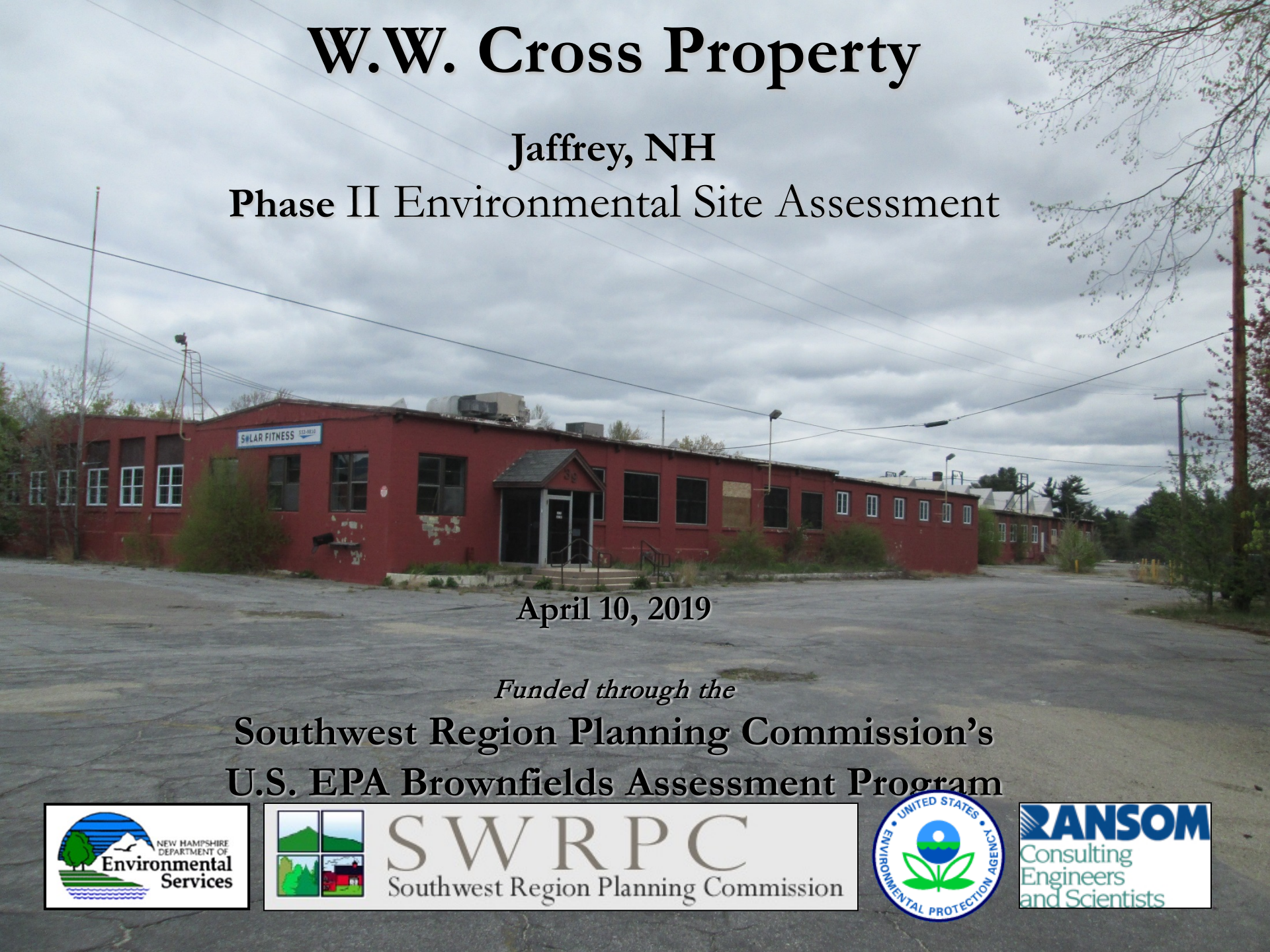


W.W. Cross Property

Jaffrey, NH

Phase II Environmental Site Assessment



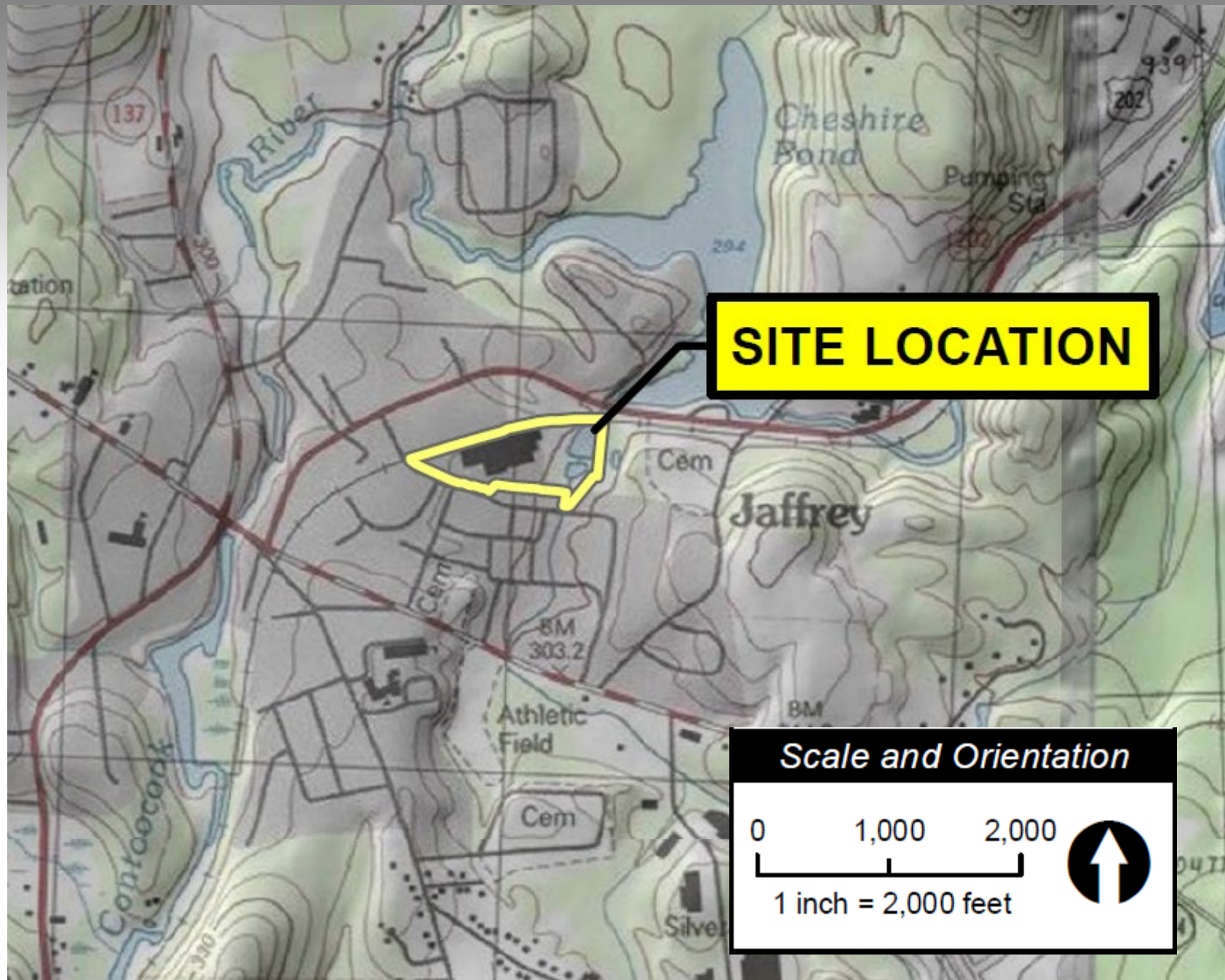
April 10, 2019

Funded through the
Southwest Region Planning Commission's
U.S. EPA Brownfields Assessment Program



Presentation Outline

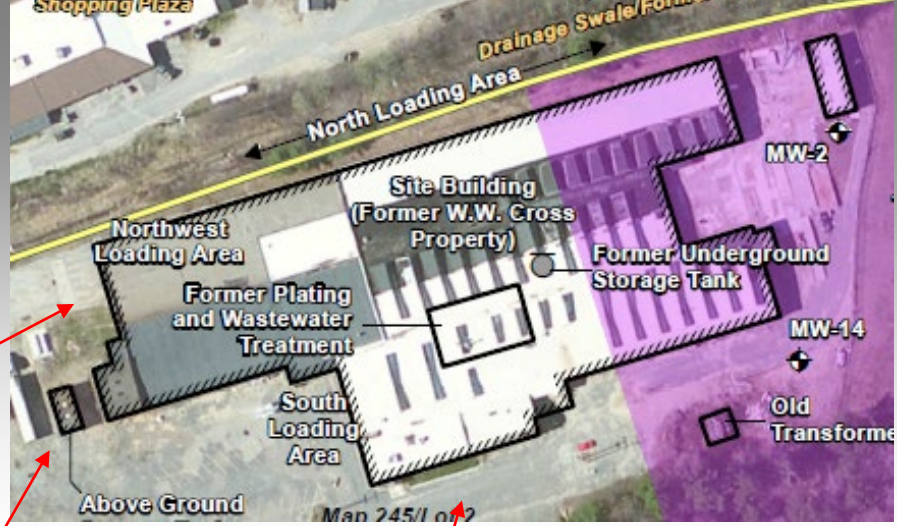
- Background
 - Site Introduction
