Final Wetland Delineation / Habitat Assessment Report

Liberty Industrial Finishing
Proposed Groundwater Recovery Collection Pipeline

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Prepared for

The Liberty Industrial Superfund Site Qualified Settlement Trust

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1.0 Introduction

The Liberty Industrial Superfund Site Qualified Settlement Trust (the Trust) is proposing the installation of groundwater recovery wells and approximately 3,500 feet of groundwater collection pipeline (the Project) as part of a CERCLA remediation action associated with Liberty Industrial Finishing Site (CERCLIS Number NYD000337295). The proposed project falls within a portion of the Massapequa Preserve located in the City of South Farmingdale, Nassau County, New York. Figure 1-1 is a location map of the Project site.

During the initial project design, a preliminary habitat assessment of the Project area (the Study site) was performed to identify potential sensitive resources which may require coordination with regulatory agencies prior to the implementation of a preferred remedial strategy. Specifically, the Trust proposes the installation of a groundwater collection pipeline through an undeveloped wooded area that is part of the Massapequa Preserve, is mapped as containing both state and federal regulated wetlands, is identified by the New York State Natural Heritage Program as potentially supporting Hyssop-skullcap (*Scutellaria integrifolia*) habitat, and supports an intermittent tributary to the Massapequa Creek, which has a state stream classification of C-fresh surface water. Class 'C' streams are defined by the New York State Environmental Conservation Law 6 NYCRR Part 701.8 as *fresh surface waters whose best usage is fishing*. The law continues, *these waters shall be suitable for fish propagation and survival*. In addition, *the water quality shall be suitable for primary and secondary contact recreation*.

Ecology and Environment Engineering, P.C. (EEEPC) conducted a comprehensive wetland and habitat assessment field survey of the Study area on 3 October 2006. Based upon EEEPC findings and as outlined in this report, no jurisdictional wetlands or suitable Hyssop-skullcap habitat would be impacted during installation of the proposed groundwater recovery pipeline. However, based on the current site design, one minor crossing of the intermittent tributary to Massapequa Creek would be required.

2.0 Site Description

Liberty Site

The Liberty Site is situated on a 30-acre triangular shaped property approximately 1 mile south of Bethpage State Park. Figure 1-2 presents an overview of the project area. The Site is bordered by the Long Island Railroad to the north, Motor Avenue to the south, Main Street to the east, and Ellsworth Allen Park to the west. The surrounding area is primarily residential, and several commercial establishments are located along the major roads adjacent to the site.

The Liberty Site is divided into two sections—the western portion and the eastern portion. The eastern portion is the subject of a separate United States Environmental

Protection Agency (EPA) action. The western portion abuts a community park (Ellsworth Allen Park) and is primarily vacant except for the existing groundwater remediation system (GRS). Foundations for some of the former on-site structures and industrial facilities remain visible. The western portion of the Site also includes three excavated former disposal basins that previously received metal finishing wastewaters.

The Liberty Site is underlain by a glacial aquifer comprising sands and gravels of glacial outwash origin. This upper glacial aquifer (UGA), which extends from the ground surface to a depth of 60 to 90 feet, is very permeable. Beneath the UGA is a formation of lower permeability referred to as the "20-foot-clay" layer. This is followed by the Cretaceous-aged Magothy aquifer (MA), which varies in thickness and is comprised of inter-layered sands, silts, and clays. The MA is used throughout the area as a drinking water supply.

Plume A extends from the Site to the south, toward the Southern State Parkway. To the east of Plume A is another groundwater plume, Plume B, which originated from a separate source. The Trust's project involves the design of an upgrade to the existing GRS to continue the remediation only of Plume A.

The constituents in Plume A include trichloroethylene (TCE) and its daughter products, as well as cadmium and chromium. Lesser concentrations of other organic compounds such as trichloroethane (TCA) and its daughter products also were detected in the groundwater. Organic constituents extend through the UGA and into the MA to a depth of up to 160 feet below ground surface (bgs) in some areas, although the impacts in the MA can be attributed to Plume B. Cadmium and chromium are present primarily in the UGA.

