health and Safety Plan has been received by the Engineer.

2.0 PRODUCTS

2.01 Common Borrow

Clean fill (see Section 1.03A for certification requirements) to be used in the earth barrier layer and backfill material as needed to meet the grades shown on the plans shall be gravelly in nature and shall conform to the minimum data as specified below and shall consist of clean, hard, and durable particles or fragments, and shall be free from clay, organic matter, or other objectionable material. Gradation shall conform to the requirements below:

U.S. Standard Sieve Size	% Passing by Weight
3"	60-100
½"	50-85
3/8"	45-80
#4	40-75
#40	0-45
#200	0-15

2.03 Geo-Textile Filter Fabric

Fabric shall be Mirafi FW402 as manufactured by Tencate Geosynthetics Inc. or approved equal shall meet the following material specification below:

Grab Tensile	200 lbs	(Cross Machine Direction)
Grab Tensile Elongation	10%	(Cross Machine Direction)
Trapezoid Tear Strength	75 lbs	(Cross Machine Direction)
CBR Puncture Strength	675 lbs	(Minimum Average Roll Value)
UV Resistance	90% strength retained at 500 hrs	(Minimum Test Value)
Apparent Opening Size	40 US Sieve	(Maximum Opening Size)
Permittivity	2.1 sec	(Minimum Roll Value)
Percent Open Area	10%	(Minimum Roll Value)
Flow Rate	145 gpm/sq. ft	(Minimum Roll Value)

3.0 EXECUTION

3.01 Excavation

A. Excavation General

The Contractor shall remove all soil, rock, and other material and utilize existing excavated material as backfill under the proposed barrier or dispose of these materials as required by the contract documents. Excavation operations shall be conducted so that material outside the limits of work will not be disturbed. All erosion controls shall be installed prior to any excavation activities. All materials removed from the site shall be approved in writing and in advance by the Engineer.

B. Control of Water

1. All excavations shall be kept dry at all times, and all construction work shall be performed in the dry, unless otherwise authorized or directed by the Engineer.
2. Grading shall be accomplished to prevent surface water from flowing into excavations.
3. Accumulated water shall be removed by pumping or other approved methods.
4. Any material which becomes unsuitable as a result of the Contractor's lack of dewatering or improper dewatering shall be removed by the Contractor and replaced with earth borrow, as directed and approved by the Engineer, at no additional expense to the Owner.

3.02 Backfilling

A. General

1. Place acceptable soil material in layers to return excavation to pre-construction elevations, or to grades shown on contract plans.
2. Control soil compaction during construction providing minimum percentage of density and moisture specified by the design.
3. The work area shall be graded, shaped, and otherwise drained in such a manner as to minimize soil erosion, siltation or drainage channels, and damage to property outside the limits of the work area. Provide smooth surfaces that readily shed water that are graded to prevent ponding of surface runoff.
4. In freezing weather, a layer of fill shall not be left in an uncompact state at the close of a day's work. Prior to terminating operations for the day, the final layer of fill, after compaction, shall be rolled with a smooth-wheeled roller to eliminate ridges of soil left by tractors, trucks, and compaction equipment.

5. The Contractor shall not place a layer of fill on snow, ice, or soil that was permitted to freeze prior to compaction.

B. Execution

1. All backfill material, re-used soil from site/common borrow shall be placed in one (1) foot lifts. Each layer shall be compacted before the next layer is placed. The surface layer shall be compacted with a minimum of three (3) passes producing full asymptotic compaction with a vibratory roller, or a plate-type vibrating compactor to a minimum 90% compaction.

3.03 Management of Impacted/Contaminated Soil

Management of impacted/contaminated soil shall be conducted in accordance with the requirements of the draft Post Remediation Soil Management Plan which will serve to supplement the RIDEM notification requirement established by the Environmental Land Use Restriction (ELUR) for the property.

- A. Fill material to be excavated and moved around the site has been shown to be impacted with low levels of contamination as summarized on the attached data table. If soil presenting unusual or different visual characteristics is encountered, including but not necessarily limited to, solid waste, the Contractor shall stop work on that material, move construction activities to another location, and notify the Engineer and the Owner immediately. No material shall be excavated or moved offsite without prior written approval from the Engineer.
- B. No trucks used for the transport of impacted soil may be left onsite loaded overnight unless fully covered and secured with the construction fence.
- C. Upon receipt of approval by the Engineer to ship impacted material, the Contractor shall promptly load, manifest, and transport the impacted soil to a disposal facility permitted to accept it. The Contractor shall be responsible for providing certified weight slips to the Engineer of actual quantities of material for off-site disposal/recycling.
- D. An equipment decontamination area shall be constructed in such a manner to protect existing site surfaces, materials, and structures from contamination. The area shall be sized adequately to provide for the decontamination of the largest piece of equipment to be decontaminated, as appropriate. The Contractor shall provide for the proper collection, handling, and disposal of decontamination debris and liquids in conformance with federal, state, and local regulations. No vehicle shall be allowed to leave the site prior to complete decontamination.

ENVIRONMENTAL LAND USAGE RESTRICTION

This Declaration of Environmental Land Usage Restriction (.Restriction.) is made on this ____ day of ___, 20__ by Bay Spring Realty Co. [property owner], and its successors and/or assigns (hereinafter, the "Grantor").

