

Town of Westerly, Rhode Island

Analysis of Brownfield Cleanup Alternatives

Potter Hill Mill

198 Potter Hill Road

Westerly, Rhode Island 02891

Grant No. 4B-00A00985

RIDEM File No. SR-38-1074

09/29/2025





Analysis of Brownfield Cleanup Alternatives

Potter Hill Mill
198 Potter Hill Road
Westerly, RI 02891
Grant No. 4B-00A00985
RIDEM File No. SR-38-1074

Prepared for:
Town of Westerly
45 Broad Street
Westerly, RI 02891

Prepared by:
Groundwater & Environmental Services, Inc.
100 Sebeth Drive, Unit A8
Cromwell, CT 06416
TEL: 800-220-6119
www.gesonline.com

Date:
September 29, 2025

A handwritten signature in black ink that reads 'Matthew Jusino'.

Matthew Jusino
Associate Environmental Scientist

A handwritten signature in black ink that reads 'Hannah Pallein'.

Hannah Pallein
Project Manager

A handwritten signature in black ink that reads 'Joel Walcott'.

Joel Walcott, PE
Principal Engineer



Table of Contents

| | | |
|-------|--|----|
| 1 | Introduction | 1 |
| 2 | Site Background..... | 1 |
| 2.1 | Site Description | 1 |
| 2.2 | Historical Use of Site | 1 |
| 2.3 | Previous Environmental Assessments | 2 |
| 2.3.1 | 2006 – 2007 | 2 |
| 2.3.2 | 2024 – 2025 | 4 |
| 3 | Conceptual Site Model..... | 5 |
| 4 | Property Reuse Plan..... | 5 |
| 5 | Analysis of Brownfield Cleanup Alternatives..... | 6 |
| 5.1 | Remedial Action Area | 6 |
| 5.2 | Relevant Cleanup Regulations..... | 6 |
| 5.3 | Remedial Action Objectives | 7 |
| 5.4 | Remedial Technology Screening and Assembly of Remedial Action Alternatives..... | 7 |
| 5.5 | Remedial Action Alternatives Description and Evaluation..... | 7 |
| 5.6 | Remedial Alternative Descriptions and Assumptions..... | 7 |
| 5.6.1 | Alternative #1 – No Action..... | 8 |
| 5.6.2 | Alternative #2 – Soil Excavation with Off-Site Disposal | 8 |
| 5.6.3 | Alternative #3 – Limited Excavation with Engineering and Institutional Controls..... | 8 |
| 5.7 | Evaluation of Alternatives..... | 9 |
| 5.7.1 | Effectiveness..... | 9 |
| 5.7.2 | Reliability..... | 9 |
| 5.7.3 | Implementability | 9 |
| 5.7.4 | Resilience..... | 9 |
| 5.7.5 | Estimated Costs | 10 |
| 5.8 | Selection of the Preferred Alternative | 10 |

Figures

Figure 1 – Site Location Map

Figure 2 – Site Map

Figure 3 – Sample Location Plan (Jacques Whitford Company, Inc.)

Figure 4 – Soil Sample Location Map



1 Introduction

Groundwater & Environmental Services, Inc. (GES) has prepared this *Analysis of Brownfield Cleanup Alternatives (ABCA)* for the Town of Westerly, Rhode Island (RI), for the former Potter Hill Mill located at 198 Potter Hill Road in Westerly, RI (the site). This work has been completed on behalf of the Rhode Island Department of Environmental Management (RIDEM) through the Targeted Brownfield Assessment (TBA) program, under grant No. 4B-00A00985.

This ABCA provides a summary of the remedial alternatives available to manage arsenic, lead, and polycyclic aromatic hydrocarbon (PAH) impacts detected in soil at the site. The objectives of this ABCA are to evaluate each alternative with respect to effectiveness, short- & long-term risk and reliability, implementability and estimated implementation costs.

The future plans for the site are to redevelop the property as a recreational park for public use. Remedial activities would be completed in conjunction with site redevelopment at a future time.

2 Site Background

2.1 Site Description

The site consists of a loosely rectangular-shaped parcel of land located at 198 Potter Hill Road in Westerly, RI, approximately 170 feet west of the intersection of Potter Hill Road and River Road. The parcel of land is identified by the Town of Westerly as Map 8, Block 23, is zoned RR-60 for rural residential use, and totals approximately 4.55 acres in size.

The site no longer appears to be connected to active utilities. Available utilities in the area include public water, electricity, telephone, and natural gas services observed in the right-of-way of Potter Hill Road. Based on available records, the site formerly utilized a private well and water storage tower for the fire suppression system. The water tower is no longer present at the site; however, the former private well is likely present in the western area of the site in overgrown vegetation.

The Pawcatuck River abuts the site to the north and east. A dam across the Pawcatuck River located to the east of the site channels river water under the site via a network of channels (raceway). No other surface water bodies were observed in the immediate vicinity of the site.

A Site Location Map derived from the U.S. Geological Survey (USGS) *7.5 Minute Series Topographical Quadrangle, 2021, Ashaway, Rhode Island* is provided as **Figure 1**. A Site Map depicting current site features is included as **Figure 2**.

2.2 Historical Use of Site

Based on available information, the site was formerly used as a gristmill and sawmill from approximately 1762 until 1810, a cotton mill and small-scale boat building from 1810 until 1844, and a woolen mill from 1844 until 1955 when activities on-site reportedly ceased. In the years since, the site has become vacant and the buildings have fallen into disrepair. The site is currently



owned by the Town of Westerly, who acquired the property from Renewable Resources Inc. in August 2022. Renewable Resources Inc. had owned the property since October 1992.