 - 2017 Phase I Environmental Site Assessment Summary
 - 2017 Hazardous Building Material Inventory (HBMI)
- 2018 Phase II ESA
 - Scope of Work
 - Results Summary
- 2019 Supplemental Phase II ESA (in progress)
 - Scope of Work



Site Plan



Photo Tour



Evidence of Past Industrial Operations

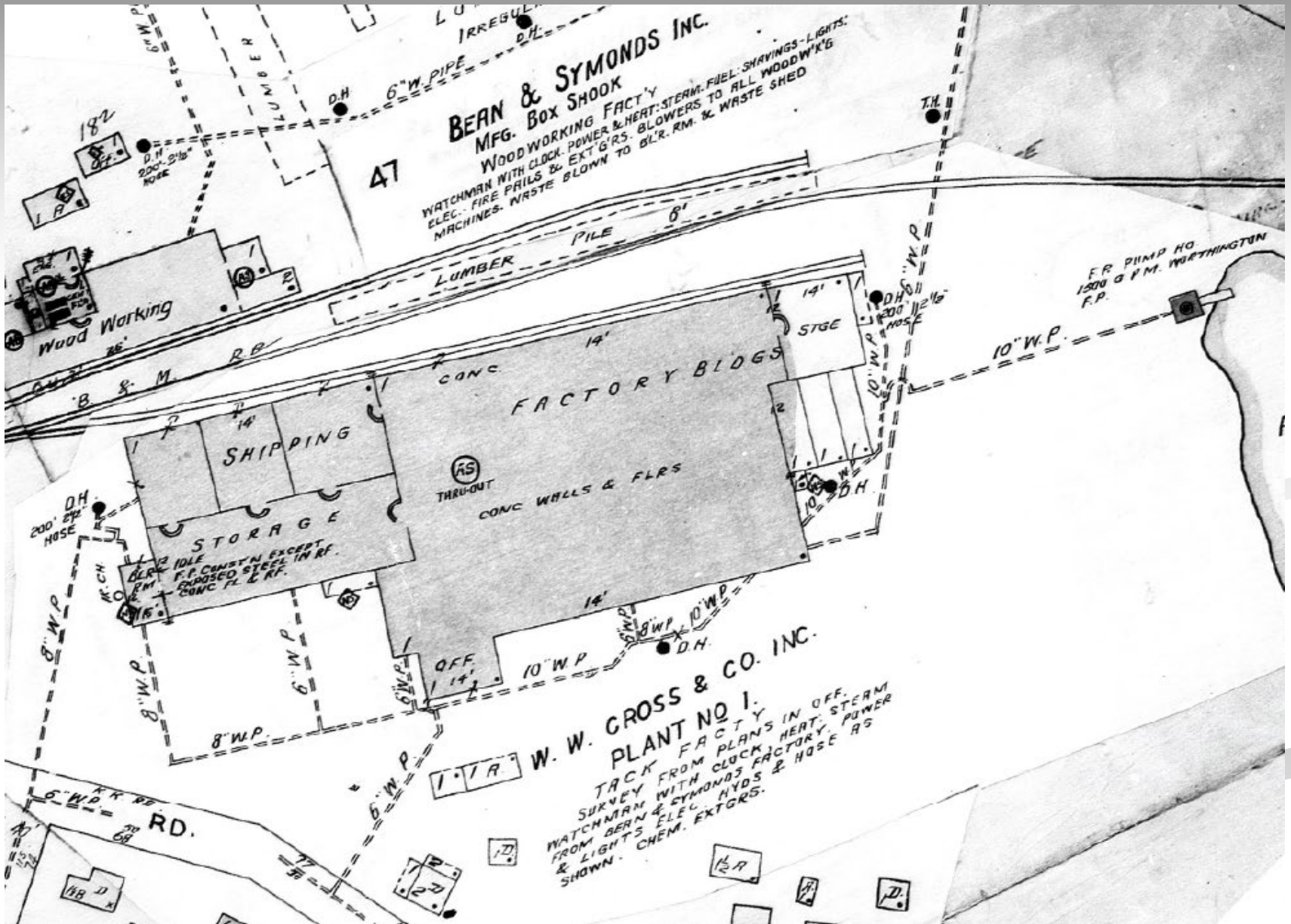


Before the Clean Water Act...