Massapequa Site Description

The Study area for this report consists of a gently sloping, forested landscape where a channelized intermittent reach of Massapequa Creek is found. This area is now part of the Massapequa Preserve. Historically, the Nassau County Department of Public Works 'improved' this site as part of a stormwater control project undertaken in the 1950's for the Massapequa Lake State Park. The Study area is currently dominated by a mature deciduous hardwood forest having a dense scrub-shrub understory. The site has demonstrated heavy use, likely by residents of the surrounding neighborhoods, with evidence of well worn access trails, debris piles, fire pits, and congregation areas scattered throughout. Land usage surrounding the Study property consists of high-density single family housing, and the Woodward Parkway Elementary School, which lies adjacent to the Preserve's northeastern extent.

Based on the Study parcel being largely surrounded by high-density development, stormwater control structures (i.e., stormwater sewer lines) appear to be the primary hydrologic source for the intermittent drainage channel. The channel discharges into a retention basin located south of the Study area. The basin is being remediated under a separate permit in compliance with the same CERCLA action.

Proposed Remedial Design

Pursuant to the Statement of Work, EEEPC has designed an upgrade to the existing GRS to remediate VOCs, cadmium, and chromium present in Plume A. Based on comments from EPA, the Remedial Design (RD) also includes the remediation of contaminated groundwater from the Magothy aquifer. It should be noted that this design includes pumping from the Magothy Aquifer only in areas that are located directly beneath areas of contamination in the UGA attributed to Plume A. The Magothy Aquifer pumping scenario is not intended to be a complete remediation of Plume B. It is expected that EPA will coordinate the remediation of the remainder of Plume B separately.

The primary goal of this design is to prevent or minimize human contact with groundwater in which chemical concentrations are present above cleanup levels. The RD activities for the groundwater remedy at the Liberty Site include the following:

- Design of a GRS for Plume A constituents. The GRS design includes:
  - Installation and use of off-site recovery wells to extract groundwater from the UGA and MA;
  - Transmission of the extracted groundwater to the Liberty Site;
  - Upgrade of the existing on-site GRS to treat for organic constituents from both existing and new extraction wells;
  - Discharge of treated groundwater to the sanitary sewer system or other suitable points/media. The ROD originally described a GRS that would discharge to groundwater or surface water. However, since the date of the ROD, the Trust has obtained permission from Nassau County to discharge the treated groundwater to the sanitary sewer system;
  - Development of an Operations and Maintenance (O&M) Plan;

- Development of a plan for long-term groundwater quality monitoring to evaluate the effectiveness of the remedial action. The Trust is currently implementing a sitewide groundwater monitoring program to track the progress of the remediation;

- Continued operation of the existing GRS to effectively remediate groundwater underlying the Site until the upgraded GRS is constructed; and

- Establishment of institutional controls to prohibit installation or use of groundwater wells to produce water for human consumption.

