APPENDIX H4 – 1999 WETLANDS IDENTIFICATION AND DELINEATION REPORT FOR SADVA

EA Engineering, Science, and Technology

202 Twin Oaks Drive
Syracuse, NY 13206-1205
Telephone: 315-431-4610
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23 June 1999

Ms. Debra Ann Ford
U.S. Army Corps of Engineers, Baltimore
Attn: CENAB-EN-HN
10 South Howard Street
City Crescent Building, Room 10040
Baltimore, Maryland 21201

RE: Wetlands Identification and Delineation
Former Schenectady Army Depot - Voorheesville Area
Contract No. DACA31-94-D-0025, Delivery Order No. 0140
DERP-FUDS Project No. C02NY0002
EA Project No. 60957.51

Dear Ms. Ford:

Enclosed please find 3 copies of the *Revised Draft Investigation Report—Wetlands Identification and Delineation, Former Schenectady Army Depot-Voorheesville Area.* Three copies of the report have also been forwarded to the U.S. Army Corps of Engineers–New York (USACE).

Comments to the draft report have been received and addressed. EA's responses are attached to this letter. Requests were made to the New York State Department of Environmental Conservation (NYSDEC) and USACE for field inspections of wetlands boundaries. Mr. Karl Parker, of the NYSDEC, reviewed and confirmed the delineated wetlands boundaries and made a jurisdictional determination for the wetlands (see attached comments). Adjustments based on NYSDEC's field inspection were incorporated into the revised draft report. USACE declined to perform a field inspection of the site.

If you have any questions or comments regarding this submittal, please feel free to contact me.

Sincerely,

Thomas W. Porter

Thomas W. Porter
Project Manager

TWP/caw
Enclosures

cc: D. Roberts (Roberts Environmental Consulting)
P. Muessig (EA)
T. Sexton (EA)

RESPONSE TO COMMENTS
FROM THE U.S. ARMY CORPS OF ENGINEERS
ON THE DRAFT INVESTIGATION REPORT
WETLANDS IDENTIFICATION AND DELINEATION
FORMER SCHENECTADY ARMY DEPOT - VOORHEESVILLE AREA
CONTRACT NO. DACA31-94-D-0025, DELIVERY ORDER NO. 0140
DERP-FUDS PROJECT NO. C02NY0002

EA Engineering, Science, and Technology has reviewed the comments provided by the U.S. Army Corps of Engineers (USACE) for the *Draft Investigation Report—Wetlands Identification and Delineation, Former Schenectady Army Depot-Vorheesville Area*, dated December 1998. EA has incorporated edits into the Revised Draft Investigation Report based on the comments. EA's responses are summarized below.

COMMENTOR: David Brouwer
AFFILIATION/OFFICE: USACE-New York

1. ***Comment 1***—"The reference to Northeastern Industrial Park in the title should be deleted."

   Response—Revised as requested.

2. ***Comment 2***—"An executive summary should be prepared."

   Response—An executive summary has been added as requested.

3. ***Comment 3***—"The reference to the owner of the NEIP should be corrected."

   Response—Revised as requested.

4. ***Comment 4***—"Page 1-2. The word 'potential' should be added when referring to AOCs."

   Response—Revised as requested.

5. ***Comment 5***—"Page 1-2 and Figure 1-2. The sewage treatment plant and offsite storage area should not be identified as AOCs."

   Response—Revised as requested.

6. ***Comment 6***—"Isn't an equally important goal of this effort to evaluate whether cleanup is required and to evaluate alternative cleanup strategies?"

   Response—The objective of the wetland identification and delineation task was to identify and delineate wetlands so that this information could be used to assess potential impacts future Remedial Actions, if required, would have on the wetland areas.

7. ***Comment 7***—"Page 2-1. Recommend that all field inspections of wetland boundaries for all AOCs by the Corps and NYSDEC be completed before the draft is distributed for public review."

Response—Mr. Karl Parker, of the NYSDEC, Division of Fish, Wildlife and Marine Resources, reviewed and confirmed the delineated wetlands boundaries and made a jurisdictional determination for the wetlands (see attached letter dated 22 June 1999). Adjustments based on NYSDEC's field inspection were incorporated into the revised draft report. USACE declined to perform a field inspection of the site.

8. ***Comment 8***—"For AOC2, initially note that the landfill is located on property now owned by the Burns family and delete all further references in the report to the Burns property when referring to this AOC. Recommend identifying it as AOC2, the Post Commander's landfill, or something else, not the Burns property."

   Response—Revised as requested.

New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources, Region 4
Bureau of Wildlife
1150 North Westcott Road, Schenectady, New York 12306-2014
Phone: (518) 357-2066 FAX: (518) 357-2460

John P. Cahill
Commissioner

June 22, 1999

Deborah Roberts
Roberts Environmental Consulting
273 Haviland Rd.
Queensbury, NY 12804

Re: Wetland V-19 at former Schenectady Army Depot, Town of Guilderland, Albany Co.

Dear Ms. Roberts:

On May 5, 1999 we met at the current Northeastern Industrial Park and the Burns property in order to review the boundaries of freshwater wetlands at the sites, as delineated by you and represented on survey maps submitted to this office with the Draft Investigation Report Wetlands Identification and Delineation at Northeastern Industrial Park, dated December 1998.

A number of minor revisions were made during the course of our field review to the wetland boundary of the Northeastern Industrial Park represented on Map S-1. However, my determination is that this map accurately depicts the limits of Freshwater Wetland V-19 on the Industrial Park property. More specifically, the wetlands shown on Map S-1 are considered part of wetland V-19 and would be regulated in their entirety under the Freshwater Wetlands Act. Although there are some locations where wetland segments are physically separated by a roadway, railroad track or narrow section of upland, in many cases there is a direct hydrological connection between these wetland segments, and in all cases, the wetland segments are within 165 feet of each other. Based on my review in the field, it is my determination that these wetland segments are connected for mapping and regulatory purposes, in that they function as a unit in providing one or more wetland benefits as described in ECL 24-0105(7). A 100' regulated buffer area also extends upland from the delineated wetland boundary.