Over 1,000 gallons per year of waste liquids went down the drains:

Zinc and brass plating wastes from processes involving metals (notably cadmium, hexavalent chromium, zinc, copper), cyanide, and kerosene, soluble oil, cutting oil, and hydraulic and lubricating oils.

Some History (1953)



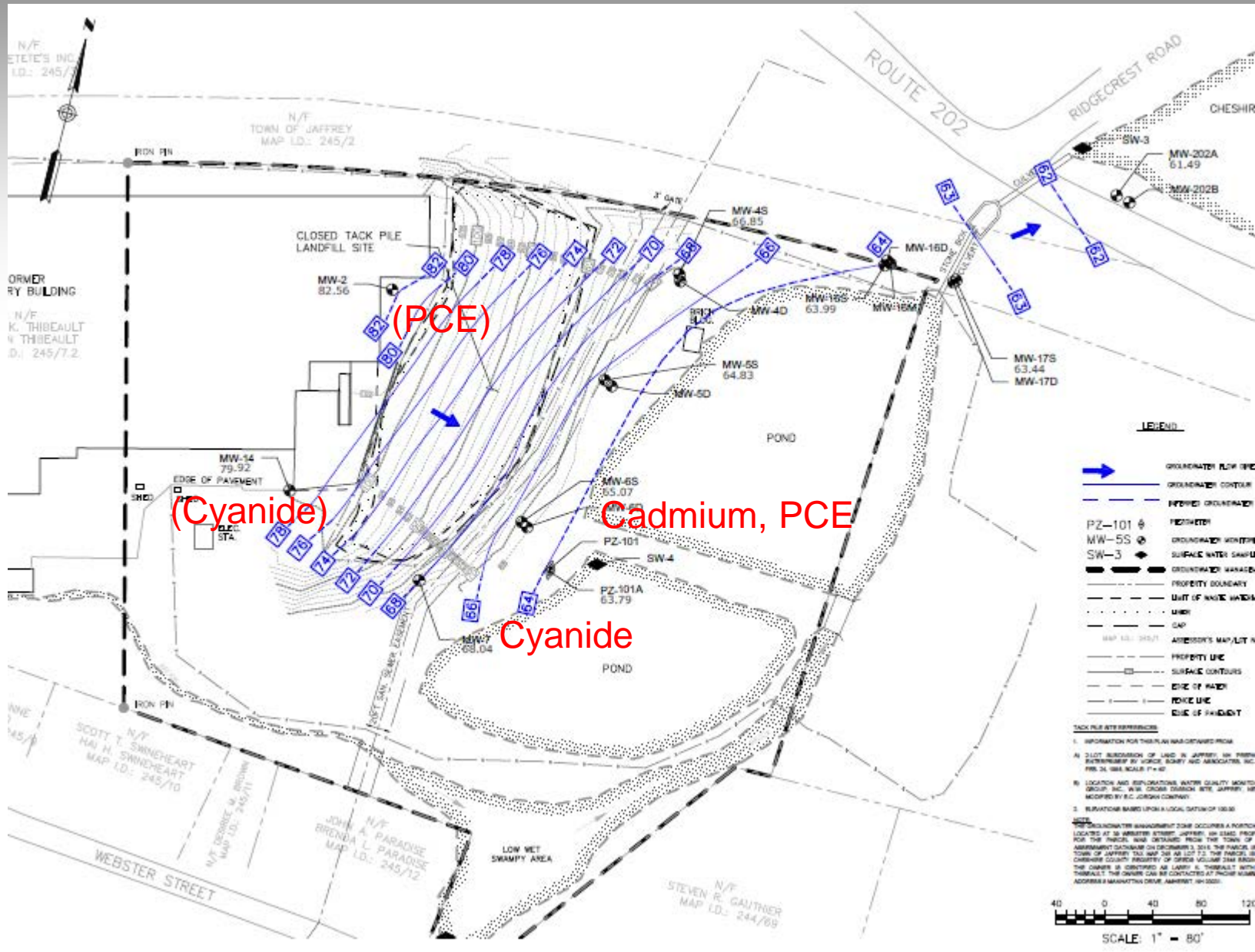
(1952)



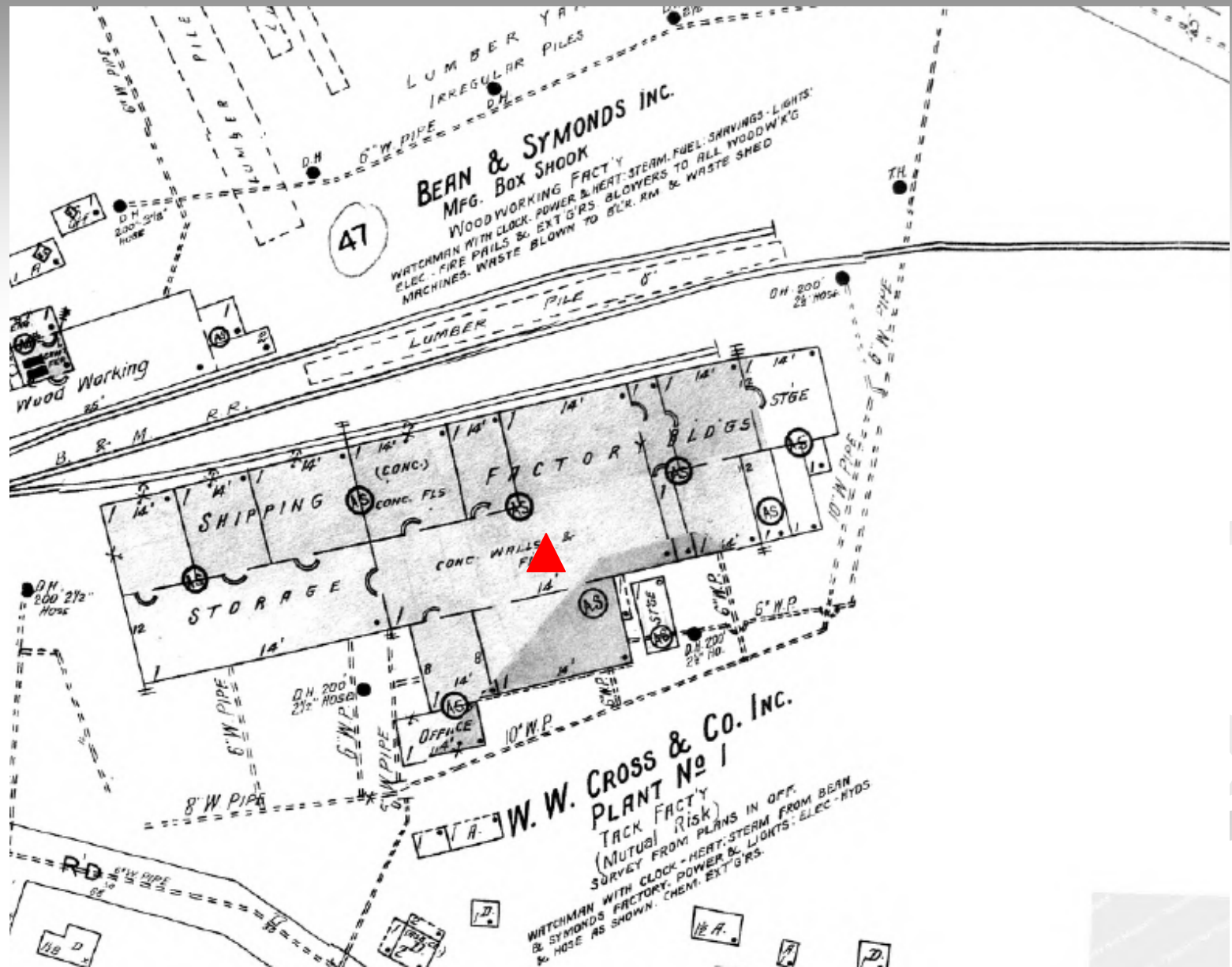
(2006 - after 1999 capping)