2.3 Previous Environmental Assessments

2.3.1 2006 – 2007

Jacques Whitford Company, Inc. (JWC) on behalf of the former property owner, Renewable Resources, Inc (RRI), completed a Phase I Environmental Site Assessment (ESA) for the site in 2006. The *Phase I ESA* (JWC, March 2006) identified several recognized environmental conditions (RECs) relating to historical mill operations and recommended a Phase II ESA to evaluate if identified RECs had impacted soil or groundwater at the site.

On April 3, 2006, JWC oversaw the advancement of three test pits (TP-1 through TP-3), advanced in the buried debris pile on the northwestern area of the site, and three test pits (TP-4 through TP-6), advanced to the west of the building near the former boiler building where coal was historically stored. Locations of the test pits advanced at the site are depicted in **Figure 3**. Two soil samples, collected from test pits TP-3 and TP-5 between 3-5 feet below grade (fbg), were submitted for laboratory analysis of 13 priority pollutant metals (PPM 13) and PAHs. Total arsenic and beryllium were detected in the sample collected from test pit TP-5, at concentrations exceeding RIDEM Residential Direct Exposure Criteria (RDEC).

On September 27, 2006, a *Hazardous Material Release Notification Form* (RNF) was submitted to RIDEM by JWC on behalf of RRI. The RNF documented the presence of arsenic and beryllium in soil exceeding applicable RIDEM RDEC. On October 16, 2006, RIDEM issued a *Letter of Responsibility* assigning case number SR-38-1074 to the site, and requested the completion of a site investigation in accordance with the Remediation Regulations.

To further assess the extent of impacts surrounding test pit TP-5, between September 5 and November 20, 2006, JWC oversaw the collection of an additional twenty-six surface samples (SS-1 through SS-26) between 0-2 fbg. Locations of the surface samples collected at the site are depicted in **Figure 3**. The samples were analyzed for total arsenic, six were also analyzed for Resource Conservation and Recovery Act (RCRA) 8 Metals and three for PAHs. Analytical results indicated arsenic was detected in multiple surface samples at concentrations exceeding RIDEM Residential Direct Exposure Criteria (RDEC). Beryllium and lead were also detected in at least one soil sample at concentrations greater than RIDEM RDEC. On November 8, 2007, following the excavation and removal of buried debris in the northwestern area of the site, two additional samples (SS-30 and SS-31) were collected between 0-2 fbg and submitted for analysis of VOCs, semi-volatile organic compounds (SVOCs) and PPM 13. No compounds were detected in exceedance of RIDEM RDEC. On November 8, 2007, an additional two soil samples (SS-32 and SS-33) were collected between 0-2 fbg, in the area of soil samples SS-20 and SS-23 where the highest concentrations of total lead were previously detected. Soil samples SS-32 and SS-32 were submitted for analysis of lead by Synthetic Precipitation Leaching Procedure (SPLP) methodology. Lead via SPLP methodology was not detected in exceedance of RIDEM RDEC.



To evaluate groundwater quality at the site, JWC oversaw the installation of monitoring wells MW-1 and MW-2 (borings B-1 and B-2, respectively) on October 23, 2006, and MW-3, MW-4 and MW-5 (borings B-3, B-4 and B-5, respectively) on November 8, 2007. Locations of the monitoring wells are depicted in **Figure 3**. During the November 2007 monitoring well installation, one soil sample was collected from each boring (SS-27 through SS-29) at a depth of 5-7 fbg above the apparent observed groundwater sample, and submitted for analysis of volatile organic compounds (VOCs), PAHs and 16 metals in the RIDEM Remediation Regulations. No concentrations were detected in exceedance of RIDEM RDEC criteria. Monitoring wells MW-1 through MW-5 were constructed as 1-inch monitoring wells installed with 10-feet of screen set at depths of 15 to 33 fbg. Each monitoring well was completed with a flush mounted roadbox. Following the installation of monitoring wells at the site, JWC completed two groundwater monitoring events. On October 26, 2006, monitoring wells MW-1 and MW-2 were gauged and sampled and analysis of PAHs, RCRA 8 metals. On November 14, 2007, monitoring wells MW-1 through MW-5 were gauged and sampled for analysis of VOCs and 16 metals in the RIDEM Remediation Regulations. No compounds were detected in exceedance of RIDEM GA groundwater objectives (GOs) during the two events.

On November 8 2007, JWC collected 8 sediment samples (SED-1 through SED-11) from the Pawcatuck River from a depth of 0-1 feet below river bottom. Locations of the sediment samples collected are depicted in **Figure 3**. Sediment samples SED-1 through SED-7 were collected along the Pawcatuck River adjacent to where discharge pipes were observed from a former mill building. Sediment sample SED-8 was collected from under the main mill building where the raceway discharges and in the area of a potential former pipe discharge. Sediment samples SED-1 through SED-8 were submitted for analysis of VOCs, SVOCs and 16 metals in the RIDEM Remediation Regulations. Analytical results indicated concentrations of PAHs in exceedance of the United States Environmental Protection Agency (USEPA) Sediment Quality Guidelines (SQGs) from the *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems* (MacDonald, et. al., January 2000) and/or the RIDEM RDEC in sediment samples SED-1 and SED-8. One or more metals including beryllium, chromium, copper, lead, mercury, and/or zinc, were detected in exceedance of USEPA SQGs and/or RIDEM RDEC in sediment samples SED-1, SED-2, SED-4, SED-5, and SED-7.

To further assess the extent of impacts detected in sediment sample SED-1, on December 5, 2008, JWC collected three additional sediment samples (SED-9 through SED-11) between 0-1 feet below river bottom. Sediment samples were analyzed for PAHs and RCRA 8 metals. Analytical results indicated concentrations of PAHs in exceedance of USEPA SQGs and/or RIDEM RDEC in sediment sample SED-10.

