

**Wetland Delineation / Habitat Assessment Report**

**Liberty Industrial Finishing  
Proposed Groundwater Recovery Collection Pipeline**

CERCLIS ID Number  
NYD000337295

February 2007

**Prepared for**

The Liberty Industrial Superfund Site Qualified Settlement Trust

**Prepared by**

Ecology and Environment Engineering, P.C.

## **Table of Contents**

- 1.0 Introduction
- 2.0 Site Description
- 3.0 Agency Resource Information
- 4.0 Methodology
- 5.0 Site Ecology
- 6.0 Results and Conclusions

## **Tables**

NRCS Mapped Soil Types

---

## **Figures**

Project Location  
USFWS National Wetland Inventory Map  
NYSDEC Wetlands Map  
USDA-NRCS Soils Map  
Proposed Groundwater Pipeline Alignment

## **Appendix**

- A Field Data Sheets
- B Site Photographs

## 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. (EEEEPC) conducted a comprehensive wetland and habitat assessment field survey of the Study area on 3 October 2006. Based upon EEEEEPC 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

The Study area 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.

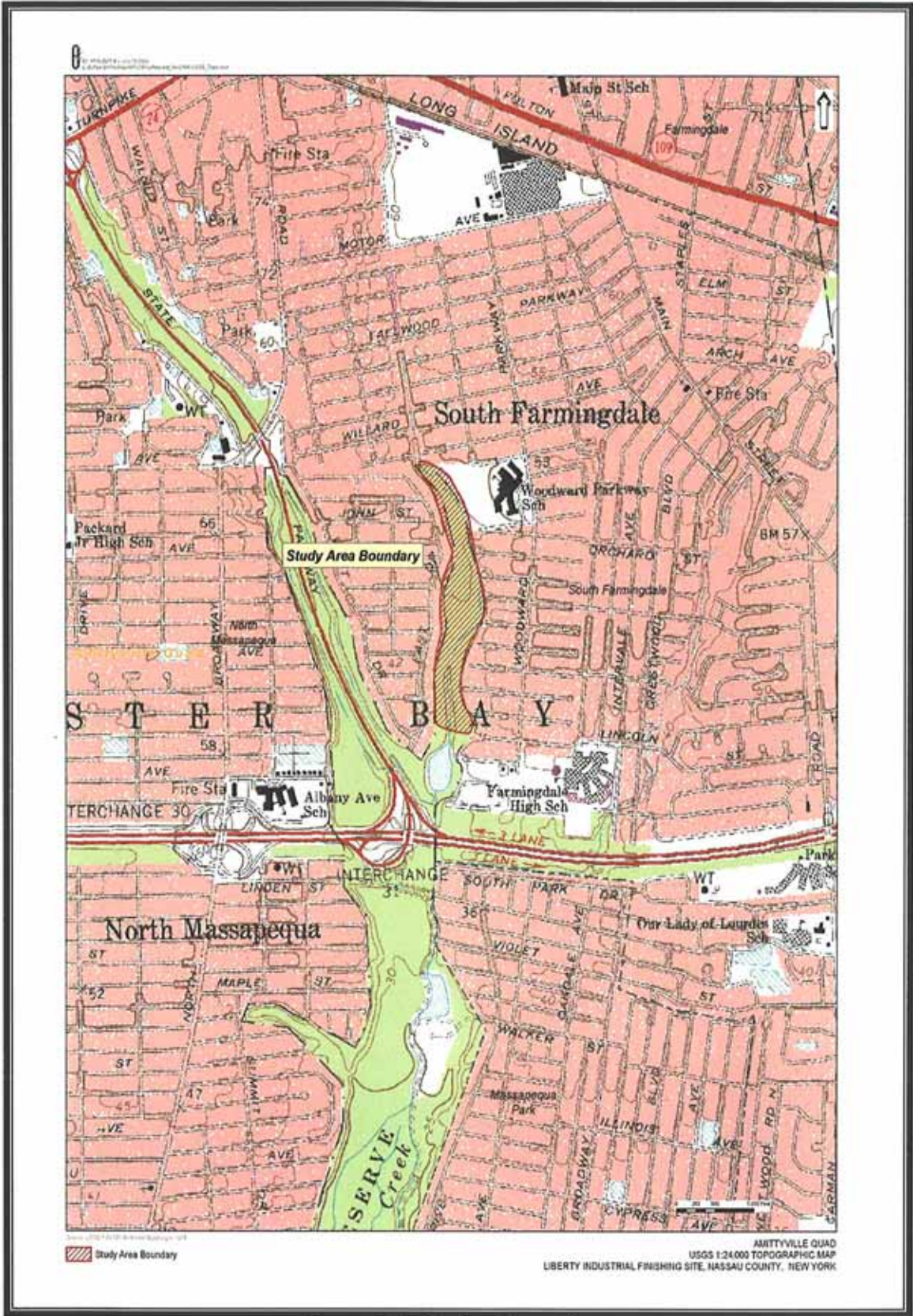


Figure 1-1: Project Location

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.

