

## New Hampshire Plating Superfund Site Merrimack, New Hampshire

### Background

The 13-acre New Hampshire Plating Company Superfund Site (site) was the location of an electroplating facility that operated from 1962 to 1985. Wastes from the New Hampshire Plating Company's (NHPC) operations were discharged to several lagoons constructed in an area of wetlands on the site (See site map).

Since June 1987, the EPA and the New Hampshire Department of Environmental Services (NHDES) have conducted a number of cleanup actions to stabilize conditions at the site. These included the



<b><u>Quick Facts</u></b>	
<b>Location:</b>	Wright Avenue
<b>Acreage:</b>	13 acres
<b>Parcels:</b>	Two
<b>Current Uses:</b>	Vacant
<b>Ownership:</b>	Private, two owners
<b>Zoning:</b>	Industrial ("I")
<b>Cleanup Status:</b>	Ongoing remedial action
<b>Surrounding Land Uses:</b>	Light industry, commercial office, residential

removal of plating solutions and other materials, demolition of the former buildings, excavation of an underground storage tank, off-site disposal of 5,000 tons of contaminated soil, solidification of 13,600 tons of sludge and soils, installation of a chain-link fence, and the placement of temporary caps over the former lagoons. To compensate for the loss of wetland at the site, EPA and NHDES provided funding for the purchase and preservation of off-site wetlands.

The site was placed on the Superfund National Priority List in 1992. In September 1998, EPA selected a long-term remedy that will include additional in-place fixation of contaminated soils, on-site backfilling of treated soils, re-grading of significant portions of the site, and restrictions on subsurface excavation and the use of groundwater. Remedial construction activities began in December 2004 and are expected to be completed by September 2006.

### Reuse Status

#### New Hampshire Plating Company Property

The ownership status of the two parcels comprising the site is uncertain because NHPC was dissolved as a corporation in 1991 and one of the original two owners is now

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deceased. The second owner is believed to be living out of the country. Both parcels are in tax arrears and not being actively used.

Although the Town of Merrimack does not currently own the two parcels, town officials have expressed interest in acquiring the property, potentially through a tax foreclosure. To assess potential reuse options, the town conducted a public planning process with a \$99,000 EPA Superfund Redevelopment Initiative grant. The results of that process were summarized in a 2001 draft report entitled “Superfund Redevelopment Plan, Town of Merrimack, New Hampshire” (reuse plan). The final recommendation consists of a mixed-use scenario that locates recreation fields in the back portion of the site and reserves the front portion for an undetermined future use that could include commercial development. A biking and walking trail that links to the New Hampshire Heritage Trail was also suggested. The reuse plan also discusses some potential transitional uses for the front portions of the site. These include a paved parking lot, a small bathroom facility, and possibly a skateboard/roller blade park. In January 2005, the Merrimack Board of Selectmen voted to approve recreational reuse of the site.