Based on results of 2006-2007 site investigation, including investigation of soil, groundwater, and sediment, JWC concluded that soil near the former boiler building had been impacted by historical coal storage and use at the site to an estimated extent of approximately 9,750 square-feet. Findings of the 2006-2007 site investigation are summarized in the *Revised Site Investigation Report – 198 Potter Hill Road, Westerly, RI* (JWC, March 2008). JWC could not conclude the source of the PAHs and metals in sediment samples, and suggested the PAHs and metals did

not appear to be related to former wool dyeing operations. The concentrations of PAHs in sediment samples are higher than concentrations of PAHs in soil near the former boiler house. Therefore, JWC concluded that the site may have contributed to the PAHs and metals detected in sediment samples; however, other off-site sources also likely contributed to the impacts identified in sediment samples.

2.3.2 2024 – 2025

On July 31, 2024, GES completed a *Phase I ESA* for the Town of Westerly, on behalf of RIDEM through the TBA program. Based on the results of the assessment, several RECs were identified relating to historical mill operations and RIDEM Remediation case number SR-38-1074. To supplement the predetermined TBA assessment, which requested the site-wide assessment of urban fill and groundwater quality, the *Phase I ESA* (GES, July 2024) recommended additional site investigation to further evaluate the extent of historical impacts identified in soil and an evaluation of additional RECs identified in GES' *Phase I ESA*.

Between December 5 and 12, 2024, GES oversaw the advancement of eight soil borings (SB-1 through SB-8), and advancement of eight additional soil borings completed as groundwater monitoring wells (MW-101 through MW-108). Soil boring and monitoring well locations are depicted in **Figure 4**. Monitoring wells MW-101 through MW-108 were constructed as 2-inch diameter monitoring wells installed with 10 feet of screen set at depths between approximately 15 and 18 fbg. Each monitoring well was completed at the surface within a locking steel standpipe. Soil borings SB-1 through SB-5 and monitoring wells MW-101 through MW-105 were installed to complete a site-wide evaluation of soil and groundwater quality pursuant to the TBA assessment, while soil borings SB-6 through SB-8 and monitoring wells MW-106 through MW-108 were completed to evaluate AOCs identified in GES' *Phase I ESA*. Twenty-six soil samples, including three duplicate samples, were submitted for analysis of constituents of concern (COCs) pursuant to the October 30, 2024 *Site Specific Quality Assurance Project Plan Addendum* (SSQAPPA) prepared by Nobis Engineering (Nobis) on behalf of GES for the Town of Westerly, RI. Soil analytical results indicated that PAHs were detected in exceedance of RIDEM RDEC in seven samples (SB-6 [0-2], SB-6 [5-6.5], MW-101 [2-4], MW-102 [0-2], MW-106 [0-2], MW-108 [13-15] and MW-108 [13-15] Duplicate) from borings advanced adjacent to the former building remnants and/or in areas of observed coal combustion residuals. Arsenic was detected in exceedance of the RIDEM RDEC in two soil samples, SB-4 (0-2) and MW-108 (0-2), from borings advanced in the center of the site and in the area of the former boiler house and engine room, respectively. Lead was also detected in exceedance of the RIDEM RDEC in one sample, MW-102 (0-2) from the soil boring advanced in the area of the former oil house building.

Following the installation of monitoring wells MW-101 through MW-108, GES completed two groundwater monitoring events. On December 26, 2024, monitoring wells MW-101 through MW-108 were gauged and sampled for analysis of COCs in accordance with the SSQAPPA. Total arsenic was detected in exceedance of the RIDEM GA GO in monitoring wells MW-105, MW-107 and MW-106 (duplicate sample). No other COCs were detected in exceedance of RIDEM GA GOs. On April 28, 2025, monitoring wells MW-105 through MW-108 were gauged and sampled



for analysis of total and dissolved arsenic. Total and dissolved arsenic were not detected in exceedance of the RIDEM GA GO during this event.

3 Conceptual Site Model

Constituents detected in shallow soil at concentrations at or exceeding RIDEM RDEC and/or I/CDEC include arsenic, lead, and the PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)-fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. Constituents detected in groundwater at concentrations exceeding RIDEM GA GOs were limited to arsenic. Based on the distribution of constituents of concern in soil and groundwater, the release mechanisms at the site are likely related to the emplacement of fill material containing coal and/or coal combustion byproducts from historical mill operations, and usage of pesticides or arsenic-preserved lumber. Polluted fill would have initially impacted surrounding shallow soils through erosion or mechanical dispersion. Due to the low solubility of PAHs in water, it is unlikely that PAHs would have migrated via downward infiltration from rainwater to deeper site soils. Arsenic found in groundwater is typically due to natural sources, but may also be present due to a release to soil. If present from a release to soil, arsenic would be mobilized from soil to the groundwater table via percolation.

Exposure to lead, arsenic and/or PAH-impacted soil would likely be through ingestion or dermal contact for any person engaging directly with surficial and shallow soils on-site. In areas with limited ground cover at the site (i.e. access roads and around buildings), surficial materials can also become entrained by wind or erosion activities. Exposure to arsenic through ingestion of impacted groundwater is a possibility due to the local groundwater classification as GAA, where groundwater is presumed safe for drinking. The site formerly utilized a private well and water storage tower for the fire suppression system. The water tower is no longer present at the site; however, the former private well is likely present in the western area of the site in overgrown vegetation. The site is currently fenced in, vacant, and buildings are in ruins, therefore it is unlikely that the on-site private well could presently be utilized for drinking water. Additional private drinking water supply wells are located at the residences along Post Office Lane. Due to the inherent nature of PAHs and metals, potential for volatilization and inhalation of associated vapors is unlikely.