Figure 1-1 Site location

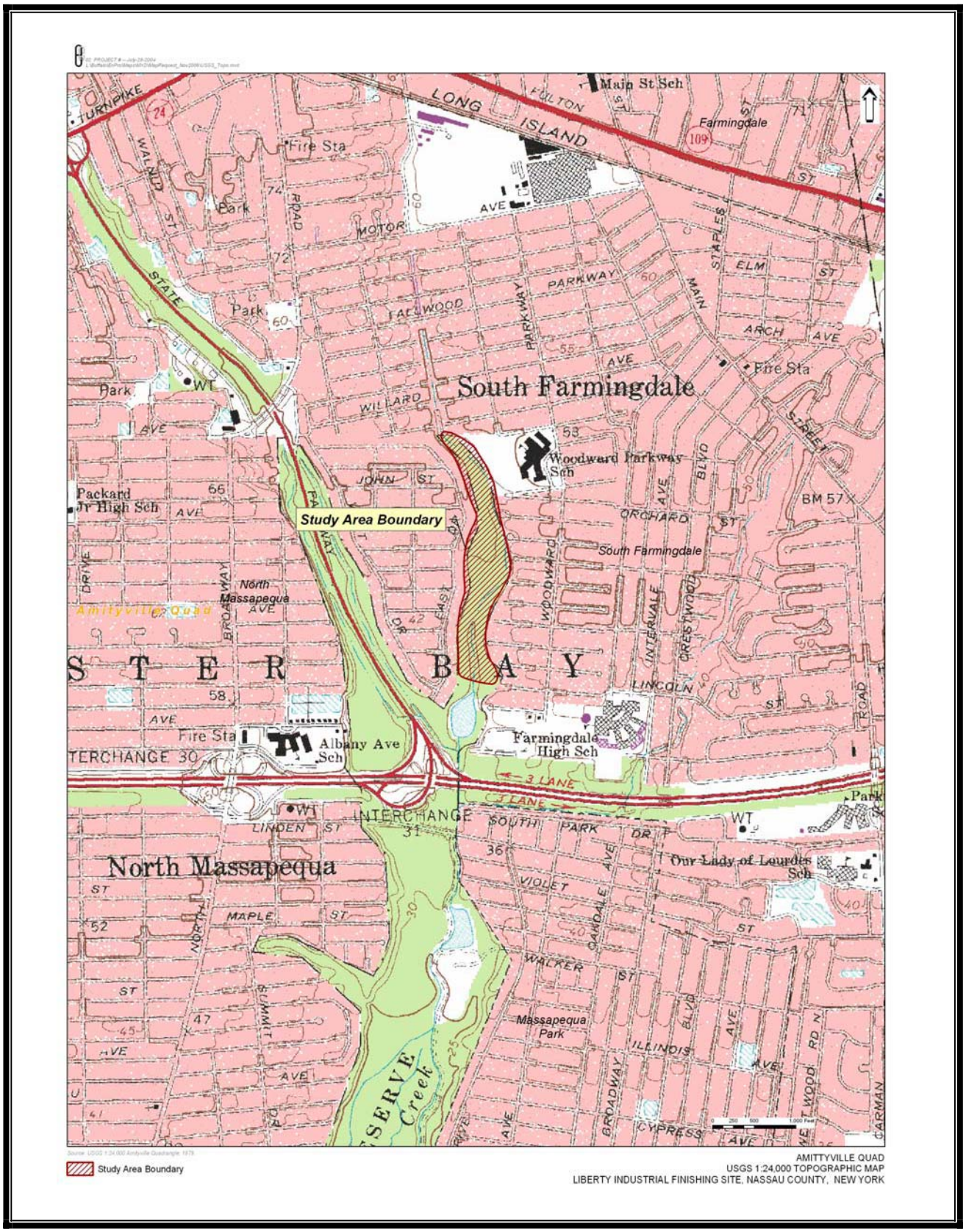

Figure 1-2: Project Location

3.0 Agency Resource Information

The proposed project site is located within the Amityville, New York Quadrangle. The United States Department of Interior Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map for the project area indicates one mapped wetland present (see Figure 3-1). This wetland is mapped as a *palustrine, forested, broad-leaved deciduous, temporarily flooded wetland* (PFO1A) and encompasses the entire Study site. In addition, review of the New York State Department of Environmental Conservation (NYSDEC) wetland maps also indicate a wetland complex in the area, identified as Wetland *A-2*, which is aligned with the existing drainage channel. The NYSDEC has classified this site as a Class 1 wetland (see Figure 3-2).

Based on the *Soil Survey of Nassau County, New York* (1987, Map 12), two soil types are identified as underlying the site. These include the *Atsion loamy sand* and *Sudbury sandy loam*. The *Atsion loamy sand* is described by the United States Department of Agriculture Natural Resource Conservation Service (NRCS) as a very deep, nearly level, and poorly drained soil with a slope of 0 to 2 percent. The Atsion soils formed in deep glacial outwash deposits. Adjacent and upslope to the Atsion soils is the *Sudbury sandy loam*, which is described by the NRCS as a very deep and moderately well drained soil having slopes that are smooth and slightly concave to convex with a range from 0 to 3 percent. The Sudbury soils formed in a thin loamy mantle with underlying deposits of sand and gravel outwash. Figure 3-3 presents the NRCS mapped soil types underlying the Study area.

A review of the *New York Hydric Soils and Soils with Hydric Inclusions* (1999) Technical Guide indicates only the Atsion mapped soil as having hydric characteristics. The Sudbury soil is not listed as either a hydric soil or a soil with potential hydric inclusions. Table 3-1 below identifies the on-site soils and includes their wetland indicator classification. The presence of a soil listed as hydric or containing hydric inclusions indicates the possibility that a regulated wetland may be present.