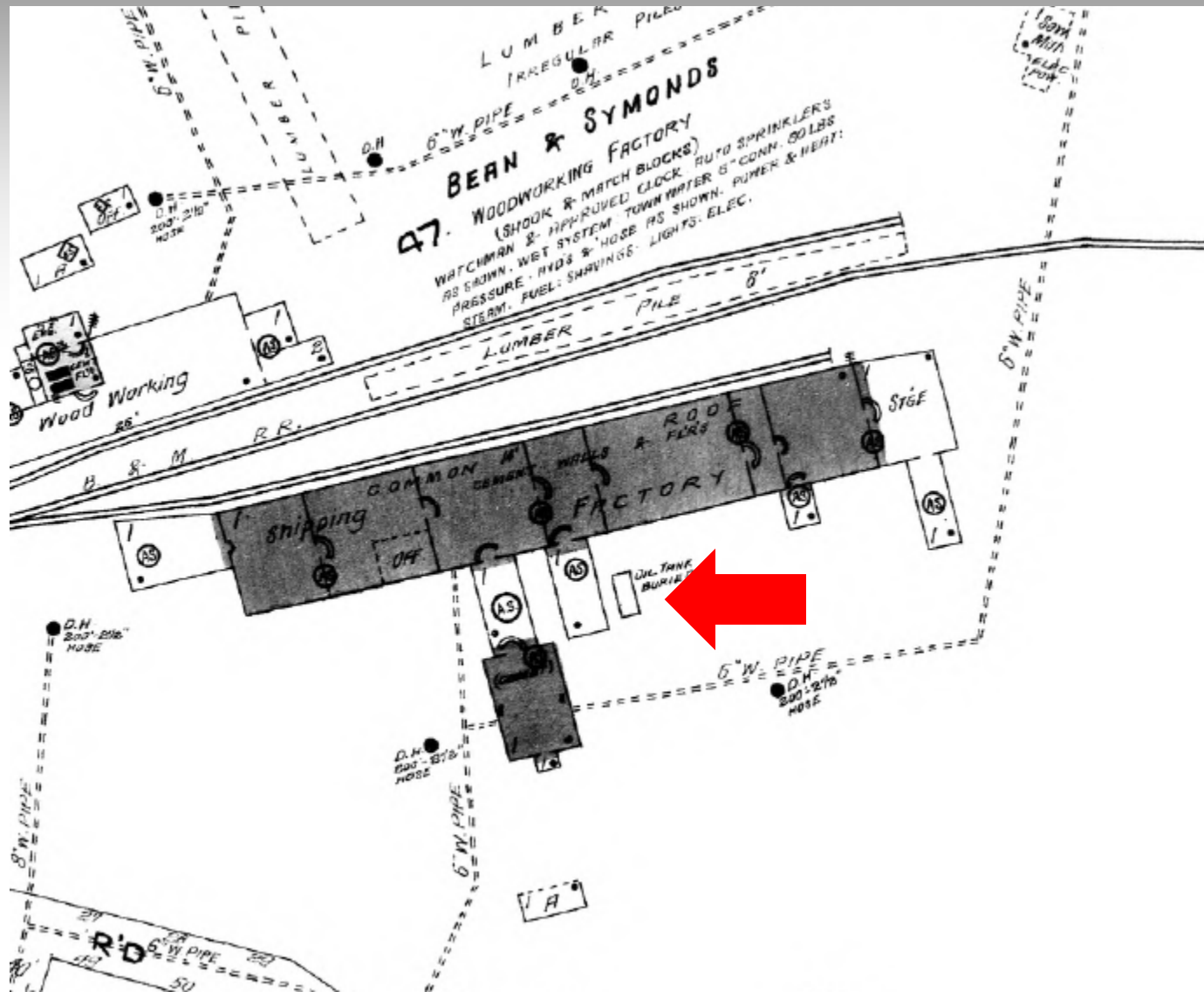
Eastern Portion Controlled R.E.C.s



UST? (1941)



UST (1924)



Western Portion of the Site Recognized Environmental Conditions

REC: “The presence or likely presence of any hazardous substance in on or at the property...”

- Non-compliant 20,000 gallon AST
- Former UST (1924 Sanborn Map)
- Historical Floor Drains and Sumps
- Impacts to Wells Upgradient of the Landfill
- Plume Migrating onto the Site (?)

Also:

- Historical Loading and Unloading Areas

HBMI

- Suspect Asbestos Containing Materials (81 duplicate samples collected)
- Lead Paint (324 samples collected)
- Lead in Soils From Paint (28 samples collected)
- PCBs in Paint and/or Caulk (5 samples collected)
- Building Materials as Hazardous/Universal Wastes (inventoried)
- Order-of-Magnitude Abatement Cost: \$240K

TABLE 7: REMOVAL COST ESTIMATES FOR ASBESTOS-CONTAINING MATERIALS

Hazardous Building Materials Inventory
 W.W. Cross Property
 39 Webster Street
 Jaffrey, New Hampshire