4 Property Reuse Plan

The local area rounding the site is developed primarily with residential properties. The property is abutted by the Pawcatuck River to the north and east, with approximately 1,000 linear feet of shoreline access to the river. The Town of Westerly, RI plans to redevelop the property as a recreational park for public use. Such redevelopment would likely include the establishment of a parking area for the public, as well as for recreational uses, where development plans may potentially consider: picnic areas, playgrounds, sporting fields, gazebos and/or pavilions, sidewalks, restrooms, water fountains, and access/egress to the Pawtucket River.

5 Analysis of Brownfield Cleanup Alternatives

The purpose of this document is to develop and evaluate remedial alternatives that reduce contaminant concentrations to levels that are protective of human health and the environment. This ABCA consists of the following components:

- Definition of the remedial action area;
- Relevant regulations;
- Establishment of remedial action objectives (RAOs);
- Remedial technology screening and assembly of remedial action alternatives;
- Evaluation of the remedial action alternatives; and
- Selection and justification of the preferred alternative.

5.1 Remedial Action Area

The remedial action area of concern to this ABCA is shallow soil contaminated with lead, arsenic and PAHs, conservatively assumed to include the entire site. This ABCA takes into account that the site is located within a flood zone. Based on a review of the National Flood Hazard Layer FIRMette, a portion of the site is located in a special flood hazard area. The area directly bordering the Pawcatuck River is a regulated floodway and is reported as Flood Zone AE. The southwestern section of the Subject Property is within a Without Base Flood Elevation area and is reported as Zone BA.

In accordance with the *Remedial Decision Letter* (RIDEM, July 10, 2025), monitored natural attenuation (MNA) of groundwater monitoring wells MW-105, MW-106 and MW-107 for arsenic shall also be completed until such a time that GA Groundwater Objections are achieved for three (3) quarterly consecutive rounds of groundwater sampling. Therefore, MNA shall be completed in conjunction with, or before (if completed prior to redevelopment) the preferred remedial alternative discussed within this ABCA.

5.2 Relevant Cleanup Regulations

The RIDEM *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases* (Remediation Regulations) apply to managing the contamination identified at the Site. Applicable regulatory criteria include:

- Residential Direct Exposure Criteria (RDEC)
- Industrial/Commercial Direct Exposure Criteria (I/C DEC)
- GA Leachability Criteria



5.3 Remedial Action Objectives

The Remedial Action Objective is to prevent direct contact exposure to impacted shallow soil at the site during redevelopment activities and the intended future use of the property as a recreational park.

5.4 Remedial Technology Screening and Assembly of Remedial Action Alternatives

To address contamination, present at the site described in Section 2 and 3 of this ABCA, the following three alternatives were retained for further evaluation:

- Alternative #1 – No Action
- Alternative #2 – Soil Excavation with Off-Site Disposal
- Alternative #3 – Limited Excavation with Engineering and Institutional Controls

These three remedial alternatives were selected as they provide the most cost-effective and reliable remedies to address shallow soil contamination at the Site.

5.5 Remedial Action Alternatives Description and Evaluation

Under an EPA Brownfields Grant agreement, an ABCA needs to include the following:

- Information about the site and contamination issues (i.e. exposure pathways, identification of contaminant sources, etc.), cleanup standards, applicable laws, alternatives considered, and the proposed cleanup.
- The evaluation will include:
 - An analysis of reasonable alternatives including no action.
 - An analysis of the effectiveness, implementability, and the cost of the proposed response.
 - Consideration of the resilience of the remedial options considering reasonably foreseeable changing climate conditions (e.g. sea level rise, increased frequency and intensity of flooding, and/or extreme weather events, etc.).
 - Consideration of reduced volume of waste generated/disposed, reduced volume of materials taken to landfills, and recycling and re-using materials generated during the cleanup process to the maximum extent practical.

5.6 Remedial Alternative Descriptions and Assumptions

In accordance with Section 1.8.4 of the Remediation Regulations, GES evaluated relevant remedial alternatives based upon their effectiveness, implementability, technical feasibility,



compliance with state and local laws and regulations, and the ability of the Performing Party to perform the preferred remedial alternative. These alternatives are discussed below.

5.6.1 Alternative #1 – No Action

In some cases, no action might be an acceptable alternative due to lack of potential exposures or other conditions. However, for this site, future use of the property is unknown and may include scenarios that involve direct contact with surficial soils since the site is unpaved. As such, at least one remedial approach is necessary to reduce the risk of exposure to residual arsenic, lead and/or PAH impacts in shallow soils at the site. No action is therefore not recommended.

5.6.2 Alternative #2 – Soil Excavation with Off-Site Disposal

Alternative #2 consists of excavation of on-site soils exceeding RIDEM DEC with off-site disposal, which is an effective remedy to eliminate risk. Confirmatory soil sampling would be used to verify that all impacts exceeding RIDEM RDEC have been successfully removed.

Based on the analytical results collected to date, and the limitations of previous investigations, the full extent of metals and PAH impacts is not considered to be fully delineated. As such, the soil impacts may be more widespread and would require additional investigation to confirm the extent of the areas requiring excavation. Therefore, excavation is not expected to be the best strategy for the site, although the removal of shallow-impacted soils is recommended as part of the remedial alternative outlined below.

Given the location of portions of the site within a mapped floodplain area, an RIDEM-approved variance would likely be required for alteration of the floodplain surface.

5.6.3 Alternative #3 – Limited Excavation with Engineering and Institutional Controls

Alternative #3 consists of limited excavation of on-site soils exceeding RIDEM DEC with off-site disposal, as required for the redevelopment of the site and/or to install and engineered controls. Additional disturbances to impacted soils, beyond what would be necessary for site redevelopment, would not be required for this option; therefore, the potential for site workers to be exposed to contaminants or the potential for contaminants to become entrained and dispersed by wind or erosion would be lessened. Since this option allows for soil impacts to remain in place on-site (provided the stipulations of the Remediation Regulations are met), additional cost to characterize the site, and excavate and dispose of contaminated soil above the requirements for site redevelopment are avoided.

