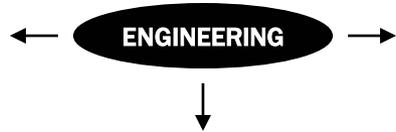


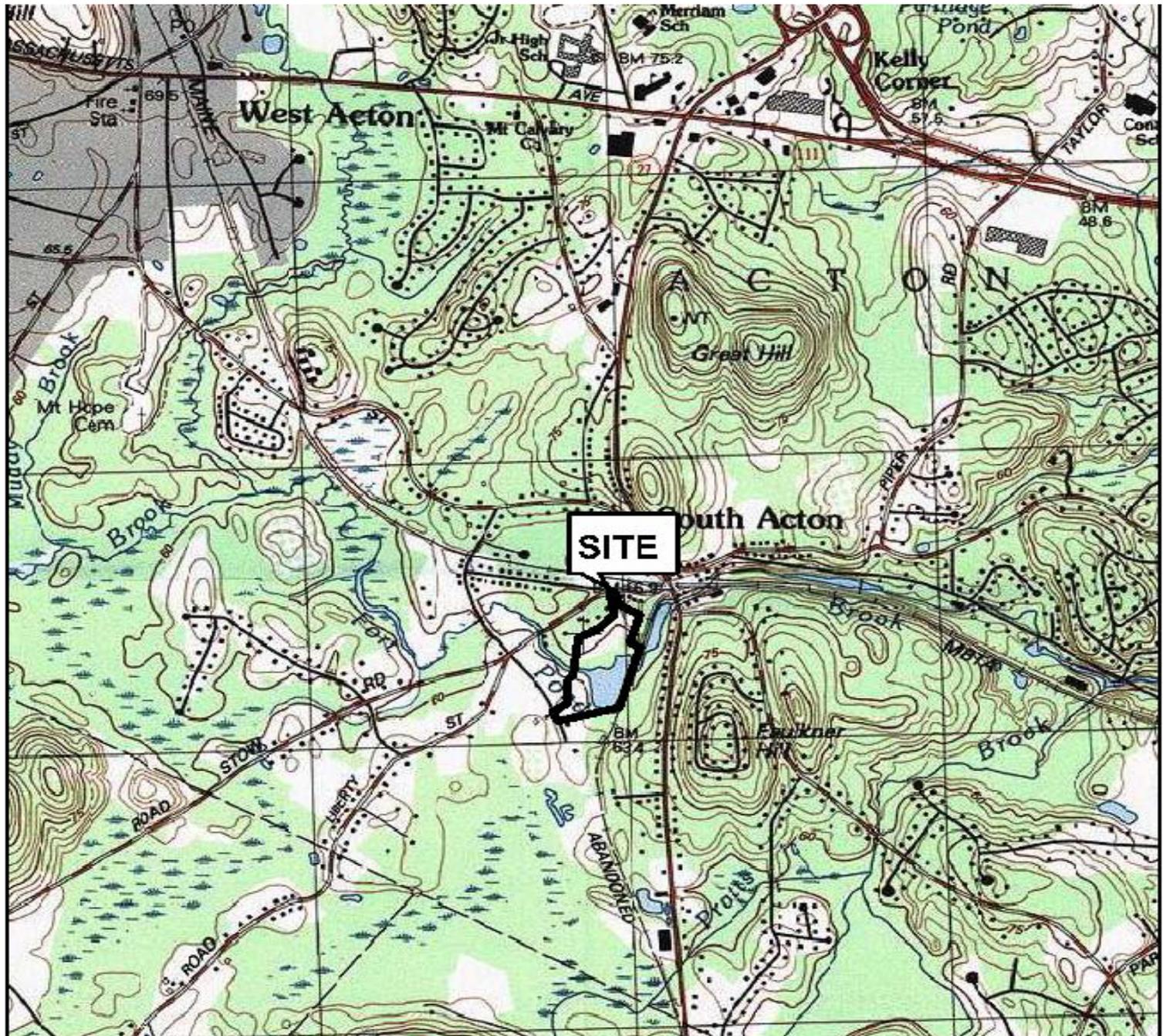
O'Reilly, Talbot, and Okun

[A S S O C I A T E S]



Conceptual Cleanup Plan for the Caouette Property South Acton Massachusetts

Environmental Safety Health Geotechnical Engineering Consultants



Environmental Assessment Process (Phase 1)

- ▶ ASTM Practice E1527–05
- ▶ Standardizes the Environmental Site Assessment method across the environmental consulting practice.
- ▶ First Step – consulting historical records to identify past property uses:
 - State and municipal files;
 - Sanborn Insurance maps; and
 - Other sources (e.g. historical societies and libraries).