In regard to the Burns property, the only substantial revision was the exclusion from the state wetland boundary of the pond and the meadow near the pond outfall. I would connect Flag 36 to Flag 50 to exclude this area. The rationale for this exclusion is that those areas were culturally maintained and showed no clear evidence of a predominance of hydrophytic vegetation. However, it is my determination that on this site State Regulated Wetland V-19 actually extends without substantial interruption all the way to Depot Road, as indicated on survey Map S-2. A 100' regulated buffer area also extends from the delineated wetland boundary.

As we also discussed, in the course of my field work I observed apparent freshwater wetland and solid waste violations at the Northeastern Industrial Park in the site of the area labeled "Construction and Demolition Landfill" on Figure 1-2 of the Investigation Report. This Department has notified the landowner of the alleged violation and will be pursuing this matter further.

Permits are required for regulated activities which are proposed within the wetland or within 100 feet of the delineated wetland boundary. A list of regulated activities may be found in the Freshwater Wetlands Permit Requirements Regulations (6NYCRR Part 663). Questions regarding permits should be directed to our Division of Environmental Permits at 518-357-2069.

Please submit 3 copies of the revised survey maps, so that I may issue a written map approval. One copy of each approved map will be returned to you.

Sincerely,

Karl E. Parker

Karl E. Parker
Senior Wildlife Biologist
Region 4

EA Engineering, Science, and Technology

11019 McCormick Road
Hunt Valley, MD 21031
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Brenda Herman
Program Manager

Environmental, Remediation, Energy, & Laboratory Services

REVISED DRAFT

Investigation Report
Wetlands Identification and Delineation
Former Schenectady Army Depot – Voorheesville Area

Prepared for

U.S. Army Corps of Engineers
Baltimore District
10 South Howard Street
Baltimore, Maryland 21201

Prepared by

EA Engineering, Science, and Technology
202 Twin Oaks Drive
Syracuse, New York 13206
(315) 431-4610

and

Roberts Environmental Consulting, Inc.
273 Haviland Road
Queensbury, New York 12804

June 1999

60957.51

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LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
C&D	Construction and Demolition
FEMA	Federal Emergency Management Agency
IR	Investigation Report
NYSDEC	New York State Department of Environmental Conservation
SADVA	Schenectady Army Depot — Voorheesville Area
SCS	Soil Conservation Service
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers–Baltimore District (USACE), issued Delivery Order No. 0140 under Contract No. DACA31-94-D-0025 to EA Engineering, Science, and Technology to conduct field investigative activities and an archival record search related to Phase I of the Comprehensive Work Plan for the former Schenectady Army Depot–Vorheesville Area in Guilderland, New York. The investigation was conducted under the Defense Environmental Restoration Program–Formerly Used Defense Sites. The work accomplished under this Delivery Order included the identification and delineation of potential wetlands in the vicinity of identified areas of concern (AOC) at the site. EA identified and delineated potential AOCs at the site during the archival record search. Three AOCs required detailed field examination to identify and delineate wetlands. EA subcontracted Roberts Environmental Consulting, Inc. to assist with completion of this portion of the project. A brief summary of the results of the surveys and recommendations for each AOC follow.

ES.1 AOC1W

The wetland survey at AOC1 consisted of a subsection of the U.S. Army Southern Landfill designated AOC1W. The results of the field examination indicate that two separate wetland systems occur within AOC1W: a pond/marsh system and a forested wetland. The habitat quality of the two systems varies widely. While the pond/marsh environment supports wildlife and waterfowl, it does not represent an extensive or diverse habitat. The forested wetland is contiguous with a larger wetland system lying within the 100-year floodplain of the Black Creek and has the potential to be high quality habitat for wildlife and waterfowl.

The forested wetlands at AOC1W should be protected from any disturbance that would result in sediment discharge to the wetland. Any remedial action in the other wetlands located at AOC1W should include mitigation to enhance wetland functions on the site. The probable occurrence of the state-listed marsh valerian at AOC1W would probably require an onsite survey prior to any disturbance of wetland habitat.

ES.2 AOC2

One major wetland complex was identified at AOC2 containing a variety of different habitats. A forested hardwood swamp has the greatest potential to be high quality habitat for wildlife and waterfowl. It is connected to the Black Creek wetland system although it does not lie within the 100-year floodplain. Other wetland areas identified include the power line right-of-way and a recently disturbed scrub/shrub and forested wetland, but these areas provide more limited habitat.

Any remedial activities at AOC2 should avoid disturbance of the forested wetland. The other wetland areas at the site might benefit from restoration or enhancement, particularly in disturbed areas. Marsh valerian surveys should also be performed at AOC2 prior to wetland habitat disturbance.

ES.3 AOC4

The wetlands located at AOC4 are forested floodplain wetlands associated with Black Creek. This wetland is probably seasonally saturated and to some extent flooded between November and June. The moderately mature forest occurring in this wetland floodplain supports highly valuable wildlife and waterfowl habitat.

Remedial action undertaken at this site should attempt to prevent the discharge of sediment to the wetland. Bank stabilization at the edge of the C&D Landfill material might prevent erosion of material into the wetland. Landfill material surrounding large trees should be removed with care such that neither the trees nor the wetlands are negatively impacted. An onsite survey for the state-listed marsh valerian should be performed at this site prior to remedial activities.

ES.4 WETLAND JURISDICTION DETERMINATION

The wetland areas within AOCW1, AOC2, and AOC4 were delineated in accordance with the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). On 5 May 1999, a representative of the New York State Department of Environmental Conservation (NYSDEC) reviewed and confirmed the delineated wetlands boundaries and made a jurisdictional determination for the three AOCs. All wetlands delineated in AOC1W and AOC4 fall under both NYSDEC and USACE regulatory jurisdiction. NYSDEC determined that two linear wetlands adjacent to County Road 201 and a wetland contiguous to a constructed pond in AOC2 do not fall within their regulatory jurisdiction; all other wetlands delineated within AOC2 are under NYSDEC and USACE jurisdiction.

1. INTRODUCTION

The U.S. Army Corps of Engineers–Baltimore District (USACE), issued Delivery Order No. 0140 under Contract No. DACA31-94-D-0025 to EA Engineering, Science, and Technology to conduct field investigative activities and an archival record search related to Phase I of the Comprehensive Work Plan for the former Schenectady Army Depot – Voorheesville Area (SADVA), in Guilderland, New York. EA subcontracted Roberts Environmental Consulting, Inc. to assist with completion of this project. The investigation was conducted under the Defense Environmental Restoration Program – Formerly Used Defense Sites.