### 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).

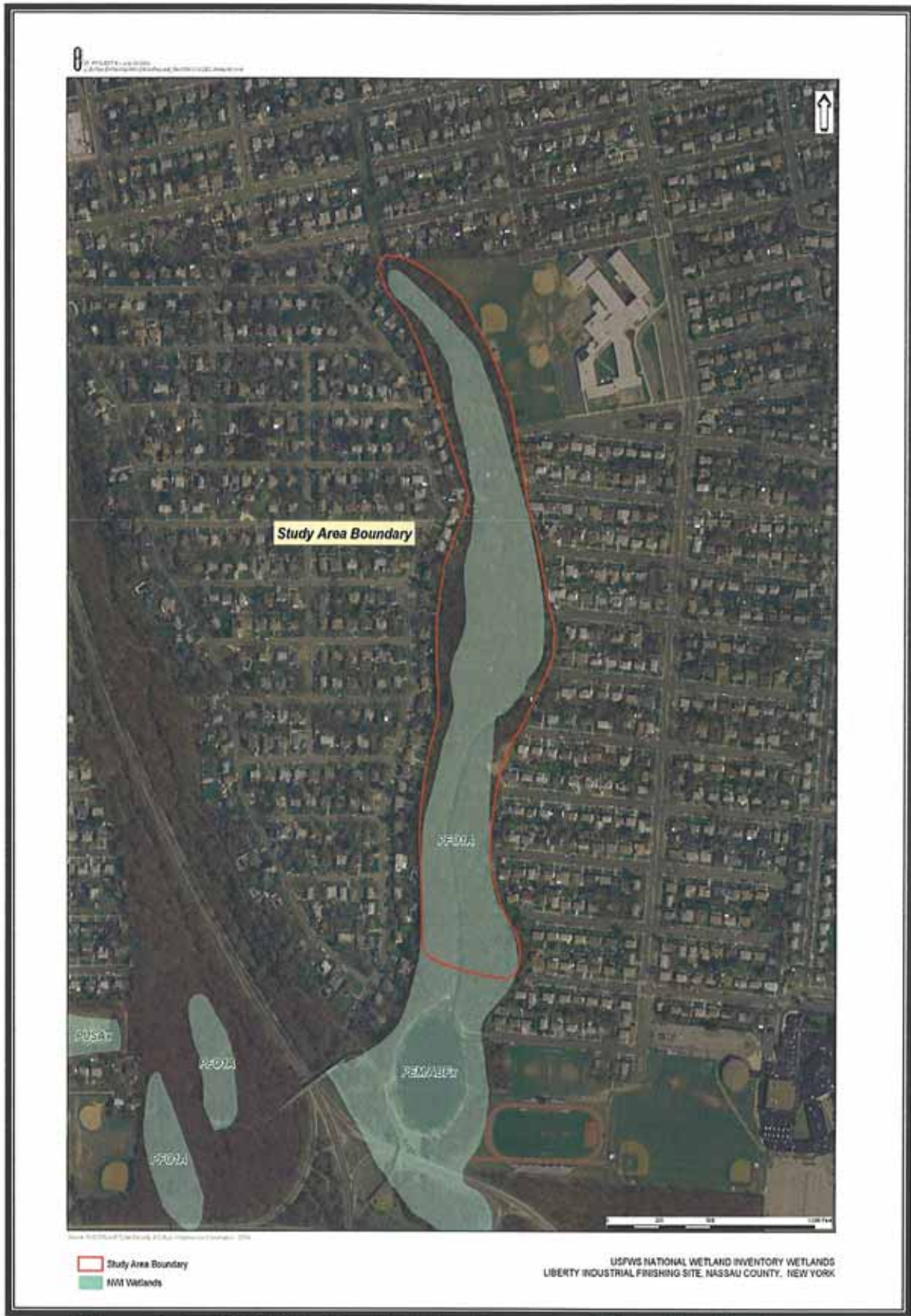
Based on the *Soil Survey of Nassau County, New York* (1987, Map 12), two soil types are identified as underlying the site. These include the *Atsion loamy sand* and *Sudbury sandy loam*. The *Atsion loamy sand* is described by the United States Department of Agriculture Natural Resource Conservation 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.