WITNESSETH:

WHEREAS, the Grantor Bay Spring Realty Co. (name) is the Owner in fee simple of certain real property identified as Plat 2, Lot 154, 90 Bay Spring Avenue in the Town of Barrington, [specify Plat, Lot(s), address and Town or City] Rhode Island (the "Property"), more particularly described in Exhibit A (Legal Description) which is attached hereto and made a part hereof;

WHEREAS, the Property (or portion thereof identified in the Class I survey which is attached hereto as Exhibit 2A and is made a part hereof) has been determined to contain soil and/or groundwater which is contaminated with certain Hazardous Materials and/or petroleum in excess of applicable residential or industrial/commercial Direct Exposure Criteria, and/or applicable groundwater objectives criteria pursuant to the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases ("Remediation Regulations");

WHEREAS, the Grantor has determined that the environmental land use restrictions set forth below are consistent with the regulations adopted by the Rhode Island Department of Environmental Management ("Department") pursuant to R.I.G.L. § 23-19.14-1 et seq.;

WHEREAS, the Department's written approval of this Restriction is contained in the document entitled: ~~[Remedial Decision Letter / Settlement Agreement / Order of Approval / Remedial Approval Letter]~~ issued pursuant to the Remediation Regulations;

WHEREAS, to prevent exposure to or migration of hazardous materials and petroleum and to abate hazards to human health and/or the environment, and in accordance with the ~~[Remedial Decision Letter / Remedial Agreement / Order of Approval / Remedial Approval Letter]~~, the Grantor desires to impose certain restrictions upon the use, occupancy, and activities of and at the ~~[Property; / Contaminated Site]~~;

WHEREAS, the Grantor believes that this Restriction will effectively protect public health and the environment from such contamination; and

WHEREAS, the Grantor intends that such restrictions shall run with the land and be binding upon and enforceable against the Grantor and the Grantor's successors and assigns.

NOW, THEREFORE, Grantor agrees as follows:

A. Restrictions Applicable to the [Property /Contaminated Site]: In accordance with the [Remedial Decision Letter, /Remedial Agreement / Order of Approval / Remedial Approval Letter], the use, occupancy and activity of and at the [Property /Contaminated Site] is restricted as follows:

- ~~i — No residential use of the Property shall be permitted that is contrary to Department approvals and restrictions contained herein;~~
- ii No groundwater at the [Property /Contaminated Site] shall be used as potable water;
- iii No soil at the [Property /Contaminated Site] shall be disturbed in any manner without written permission of the Department's Office of Waste Management, except as permitted in the Remedial Action Work Plan (RAWP) or Soil Management Plan (SMP);
- iv Humans engaged in activities at the [Property /Contaminated Site] shall not be exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department approved direct exposure criteria set forth in the Remediation Regulations;
- v ~~Water at the [Property / Contaminated Site] shall be prohibited from infiltrating soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department approved leachability criteria set forth in the Remediation Regulations;~~
- vi No subsurface structures shall be constructed on the [Property /Contaminated Site] over groundwater containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department approved GA ~~or GB~~ Groundwater Objectives set forth in the Remediation Regulations;
- vii The engineered controls at the [Property /Contaminated Site] described in the [RAWP ~~or~~ SMP] contained in Exhibit B attached hereto shall not be disturbed and shall be properly maintained to prevent humans engaged in [residential or industrial/commercial] activity from being exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department-approved [residential or industrial/commercial] direct exposure criteria in accordance with the Remediation Regulations; and
- viii ~~The engineered controls at the [Property / Contaminated Site] described in the RAWP contained in Exhibit B attached hereto shall not be disturbed and shall be properly maintained so that water does not infiltrate soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department-approved leachability criteria set forth in the Remediation Regulations.~~

B. No action shall be taken, allowed, suffered, or omitted at the ~~{Property /Contaminated Site}~~ if such action or omission is reasonably likely to:

- i Create a risk of migration of hazardous materials and/or petroleum;
- ii Create a potential hazard to human health or the environment; or
- iii Result in the disturbance of any engineered controls utilized at the ~~{Property /Contaminated Site}~~, except as permitted in the Department-approved ~~{RAWP or SMP}~~ contained in Exhibit B.

C. Emergencies: In the event of any emergency which presents a significant risk to human health or to the environment, including but not limited to, maintenance and repair of utility lines or a response to emergencies such as fire or flood, the application of Paragraphs A (iii.-viii.) and B above may be suspended, provided such risk cannot be abated without suspending such Paragraphs and the Grantor complies with the following:

- i Grantor shall notify the Department's Office of Waste Management in writing of the emergency as soon as possible but no more than three (3) business days after Grantor's having learned of the emergency. (This does not remove Grantor's obligation to notify any other necessary state, local or federal agencies.);
- ii Grantor shall limit both the extent and duration of the suspension to the minimum period reasonable and necessary to adequately respond to the emergency;
- iii Grantor shall implement reasonable measures necessary to prevent actual, potential, present and future risk to human health and the environment resulting from such suspension;
- iv Grantor shall communicate at the time of written notification to the Department its intention to conduct the emergency response actions and provide a schedule to complete the emergency response actions;
- v Grantor shall continue to implement the emergency response actions, on the schedule submitted to the Department, to ensure that the ~~{Property /Contaminated Site}~~ is remediated in accordance with the Remediation Regulations (or applicable variance) or restored to its condition prior to such emergency. Based upon information submitted to the Department at the time the ELUR was recorded pertaining to known environmental conditions at the ~~{Property /Contaminated Site}~~, emergency maintenance and repair of utility lines shall only require restoration of the ~~{Property /Contaminated Site}~~ to its condition prior to the maintenance and repair of the utility lines; and
- vi Grantor shall submit to the Department, within ten (10) days after the completion of the emergency response action, a status report describing the emergency activities that have been completed.

