

Plaistow Water Symposium: Groundwater Contamination

by Gary Lynn, P.E.





Types of Contaminants

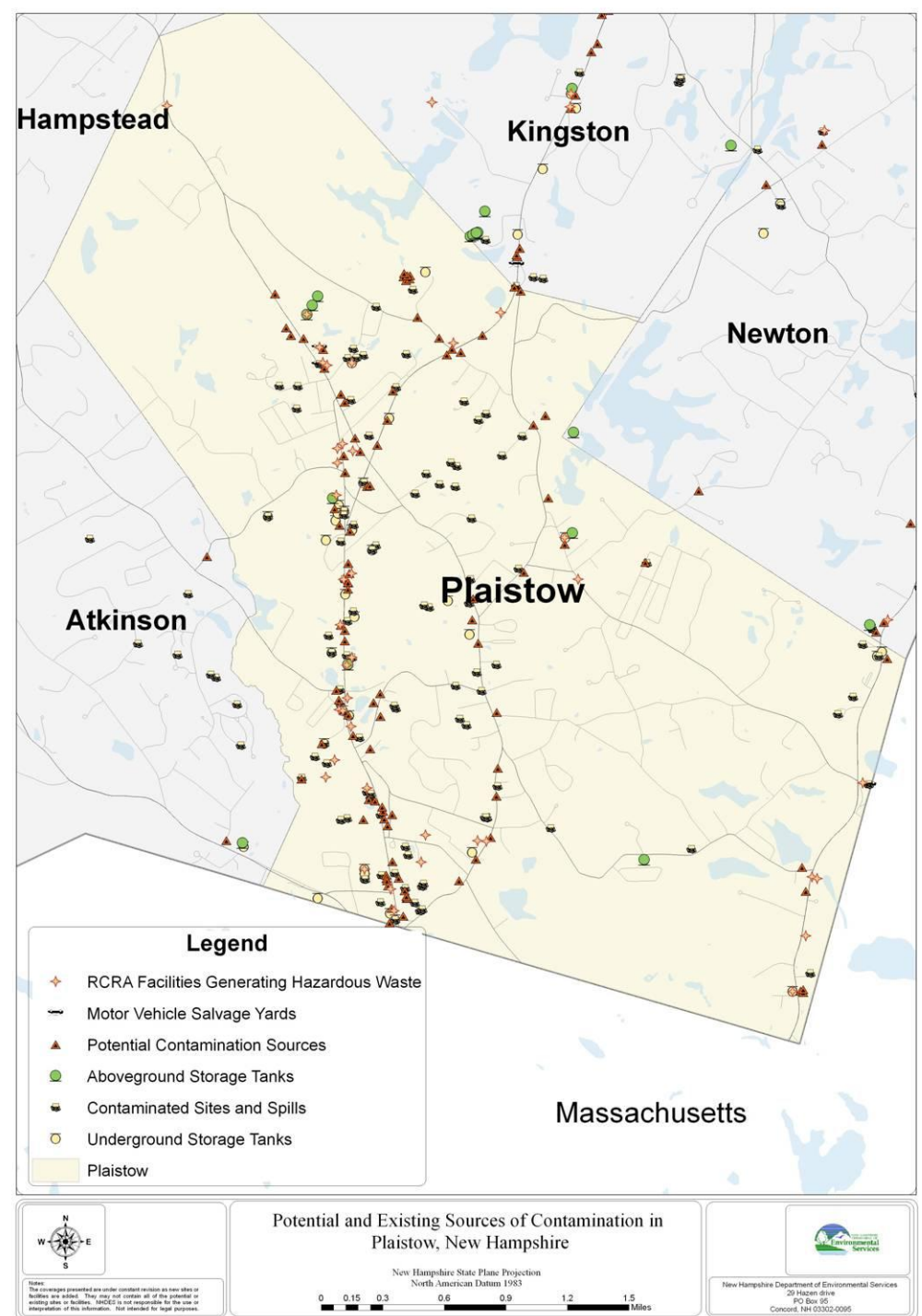
- Naturally Occurring (As, Fe, Mg, salt, radon, etc.)
- Synthetic Organic Chemicals
 - Mobile and poorly biodegradable contaminants
 - Chlorinated compounds
 - From dry cleaning and degreasing (auto shops, manufacturing, etc.)
 - Petroleum compounds
 - motor fuel and fuel oil from gas stations, oil tanks, spills, etc
 - Gasoline additives esp. MtBE
 - 1,4-dioxane (from hair salons, degreasing)