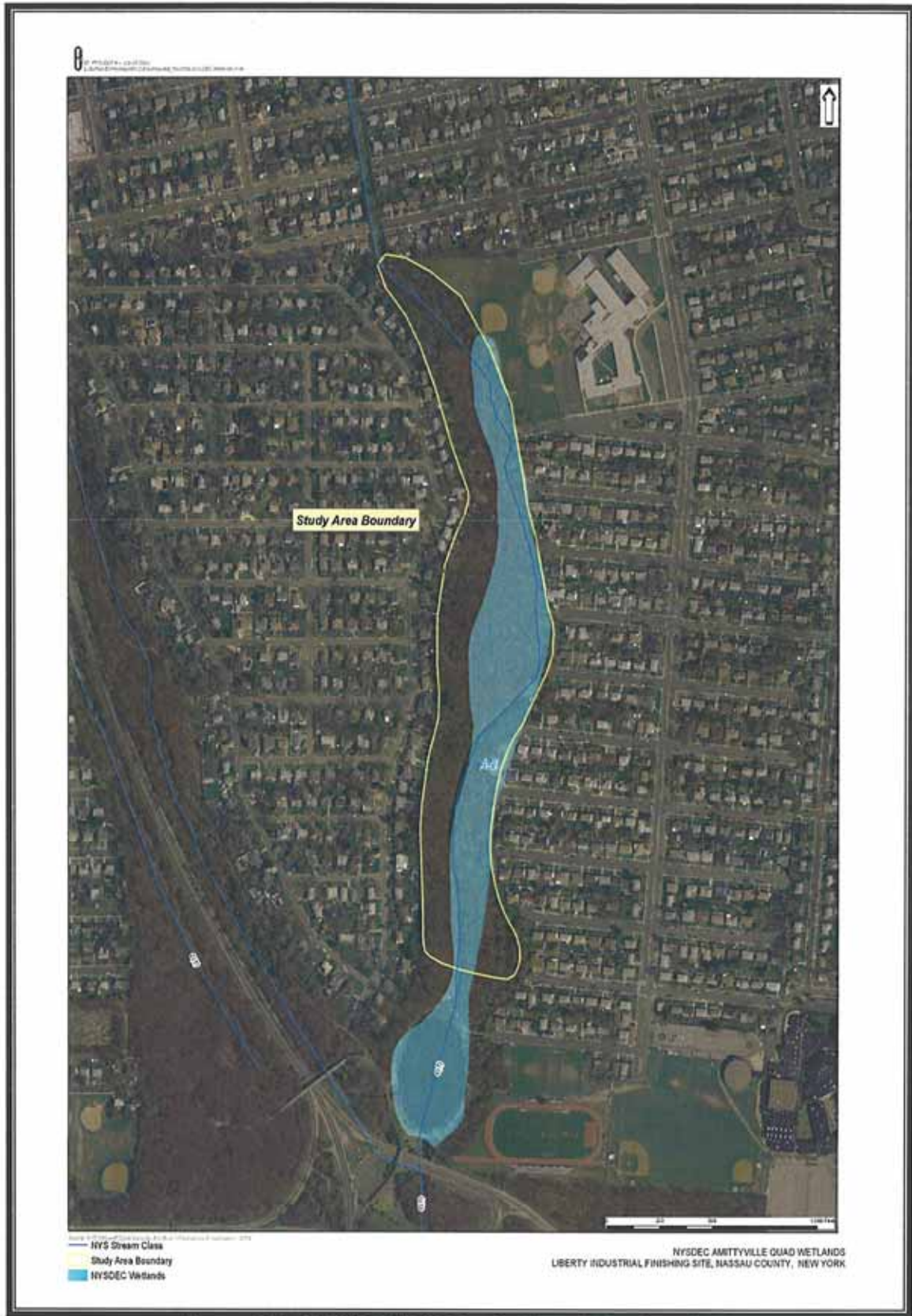
**Table 3-1. NRCS Mapped Soils and Wetland Indicator Status**