- D. Release of Restriction; Alterations of Subject Area:** The Grantor shall not make, or allow or suffer to be made, any alteration of any kind in, to, or about any portion of the ~~{Property / Contaminated Site}~~ inconsistent with this Restriction unless the Grantor has received the Department's prior written approval for such alteration. If the Department determines that the proposed alteration is significant, the Department may require the amendment of this Restriction. Alterations deemed insignificant by the Department will be approved via a letter from the Department. The Department shall not approve any such alteration and shall not release the ~~{Property / Contaminated Site}~~ from the provisions of this Restriction unless the Grantor demonstrates to the Department's satisfaction that Grantor has managed the ~~{Property / Contaminated Site}~~ in accordance with applicable regulations.
- E. Notice of Lessees and Other Holders of Interests in the ~~{Property / Contaminated Site}~~:** The Grantor, or any future holder of any interest in the ~~{Property / Contaminated Site}~~, shall cause any lease, grant, or other transfer of any interest in the ~~{Property / Contaminated Site}~~ to include a provision expressly requiring the lessee, grantee, or transferee to comply with this Restriction. The failure to include such provision shall not affect the validity or applicability of this Restriction to the ~~{Property / Contaminated Site}~~.
- F. Enforceability:** If any court of competent jurisdiction determines that any provision of this Restriction is invalid or unenforceable, the Grantor shall notify the Department in writing within fourteen (14) days of such determination.
- G. Binding Effect:** All of the terms, covenants, and conditions of this Restriction shall run with the land and shall be binding on the Grantor, its successors and assigns, and each owner and any other party entitled to control, possession or use of the ~~{Property / Contaminated Site}~~ during such period of ownership or possession.
- H. Inspection & Non-Compliance:** It shall be the obligation of the Grantor, or any future holder of any interest in the ~~{Property / Contaminated Site}~~, to provide for annual inspections of the ~~{Property / Contaminated Site}~~ for compliance with the ELUR in accordance with Department requirements.

An officer or director of the company with direct knowledge of past and present conditions of the ~~{Property / Contaminated Site}~~ (the "Company Representative"), or a qualified environmental professional will, on behalf of the Grantor or future holder of any interest in the ~~{Property / Contaminated Site}~~, evaluate the compliance status of the ~~{Property / Contaminated Site}~~ on an annual basis. Upon completion of the evaluation, the Company Representative or environmental professional will prepare and simultaneously submit to the Department and to the Grantor or future holder of any interest in the ~~{Property / Contaminated Site}~~ an evaluation report detailing the findings of the inspection, and noting any compliance violations at the ~~{Property / Contaminated Site}~~. If the ~~{Property / Contaminated Site}~~ is determined to be out of compliance with the terms of the ELUR, the Grantor or future holder of any interest in the ~~{Property / Contaminated Site}~~ shall submit a corrective action plan in writing to the Department within ten (10) days of receipt of the evaluation report, indicating the plans to bring the ~~{Property / Contaminated Site}~~

into compliance with the ELUR, including, at a minimum, a schedule for implementation of the plan.

In the event of any violation of the terms of this Restriction, which remains uncured more than ninety (90) days after written notice of violation, all Department approvals and agreements relating to the ~~{Property /Contaminated Site}~~ may be voided at the sole discretion of the Department.

I. Terms Used Herein: The definitions of terms used herein shall be the same as the definitions contained in Section 3 (DEFINITIONS) of the Remediation Regulations.

IN WITNESS WHEREOF, the Grantor has hereunto set (his/her) hand and seal on the day and year set forth above.

Bay Spring Realty Co. ~~{Name of Person(s), company, LLC or LLP}~~

By:

Grantor (signature)

Grantor (typed name)

STATE OF RHODE ISLAND

COUNTY OF

In (CITY/TOWN), in said County and State, on the ____ day of _____, 20____, before me personally appeared _____, to me known and known by me to be the party executing the foregoing instrument and (he/she) acknowledged said instrument by (him/her) executed to be (his/her) free act and deed.

Notary Public:

My Comm. Expires:

Post Remediation Soil Management Plan

~~Site Name, Address, Plat & Lot~~

90 Bay Spring Avenue, Barrington, RI, Plat 2 Lot 154

July 20, 2017

This Soil Management Plan (SMP) has been prepared to establish procedures that will be followed should future construction/maintenance activities at the ~~(Site Name)~~ 90 Bay Spring Avenue property require the need to manage soils and groundwater excavated from the subsurface or when existing site surfaces / Department approved engineered controls (asphalt, concrete, landscaping and/or foundations) are disturbed. The plan serves to supplement, and will be initiated by, the RIDEM notification requirement established by the Environmental Land Use Restriction (ELUR) for the property.