Existing and Potential Sources of Contamination

- Leaking USTs (16 w/ 3 active)
- Fuel Oil Releases (7 residential + Beede)
- Spills (16 w/ 1 active)
- Superfund (Beede Waste Oil)
- MtBE sites (13 w/ 5 active)
 - 2 Junkyards and multiple water systems w/o PRPs
- Tanks: UST (43), AST (9) plus heating oil tanks
- Hair Salons (6 w/ septic discharges)
- Unknown (for example, some of the 13 water supplies treated under the POE contract)

Sites and potential contamination sources

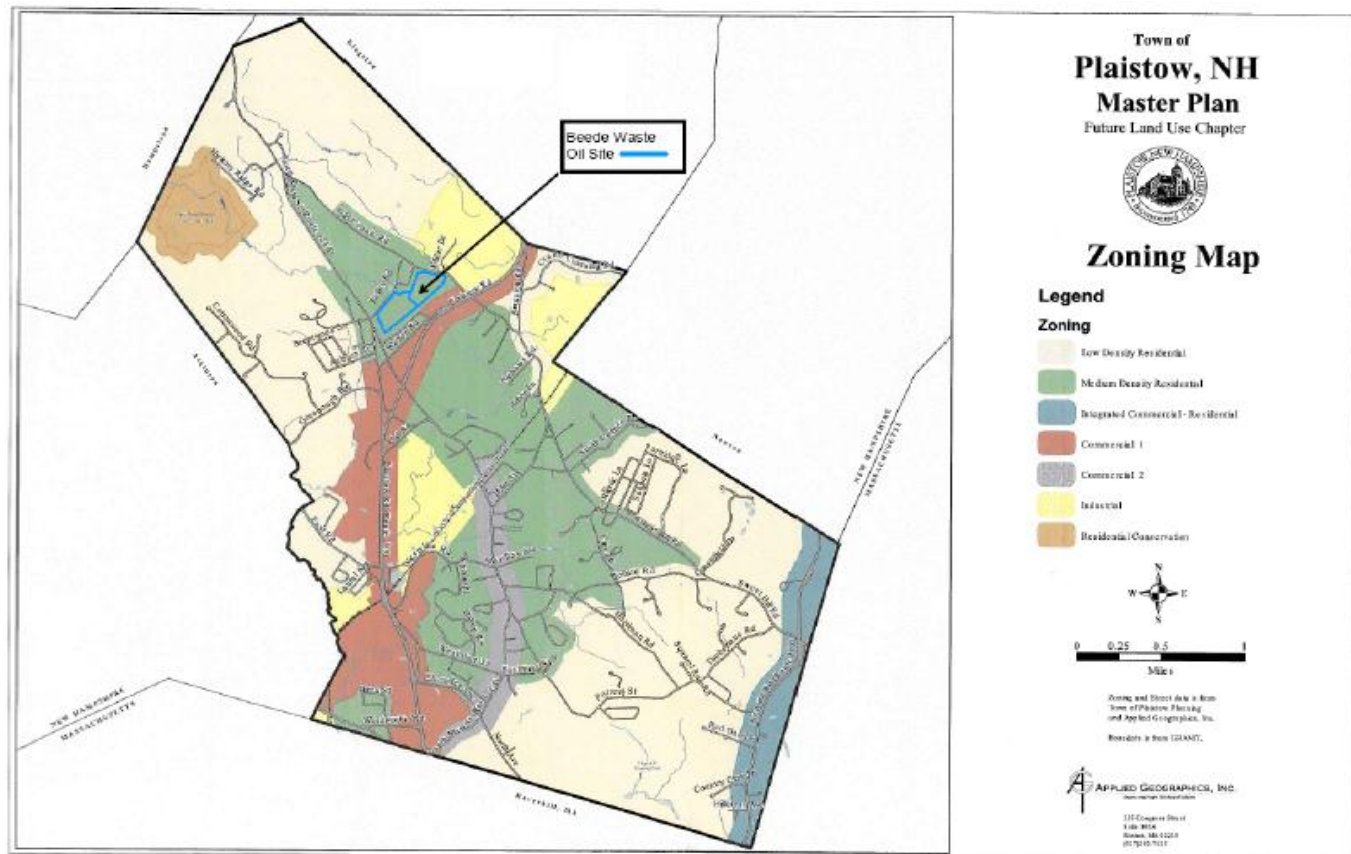


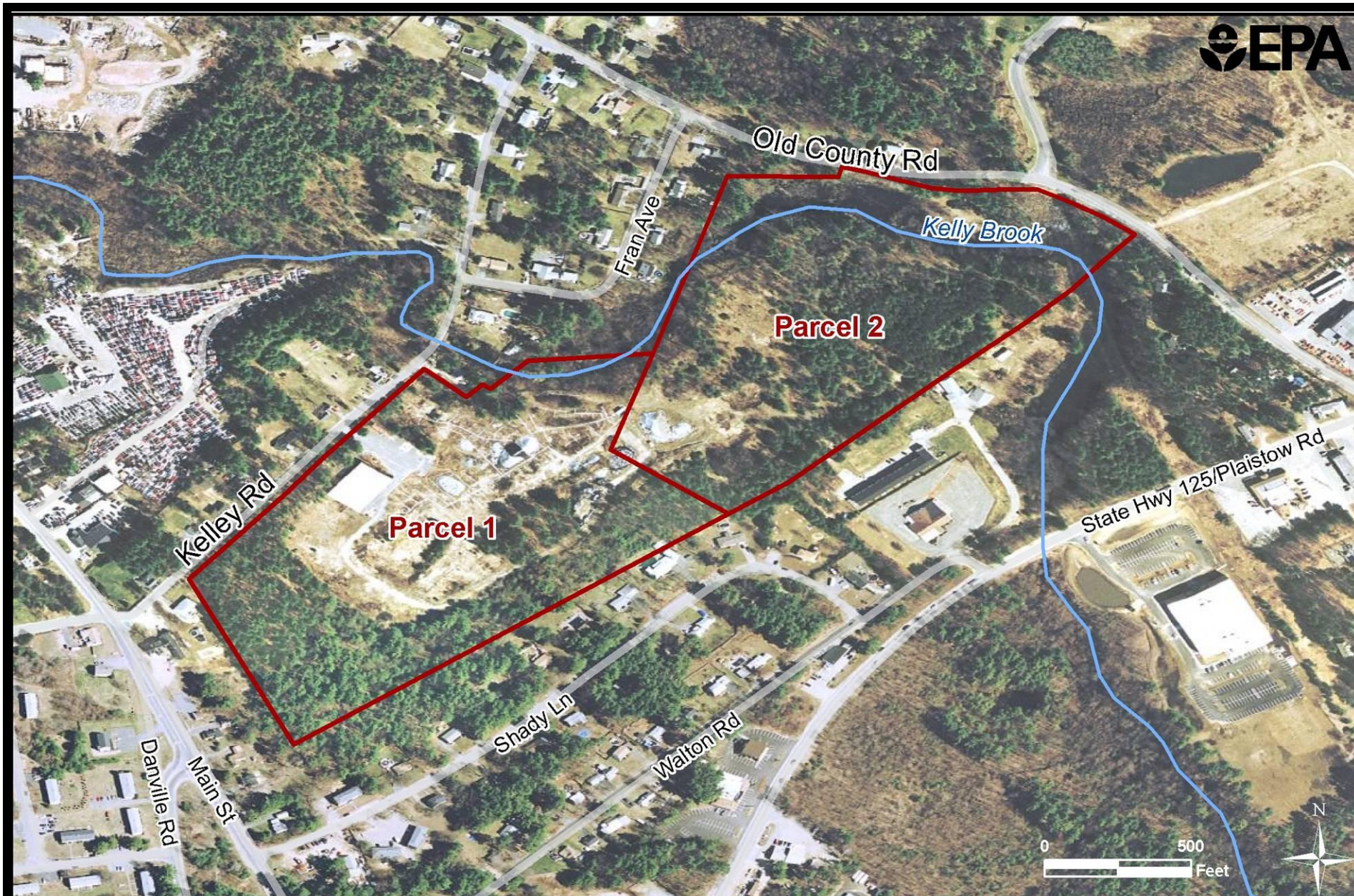


Large Site Examples

- Beede Waste Oil & nearby junkyards
 - Oil recycler
- Plaistow Lido
 - Former gas station
- Chandler Avenue/Shaws Plaza
 - Dry cleaner and gas station probably