Given the location of portions of the site within a mapped floodplain area, an RIDEM-approved variance would likely be required for alteration of the floodplain surface.

The encapsulation of site soils would render all impacted soil exceeding RIDEM Method 1 Direct Exposure Criteria inaccessible beneath a combination of engineered controls designed for the site. An Environmental Land Use Restriction (ELUR) and accompanying Soil Management Plan (SMP) would be recorded to the deed of the property. Annual ELUR inspections and associated



certification submittals to RIDEM would ensure that the engineered controls remain in good condition and meet the requirements set forth in the ELUR. Any deficiencies to the engineered controls would be maintained and repaired on an as needed basis.

5.7 Evaluation of Alternatives

5.7.1 Effectiveness

Alternative #1 does not achieve the remedial action objective to prevent direct contact exposure to impacted shallow soil at the site during redevelopment activities or future intended use of the property as a recreational area. Therefore, it is not effective.

Alternative #2 is an effective remedial option to protect human health and the environment since it will remove all impacted soils from the site. Remedial objectives would be met following implementation of this alternative.

Alternative #3 is an effective method to protect human health by restricting access to impacted soils. All soil disturbed during site redevelopment activities will be managed in accordance with the approved Soil Management Plan.

5.7.2 Reliability

Alternative #1 is not a reliable method to achieve remedial action objectives.

Alternative #2 and Alternative #3 are reliable alternatives to either remove or restrict access and disturbance to impacted soils.

5.7.3 Implementability

Alternative #1 is easy to implement since no actions would be taken.

Alternative #2 is moderately implementable. It will require funding for the Town of Westerly to excavate delineate, excavate and dispose of impacted soil within the site boundaries.

Alternative #3 is easily implemented by complying with the ELUR requirements and managing soils disturbed during site redevelopment activities in accordance with the approved Soil Management Plan.

5.7.4 Resilience

Alternative #1 does not present any resilience issues (no changes to current site conditions).

Alternative #2 and Alternative #3 would require design considerations to ensure that flooding would not result in the erosion or wash-out of backfill and/or capping materials used to resurface the excavated areas. Installation of additional controls such as revetment along the riverbank to help prevent runoff into the river during flood events would also be considered as part of the remedial design.



5.7.5 Estimated Costs

Due to project unknowns such as the final redevelopment design plan, dimensions of proposed cut/fill areas, demolition plans, geotechnical and environmental suitability of soil for reuse, and limitations of the previous investigations, costs for the three remedial alternatives are estimated. Actual costs to plan, model and implement the remedial alternative should also consider the site's location within a floodplain and any proposed changes to the mapped base flood elevations. Additionally, the remedial alternative should consider any proposed changes to existing wetlands. A more accurate cost estimate for the remedial alternative can be prepared as more data and/or redevelopment plans become available.

At this time, approximate estimated costs for the three remedial alternatives are summarized below.

| Remedial Alternative | Estimated Costs |
|--|-----------------|
| #1 – No Action | \$0 |
| #2 – Soil Excavation with Off-Site Disposal | \$3,000,000 |
| #3 – Limited Excavation with Engineering and Institutional Controls | \$1,000,000 |

5.8 Selection of the Preferred Alternative

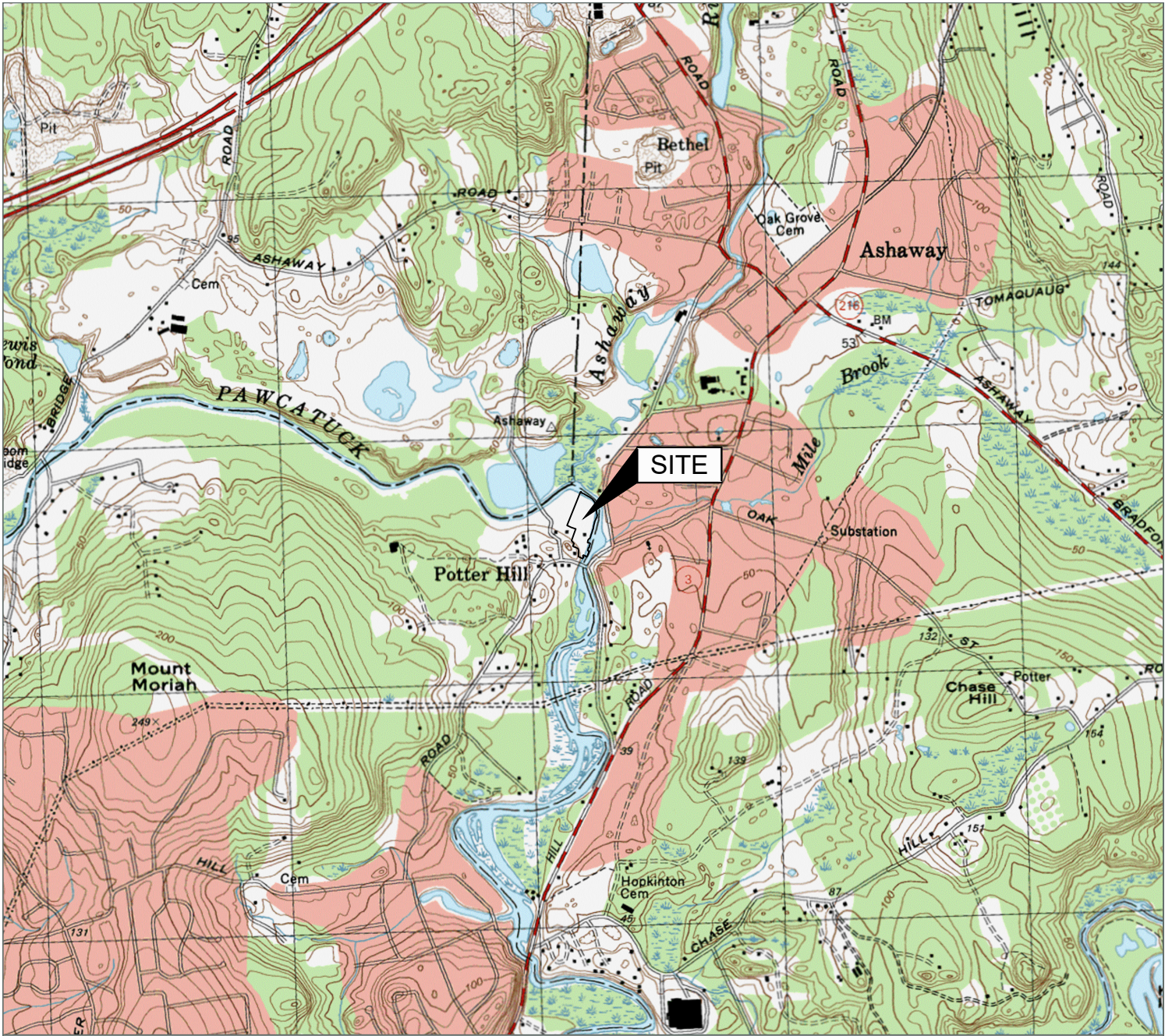
Alternative #1 is not recommended as it does not address potential exposure risks to shallow and surficial impacted media.