Background

The Property, located at 90 Bay Spring Avenue, (address) was formerly ~~(background info/ history)~~ the site of an artificial leather manufacturer. The property was found to contain ~~(contamination info)~~ volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and metals during site investigations performed at the property. More recently, the site has been ~~(remediated or)~~ remediated for future development. The Department approved remedy included the implementation of engineering and institutional controls (Environmental Land Use Restriction (ELUR) and Soil Management Plan (SMP)) at the site to limit contact with the impacted on-site soil and groundwater. The regulated site soils are covered with Department approved engineered controls, consisting of building foundations, asphalt pavement, and landscaping ~~(or approved equivalents)~~ other as applicable in order to prevent direct exposure to regulated soils and/or infiltration through soils which exceed the Department's Method 1 (GA or GB) Leachability Criteria.

Applicable Area

This SMP and affiliated ELUR, which restricts the property to Residential or Industrial/Commercial use, pertain to the ~~(entire or portions)~~ entire Property. See attached site figure.

Soil Management

The direct exposure pathway is the primary concern at the site. Individuals engaged in activities at the site may be exposed through incidental ingestion, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. Therefore, the following procedures will be followed to minimize the potential of exposure.

During site work, the appropriate precautions will be taken to restrict unauthorized access to the property.

During all site/earth work, dust suppression (e.g. watering, etc) techniques must be employed at all times.

In the event that an unexpected observation or situation arises during site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves but will contact the appropriate authority for further direction.

In the event that certain soils on site were not previously characterized, these soils are presumed to be regulated until such time that it is demonstrated to the Department, through sampling and laboratory analysis that they are not regulated. (For example, presumptive remedies or locations of previously inaccessible soil.)

If excess soil is generated / excavated from the Property, the soil is to remain on-site for analytical testing, to be performed by an environmental professional, in order to determine the appropriate disposal and/or management options. The soil must be placed on and covered with polyethylene/plastic sheeting during the entire duration of its staging and secured with appropriate controls to limit the loss of the cover and protect against storm-water and / or wind erosion (e.g. hay bales, silt fencing, rocks, etc).

Excavated soils will be staged and temporarily stored in a designated area of the property. Within reason, the storage location will be selected to limit the unauthorized access to the materials (e.g., away from public roadways/walkways). No regulated soil will be stockpiled on-site for greater than 60 days without prior Department approval.

In the event that stockpiled soils pose a risk or threat of leaching hazardous materials, a proper leak-proof container (e.g. drum or lined roll-off) or secondary containment will be utilized.

Soils excavated from the site may not be re-used as fill on residential property. Excavated fill material shall not be re-used as fill on commercial or industrial properties unless it meets the Department's Method 1 Residential Direct Exposure Criteria for all constituents listed in Table 1 of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). Copies of the laboratory analysis results shall be maintained by the site owner and included in the annual inspection report for the site, or the closure report if applicable. In the event that the soil does not meet any of these criteria, the material must be properly managed and disposed of off site at a licensed facility.

Site soils, which are to be disposed of off-site, must be done so at a licensed facility in accordance with all local, state, and federal laws. Copies of the material shipping records associated with the disposal of the material shall be maintained by the site owner and included in the annual inspection report for the site.

Best soil management practices should be employed at all times and regulated soils should be segregated into separate piles (or cells or containers) as appropriate based upon the results of analytical testing, when multiple reuse options are planned (e.g. reuse on-site, reuse at a Department approved Industrial/Commercial property, or disposal at a Department approved licensed facility).

All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during the soil disturbance activities will be properly containerized and disposed of following completion of the work. All vehicles utilized during the work shall be properly decontaminated as appropriate prior to leaving the site.

At the completion of site work, all exposed soils are required to be recapped with Department approved engineered controls (2 ft of clean fill or equivalent: building foundations, 4 inches of pavement/concrete underlain with 8 inches of clean fill, and/or 1 foot of clean fill underlain with a geotextile liner) consistent or better than the site surface conditions prior to the work that took place. These measures must also be consistent with the Department approved ELUR recorded on the property. Any clean fill material brought on site is required to meet the Department's Method 1 Residential Direct Exposure Criteria or be designated by an Environmental Professional as Non-Jurisdictional under the Remediation Regulations. The Annual Inspection Report for the site, or Closure Report if applicable, should include either analytical sampling results from the fill demonstrating compliance or alternatively include written certification by an Environmental Professional that the fill is not jurisdictional.

Worker Health and Safety

To ensure the health and safety of on-site workers, persons involved in the excavation and handling of the material on site are required to wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers are also required to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the site.

Department Approval

In accordance with Section A iii of the ELUR, no soil at the property is to be disturbed in any manner without prior written permission of the Department's Office of Waste Management, except for minor inspections, maintenance, and landscaping activities that do not disturb the contaminated soil at the Site. Notification of future development and construction shall be made to the RIDEM in a manner consistent with the requirements of Section 9.00 of the Remediation Regulations. As part of the notification process, the site owner shall provide a brief written description of the anticipated site activity involving soil excavation. The notification should be submitted to the Department no later than 60 days prior to the proposed initiation of the start of site activities. The description shall include an estimate of the volume of soil to be excavated, a list of the known and anticipated contaminants of concern, a site figure clearly identifying the proposed areas to be excavated/disturbed, the duration of the project and the proposed disposal location of the soil. Notification will also be made to the public in accordance with the prepared Public Involvement Plan.