Beede Waste Oil Site Location Map





Beede Waste Oil Superfund Site
Plaistow, New Hampshire

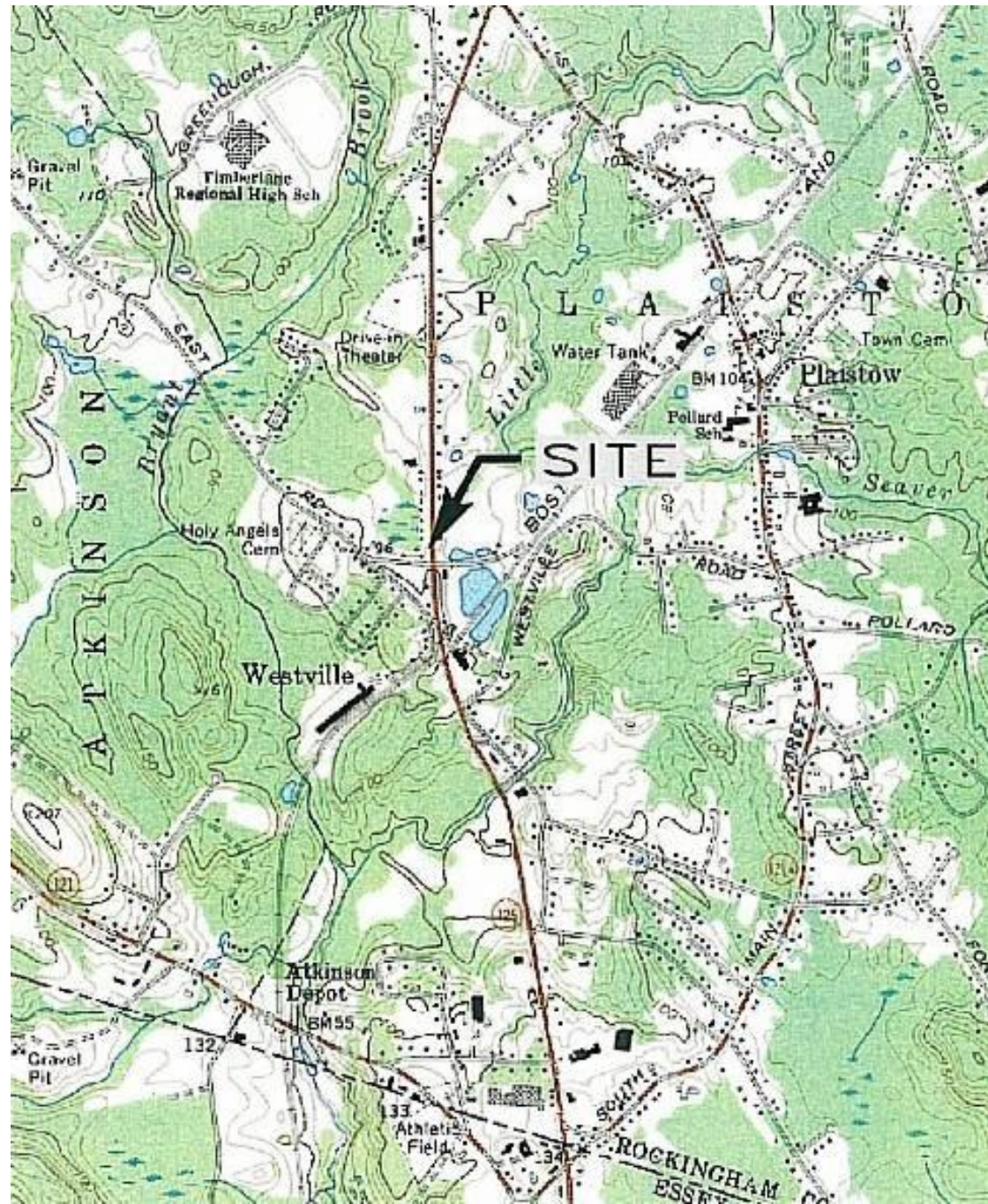


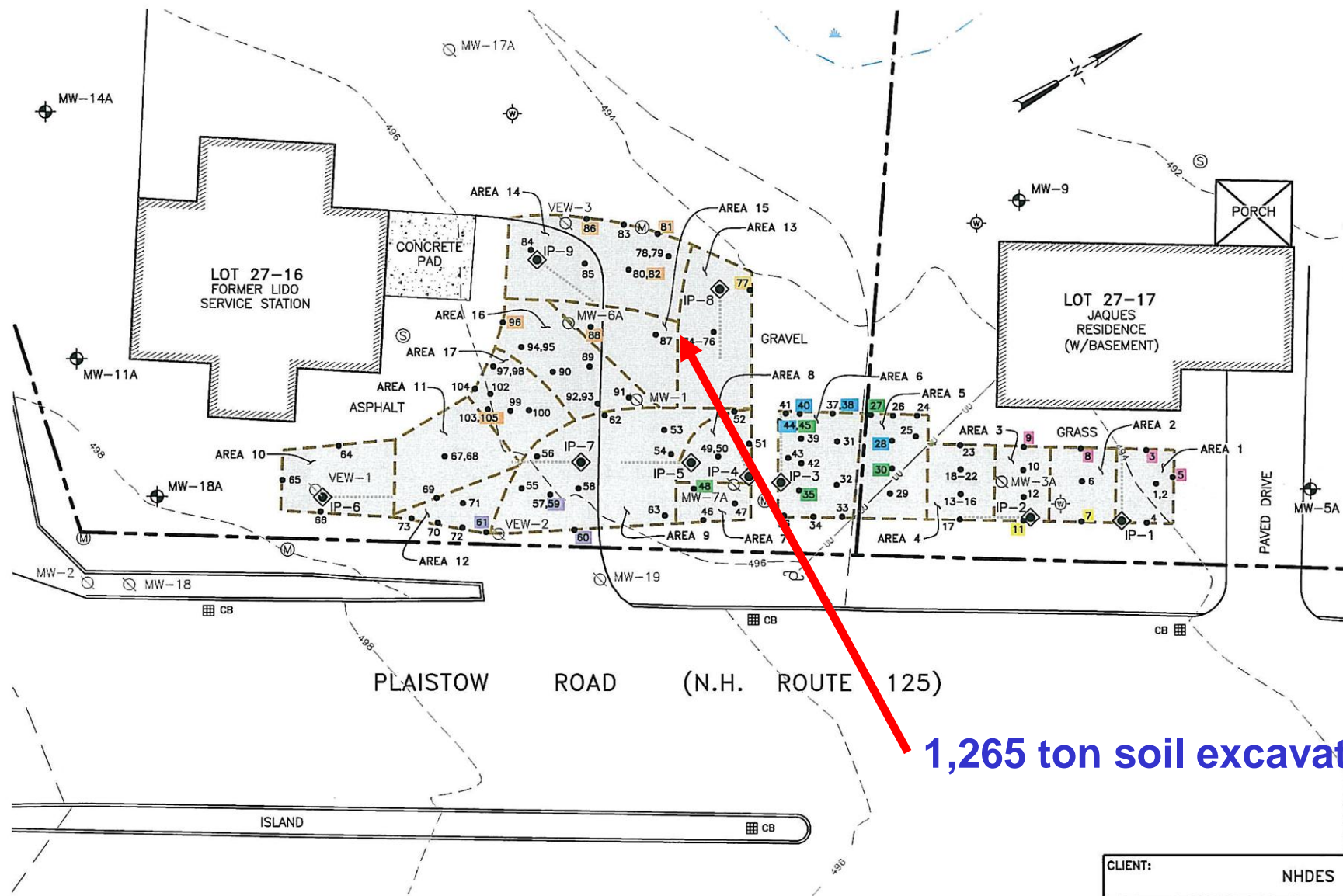
Beede Waste Oil Site Plume – Nov 2011



Anchor and Hometown Auto sites

Plaistow Lido Site





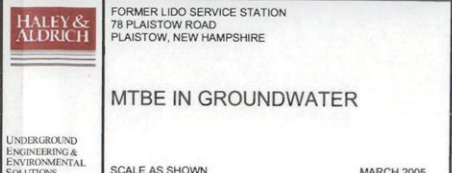
NOTES:

1. THIS FIGURE WAS BASED UPON A PLAN PREPARED BY PROVAN & LORBER, INC. DATED DECEMBER, 2008 TITLED "SITE PLAN".
2. HORIZONTAL INJECTION PIPING CONSISTS OF A 10-FOOT SECTION OF 4-INCH DIA., MACHINE SLOTTED, SCHEDULE 40 PVC.