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



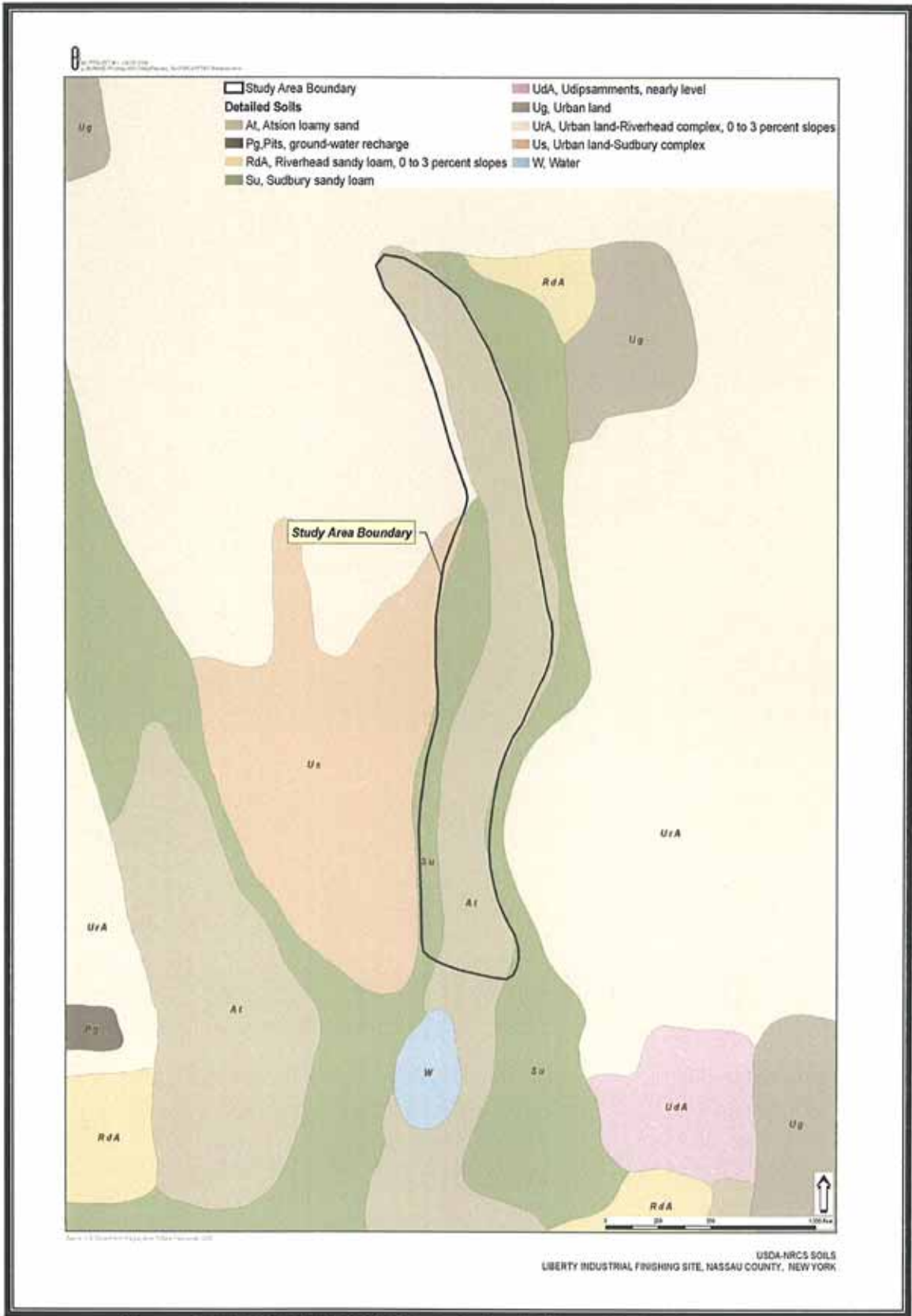


**Figure 3-1: USFWS National Wetland Inventory Map of Project Area.**



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





**Figure 3-3: USDA-NRCS Underlying Soils at the Project area.**



#### **4.0 Methodology**

The primary purpose of the field survey was to assess the presence or absence of jurisdictional wetlands and waterbodies within the project area, and to provide a general description of the habitats proposed for crossing.

Wetlands were delineated as described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Weather during the site investigation was clear with a moderate breeze and a temperature near 70 degrees Fahrenheit. *Routine Determination* methodology was followed as described in Part IV, Section D of the 1987 Manual. Data sheets adapted from the 1987 USCOE Manual and approved by the Headquarters of the USCOE in March 1992 were used and are located in Appendix A.