Alternative #2 is not recommended, as Alternative #3 is a more cost-effective remedy to achieve remedial goals for the Site.

GES recommends proceeding with Remedial Alternative #3, which may involve limited removal of surficial impacted soils to facilitate site redevelopment, and includes the implementation of engineered and institutional controls for the site. The initial steps associated with this remedy have been or are in the process of completion and include the preparation of a Remedial Action Work Plan (RAWP), submittal of the Remedial Action Approval fee, and completion of post-Site Investigation Public Notice as required by the Remediation Regulations.



Figures



Source:
 USGS 7.5 Minute Series
 Topographic Quadrangle, 2001
 Ashaway, Rhode Island
 Contour Interval = 10 feet



Quadrangle Location

Site Location Map

Town of Westerly
 Potter Hill Mill
 198 Potter Hill Road
 Westerly, Rhode Island

Drawn
 E.V.
 Designed
 H.P.
 Approved

Date
 09/23/25
 Figure
 1

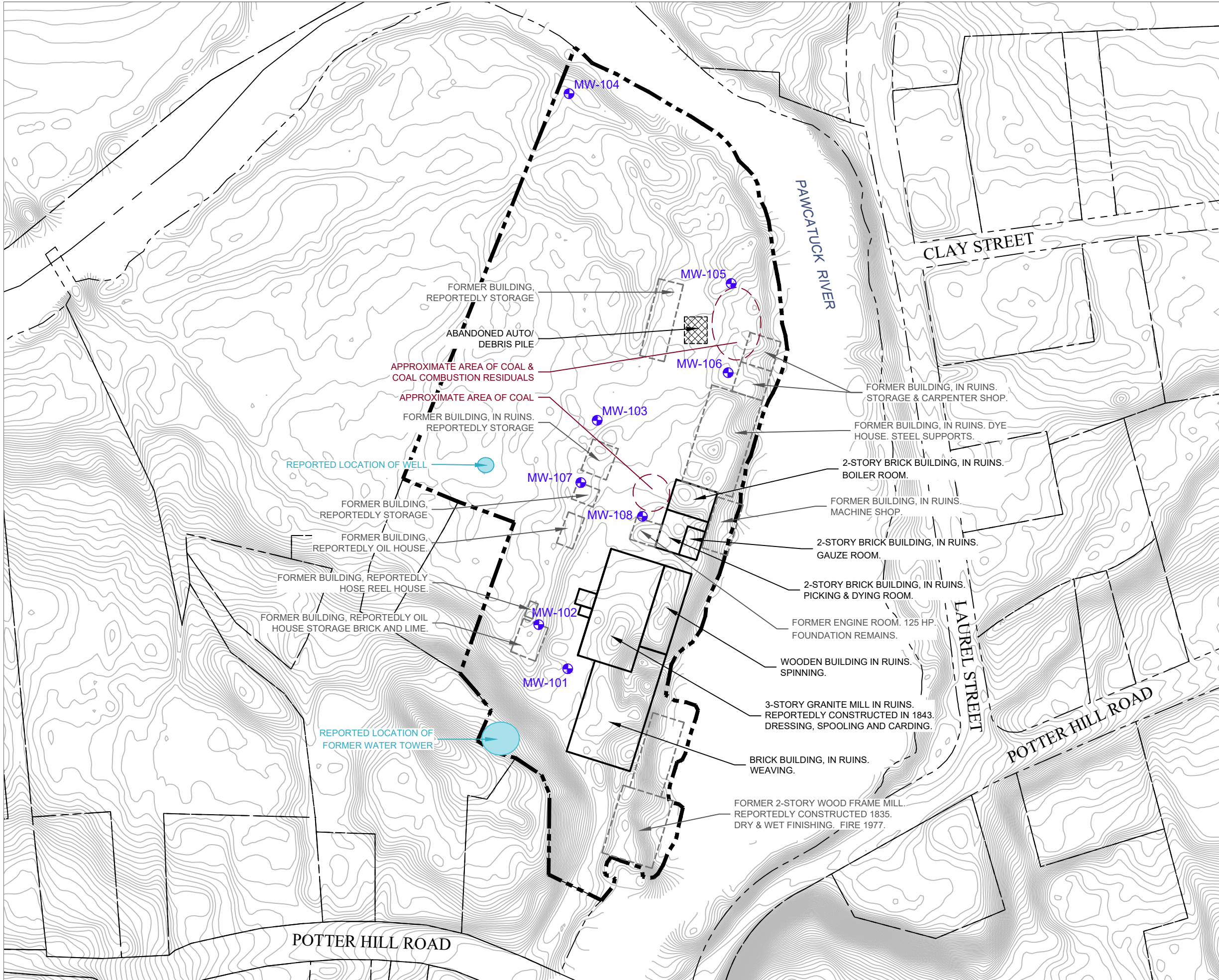


Scale In Feet



Groundwater & Environmental Services, Inc.