1.1 SITE BACKGROUND AND SETTING

1.1.1 Site Location

The former SADVA is located south of New York State Route 146 and east of New York State Route 158, approximately 0.25 mi southeast of the Town of Guilderland Center, New York (Figure 1-1). The site is approximately 3 mi north of Voorheesville, New York, and 3 mi west of Guilderland, New York.

The former SADVA (Figure 1-2) consists of approximately 650 acres of which 559 acres are currently owned by the Galesi Group; the Town of Guilderland; Agway, Inc.; and other private landowners. Galesi Group leases warehouse and storage space on their portion of the property. A 40-acre tract of land located west of County Route 201 is presently owned by the Burns family and is used for farming with a private residence on the property. The U.S. Government retains a 35.5-acre parcel for a strategic materials storage area.

1.1.2 Site History

The SADVA was established in 1941-1942 as a storage depot for the military during World War II through condemnation of what was primarily farmland. The site originally included approximately 24 warehouse and storage buildings, barracks, garage and maintenance facilities, a firehouse, and water supply and sewer facilities. Access to the site consisted of several railroad spurs from the Conrail main line that parallels the depot on the east side. Activities that have occurred at the site include receipt, storage, and transmission of goods and materials for military activities. Additional uses at the site included landfills and a strategic materials storage area. Three landfills have been identified at the site: U.S. Army Southern Landfill, Construction and Demolition (C&D) Landfill, and a small landfill located on the west side of the site.

In 1963, a 40-acre parcel was sold to the Burns family. In 1969, the main portion of the site was closed and sold by the federal government to various private parties. The Galesi Group purchased 559.65 acres of the former depot for warehouse, commercial, and light industrial purposes. The existing warehouse facilities were leased by the Galesi Group to commercial tenants. Approximately 35.5 acres of the site remain under Department of Defense control for storage of strategic materials. The remainder of the former depot that was released was purchased by other private parties.

1.2 PROJECT OVERVIEW

The overall objective of this project was to support USACE in the environmental restoration of the former SADVA. As part of the environmental restoration process, anticipated activities include the investigation, design, and cleanup, as appropriate, for four potential areas of concern (AOC) (Figure 1-2) including:

- AOC1—U.S. Army Southern Landfill
- AOC2—Bivouac Area
- AOC3—Burn Pits
- AOC4—C&D Landfill.

USACE has developed a Final Comprehensive Work Plan, dated July 1998, for restoration activities at SADVA. The Comprehensive Work Plan provides a general overview of the work to be completed through several stages of site environmental restoration. The environmental restoration process will progress in three phases. The work completed under this Delivery Order has been conducted as part of the Phase I work and includes:

- Identification and delineation of potential wetlands in the vicinity of the AOC1 (U.S. Army Southern Landfill), AOC2 (Bivouac Area), and AOC4 (C&D Landfill).

- An archival record search to assess site ownership and operational history of the former SADVA.

- A hydrogeologic investigation in the vicinity of AOC1, the U.S. Army Southern Landfill.

This Investigation Report (IR) focuses on the results of the Wetlands Identification and Delineation task only and will be referred to as the IR—Wetlands Identification and Delineation. Separate investigation reports will be submitted for the Archival Search and Hydrogeologic Investigation tasks. These reports will be referred to as the IR—Archival Search and IR—Hydrogeologic Investigation.

1.3 WETLANDS IDENTIFICATION AND DELINEATION OBJECTIVES

The objective of the Wetlands Identification and Delineation task was to identify and delineate wetland areas in portions of the former SADVA. The wetlands identification and delineation was necessary in order to assist USACE with assessing the impact of potential future remedial actions on the wetland areas in these selected areas of the former SADVA. These selected areas included the vicinity of the U.S. Army Southern Landfill (AOC1), the Bivouac Area (AOC2), and the C&D Landfill (AOC4).

1.4 REPORT ORGANIZATION

This IR—Wetlands Identification and Delineation is comprised of the following sections:

- Chapter 1—Introduction. This chapter presents an introduction to the project, the site, and site history.

- Chapter 2—Summary of Wetlands Identification and Delineation Activities. This chapter presents a brief summary of the activities conducted as part of this investigation.

- Chapter 3—Results of Wetlands Identification and Delineation for AOC1-U.S. Army Southern Landfill. This chapter presents the results of field delineation and characterizes the wetland habitats observed at AOC1 and an additional area adjacent to AOC1 to the west.

- Chapter 4—Results of Wetlands Identification and Delineation for AOC2-The Bivouac Area. This chapter presents the results of field delineation and characterizes the wetland habitats observed at AOC2.

- Chapter 5—Results of Wetlands Identification and Delineation for AOC4-C&D Landfill. This chapter presents the results of field delineation and characterizes the wetland habitats observed at AOC4.

- Chapter 6—Summary. This chapter presents a summary of the IR—Wetlands Identification and Delineation.