**Figure 1 – Operations building before demolition**

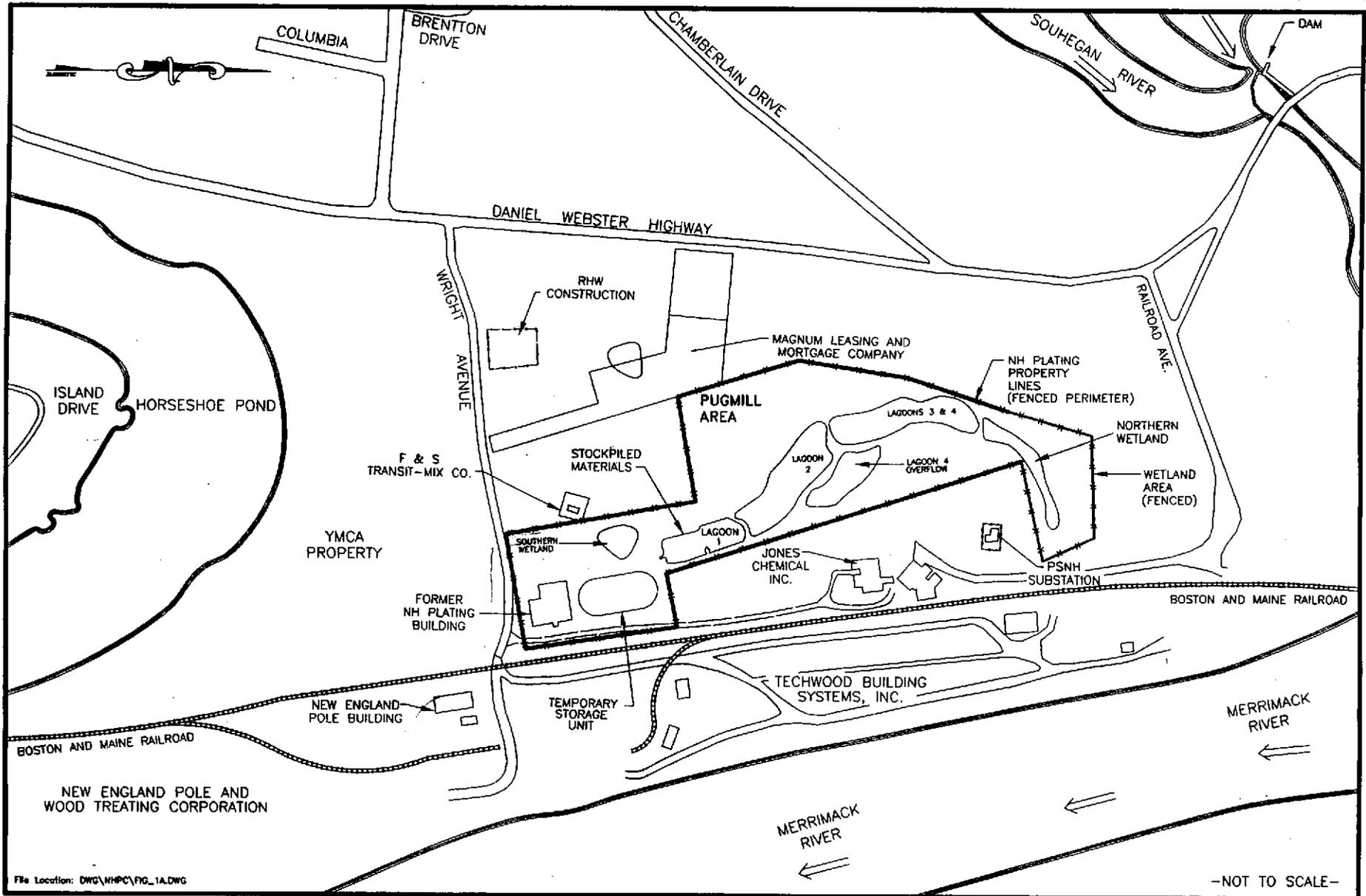
EPA is working closely with town officials to ensure that the town’s proposed uses are safe and compatible with the final cleanup, and that these future use scenarios are appropriately factored into the design and implementation of the remaining cleanup activities. An important consideration is the final site contouring, particularly in those



**Figure 2 - Former waste lagoon**

areas where the recreational fields may be constructed. Although the town’s reuse plan had proposed up to three recreational fields, EPA’s analysis indicated that the land area needed to accommodate that many fields could not be done without a net reduction in the local flood storage capacity. Since most of the site is located within a 100-year flood plain, reducing the flood storage capacity could increase the frequency and severity of future flooding events in the area. EPA is coordinating with the town to design a site contouring plan that maximizes the footprint

# NEW HAMPSHIRE PLATING COMPANY SITE MERRIMACK, NEW HAMPSHIRE



File Location: DWG\NHPC\FIG\_1A.DWG

-NOT TO SCALE-

New Hampshire Plating Company Site

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available for recreational fields and provides the slopes required for suitable playing surfaces, while maintaining the existing flood storage capacity of the site.

### *Off-Site Wetland Purchases*

The acquisition and preservation of off-site natural areas to compensate for the loss of wetlands at the site represents a significant accomplishment. Two separate areas were acquired.

The first consists of the 38-acre Grassy Pond in nearby Litchfield in 1998. Slated for development, this ecologically-valuable property was preserved as a natural area through the financial assistance of EPA and the NHDES and in partnership with the Nature Conservancy. The cost of the property was approximately \$1.4 million.

The second acquisition consists of 50-acres of wetlands and upland within the Greens Pond wetland area in Merrimack. This property is part of about 563 acres of forests and wetlands that the town purchased in 2002. The property includes White Pine Swamp and an unnamed wetland near Naticook Road. In addition to the property's ecological and recreational value, the preservation of this area will help to protect the public water supply. EPA and NHDES contributed \$254,000 for this acquisition which took place in 2002.