Table 1
Standard Environmental Records Sources

Lists	Appropriate Minimum Search Radius (miles)
Federal NPL site list	1.0
Federal Delisted NPL site list	0.5
Federal CERCLIS list	0.5
Federal CERCLIS NFRAP site list	0.5
Federal RCRA CORRACTS facilities list	1.0
Federal RCRA non-CORRACTS TSD facilities list	0.5
Federal RCRA generators list	0.05
Federal Inst/Eng Controls	0.05
Federal ERNS list	0.05
GW Classification	Target Property
State and Tribal hazardous waste sites	1.0
State and Tribal landfills or solid waste disposal sites	0.5
State and Tribal LUST/LAST	0.5
State and Tribal registered storage tank list	0.05
State and Tribal institutional controls	0.05
State and Tribal voluntary cleanup sites	0.5
State and Tribal Brownfield sites	0.5

Current or Potential Drinking Water Supplies

- ▶ Current drinking water source areas are defined as areas:
 - Within a Zone II or Interim Wellhead Protection Area for a public water supply;
 - Within the Zone A of a Class A surface water body used as a public water supply; or
 - Within 500 feet of a private water supply well.
- ▶ Potential drinking water source areas are defined as areas:
 - 500 feet or more from a public water supply line;
 - Within an area designated by a municipality specifically for the protection of groundwater quality; or
 - Within a Potentially Productive Aquifer (PPA) that has not been excluded as a Non-Potential Drinking Water Source Area (NPDWSA).

SITE RECONNAISSANCE

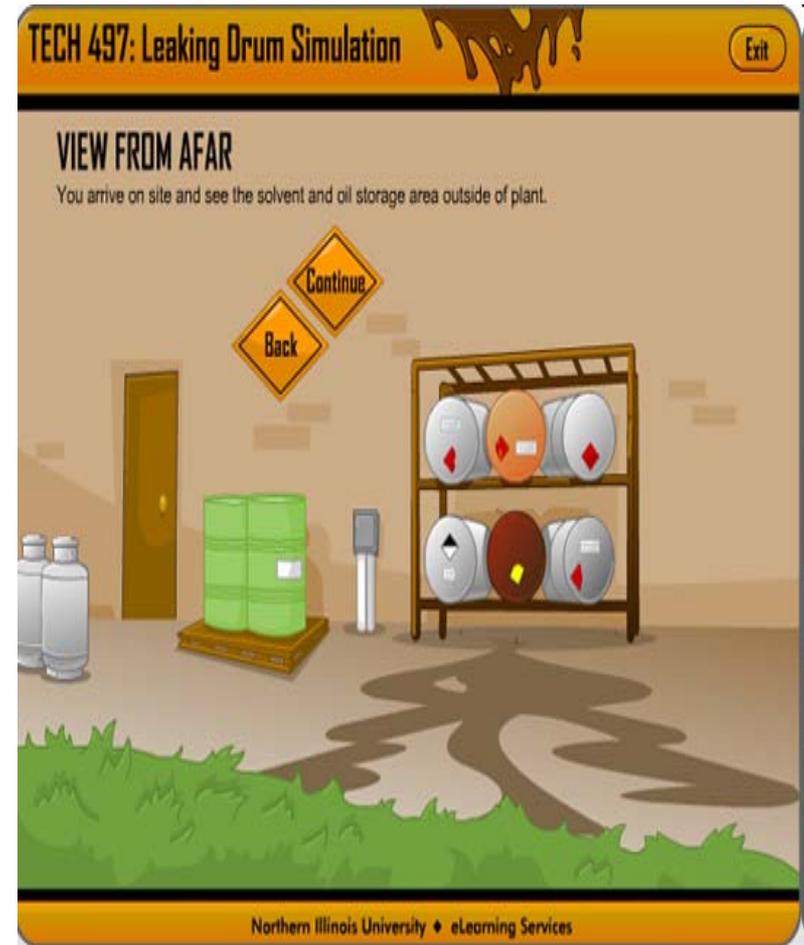
- ▶ We put our feet on the ground and look.





Recognized Environmental Conditions (RECs)

- ▶ Overall objective is to identify RECs, defined as:
- ▶ The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions.