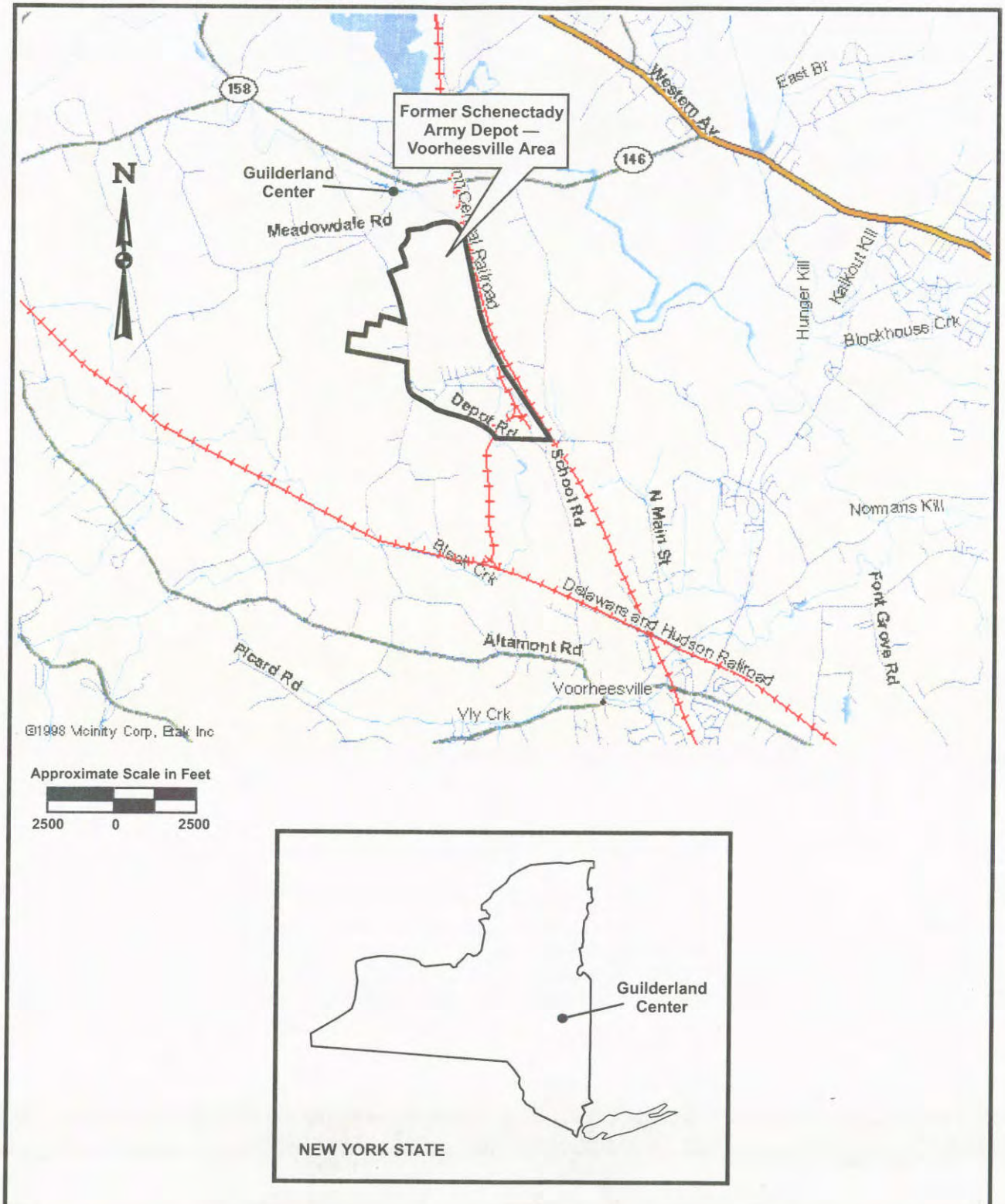

Figure 1-1. Site map showing location of the former Schenectady Army Depot-Voorheesville Area.

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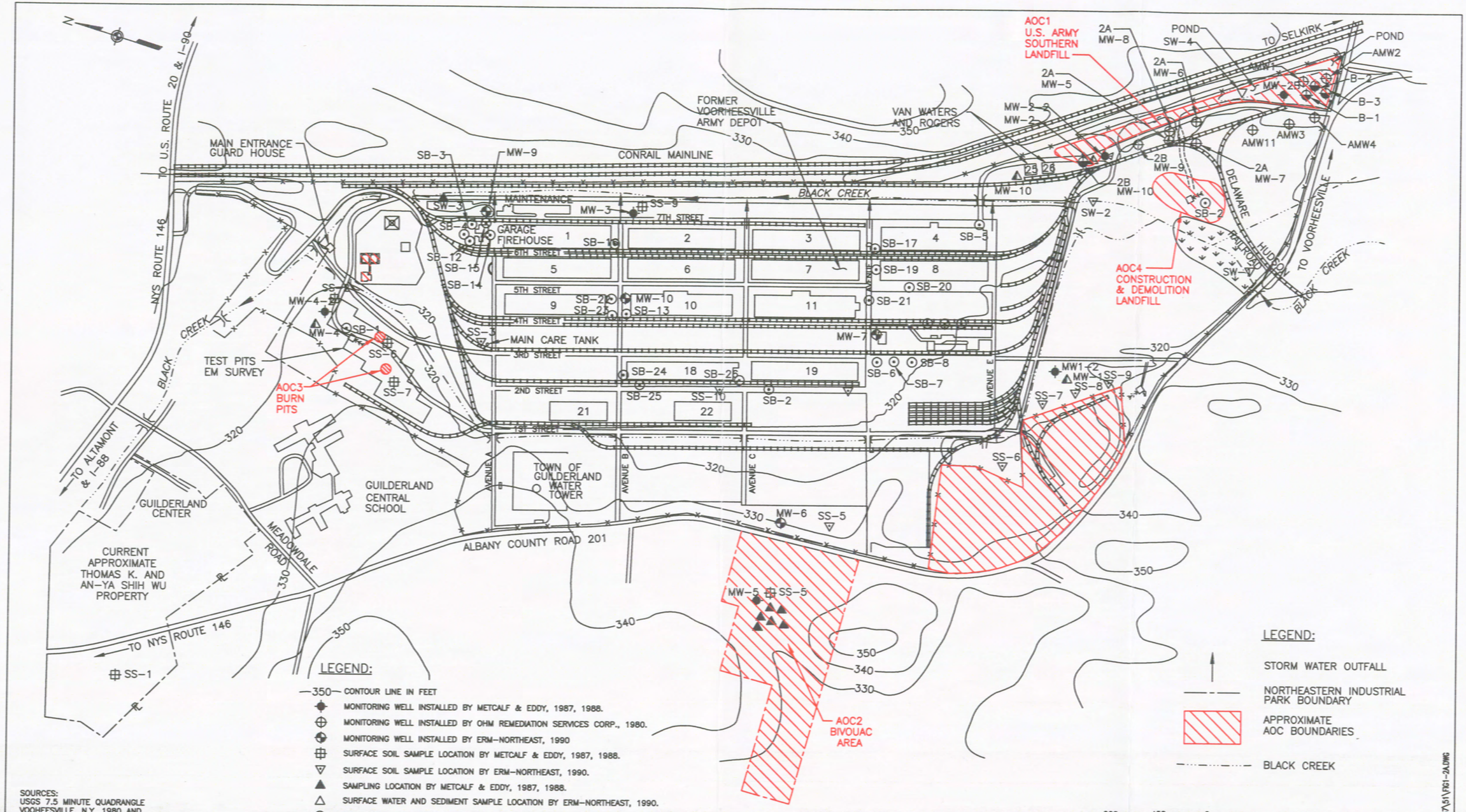