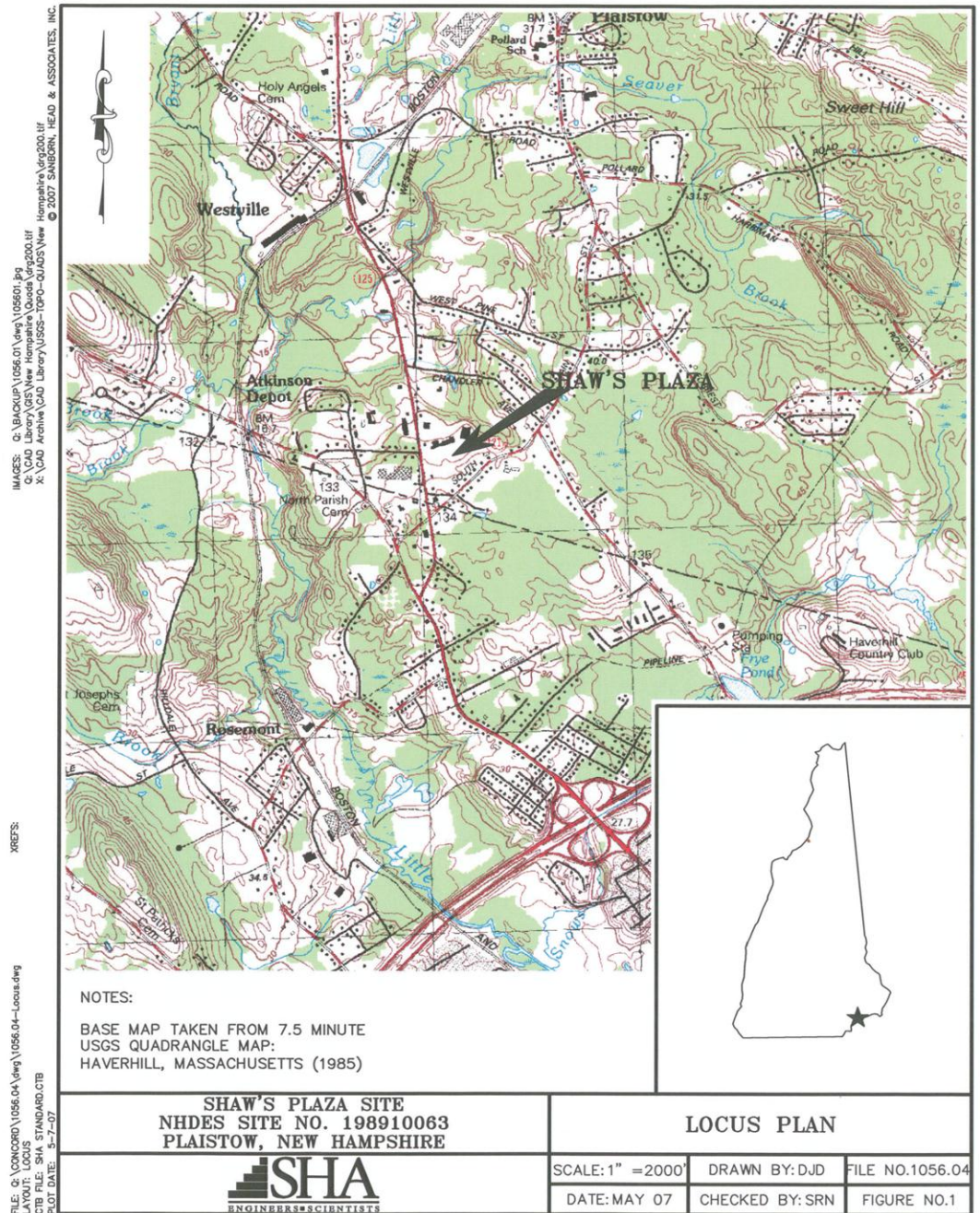


CLIENT: NHDES			
PROJECT: FORMER LIDO SERVICE STATION PLAISTOW, NEW HAMPSHIRE			
TITLE: EXCAVATION AREA AND SOIL SAMPLES			
DESIGNED: TEP	DRAWN: STM	CHECKED: TEP	APPROVED: [blank]
SCALE: 1" = 20'	DATE: 01/06/10	FILE NO.: 5956D003	PROJECT NO.: 59

11338/ARCMAP/LIDO MTBE.MXD



Shaw's Plaza and Chandler Ave Wells



Shaw's Plaza and Chandler Ave Wells

NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN ENTITLED, "GROUNDWATER MANAGEMENT ZONE," PREPARED BY GZA GEOENVIRONMENTAL, INC. (GZA) OF MANCHESTER, NH, ON JANUARY 1993. ORIGINAL SCALE: 1"=200'.
2. THE LOCATION OF SITE FEATURES SHOWN SHOULD BE CONSIDERED APPROXIMATE ONLY.
3. PARCEL REFERENCES FROM FILE REVIEWS PERFORMED ON, DECEMBER 30, 2003 AND JANUARY 6, 2004 BY SHA AT THE PLAISTOW, NEW HAMPSHIRE ASSESSORS OFFICE.
4. GROUNDWATER MANAGEMENT ZONE (GMZ) BASED ON JANUARY 8, 2007 REVISED GROUNDWATER MANAGEMENT PERMIT (NO. GWP-198910063-P-003) ISSUED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES) FOR THE SHAW'S PLAZA SITE.