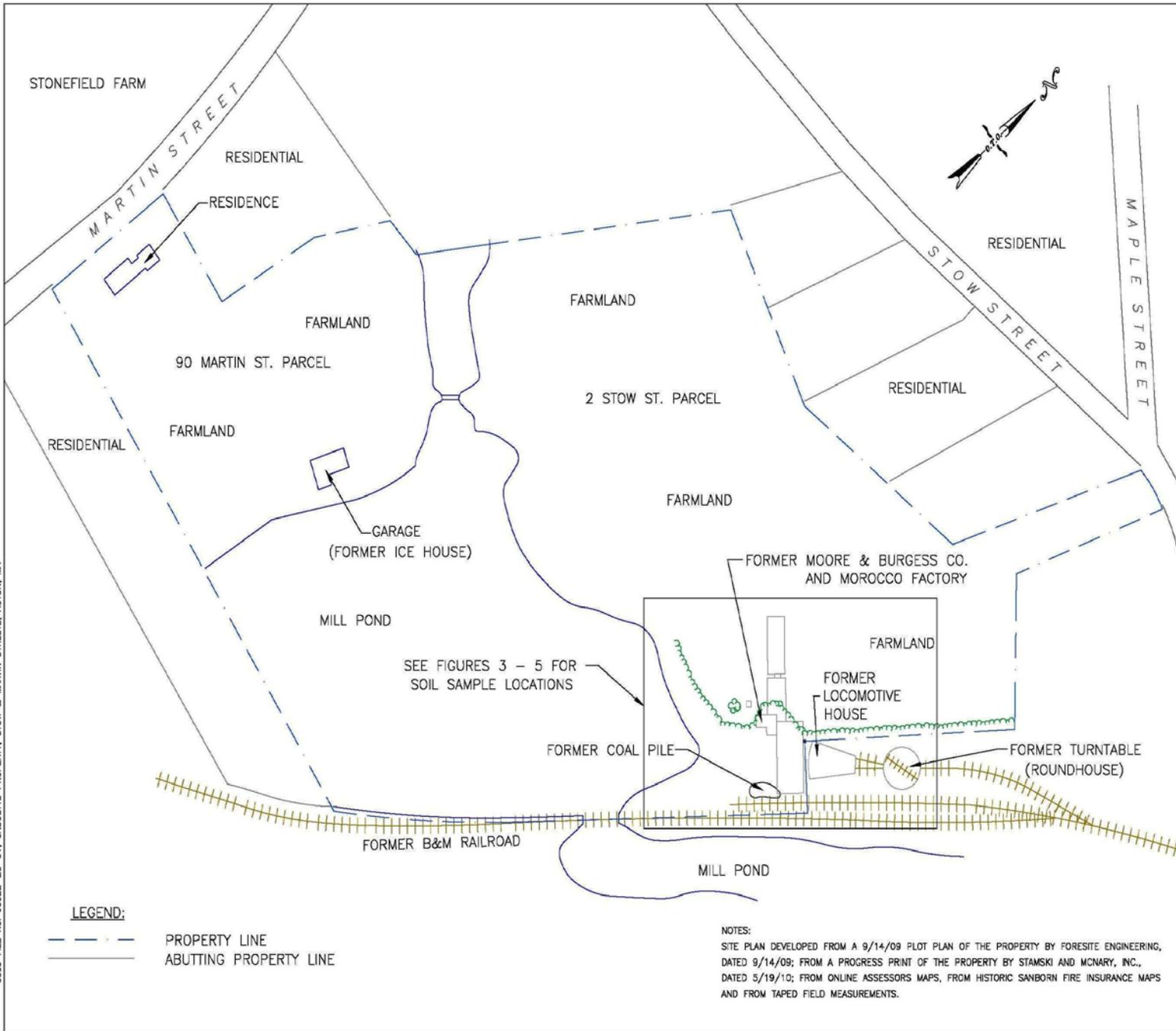


What did we find?

- ▶ Total property is 15.7 acres:
 - 2 Stow St. 7.5 acres undeveloped farm land;
 - 90 Martin St. 3 acres residence, garage and farm land; and
 - 5.2 acres Mill Pond and Fort Pond Brook.
- ▶ Area is not a current or potential water supply area.
- ▶ Pesticides at farm used in accordance with IPM.
- ▶ The eastern portion of the property has an industrial history.

Assessing the Recognized Environmental Condition (Phase 2)

- ▶ Based on the finding of past industrial use, we recommended that a Phase 2 environmental investigation be undertaken to assess whether the past use of the property caused a release of oil or hazardous material.
- ▶ Phase 2 was to include testing of soil, groundwater and sediments from around the Mill Pond.