N:\Graphics\Graphics1500-Windson\Misc\RIDEM - Westerly\Town of Westerly SM.dwg, B-100, E\vega, 1:1

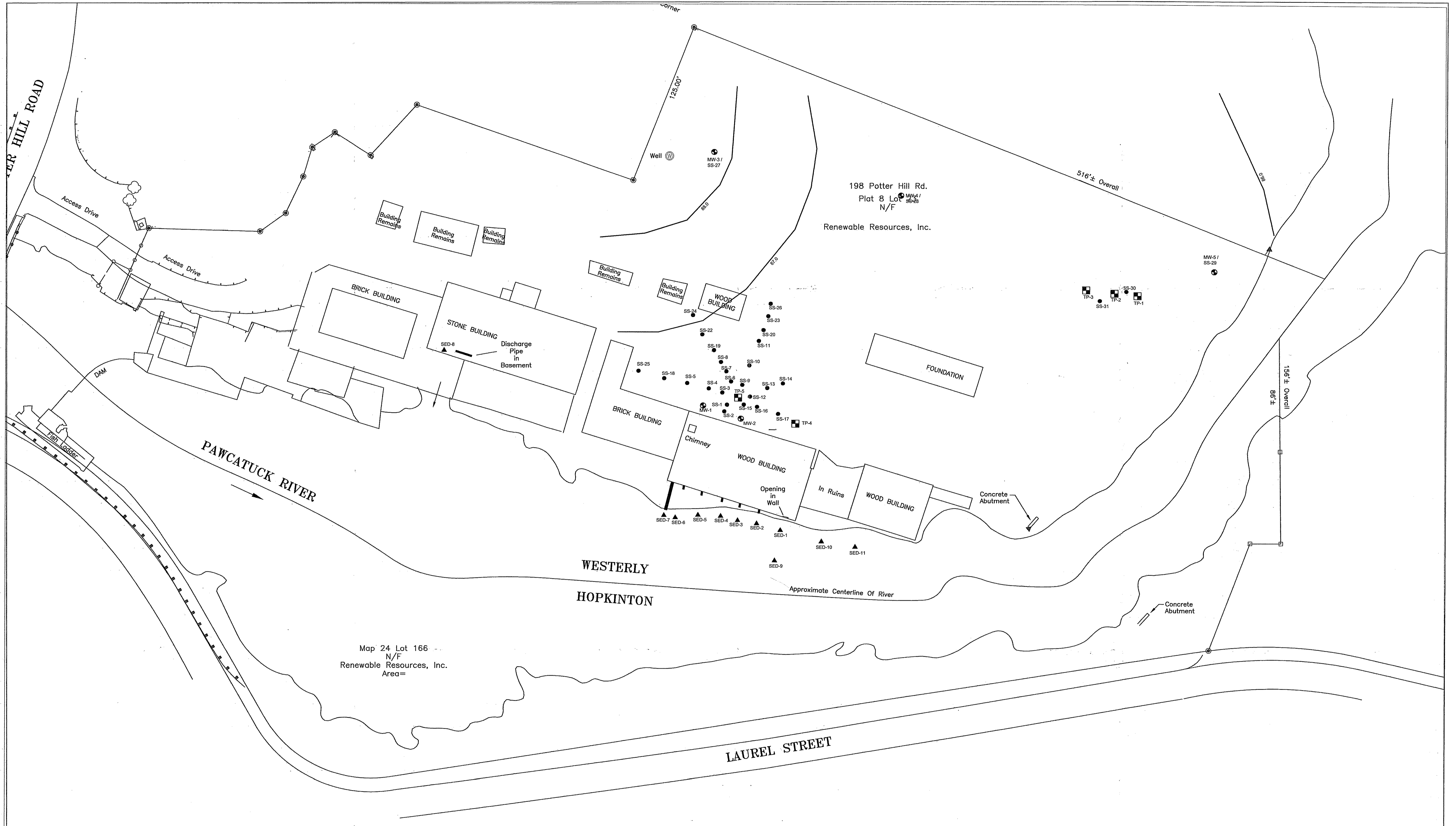


LEGEND

- — — — — SITE BOUNDARY (APPROXIMATE)
- - - - - PARCEL BOUNDARIES (APPROXIMATE)
- MONITORING WELL

Source:
Hancock Associates, Monitoring Well Plan,
Sheet: 1, Date: 12/23/24.

| | |
|--|---------------------------------|
| Site Map | |
| Town of Westerly Potter Hill Mill 198 Potter Hill Road Westerly, Rhode Island | |
| Drawn E.V. Designed H.P. Approved | Date 09/23/25 Figure 2 |
|  Scale In Feet   Groundwater & Environmental Services, Inc. | |