A sample point was completed in a representative (typified) area to document the vegetative makeup, hydrologic influences, and soil characteristics of the proposed Study area. The FAC neutral option was used only when primary hydrologic or hydric soil evidence was weak. This option is described in Part II, paragraph 35a, page 23, of the 1987 Manual and states in part, *FAC species can be considered neutral if they occur as dominant or co-dominants within a given sample point location.* A FAC species is defined by the USCOE as Facultative Plants (FAC) that have a similar likelihood (33 % – 67 %) of occurring in both wetlands and non-wetland areas.

Individual soil pedon horizons were classified using a standard hand-driven 3-inch soil bucket auger to a depth of 18-inches. Soil colors were determined by referencing the *Munsell Soil Color Charts*. Soil log information is included in the appendix. Representative photographs of the study area are located in Appendix B.

As identified under Section 2.0 Site Description, the Project falls within previously disturbed lands associated with a stormwater control project initiated in the 1950's. All disturbances are considered historic in nature and site conditions present at the time of field surveys were determined to be '*normal circumstances*' for this report. In addition to the above stated methodology, EEEPC incorporated *Problem Area* guidelines as described under Section G; paragraphs 77, 78, and 79; pages 93, 94, and 95, of the USCOE 1987 Manual during field delineations due, in part, to on-going disturbances of the site as described under Section 2.0 above.

#### **5.0 Site Ecology**

Historically, the Project site was 'improved' as part of a stormwater control project for the Unincorporated Village of South Farmingdale, New York and Massapequa Lake State Park. In recent years, however, the site has developed a more 'natural' appearance due, in part, to the lack of channel maintenance. General plant communities found during the site investigation include an upland deciduous woodlot having a dense scrub-shrub understory, and a well developed riparian zone associated with the intermittent drainage channel.

The upland deciduous woodlot dominates the project site, which sits upon a terraced bench approximately 2 to 3 feet above the drainage channel bed. The tree canopy is typified by: scarlet oak (*Quercus coccinea*); white oak (*Q. alba*); sassafras (*Sassafras albidum*); red maple (*Acer rubrum*); black cherry (*Prunus serotina*); and few scattered pitch pines (*Pinus rigida*). The understory vegetation is dominated by a dense scrub-shrub community, typical of disturbed areas, and includes: Japanese honeysuckle (*Lonicera japonica*); sassafras; multiflora rose (*Rosa multiflora*); ragweed (*Ambrosia trifida*); mugwort (*Artemisia vulgaris*); poison ivy (*Rhus radicans*); and virgin's bower (*Clematis virginiana*). The riparian zone vegetation, observed along the drainage channel banks and within channel island pockets included: silver maple (*A. saccharinum*); Japanese honeysuckle; multiflora rose; ragweed; mugwort; smartweed (*Polygonum pensylvanicum*); and duckweed (*Lemna* spp.).

A well defined gravel trail bisects the site in a north - south alignment. The trail is currently used by the surrounding neighborhoods as a walking/bicycling path with many spur paths to established, hidden congregation sites where fire pits and rubbish piles dominate.

Based on the site investigation performed, soils mapped by the NRCS as occurring in the project area (see Section 3.0) are not representative of EEEPC's findings. Rather, the soils were determined to correspond more closely with the *Mineola soil series*, as described in the NRCS *Soil Survey of Nassau County*. The Mineola soils are in close association with the mapped Sudbury soils, and are described as very deep, moderately well drained that formed in a thin loamy mantle overlying stratified sand and gravel. Slopes for this soil range between 0 and 3 percent. No groundwater was observed within the soil pit after 20 minutes. The Mineola soils are considered *non-hydric*.

The intermittent tributary to Massapequa Creek is an incised, historically excavated channel whose bank heights range from 1 to 3 feet. The channel averages approximately 10 feet in width (bank to bank) and consists of a gravel bed. Several pockets of standing water (0- to 6-inches in depth) were noted at the time of survey. These pockets support limited aquatic vegetation, which included: duckweed; smartweed; spotted touch-me-not (*Impatiens capensis*); and bedstraw (*Galium palustre*). The primary hydrologic source for this channel is through the many discharge culverts associated with the surrounding neighborhoods stormwater sewer system, of which support intermittent channel flows.

Based on the evaluation of existing resources, areas exhibiting wetland hydrology, hydrophytic vegetation and hydric soils were not identified during the site survey. However, the well defined intermittent drainage channel would likely be considered jurisdictional (water of the U.S.) due to its connectivity to Massapequa Creek.