Material	Quantity	Unit	Unit Cost	Total
Floor tile mastic and associated tiles	75	SF	\$6	\$450
Residual mixed mastics	720	SF	\$4	\$2,880
Interior window glaze	4	EA	\$250	\$1,000
Floor tread mastic and associated tread material	25	SF	\$20	\$500
9-inch floor tile	740	SF	\$4	\$2,960
Exterior window glaze	6	EA	\$150	\$900
Exterior caulking	105	LF	\$10	\$1,050
Overhead door caulking	80	LF	\$10	\$800
Roof penetration flashings (within negative roof fields)	9	EA	\$300	\$2,700
Perimeter flashings (associated with negative roof fields)	1,570	SF	\$6	\$9,420
Sawtooth skylight fields and flashings (within negative roof fields)	36,000	SF	\$4	\$144,000
Vermiculite insulation within AST vault	1	EA	\$3,000	\$3,000
<i>Fire doors</i>	13	EA	\$200	\$2,600
<i>Confirmed/Presumed Asbestos Abatement Subtotal:</i>				\$172,260
<i>Contingency²:</i>				34,500
<i>Estimated Consultant Fee³:</i>				10,000
TOTAL ESTIMATED ASBESTOS ABATEMENT COST:				\$216,760

NOTES:

1. SF = Square Feet; LF = Linear Feet; Each = Individual Unit
2. A contingency is added to cover potential hidden costs and market variability
3. A consultant fee is added to cover the costs of abatement design, oversight, and final air clearances.
4. Presumed asbestos-containing material (PACM) shown in italics.