Following written Notification, the Department will determine the post closure reporting requirements. Significant disturbances of regulated soil will require submission of a Closure Report for Department review and approval documenting that the activities were performed in accordance with this SMP and the Department approved ELUR. Minor disturbances of regulated

soil may be documented through the annual certification submitted in accordance with Section H (Inspection & Non-Compliance) of the Department approved ELUR. The Department will also make a determination regarding the necessity of performing Public Notice to abutting property owners/tenants concerning the proposed activities. Work associated with the Notification will not commence until written Department approval has been issued. Once Department approval has been issued, the Department will be notified a minimum of two (2) days prior to the start of activities at the site. Shall any significant alterations to the Department approved plan be necessary, a written description of the proposed deviation, will be submitted to the Department for review and approval prior to initiating such changes.

DRAFT

ES&M - HEALTH AND SAFETY PLAN SHORT FORM

PROJECT INFORMATION AND PERSONNEL

PROJECT NO.	<u>7131A</u>	CLIENT NAME	<u>Bay Spring Realty Co.</u>	H&S MANAGER	<u>Brian Emery</u>
PROJECT NAME	<u>Bay Spring, Barrington</u>	CLIENT ADDRESS	<u>909 North Main Street</u>	HSS/HSO	<u>Mark House</u>
PROJECT MANAGER	<u>Evan Cucé</u>	CITY/STATE	<u>Providence, RI</u>	H&S DESIGNEE	<u>Evan Cucé</u>
CLIENT CONTACT	<u>Mr. Jack Cutlip</u>	CLIENT PHONE	<u>(401) 265-1835</u>	PROJECT/TASK TYPE	<u>Remediation</u>

PROJECT/TASK OBJECTIVES: Remedial clean-up, capping

SITE HISTORY: Historical use as artificial leather manufacturer

DIGSAFE NOTIFIED: YES

CONTAMINANT/HAZARD ANALYSIS

KNOWN (based on previous assessments)				SUSPECTED (based on site history)			
<u>Arsenic</u>	in soil at	<u>18.9</u>	ppm				
<u>PAHs (Benzo(a)pyrene)</u>	in soil at	<u>2.27</u>	ppm				
<u>Arsenic</u>	in groundwater at	<u>0.0146</u>	ppm				
<u>Lead</u>	in groundwater at	<u>0.053</u>	ppm				

HAZARD TYPE/ROUTES OF ENTRY: _____

ANTICIPATED HAZARD LEVEL: LOW

CHARACTERISTIC HAZARDS: NO *If "Yes," describe*

SPECIAL HAZARDS: NO *If "Yes," describe*

PERSONNEL PROTECTION/MONITORING PROGRAM

PPE LEVEL(S): Minimum - Level D **Level D Includes:** Work uniform or clothing. Steel-toed shoes that meet ANSI Z41-1991. Hard hat. Approved safety glasses that meets ANSI Z87.1-1989. Hard hat that meets ANSI Z89.1-1986. Nitrile gloves.

Upgrade - Level C **Level C Includes:** Level D plus one or more of the following: Chemical resistant foot covers.

PE-coated Tyvek suit, Nitrile Butyl Rubber outer gloves and Nitrile inner gloves. NIOSH-approved air-purifying respirator.

RESPIRATORY PROTECTION: Half or full-face respirator with organic vapor/particulate cartridges.

FIELD MONITORING PROGRAM: PID Screening: Record PID readings on the attached Air Monitoring Data Collection Form (Addendum D).

Upgrade to Level C or suspend work if continuous readings of 5 ppm or greater in the breathing zone for 15 minutes.

Suspend work and call HSO if instantaneous any reading of 300 ppm or greater in the breathing zone is detected (OSHA PEL-TWA = 300 ppm for gasoline).

DECONTAMINATION PROCEDURES: Field equipment: Decontaminate with a solution of detergent and water; rinse with water prior to leaving the site.

Disposable PPE: Dispose of according to the requirements of the client and state and federal agencies. Nondisposable PPE (shoes, boots, gloves): Decontaminate outside with a solution of detergent and water and rinse with water. Nondisposable PPE (respirators): Wipe out with disinfecting pad prior to donning.

EMERGENCY RESPONSE INFORMATION

ON-SITE EMERGENCY NOTIFICATION: Use three times three second soundings of vehicle horn to notify on-site personnel of an emergency condition.

ON-SITE EMERGENCY RESPONSE: 1.) Immediately suspend all work activities, 2.) Assess the situation from a safe distance, 3.) Check the affected individual(s) for life-threatening conditions 3.) Notify EMS if necessary, 4.) Provide first aid as appropriate. 5.) Notify Project Manager/SSO, 6.) Turn over site control to EMS personnel.

DIRECTIONS TO HOSPITAL: Attach a map showing the location of the Site relative to the nearest hospital with emergency services and a suggested route (Appendix C).