## 6.0 Results and Conclusions

It is the professional judgment of the investigators that the Study parcel supports no jurisdictional wetlands as outlined in the *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (Environmental Laboratory 1987). The tributary to Massapequa Creek is intermittent in nature and functions only as a receiver of stormwater runoff from the surrounding neighborhoods. This channel is hydraulically connected to the Massapequa Creek, and therefore is considered by the investigators a jurisdictional waterbody.

The proposed groundwater collection pipeline would utilize, to the extent practicable, the existing walking/bike trail that runs the entire length of the Study site, which was found to occupy an upland habitat. In addition, by aligning the collection pipeline within the existing trail system, impacts to the woodland and the drainage channel bed would be minimized.

The Project, as proposed, would require an approximate 20-foot wide by 3,500-foot long workspace (approximately 1.6 acres) for the groundwater collection pipeline to be safely installed. Figure 6-1 presents the proposed project footprint within the study site. The existing access trail currently affords the needed width for construction, thereby minimizing impacts to the established woodland canopy and the drainage channel.

The Project would require, however, a single crossing of the intermittent drainage channel at the channels' narrowest point (where the existing trail system currently crosses) following dry crossing techniques. The proposed crossing will temporarily impact approximately 0.005 acres of the channel bed. This area is currently used as part of the existing footpath in the reserve, which has resulted in modifications to the channel and bank profile. No existing culvert crossing of the channel is present as contours would be restored to pre-construction conditions. The proposed pipeline installation would be aligned to utilize this existing, disturbed channel crossing.

In addition, to alleviate the current misuse of the Preserve (i.e., fire pits, youth congregation areas, trash deposits), selective understory clearing should be considered, especially along the Woodward Park Elementary School fence line, where clear lines-of-sight through the Preserve from the school grounds may provide additional school security.

© Ecology & Environment, Inc. GIS Department. Project #  
IBUFSD\GIS\B-15\GIS\Profs\Maps\MXD\Fig01Mapa.mxd 2/10/2007



MASSAPEQUA PROJECT AREA  
NASSAU COUNTY, LONG ISLAND, NY

0 125 250 500 Feet

Figure 6-1: Proposed Groundwater Recovery Pipeline Alignment.



Appendix A  
Field Data Sheets

# Routine Wetland Determination

## DATA FORM

1987 Corps Wetland Delineation Manual

Project/Site: <u>LIBERTY Pipeline</u> Applicant/owner: Investigator(s): <u>PS/CH</u>	Date: <u>3 OCT 2006</u> County: <u>Nausau</u> State: <u>NY</u>
--	--

Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Explanation of atypical or problem area: <u>Hystone Channel</u>	Community ID: <u>25 Forest</u> Transect ID: Plot ID: <u>P-1</u>
---	---

**VEGETATION** (For \*strata, indicate T = tree; S = shrub; H = herb; V = vine)

Dominant Plant Species	*Stratum	Indicator	Dominant Plant Species	*Stratum	Indicator
<u>Honey Suckle (Japanese)</u>	<u>H</u>	<u>FAC-</u>			
<u>Brake Fern</u>	<u>H</u>	<u>FACW</u>			
<u>R. Maple</u>	<u>T</u>	<u>FAC</u>			
<u>Pitch Pine</u>	<u>T</u>	<u>FACW</u>			
<u>Wh-k Oak</u>	<u>T</u>	<u>FACW</u>			
<u>Beech</u>	<u>T</u>	<u>FACW</u>			

**HYDROPHYTIC VEGETATION INDICATORS:**

% of dominants OBL, FACW, & FAC:

Remarks:

Hydrophytic vegetation present?  Yes  No

Rationale for decision/Remarks:

**HYDROLOGY**

Inundated: <input type="checkbox"/>	Water Marks: <input type="checkbox"/>	Sediment Deposits: <input type="checkbox"/>
<u>NONE</u>	on	
Saturated in upper 12 in: <input type="checkbox"/>	Drift Lines: <input type="checkbox"/>	Drainage Patterns: <input type="checkbox"/>
Depth of inundation: <u>    </u> inches	Oxidized Root (live roots) Channels <12 in: <input type="checkbox"/>	Local Soil Survey: <input type="checkbox"/>
Depth to free water in pit: <u>&gt;18</u> inches	FAC Neutral: <input type="checkbox"/>	Water-stained Leaves: <input type="checkbox"/>
Depth to saturated soil: <u>&gt;18</u> inches		