SOURCES:
USGS 7.5 MINUTE QUADRANGLE VOORHEESVILLE, N.Y. 1980 AND SITE PLAN PREPARED BY H & A OF N.Y. GEOTECHNICAL ENGINEERS & ENVIRONMENTAL CONSULTANTS COUNTY OF ALBANY, REAL PROPERTY TAX SERVICE, 1997

FILE: F:\TEAM\60957.51\FIG1-2A.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

INVESTIGATION REPORT
WETLANDS IDENTIFICATION AND DELINEATION
FORMER SCHENECTADY ARMY DEPOT – VOORHEESVILLE AREA
GUILDERLAND, NEW YORK

SITE LAYOUT

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
TMS	FDV	12-15-98	60957.51	FIG1-2
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
TMS	BLH	AS SHOWN	–	1-2

2. SUMMARY OF WETLANDS IDENTIFICATION AND DELINEATION ACTIVITIES

2.1 OBJECTIVES

The identification and delineation of wetland habitats within selected areas of the former SADVA was performed to assist USACE with assessing the impact of potential remedial actions on the wetland areas. The three AOCs to be investigated (AOC1, AOC2, and AOC4) were selected based on the potential for remedial activities in these areas and the presence of wetlands on or adjacent to the AOCs according to preliminary mapping data.

The objectives of the study included examining existing mapping data, conducting wetland delineations in the field, preparing site maps with the wetland boundaries, characterizing the wetland habitats, and assessing the jurisdictional considerations for each of the wetland areas based on the applicability of federal, state, or local wetland regulations to the identified wetlands.

2.2 DEFINITION OF SITE AREAS FOR DELINEATION

2.2.1 AOC1—U.S. Army Southern Landfill

The U.S. Army Southern Landfill (Figure 1-2), located in the southeastern corner of SADVA, is referred to as AOC1 by USACE. For purposes of the delineation, the area surveyed for wetlands in the vicinity of AOC1 was expanded from the area described in the Investigation Plan to include the adjacent area to the west of AOC1. The expanded area for the wetland survey around AOC1 is referred to in this report as AOC1W (Figure 2-1) and was added following preliminary evaluation of the boundary between AOC1 and the wetlands and consultation with USACE. AOC1W was defined by the fence extending along the eastern property line and the southern property line. The western limit of the site was extended to a line ranging from 200 to 500 ft west of the existing dirt access road.

2.2.2 AOC2—Bivouac Area

Wetlands identification and delineation on the Bivouac Area encompassed a 40-acre tract (Figure 2-1) on the west side of Route 201 to the utility power line right-of-way at the west end of the property. This area has been identified as AOC2.

2.2.3 AOC4—Construction and Demolition Landfill

The C&D Landfill (Figure 2-1), located in the southeastern corner of SADVA, is referred to as AOC4. For purposes of the delineation, the area surveyed for wetlands in the vicinity of AOC4 was expanded to include additional areas adjacent to AOC4.

The expanded area for the wetland survey around AOC4 is referred to in this report as AOC4W (Figure 2-1), and was added following consultation with USACE based on preliminary evaluation of the proximity of the AOC to the wetlands.

The area delineated around the C&D Landfill is bounded by the Delaware and Hudson railroad tracks to the south and east (Figure 1-2). The delineation area extended west to the main channel of Black Creek. A man-made ditch was flagged in the field to mark the northern extent of the delineated area of the Black Creek floodplain surrounding the C&D Landfill.

2.3 FIELD DELINEATION METHODS

Wetland resource areas were delineated and flagged in accordance with the routine three parameter approach (hydrophytes, hydric soils, and hydrology) of the 1987 *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and consistent with the delineation method for the New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Delineation Manual (NYSDEC 1995). Before conducting the field work, a standard analysis of existing map data was conducted according to USACE methods (Environmental Laboratory 1987). This analysis included a review of site base maps, U.S. Geological Survey (USGS 1980) topographic maps, New York State wetlands maps (NYSDEC 1985), Soil Conservation Service (SCS) maps (SCS 1992), and Federal Emergency Management Agency (FEMA 1983) flood plain maps. In addition, as a result of the archival record search to assess site ownership and operational history of the SADVA (conducted as a separate task), aerial photographs of the site area were also examined.

Field surveys were conducted in September-October 1998. At each of the three study areas, a baseline was established along one of the area boundaries. Based on the mapping information, the baseline was established to be parallel, as much as possible, to potential linear wetland or surface water features. At each area, a minimum of three transects were walked perpendicular to the baseline across the entire site to examine the wetland/upland boundaries and wetland habitat types encountered across the area.

Each wetland boundary was flagged in the field with consecutively numbered flags placed at intervals so that they could easily be seen from the previous flag, and generally no more than 50 ft apart. These wetland flags were surveyed and plotted onto existing base maps (Appendix A) by a New York State licensed surveyor.

To document the observations for the three parameters used to define the wetland boundaries, standard wetland delineation sheets, consistent with the data required by the 1987 *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), were prepared for each major wetland boundary. A representative location was selected at which data were collected for both the wetland and upland conditions. These data sheets summarize the

dominant vegetation present in each layer, and characterize the soil conditions and the local hydrology (Appendix B). Photographs were taken to document the upland and wetland conditions at each of these data points (Appendix C).

2.4 HABITAT CHARACTERIZATION

Field notes were collected, supplemented with mapping data, to characterize the wetland habitat conditions. Features noted for each major wetland area included: major drainage and surface water features, vegetative cover types, soil characteristics, and other physical features that could contribute to habitat quality. Other features noted were: adjacent land use, amount of adjacent habitat disturbance, size of contiguous wetland area, and maturity and diversity of wetland habitat. General information was also recorded on observed use of habitat areas for fish and wildlife, and site conditions affecting water quality, pollution problems, erosion potential, or flood control. Potential problems that could affect habitat quality or use were also noted.