STONEFIELD FARM

RESIDENTIAL

RESIDENCE

FARMLAND

90 MARTIN ST. PARCEL

FARMLAND

2 STOW ST. PARCEL

RESIDENTIAL

RESIDENTIAL

FARMLAND

RESIDENTIAL

GARAGE
(FORMER ICE HOUSE)

FARMLAND

FORMER MOORE & BURGESS CO.
AND MOROCCO FACTORY

MILL POND

SEE FIGURES 3 - 5 FOR
SOIL SAMPLE LOCATIONS

FARMLAND

FORMER LOCOMOTIVE
HOUSE

FORMER COAL PILE

FORMER TURNTABLE
(ROUNDHOUSE)

FORMER B&M RAILROAD

MILL POND



MAPLE STREET

MARTIN STREET

STOW STREET

DESIGNED BY: BHN
 CHECKED BY: BHN
 DRAWN BY: APR
 DATE: OCTOBER 2010



CAQUETTE PROPERTY
 90 MARTIN & 2 STOW STREETS
 ACTON, MASSACHUSETTS

SITE PLAN

PROJECT No.
0022-23-02
 FIGURE No.
2

Findings from Phase 2

- ▶ Groundwater was relatively free of contamination with only low concentrations (0.012 mg/l) of naphthalene in monitoring MW-4; well below state standards GW-1 = 0.140 mg/l; GW-2 = 1.00 mg/l).
- ▶ Low concentrations of fluorene (a PAH) and lead were found in pond sediments at levels slightly above screening criteria.

Findings from Phase 2 (cont.)

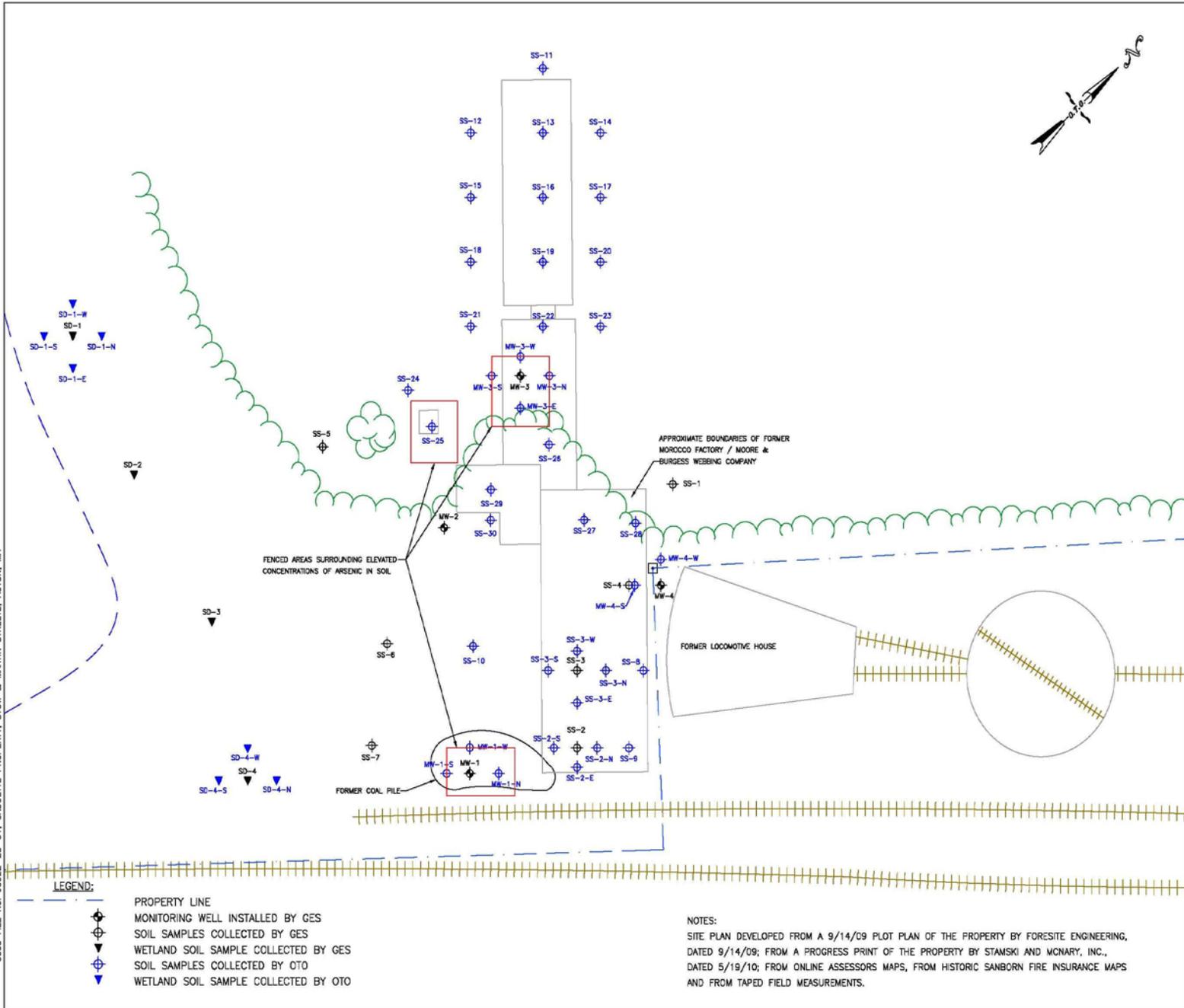
- ▶ In shallow soil (0–2 foot depth) concentrations of arsenic, lead, PAHs and chromium were found above MassDEP Reportable concentrations.
- ▶ It was recommended that an additional phase of testing be undertaken to better define the extent of the concentrations discovered.