5. GROUNDWATER LEVELS WERE MEASURED BY SHA ON MAY 4, 2007. GROUNDWATER LEVELS WERE MEASURED AT THE TIME AND UNDER THE CONDITIONS STATED IN THE TEXT OF THIS REPORT. FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR DUE TO VARIATIONS IN TEMPERATURE, RAINFALL, SEASON, AND OTHER FACTORS. OTHER INTERPRETATIONS ARE POSSIBLE.

LEGEND:

- 25-29
BRW-1
- CB-1
(83.73)
- (83.73)
- TAX MAP, LOT NUMBER
WATER SUPPLY WELL LOCATION AND DESIGNATION WITHIN THE GMZ
GROUNDWATER MANAGEMENT ZONE (GMZ)
OVERBURDEN MONITORING WELL LOCATION AND DESIGNATION WITHIN THE GMZ
GROUNDWATER ELEVATION MEASURED ON NOVEMBER 29, 2006



SHA
ENGINEERS & SCIENTISTS

DRAWN BY: EMW/CBG
DESIGNED BY: RSS/SRN
CHECKED BY: SRN
REVIEWED BY: RSS
PROJECT MGR: SRN
PIC: RSS
DATE: MAY 07

SHAW'S PLAZA SITE
NHDES SITE NO. 198910063
PLAISTOW, NEW HAMPSHIRE

SITE PLAN

PROJECT NUMBER:
1056.04
FIGURE NUMBER:
2



Existing Funding Sources

- Petroleum and ether reimbursement funds
 - Spent over \$2.6 million in Plaistow to date, majority spent on the Lido site
 - 9 active and eligible sites currently
 - GREE fund very active for MtBE
- Oil Pollution Control Fund & Response Contracts (esp. the POE contract)
- Superfund – Beede Waste Oil site

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