2.5 JURISDICTIONAL DETERMINATION

The wetland areas within AOC1W, AOC2, and AOC4W (Figure 1-2) were delineated in accordance with the three parameter wetland delineation methodologies of the USACE. Upon concurrence with USACE regarding the limits determined for the wetland areas, these wetlands can be regulated as Waters of the United States by the USACE under Section 404 of the Clean Water Act. There is no minimum size necessary for a wetland area to be regulated by the USACE.

For a wetland to be regulated by the State of New York, it must not only meet the field criteria in the delineation manual, but also must meet the criteria of having a minimum size of 12.4 acres; or if smaller than 12.4 acres, meet the standard of "unusual local importance." Wetlands under the jurisdiction of NYSDEC Freshwater Wetlands Law are mapped by NYSDEC on Freshwater Wetland Maps. According to NYSDEC Freshwater Wetlands Mapping and Classification Regulations (6 NYCRR Part 664, Pursuant to Article 24 of the Environmental Conservation Law), NYSDEC alone is responsible for mapping and classifying wetlands. However, the map boundaries are not precise in all areas and may be amended to add a previously unmapped wetland to conform the map to actual onsite conditions. Small changes in the boundaries on the maps can be confirmed in the field by NYSDEC personnel. A site inspection was conducted by NYSDEC on 5 May 1999 to confirm the wetland boundaries. Major changes in the areas regulated by NYSDEC can only be done through a map amendment process including public review and public hearings as specified in NYCRR Part 664.7. Consequently, boundaries of NYSDEC freshwater wetlands include those areas mapped by NYSDEC and those confirmed in the field by NYSDEC as connected to formerly mapped units.

The Freshwater Wetlands Act regulates activities that may occur in wetlands and their adjacent areas. The adjacent area is a 100-ft buffer zone surrounding the mapped wetland.

Pursuant to Article 24 of the Environmental Conservation Law, the Freshwater Wetlands are also classified (Section 664.5, NYSDEC Freshwater Wetlands Mapping and Classification Regulations Act). The classification system establishes four ranked regulatory classes of wetlands, depending upon habitat characteristics and the resulting benefits supplied by the wetlands. The classification (from Class I to Class IV), with Class I wetlands having the highest assessed benefits, then determines the activities that may be permitted in a wetland type and/or its adjacent area. Almost any activity that impacts the functions and values of a wetland is regulated. These activities include, but are not limited to: construction, grading, filling, excavation, and draining.

As of 1975, the New York State Freshwater Wetlands Act allowed local governments to assume jurisdiction over wetland regulatory programs (U.S. EPA 1993). However, this has not been a common practice in New York. According to the Town of Guilderland Planning Department, there are no additional local wetland by-laws or ordinances, and regulation of wetlands is solely based on the relevant state and federal regulations summarized previously.

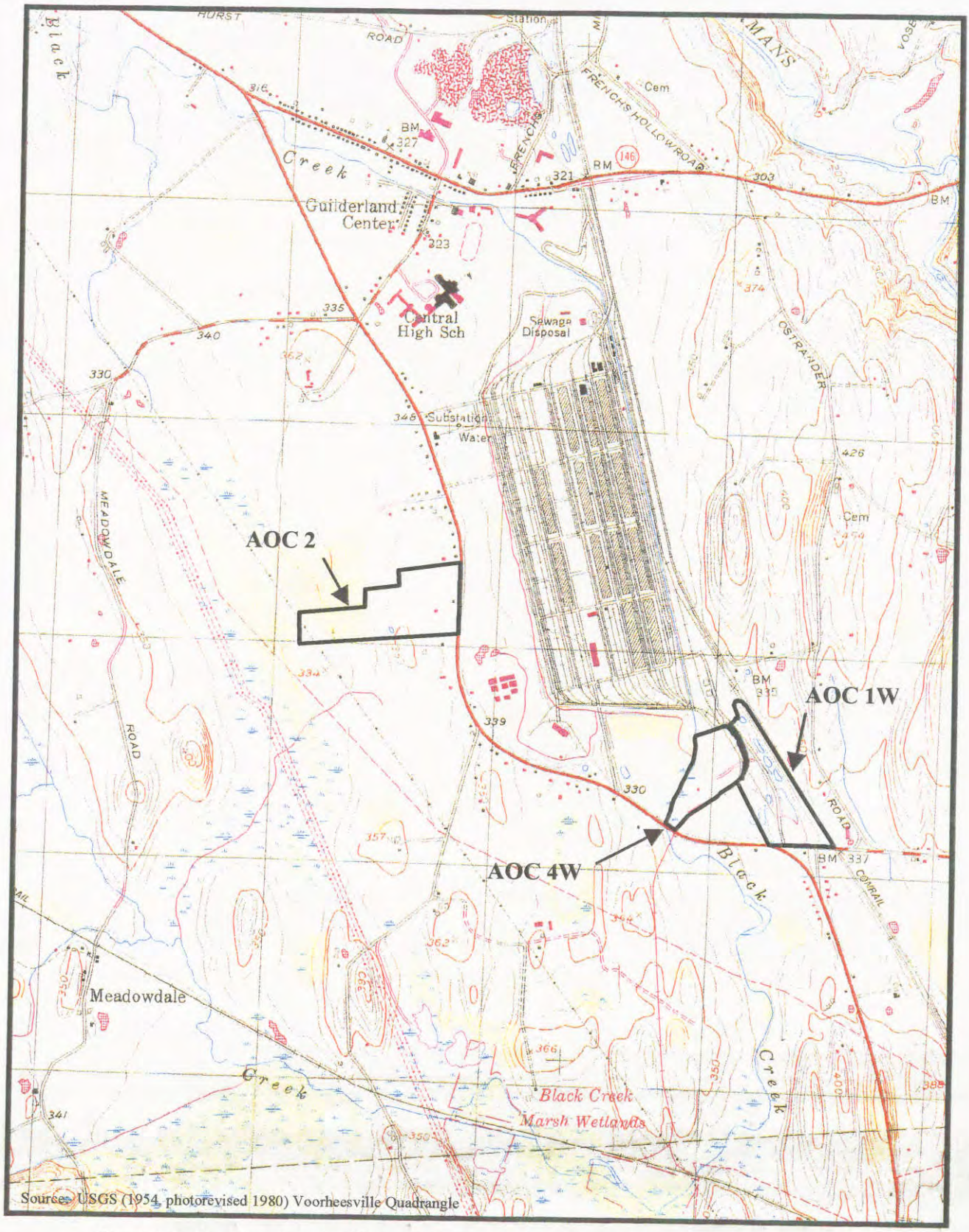


Figure 2-1. Location of wetland investigation areas at the former Schenectady Army Depot-Voorheesville Area.