Check all that apply & explain below: <input type="checkbox"/> Stream, lake or gage data <input type="checkbox"/> Aerial photographs <input checked="" type="checkbox"/> Other <u>ON-SITE observations</u>	Other (explain): <u>Drainage channel to East of sample point.</u>
---	--

Wetland hydrology present?  Yes  No

Rationale for decision/remarks:

3 OCT 2006

P-1

**SOILS**

Map Unit Name (Series and Phase):

Drainage Class

Field observations confirm mapped type?  Yes  No

Taxonomy (subgroup)

**Profile Description**

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance size and contrast	Texture, concretions, structure, etc.
0-4	D	5YR3/3	—	—	Organic clay, very fine to coarse roots (feet)
4-12	A1	7.5YR2/0	—	—	SL, moist, common fine roots, ± 5% of some streaking single grain
12-18	B	7.5YR3/3	—	—	SL, moist, common fine to coarse roots, 10% of weak fine subangular to single grain

**Hydric Soil Indicators:** (check all that apply)

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture-Regime
- Reducing Conditions
- Gleyed or Low-Chroma
- Matrix chroma ≤ 2 with mottles
- Mg or Fe Concretions
- High Organic Content in Surface Layer of Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on National/Local Hydric Soils List
- Other (explain in remarks)

Hydric soils present?  Yes  No

Rationale for decision/Remarks:

**Wetland Determination**

- Hydrophytic vegetation present?  Yes  No
- Hydric soils present?  Yes  No
- Wetland hydrology present?  Yes  No
- Is the sampling point within a wetland?  Yes  No

Rationale/Remarks:

Upland woodlot near (west of) existing drainage channel

FEATURE ID : S - 1

East Betw. 6<sup>th</sup> & 7<sup>th</sup> Ave

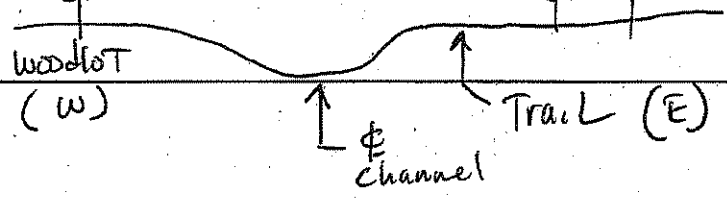
STREAM DATA

STREAM DATA SHEET

County: <u>NASSAU</u>	Stream Name: <u>TRIPS TO MASSAPEQUA CRK</u>
Date: <u>3 OCT 2006</u>	State: <u>NEW YORK</u>
Observers: <u>PS/CH</u>	<u>(S. Farmingdale)</u>

Stream Characteristics	Bottom Characteristics
Perceptible Flow <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Substrate Type Probed Stream Depth (if water present)
Intermittent <input checked="" type="checkbox"/> Perennial <input type="checkbox"/>	
Stream Flow Direction <u>S</u>	
Width (ft) (water's edge to water's edge) <u>10'</u>	
Width (ft) (bank to bank) <u>10'</u>	
	<input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> 0-6" <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> 7-12" <input type="checkbox"/> Sand <input type="checkbox"/> 13-24" <input type="checkbox"/> Silt/Clay <input type="checkbox"/> 25-36" <input type="checkbox"/> Other <input type="checkbox"/> 37"+ <input type="checkbox"/> No perceptible depth

Bank Height and Slope	Associated Habitat	Size Class
Left Bank* <input checked="" type="checkbox"/> <u>0-3' High</u> <input type="checkbox"/> 0-20% (0-11°) <input type="checkbox"/> 21-50% (12-27°) <input type="checkbox"/> 51-100%+ (38-45°) <input type="checkbox"/> 100%+ (46°+)	Riparian Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, list: <u>Potamogeton Honey Locust Poison Ivy</u> Aquatic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, list: <u>Duckweed Smartweed</u> Associated Wetland <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, list ID:	<input type="checkbox"/> Major <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Minor
Right Bank* <input checked="" type="checkbox"/> <u>3-6' High</u> <input type="checkbox"/> 0-20% (0-11°) <input type="checkbox"/> 21-50% (12-27°) <input type="checkbox"/> 51-100%+ (38-45°) <input type="checkbox"/> 100%+ (46°+)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Aquatic Organisms <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, list ID:	<input type="checkbox"/> >100 ft <input checked="" type="checkbox"/> >10 ft, <100 ft <input type="checkbox"/> <10 ft
<input type="checkbox"/> <u>6'+ High</u> <input type="checkbox"/> 0-20% (0-11°) <input type="checkbox"/> 21-50% (12-27°) <input type="checkbox"/> 51-100%+ (38-45°) <input type="checkbox"/> 100%+ (46°+)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Riparian/Terrestrial Organisms <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Evidence of Erosion? <u>NONE OBSERVED</u> <u>(TRASH IN channel)</u> *Direction when facing downstream	T&E Species <u>NONE OBSERVED</u> If yes, list ID: <u>EBEB</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <u>EBEB</u>