### Site Description

The former NHPC facility was located on two adjacent parcels identified as Parcels #2 and #3 on tax assessor map 4D-2. Parcel #2 (approximately 11 acres) includes the lagoons, wetlands and some upland areas. Parcel #3 (approximately 1.57 acres) was the location of the former NHPC building.

All buildings, an underground storage tank, and other related structures have been removed and a chain-link fence surrounds the site. A public water supply, electrical/phone lines and a municipal sewer line are currently located along Wright Avenue, which is a two-lane public road that provides access to the site. Wright Avenue runs off the Daniel Webster Highway, a primary transportation route that at times experiences heavy traffic.

Both parcels are located within the town's "I1 industrial" zone. The area to the west is zoned commercial and south of Wright Avenue is zoned residential. The surrounding land uses include some light industries, commercial businesses, and a few private residential dwellings. South of Wright Avenue is an undeveloped lot owned by the City of Manchester YMCA. Directly to the east is an active Boston and Maine Railroad right-of-way. The Merrimack River is approximately 500 feet east of the site and Horseshoe Pond lies 600 feet to the south.

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### Environmental Summary

In mid-1992, EPA initiated a remedial investigation (RI) to determine whether cleanup actions in addition to those already conducted by EPA and the NHDES were necessary to ensure the long-term protectiveness of the site. The contaminants detected within the site study area correspond to the known plating effluent constituents, including: metals (arsenic, beryllium, cadmium, zinc, chromium, lead, nickel, copper, manganese and tin), chlorinated solvents and their degradation products, and cyanide. Low levels of semi-volatile organic compounds (SVOCs) were also detected, but are not believed to be associated with NHPC facility operations.

It was determined that site soils are acting as a continuing source of inorganic contaminants to groundwater, and the top two feet of soil present an unacceptable ecological risk.

Groundwater contamination was detected in subsurface aquifers. However, the levels of contamination in the deep overburden were significantly less than in the shallow overburden, while the bedrock aquifer was relatively unaffected. Contaminated groundwater, which has migrated off-site under some adjacent properties, reaches north and west to the NHPC property boundary, south to Horseshoe Pond, and east to the Merrimack River. Some groundwater in this area exceeds drinking water standards. Site contaminants have not been found to be discharging into Horseshoe Pond or the Merrimack River.

The Record of Decision (ROD) issued by EPA in September 1998 specified certain source control measures that include: additional stabilization and backfilling of contaminated

### Key Events

<i>1962- 1985</i>	NHPC operated facility
<i>June 1987</i>	NHDES initiates actions to address immediate threats
<i>October 1989</i>	EPA initiates interim cleanup
<i>Fall 1990 – Spring 1991</i>	EPA excavates, solidifies and encapsulates contaminated sludge/soils; sends contaminated soil off-site; places containment covers.
<i>1991</i>	NHPC dissolves as corporation
<i>1992</i>	Site added to the Superfund National Priority List
<i>Winter 1994</i>	EPA decontaminates and demolishes buildings, removes an underground tank, and places temporary cap on building footprint
<i>May 1996</i>	Draft Final Remedial Investigation Report completed
<i>September 1998</i>	Record of Decision signed by EPA
<i>September 2000</i>	EPA awards the town a Superfund Redevelopment Initiative grant
<i>2002</i>	Town prepares Reuse Report
<i>August 2004</i>	EPA secures \$4 million to begin remedial work
<i>March 2005</i>	EPA secures additional \$9 million to complete remedial cleanup

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soils, installation of a two-foot permeable cover over treated soils, site contouring, and re-vegetation. For the groundwater, the ROD specified natural attenuation (allowing the groundwater to return to acceptable levels through natural biological activity and other processes) combined with institutional controls to restrict use of the groundwater, and continued monitoring. NHDES is overseeing the continued sampling of groundwater monitoring wells, surface water from Horseshoe Pond and the Merrimack River, and three water supply wells located across the river in Litchfield.



**Figure 3 - Site preparation (Winter 2005)**

In August 2004, EPA secured \$4 million in federal funds to begin the remedial cleanup. An additional \$9 million was obtained in March 2005 for the remaining cleanup work, which is expected to be completed by September 2006.

### For Additional Information:

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