3. RESULTS OF WETLANDS IDENTIFICATION AND DELINEATION FOR AOC1 – U.S. ARMY SOUTHERN LANDFILL

3.1 RESULTS OF ANALYSIS OF EXISTING SITE RESOURCE MAPS

The U.S. Army Southern Landfill (AOC1) is located at the southernmost end of SADVA (Figure 1-2). The area for the wetland survey included AOC1 and the property immediately to the west of AOC1. The area surveyed for wetlands around AOC1 is referred to herein as AOC1W. USGS mapping (Figure 2-1) indicates a series of six small ponds east of the access road through AOC1W, and three additional small ponds west of the access road (USGS 1954, photorevised 1980). The other mapping resources also indicate a series of ponds in this area. SCS (1992) indicates the ponds are located within a map unit labeled as loamy Udorthents (Figure 3-1). These are loamy soils that resulted from human activities, such as cuts and fills in loamy uplands. The other soil series mapped within AOC1W by SCS is the Wayland Series, which are poorly and very poorly drained soils on flood plains. Wayland Series is listed as a hydric soil in the *Hydric Soils of the United States* (SCS 1988), which indicates these are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (SCS 1988). Hydric soils are considered wetland soils since they are typically developed under hydrologic conditions that support wetland vegetation.

The NYSDEC Freshwater Wetlands map (NYSDEC 1985) (Figure 3-2) shows the extent of the six small ponds similar to the USGS mapping, with the southernmost pond larger than on the USGS map. The ponds east of the access road are not included as jurisdictional wetlands on the NYSDEC wetlands map. However, one lobe of the Black Creek wetland system (V-19) is shown on the NYSDEC map within AOC1W. The state wetland boundary comes within approximately 200 ft of the access road, and excludes one small pond west of the access road.

The Flood Insurance Rate Maps (FEMA 1983) indicate the majority of AOC1 is outside the 500-year flood boundary (Figure 3-3). The area west of the access road, which corresponds roughly to the location of the mapped NYSDEC wetland boundary, is within the 100-year flood zone (Zone A5) of Black Creek, with a small bordering area within the 500-year flood boundary (Zone B).

There was significant human activity throughout AOC1W evident in even the earlier aerial photos (1942 and 1943). The ponds present in the most recent decades were not apparent on the 1940s photos, however, in the 1940s and 1950s most of AOC1W appears to have been cleared of vegetation. Surface water features appear along the eastern edge of AOC1 in the early 1970s, fairly consistent with the location of the ponds observed in the other mapping data. Changes in the extent of the floodplain wetland in the southwestern corner are difficult to discern from the aerial photographs.

3.2 RESULTS OF THE FIELD DELINEATION

Wetland delineations were conducted at AOC1W at the former SADVA between 21 September 1998 and 20 October 1998. A baseline was established along the access road that bisects AOC1W. Transects were walked east and west to the area boundaries at three locations, approximately at the center of the area near Flag A34 and 900 ft north (Flag A9) and south (Flag A63) of the center (Sheet S-1, Appendix A). Data for test plots were collected at the locations of wetland Flags A9, A34, A63, D5, J20, K43, and N31 (Appendix B, data sheets).

The field conditions generally confirmed the offsite mapping analysis. The majority of AOC1W and AOC1 consists of disturbed soils. The area also includes a series of man-made wetland features, including emergent marsh, open water (ponds), and ditches surrounded by disturbed soil, roads, and railroad beds. In addition, a small area of the outer extent of the floodplain wetlands associated with Black Creek, and located on largely undisturbed soils, exists in the southwestern corner of AOC1W.

The A-series wetland flags delineated the boundary of the pond/marsh system along the eastern area boundary. The wetland system consists of a series of man-made ponds between the access road and the fence at the property line (Appendix C, Figures C-1 through C-5). The E-series, F-series, and G-series flags marked small areas of upland along the eastern property line (Appendix A, Sheet S-1). The upland peninsulas at wetland Flags A42 and F6 mark berms that separate the individual wetland basins. The largest pond is furthest south (Appendix C, Figure C-3). Although the water depths appeared to be shallow (0.5 up to possibly 2 ft), emergent vegetation (dominated by cattails [*Typha* spp.] and purple loosestrife [*Lythrum salicaria]*) was visible only along the borders, especially on the east side. South of the open water is a wet meadow in disturbed soils extending to the southeastern corner of the area at Flag A72 (Appendix C, Figure C-1). The vegetation in the meadow is dominated by switchgrass (*Panicum virgatum*), purple loosestrife, and common reed (*Phragmites australis*) (Appendix C, Figure C-9).

North of Flag A42 is a small basin dominated by emergent wetland species, mainly purple loosestrife and cattails (Appendix C, Figure C-2). This wetland appears to be connected to the southern pond across the berm, just east of Flag A42. The boundary along the access road is abrupt, with the wetlands at the base of a steep bank. The banks are dominated by stiff or gray dogwood (*Cornus foemina*). This species is a facultative wetlands species and is common throughout AOC1W along the wetland borders.

Similarly, another wetland basin is located north of a second berm at Flags F6 and F7 (Appendix A, site plans). The northern pond is also small and dominated by cattails. The area within the wetland north of A27 is also dominated by emergent vegetation with shrub borders. North of wetland Flag A9, is an area of wet meadow (Appendix A, data sheet at A9) at the base

of an open field (Appendix C, Figure C-5). Although topography data for the area are limited, it appears that the A-series flagged wetlands are hydrologically connected to AOC4W and the Black Creek drainage, through culverts under the access road and railroad bed.

There are three small wetlands, dominated mainly by purple loosestrife, along the southern boundary of AOC1W. The C-, D-, and E-series flags mark ditches in disturbed soil dominated by invasive wetland plants (Appendix B, data sheet D5; Appendix C, Figures C-6, C-7, and C-8).