Order-of-Magnitude Cost Estimate

Positive ACM Roofing Samples

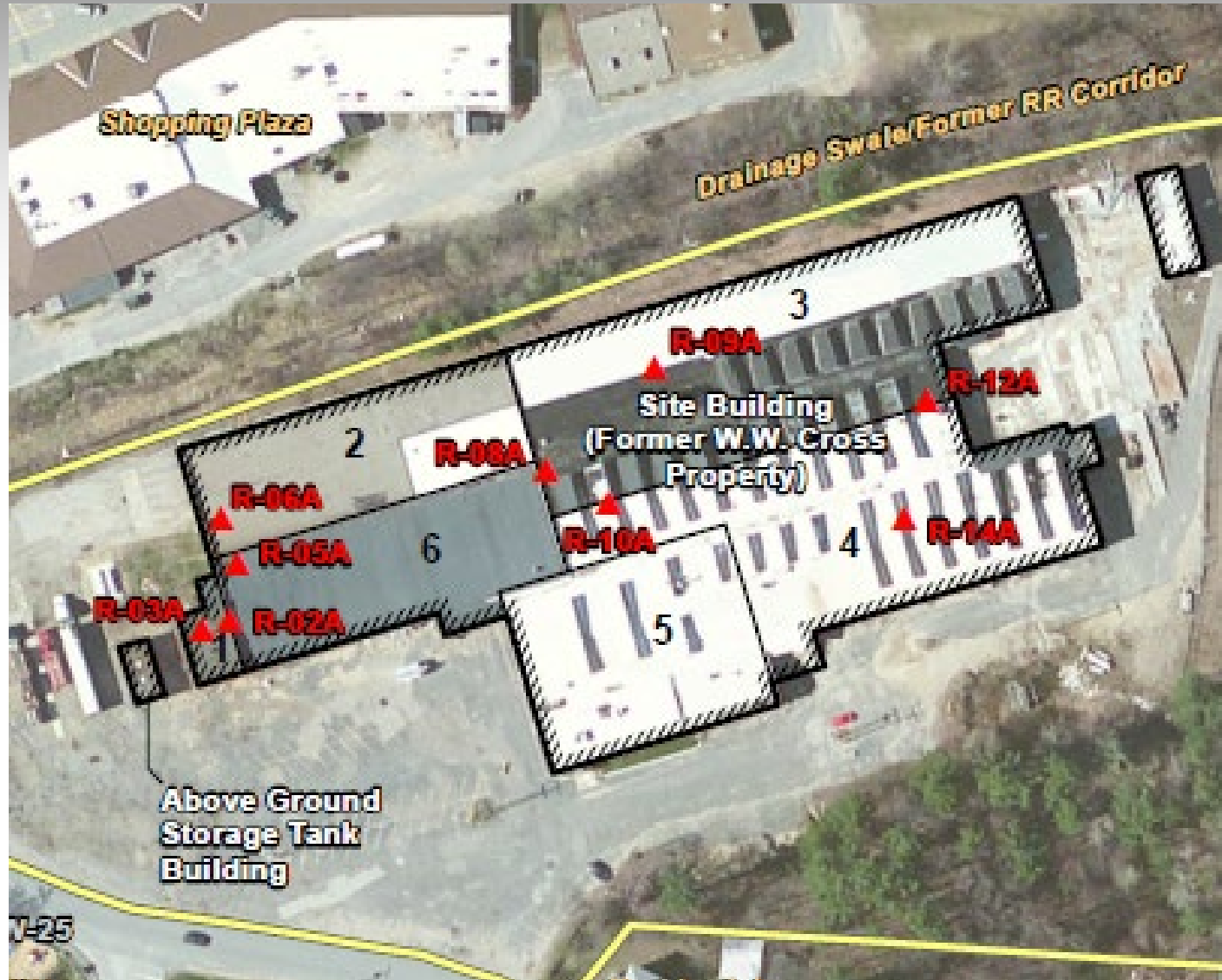


TABLE 8: REMOVAL COST ESTIMATES FOR OTHER HAZARDOUS/POTENTIALLY HAZARDOUS MATERIALS

Hazardous Building Materials Inventory

W.W. Cross Property

39 Webster Street

Jaffrey, New Hampshire

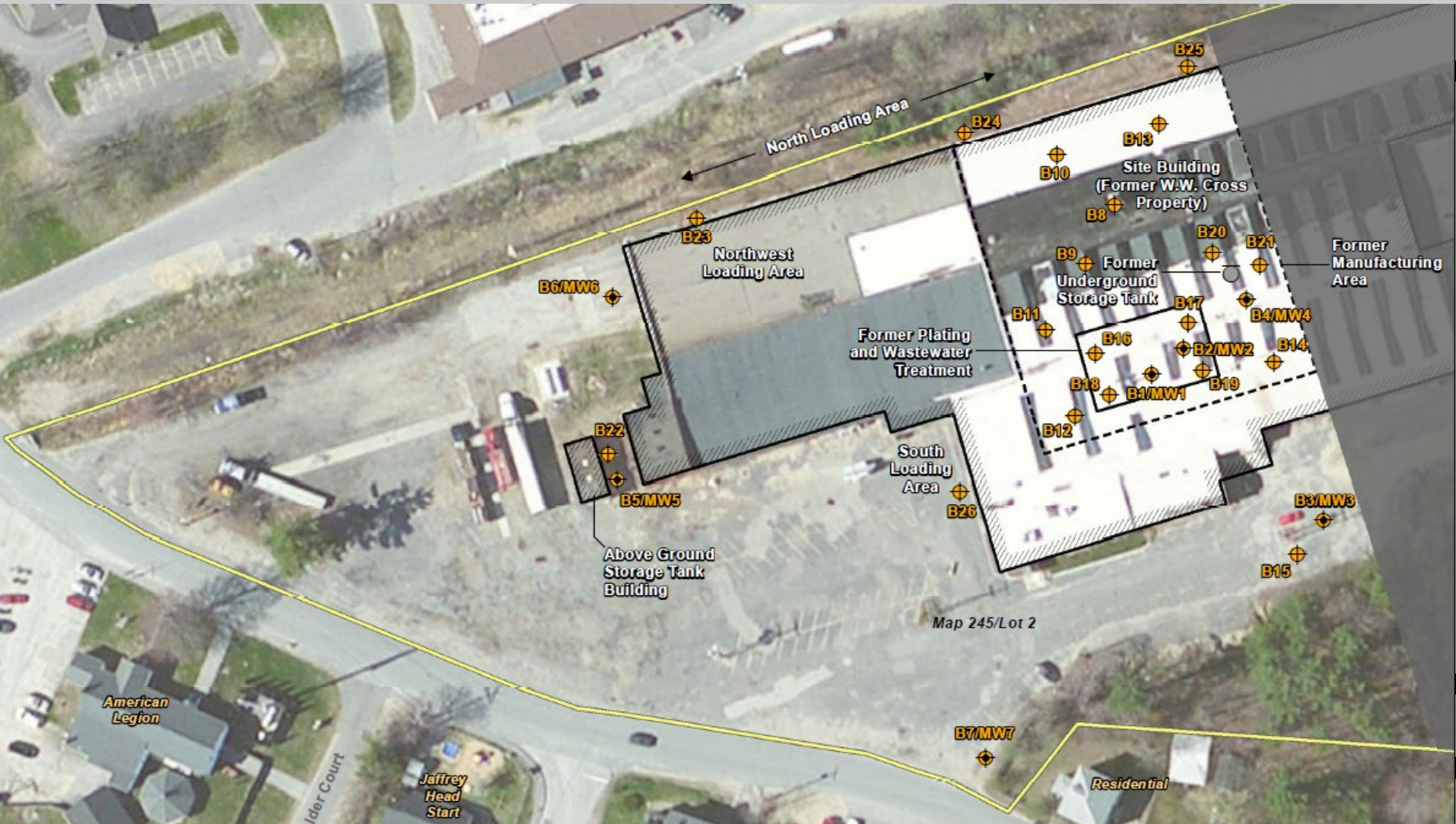
Material	Quantity	Units	Unit Cost	Total
Pad-mounted transformers (interior)	4	EA	250	\$1,000
Fluorescent light ballasts	697	EA	\$12	\$8,364
Fluorescent light tubes	1630	EA	\$4	\$6,520
Thermostat switches	16	EA	\$25	\$400
Batteries/emergency lights	27	EA	\$35	\$945
Refrigerator/freezer units	5	EA	\$100	\$500
Window-mounted AC units	2	EA	\$75	\$150
<i>Total removal cost Subtotal:</i>				<i>\$17,879</i>
<i>Contingency:</i>				<i>\$3,550</i>
TOTAL OTHER HAZARDOUS MATERIALS:				\$21,429

NOTES:

1. Cost estimates presented assume disposal of all fluorescent ballasts as PCB-containing. A cost savings may be achieved if some ballasts are determined to be non-PCB.
2. Contingency costs are added to cover potential hidden costs and market variability.
3. EA = Each; SF = Square Feet