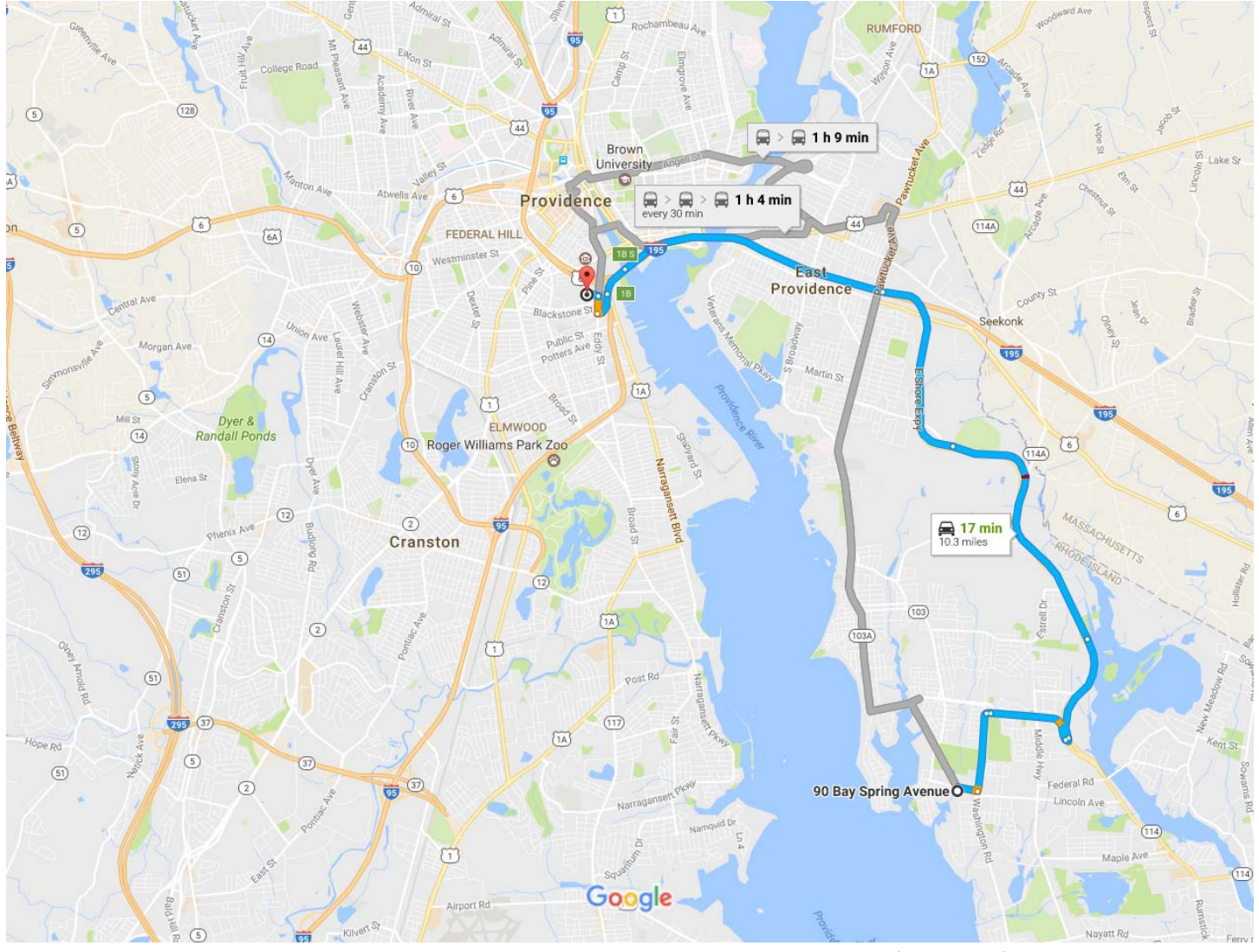
EMERGENCY CONTACTS:				Police / Fire / Ambulance*	<u>911</u>	Notified?	<u>YES / NO</u>	Date/Time
Hospital	<u>Rhode Island Hospital (401) 444-4000</u>	City/Town	<u>Providence</u>			Notified?	<u>YES / NO</u>	Date/Time
HSS/HSO	<u>Mark House (401) 749-6757</u>	City/Town	<u>Pawtucket</u>			Notified?	<u>YES / NO</u>	Date/Time
Local EMS	_____	City/Town	_____			Notified?	<u>YES / NO</u>	Date/Time
RIDEM PM	<u>Nicholas Noons (401) 222-2797 ext. 7517</u>	City/Town	_____			Notified?	<u>YES / NO</u>	Date/Time
State	<u>RIDEM Emergency Response - (401) 222-3070</u>					Notified?	<u>YES / NO</u>	Date/Time
Federal	<u>National Response Center - 1-800-424-8802.</u>					Notified?	<u>YES / NO</u>	Date/Time
Poison Control	<u>1-800-222-1222</u>			* 911 service not available in certain RI and MA towns.		Notified?	<u>YES / NO</u>	Date/Time

Prepared by:	<u>Evan Cucé</u>	Date	<u>2/22/2017</u>
Updated by:	_____	Date	_____
Approved by:	_____	Date	_____
Reviewed by:	<u>Mark House</u>	Date	<u>2/22/2017</u>