Phase 3 Testing

- ▶ In some areas, the PAHs are due to coal, coal ash and wood ash.
- ▶ In other locations coal tar is also present in surficial soils and likely contributes to the PAH concentrations.
- ▶ The detected chromium was found to be in the low toxicity +3 valence state, and is therefore not of further concern.
- ▶ Lead and arsenic concentrations are variable with a number of detections greater than MassDEP reportable concentrations.
- ▶ Arsenic is present in three locations at concentrations equal to or greater than DEP's Imminent Hazard default level of 40 mg/kg.

Phase 3 Testing (cont.)

- ▶ You may have heard some discussion about the coal, coal ash and wood ash exemption and that really ended up not coming into play.
- ▶ Sediment concentrations were quite low and in our opinion do not pose ecological risk.
- ▶ Temporary fencing is already in place around the areas known to have elevated arsenic concentrations, these can be extended if necessary.



DESIGNED BY: BHN
 CHECKED BY: BHN
 DRAWN BY: APR
 DATE: OCTOBER 2010



**CAQUETTE PROPERTY
 90 MARTIN & 2 STOW STREETS
 ACTON, MASSACHUSETTS
 SAMPLE LOCATION PLAN
 WITH FENCED AREAS SHOWN**

PROJECT No.
0022-23-02
 FIGURE No.
3

Objectives for the Caouette Property Cleanup

- ▶ Under the Massachusetts Contingency Plan the most rigorous cleanup standards are the “S-1 Soil Standards”.
- ▶ The S-1 standards are considered to be appropriate for residential full-time, high intensity property use.
- ▶ The Town decided to cleanup the property to meet the S-1 Standards

MCP Process for the Cleanup

- ▶ The regulatory process the Town will use for the cleanup is a Release Abatement Measure or RAM.
- ▶ Prior to beginning the RAM, a RAM Plan must be submitted to the DEP.
- ▶ A Draft RAM Plan will be available for Acton citizen review before it is submitted to the DEP.
- ▶ The plan will describe the specific methods to be used in the remediation.

Wetlands Issues

- ▶ The MCP Site is located on property subject to wetlands protection.
- ▶ Within the next two weeks the Town will be submitting a Notice of Intent to the Conservation Commission seeking an Order of Conditions to conduct the cleanup.
- ▶ The Commission will hold a public hearing for interested parties to comment on the NOI.
- ▶ The Order of Conditions will specify the requirements for protecting the wetlands.

Contractor Selection Process

- ▶ The Town will be selecting a contractor to implement the RAM Plan.
- ▶ OTO will assist the Town in developing design specification to solicit contractor bids.
- ▶ The selected contractor will be responsible for removing the contaminated soil from the Site and then restoring the Site to a natural condition.
- ▶ With the Town, OTO will be responsible for overseeing the contractor's work.

Regulatory Closure

- ▶ As the contractors work is completed, OTO will collect confirmation samples to verify that the required cleanup has been achieved.
- ▶ Where necessary, additional excavation will be required.
- ▶ Once the cleanup is complete, OTO will prepare a closure report for review by the Town citizens.
- ▶ When accepted by the Town, OTO will submit the completion report to MassDEP.

Property Restoration

- ▶ When the cleanup is complete, the environment of the property will be restored.
- ▶ Clean fill and top soil will be brought in from off-site to bring the property up to a natural grade.
- ▶ Native plant species will be planted to enhance the reestablishment of the ecological system.