Appendix B  
Site Photographs



**Photo 1: North view along existing trail at south end of proposed project (October 2006).**



**Photo 2: East view at south end of proposed project area overlooking woodland habitat (October 2006).**





**Photo 3: North view at Sample Point location (October 2006).**



**Photo 4: Northwest view along existing trail at proposed drainage channel crossing.  
Note: recent off-highway-vehicle tracks in foreground (January 2007).**





**Photo 5: Mid-channel view looking north along drainageway from existing trail at proposed crossing (October 2006).**



**Photo 6: Mid-channel view looking south along drainageway from existing trail at proposed crossing (October 2006).**





**Photo 7: Southerly view along existing trail north of proposed drainage channel crossing (January 2007).**

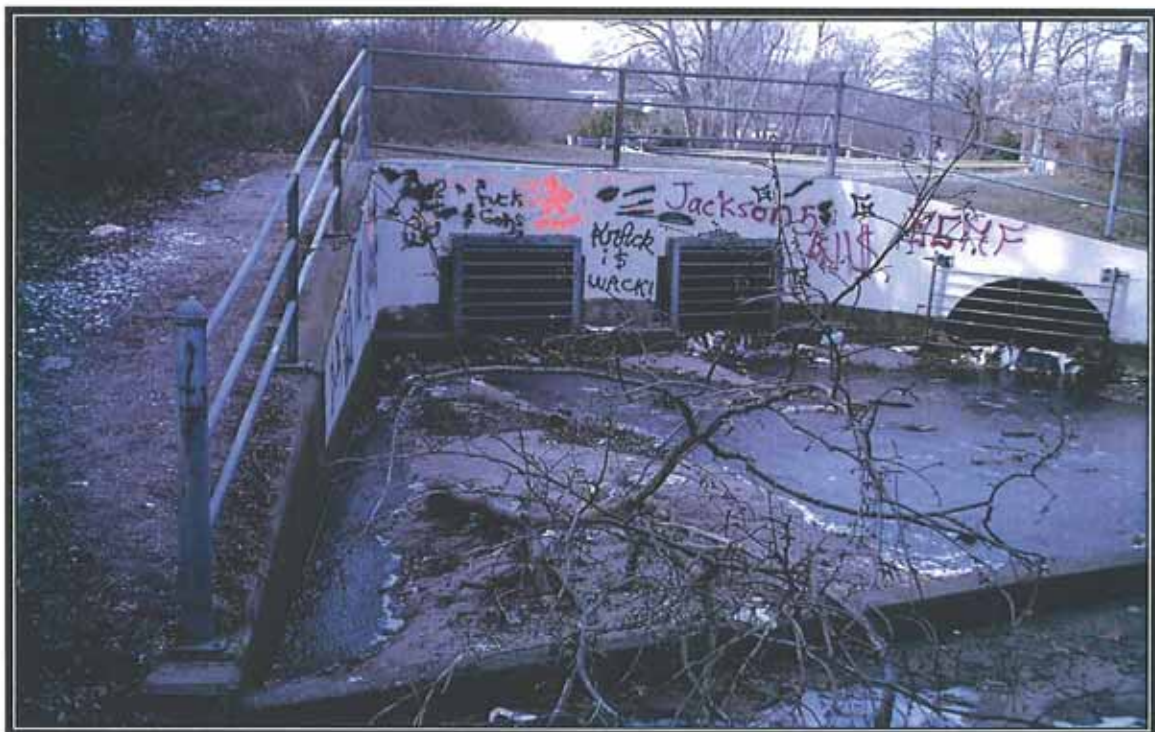


**Photo 8: Typical view of existing trail system north of proposed drainage channel crossing (January 2007).**





**Photo 9:** North view along drainage channel behind Woodward Elementary School. Note: abundant hiding places in close proximity to school grounds (October 2006).



**Photo 10:** North view of 'hydrology source' for drainage channel at northern extent of proposed project site (January 2007).