90 Bay Spring Avenue, Barrington, RI to Rhode Island Hospital

Drive 10.3 miles, 17 min



Map data ©2017 Google 1 mi

90 Bay Spring Ave
Barrington, RI 02806

Take Washington Rd to County Rd

- ↑ 1. Head east on Bay Spring Ave toward Bella Rd 4 min (1.8 mi)

- ↶ 2. Turn left onto Washington Rd 0.2 mi
▲ Parts of this road may be closed at certain times or days

- ↷ 3. Slight right onto County Rd 0.7 mi


- 📍 4. At the traffic circle, take the 1st exit and stay on County Rd 197 ft




- ↶ 5. Slight left toward County Rd 0.8 mi


- 351 ft


Take Wampanoag Trail, E Shore Expy and I-195 W to Eddy St in Providence. Take exit 1B S from I-195 W


11 min (8.2 mi)


-  6. Slight left onto County Rd 1.0 mi

-  7. Continue onto Wampanoag Trail 2.4 mi
 -  Passing through Massachusetts
 -  Entering Rhode Island


-  8. Continue onto E Shore Expy 1.9 mi


-  9. Merge onto I-195 W 2.5 mi

-  10. Use the 2nd from the right lane to take exit 1B S for Interstate 95 S toward New York 0.3 mi

-  11. Keep right to continue on Exit 1B, follow signs for Eddy St 0.2 mi

- Continue on Eddy St to your destination** 2 min (0.3 mi)

-  12. Turn right onto Eddy St 0.2 mi

-  13. Turn left 0.1 mi

Rhode Island Hospital

593 Eddy St, Providence, RI 02903

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.



REMEDIAL ACTION OPERATING LOG

BAY SPRING REALTY CO
90 BAY SPRING AVENUE, BARRINGTON, RI
Project Number 7131A

Oversight Inspector and Date:

Time On/Off Site:

Weather:

General Job Site Information:

Head Contractor On-Site:

Name:

Address:

Phone Number:

Number of Crew Workers On-Site:

Equipment On-Site:

Current Daily Operations On-Site:

Management of Remedial Waste:

Location of Soil Stockpile No. 1:

Est. Size (Yards³):

Location of Soil Stockpile No. 2:

Est. Size (Yards³):

Location of Soil Stockpile No. 3:

Est. Size (Yards³):

Comments:

Location of Debris Stockpile No.1:

Est. Size (Yards³):

Contents:

Location of Debris Stockpile No. 2:

Est. Size (Yards³):

Contents:

Soil Disposal (No. of Trucks Off-site/Volume of Soil Taken Off-Site/Disposal Location):

Management of Clean Fill:

Source of Clean Fill:

(Analytical Results must be Reviewed and Approved by Resource Controls to be brought On-Site)

Location of Clean Fill:

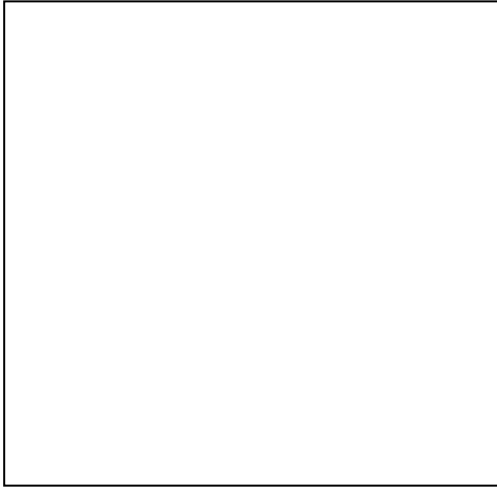
Management of Site Security:

If Security Fence in Place, Location of Fence:

Comments:

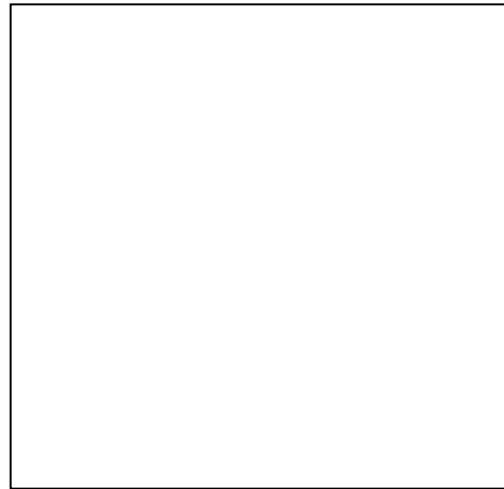
Photo Log:

Number: 1



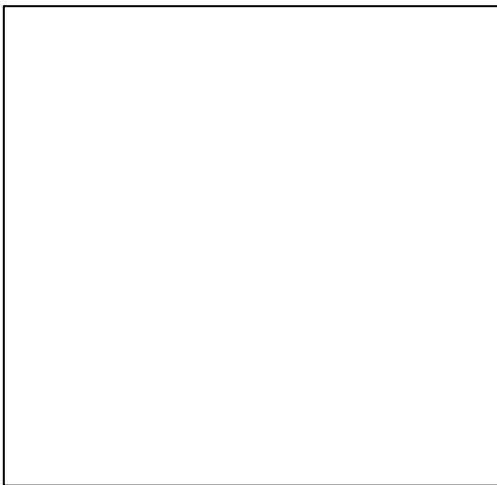
Description:

Number: 3



Description:

Number: 2



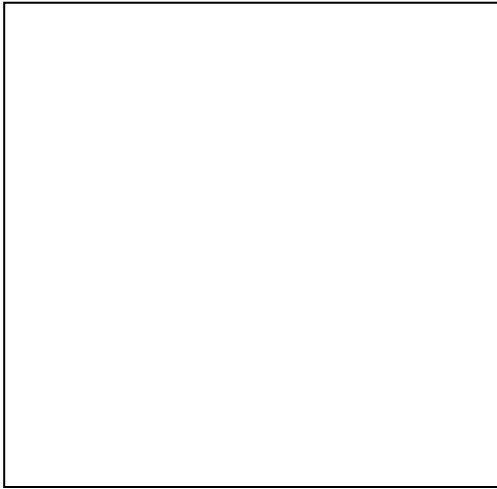
Description

Number 4



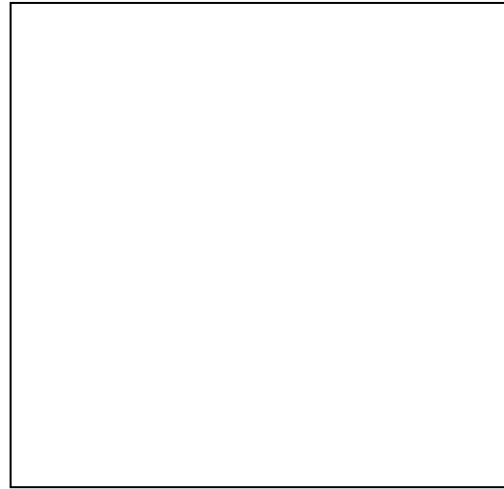
Description

Number: 5



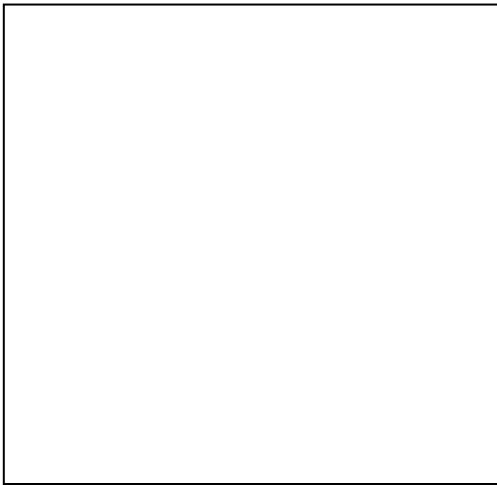
Description:

Number: 7



Description:

Number: 6



Description

Number 8



Description

ADDITIONAL LIMITATIONS

1. The observations described in this Report were made under the conditions stated herein. The conclusions presented in the Report are based solely upon the services described therein and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in the Report was carried out in accordance with our Proposal and Associated Statement of Standard Terms and Conditions.
2. In preparing the Report, ES&M has relied on certain information provided by state and local officials and other parties referenced therein and on information contained in the files of state and/or local agencies available to ES&M at the time of the site evaluation. Although there may have been some degree of overlap in the information provided by the various sources, ES&M did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.
3. Observations and explorations were made of the site as indicated within the Report. Where access to portions of the site were unavailable or limited, ES&M renders no opinion as to the presence of hazardous materials, asbestos, lead paint or oil, or to the presence of indirect evidence relating to the same, in that portion of the site or structure. In addition, ES&M renders no opinion as to the presence of hazardous materials, lead paint, oil, PCBs or asbestos or to the presence of indirect evidence relating to hazardous materials, oil, lead paint or asbestos, where direct observation of the interior walls, floor, or ceiling of a structure on a site was obstructed by objects or coverings on or over these structures.
4. The purpose of this Report was to assess the characteristics of the subject site with respect to the possible presence in the environment of hazardous materials as defined within the project contract. No specific attempt was made to check the regulatory compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.
5. Except as noted within the text of this Report, no quantitative laboratory testing was performed as part of this evaluation. Where such analyses have been conducted by an outside laboratory, ES&M has relied upon the data provided and has not conducted an independent third party evaluation of the reliability of this data.
6. Any chemical analyses performed for specific parameters during the course of studies have been used, in part, as a basis for determining the areas of environmental concern. Additional chemical constituents not searched for may be present at the site. Defined areas of environmental concern do not cover the potential additional constituents.
7. Governmental agencies' interpretations, requirements and enforcement policies may impact the type and scope of any site remediation required for a site. In addition, statutes, rules and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practice. If such changes occur, it may be necessary to re-evaluate their impact on the scope of any site remediation required.
8. Any water level readings made in the test pits, borings and/or wells and were made under the conditions stated on the logs. This data may have been reviewed and interpretations have been made in the text of this Report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall, temperature and other factors different from those prevailing at the time measurements were made.
9. Any and all cost estimates or opinions presented are based on ES&M's opinion of most probable costs and are based on information available at the time of the estimate. Such estimates may vary from actual contract values based on many market and engineering variables beyond the control of ES&M. No warranty or guarantee is offered on the accuracy or validity of the estimates provided.