Order-of-Magnitude Cost Estimate

Recommended Phase II ESA

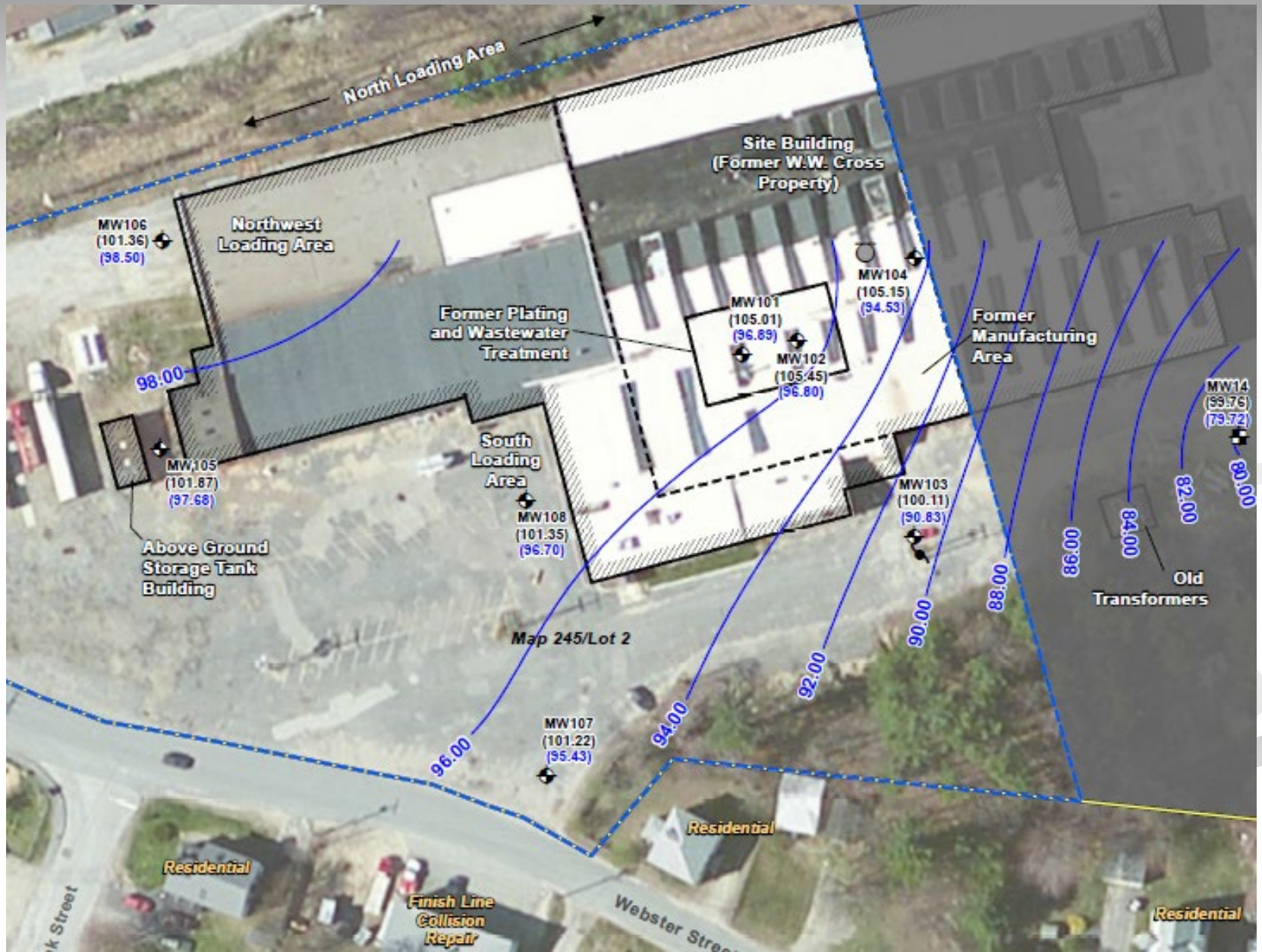


Scope of Work

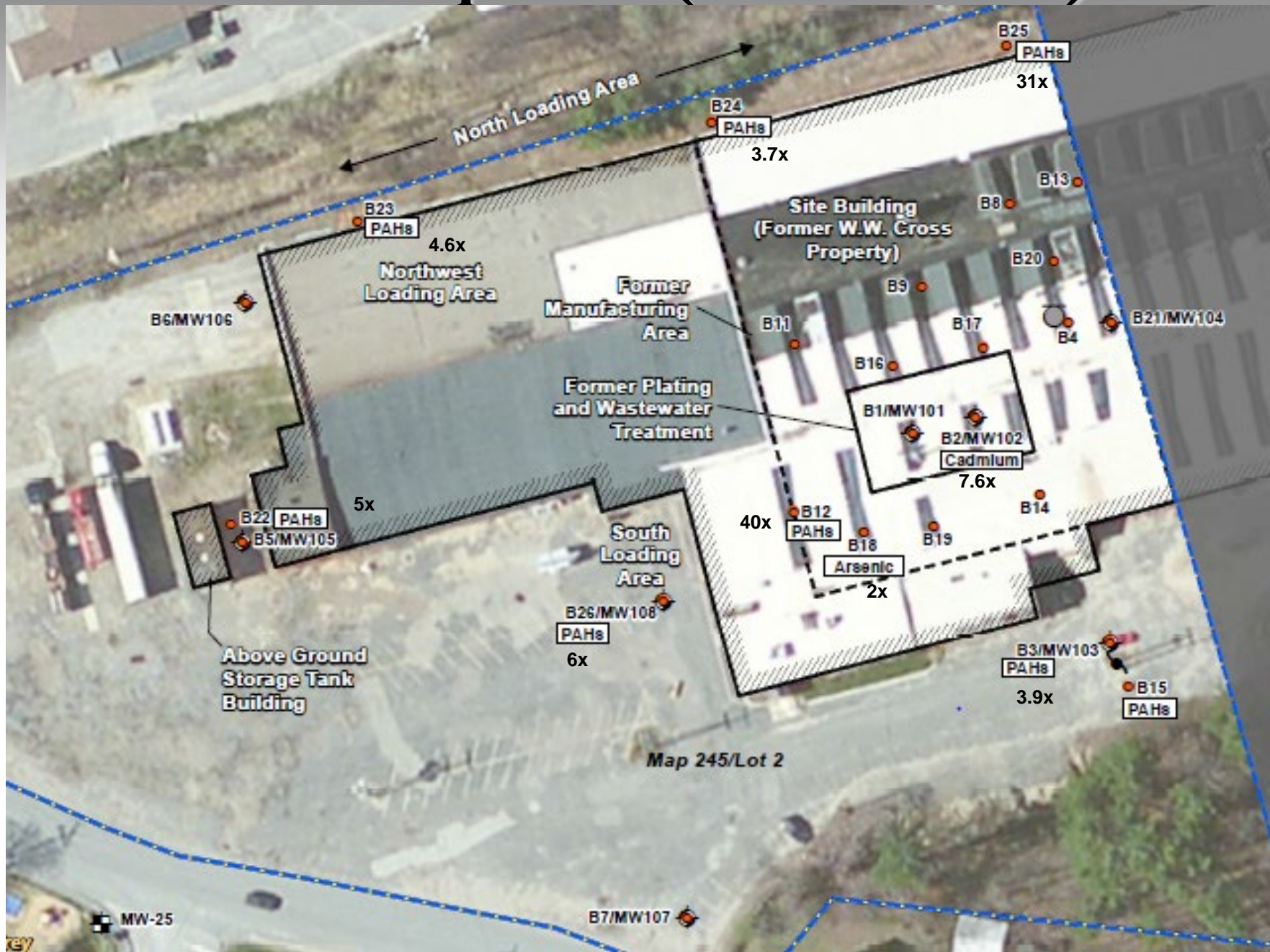
(soil, concrete, groundwater)

- Manufacturing & WW Areas: Petroleum Solvents, Metals, cyanide, PCBs (concrete), PFAS (groundwater)
- Plating Area: Metals, cyanide
- Fuel Oil Storage Areas: Petroleum
- Loading/Unloading Areas: Petroleum, Solvents, Metals
- Off-Site Concerns: Petroleum, Metals, Solvents (groundwater)

Groundwater Flow



Soil Impacts (above SRS)