Table 3-1. NRCS Mapped Soils and Wetland Indicator Status

Mapped Soil Type (Soil Symbol)	Wetland Indicator
Atsion loamy sand (At)	Hydric
Sudbury sandy loam (Su)	Upland

Figure 3-1: USFWS National Wetland Inventory Map of Project Area.

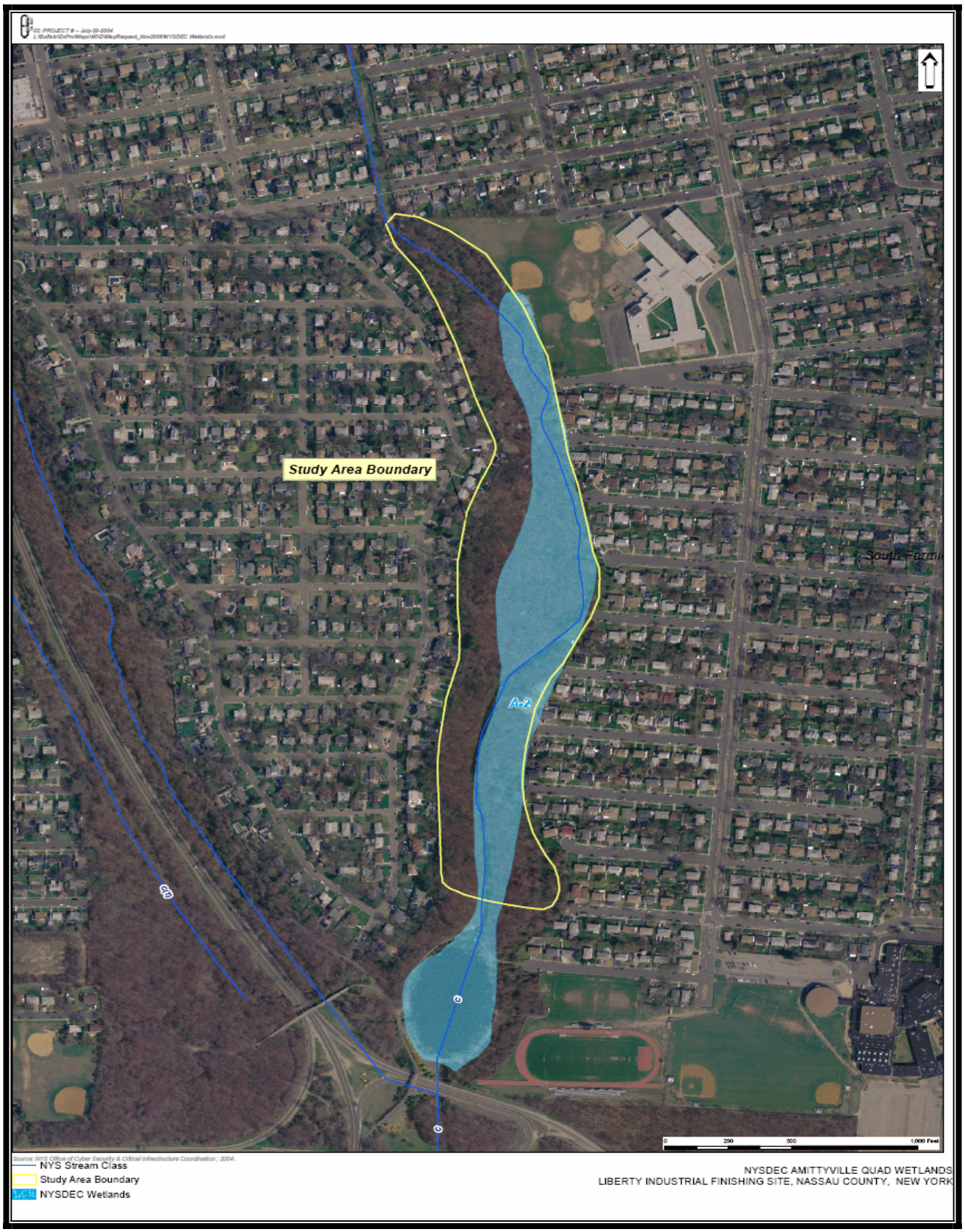

Figure 3-2: NYSDEC Wetlands Map of Project site.