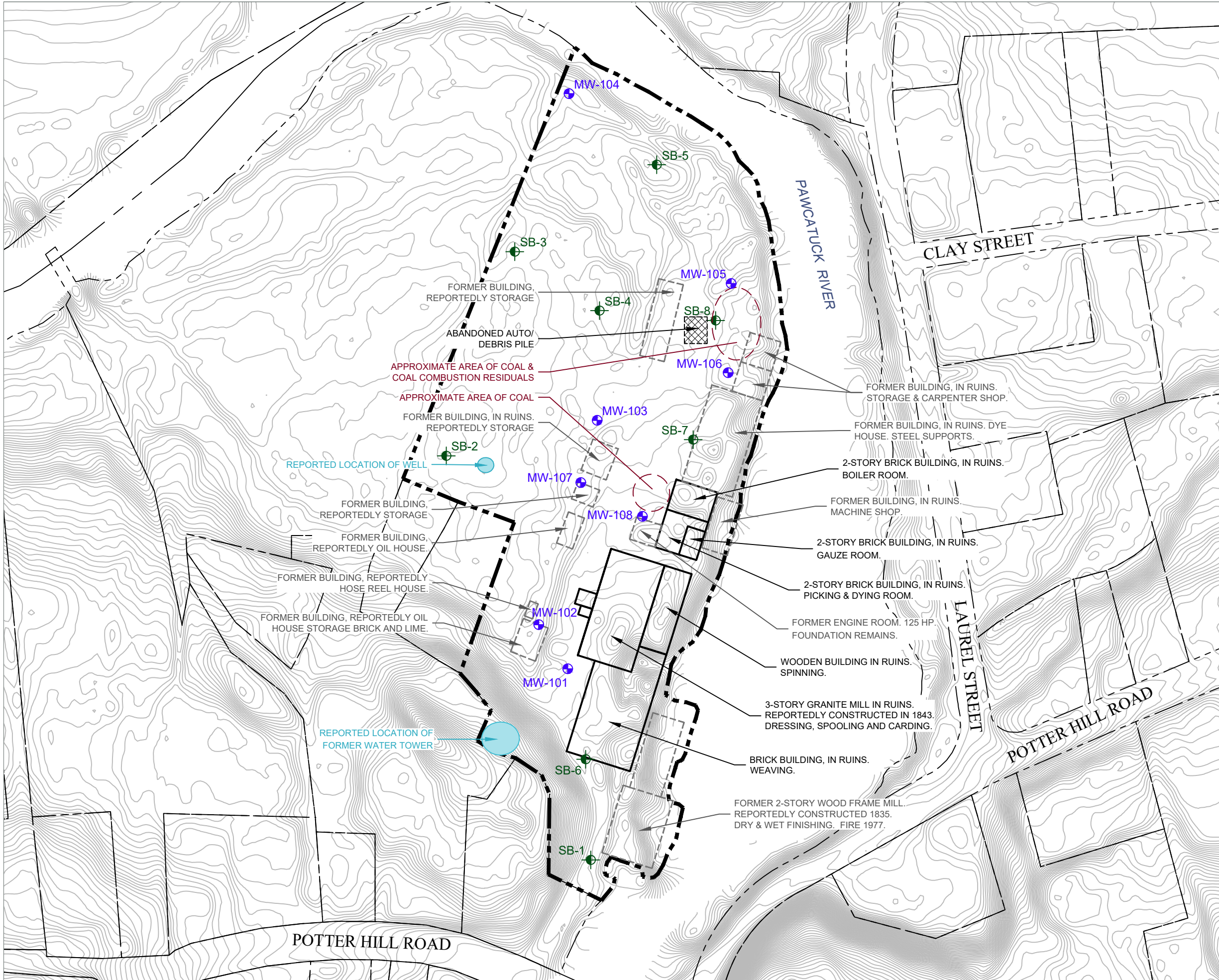
LEGEND

| | |
|-----------------------|---------------------------|
| MW-1 MONITORING WELLS | SOIL SAMPLES SS-1 |
| TEST PITS TP-1 | SEDIMENT SAMPLES SED-1 |

- NOTE**
1. PLAN DEVELOPED FROM AN UNTITLED, UNDATED SITE PLAN PROVIDED BY THE CLIENT IN ELECTRONIC FORMAT.
 2. MONITORING WELL LOCATIONS DETERMINED IN THE FIELD BY REFERENCING EXISTING SITE FEATURES. ALL LOCATIONS ARE APPROXIMATE.

| | | | | | |
|--|--|-----------------------------------|------------------|--------------------------------------|---|
| | Jacques Whitford Company, Inc. Lincoln, Rhode Island | | | | SAMPLE LOCATION PLAN POTTER HILL MILL POTTER HILL ROAD WESTERLY, RHODE ISLAND |
| | DATE PREPARED: 1/4/08 | DESIGNED BY: RLS | DRAWN BY: JTU | CHECKED BY: JTU | |
| | REVISION DATE: | REVISION NO: | DRAWN BY: | CHECKED BY: | |
| | PROJECT NAME/FILE NAME: Potter Hill Mill | PROJECT NUMBER/PHASE: 1009825. | SCALE: 1"=40' | PREPARED FOR: RENEWABLE RESOURCES | |
| | | | | DWG NO. 3 | |

N:\Graphics\Graphics1500-Windson\Misc\RIDEM - Westerly\Town of Westerly SM.dwg, B-100, E\vega, 1:1



LEGEND

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARIES (APPROXIMATE)
- MONITORING WELL
- SOIL BORING (2024)

Source:
Hancock Associates, Monitoring Well Plan,
Sheet: 1, Date: 12/23/24.

| | |
|--|---------------------------------|
| Soil Sample Location Map | |
| Town of Westerly Potter Hill Mill 198 Potter Hill Road Westerly, Rhode Island | |
| Drawn E.V. Designed H.P. Approved | Date 09/23/25 Figure 4 |
| <p>Scale In Feet</p> | |
| <p>Groundwater & Environmental Services, Inc.</p> | |