Groundwater Impacts

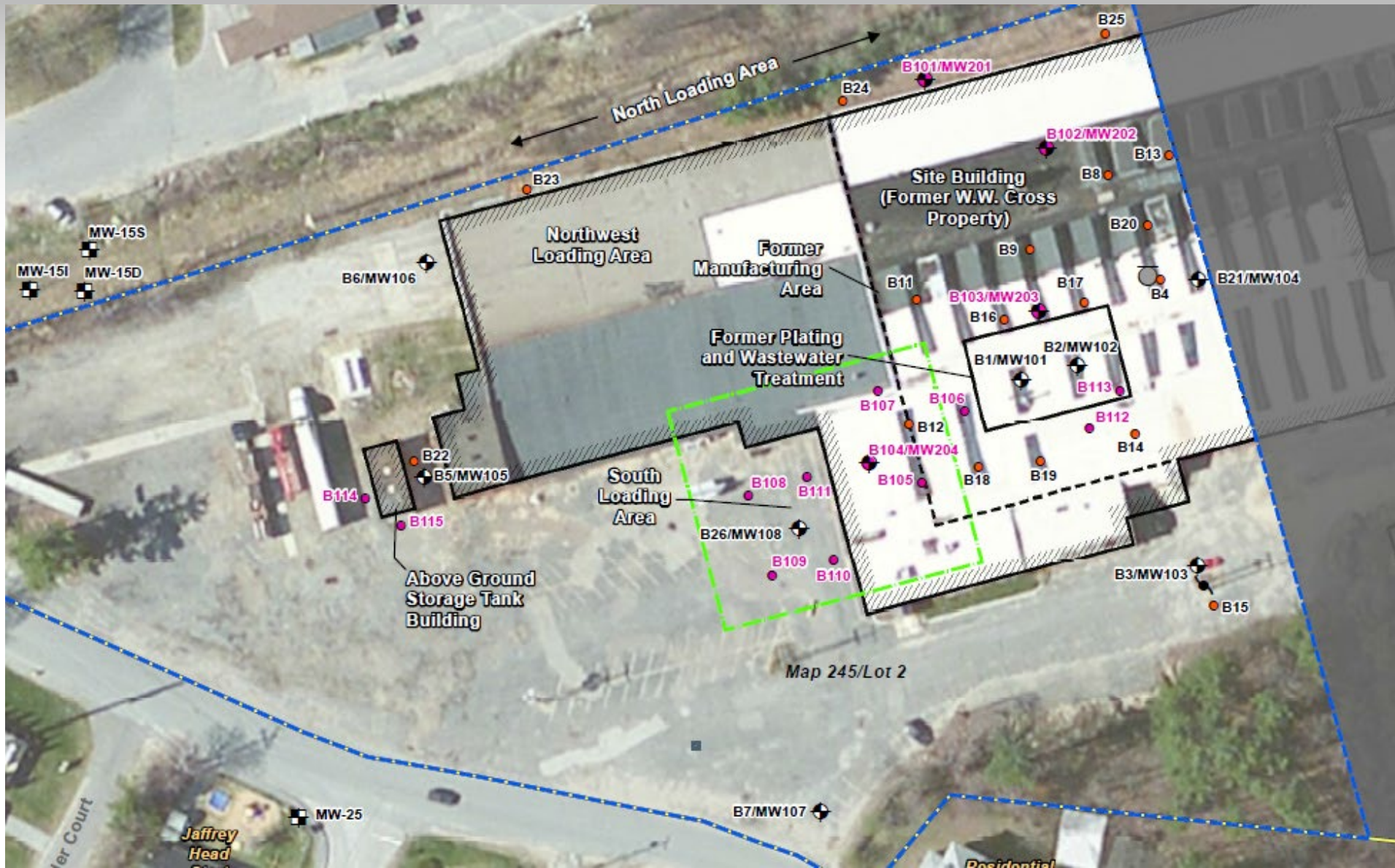


Recommendation:

Further Investigation of...

- Cd, cyanide and PCE impacts to soils and/or groundwater in proximity to the former plating and wastewater treatment area;
- PCE impacts to groundwater;
- PAH impacts in the area of B12 and B26, and naphthalene impacts to groundwater; and
- PAH impacts to soil in the area of the inactive No. 6 oil AST.

Supplemental Phase II ESA

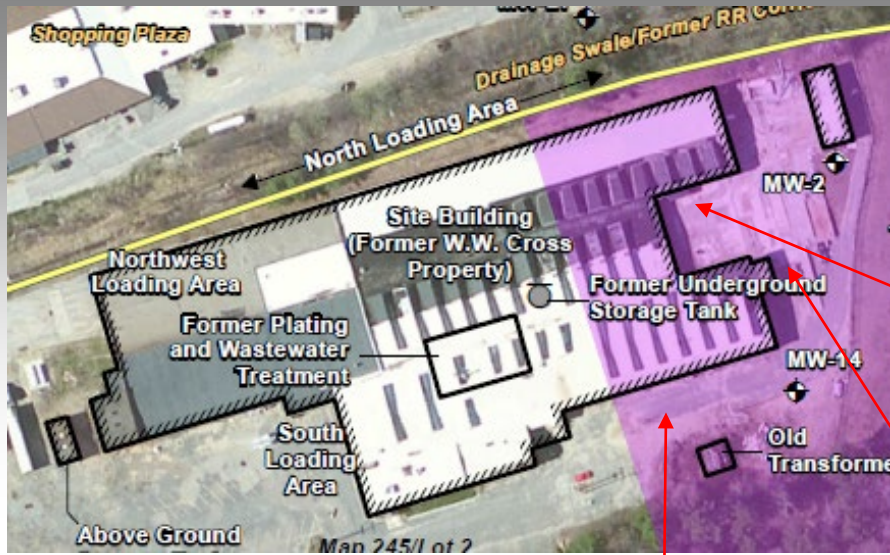


Questions

(Steve Rickerich, P.G.)









Materials/Wastes Storage



Renovated Spaces, Vandalized

Western Portion of the Site

Other Environmental Concerns

- Vandalism and Releases, Potential for More
- Historical Loading and Unloading Areas
- Nearby Relatively “High Risk” Properties
- Impacts to Wells Upgradient of the Landfill;
AND
- Inventory/Assessment of Stored Hazardous Substances; Removal & Disposal
- Closure of the 20,000 Gallon AST
- Review of Property Agreements



Photo 17 (6-27-17): View of “saw tooth” skylight area with ACM roofing applied to the shallow slope, and ACM flashings.



Photo 4 (6-27-17): Vermiculite insulation within AST bunker (sample set 62); ACM (Tremolite) found to be present.

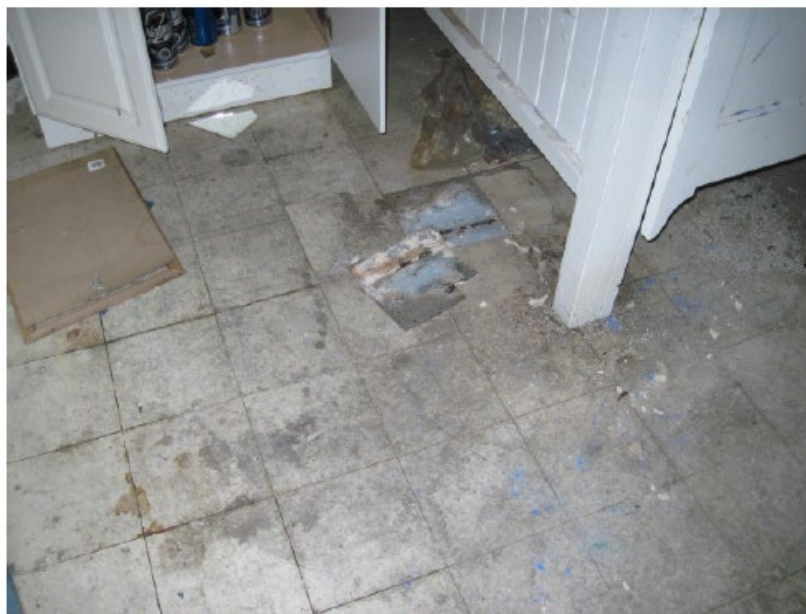


Photo 10 (6-27-17): ACM 9-inch floor tiles (sample set 09) located in bathroom within Site Building Room 22.



Photo 14 (6-27-17): One of several fire doors observed throughout the Site Building interior (PACM).

Summary

- Phase I ESA – Numerous RECs, no Environmental Data for the Western Portion of the Site, Phase II ESA Needed
- Close AST, Manage/Dispose of Wastes, Evaluate for Possible Indemnification for Legacy Issues (?)
- ACM Abatement Needed – The Probable Costs are not Insignificant
- Universal Waste Management/Recycling/Disposal Needed