West of the access road which bisects AOC1W north to south is another series of wetlands. These wetlands occur largely on disturbed soils and were created by human activity in the area. The I-, J-, K-, and L-series wetlands are wet swales or ditches formed along railroad beds (existing or former) or access roads (Appendix B, data sheets at J20 and K43; Appendix C, Figures C-10 and C-11). The K-series follows piles of fill and old railroad beds. A large pile of railroad ties was located near K-14.

The M-series is also between the access road and a former railroad embankment (M22 through M48). A small pond (man-made) is located at the north end of the M-series.

The N-series wetland delineates the upper boundary of a larger forested wetland to the south. The wetland is in the vicinity of the mapped extent of NYSDEC wetland V-19 (Figure 3-2), but is larger and extends further to the east than shown on the NYSDEC map. The majority of the wetland is forested, with the exception of the southern area (south of Flag N31) which is emergent marsh and wet meadow bordered by scrub/shrub habitat (Appendix B, data sheets at N31).

3.3 REGULATORY JURISDICTION

The wetland areas within AOC1 were delineated in accordance with the three parameter wetland delineation methodology of USACE. These wetlands can be regulated as Waters of the United States by USACE under Section 404 of the Clean Water Act. There is no minimum size necessary for a wetland area to be regulated by the USACE. Man-made wetlands, meeting the delineation criteria, may also be regulated. Any proposed action for dredge or fill in jurisdictional wetlands may require a permit from the USACE.

For a wetland to be regulated by the State of New York, it must not only meet the field criteria in the delineation manual, but also must meet the criteria of having a minimum size of 12.4 acres; or if smaller than 12.4 acres, meet the standard of "unusual local importance." Wetlands under the jurisdiction of NYSDEC Freshwater Wetlands Law are mapped by NYSDEC on Freshwater Wetland maps. Within AOC1W, the wetland boundary from N1 to N47 is further east than the mapped NYSDEC wetland boundary. A field inspection conducted with a representative of NYSDEC to review the onsite conditions and wetland boundaries confirmed that the boundaries mapped in the field represent the extent of wetland V-19 within the project area. This wetland is classified as Class I wetlands by NYSDEC. This classification indicates that these wetlands

provide important benefits. Any activity in the wetland, or within the 100-ft adjacent area, will require a permit from NYSDEC, unless the activity is exempt according to the Freshwater Wetlands Act and 6 NYCRR663.

3.4 HABITAT CHARACTERIZATION

Two separate wetland systems were identified within AOC1W. The first is the pond/marsh system along the eastern area boundary, including the disturbed wetland habitats west of the access road. The second system is the large, predominantly forested wetland marked by the N-series. The habitat quality of the first wetland system is relatively low while the second system (N-series) may have much higher habitat values.

The disturbed wetlands surrounding the U.S. Army Southern Landfill are man-made wetlands on disturbed soils. These wetlands perform a number of important functions, but do not represent significant or unique habitat. The surrounding land use includes the Industrial Park, active rail activities along the eastern side of the area, and County Road 201. These land uses limit some habitat values for wildlife species that are sensitive to human activity during feeding or nesting activities.

The series of ponds as well as the created ditches and swales perform flood storage functions, although the wetlands in this system are outside of the 100-year flood zone of Black Creek (Figure 3-3). The basins and ponds in the A-series wetland likely provide moderate to high sediment and nutrient retention functions, in addition to stormwater attenuation functions. Although the vegetation within the A-series wetland is dominated by invasive species and is not extensive or diverse, a variety of wildlife and waterfowl were observed using the pond/marsh habitat. Small fish were observed in the large pond at the south end of the area and were tentatively identified as large mouth bass (*Micropterus salmoides*). In addition, osprey were observed feeding in the pond on several different days. Other wildlife observed utilizing the area included belted king-fisher and great blue heron. Amphibians and reptiles (e.g., garter snakes and frogs) were also common around the A-series wetlands. The B-, C-, and D-series wetlands are essentially wet ditches, created in disturbed soils, with no significant functions or values.

Similarly, the disturbed wetlands west of the access road (Flag Series J, K, L, and M) delineate predominantly linear wetlands features (created ditches) along railroad beds, piles of fill or access roads. These wetlands have low diversity, and the herbaceous communities are dominated by invasive species including cattails, purple loosestrife, and common reed, and provide limited value as wildlife habitat. The major functions of these wetlands are to allow stormwater conveyance, and potentially retain some sediment and nutrients from runoff.

The soils in the western half of AOC1W (Appendix A, N-Series, Site Plans) appear to be relatively undisturbed to the south. Outside of the forested habitat, there is evidence of earlier disturbance. The majority of the wetland in the N-series is forested and represents the upper boundary forested wetland bordering the flood plain of Black Creek. This wetland is within the

100-year floodplain of Black Creek and consequently could perform significant flood storage functions. As the wetland is forested, and contiguous with a larger wetland system along Black Creek, it has the potential to be high quality habitat for wildlife and waterfowl. The location of this wetland within SADVA, with restricted public access, limits the potential recreational and education functions potentially provided by the wetland.

A request for information on the potential occurrence of rare or endangered species, natural communities, or other significant habitats in the vicinity of the area was submitted to NYSDEC's Natural Heritage Program. The Natural Heritage Report indicates a possible occurrence of *Valeriana uliginosa* (marsh valerian), a vascular plant species, which is state-listed as threatened (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998). According to the report, this plant may occur within the project area in appropriate habitat. The plant is known to occur on wet soils in wet meadows or swamps (Gleason and Cronquist 1963). No other occurrence of endangered species, threatened or special concern wildlife species, rare plant, animal, or natural community were identified in their files (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998).

A request for information on the presence of endangered or threatened species in the vicinity of SADVA was also submitted to the U.S. Fish and Wildlife Service (USFWS). There are no federally listed or proposed threatened or endangered species known to exist in the project area (Appendix D, USFWS letter from S. Morgan, dated 4 November 1998).

Overall, the large natural wetland system in the western part of AOC1W (N-series) has higher wetland functions and values than the man-made wetlands along the eastern boundary. Both wetland areas are likely to provide some flood storage and stormwater detention functions. Both areas provide some wildlife habitat functions. However, the disturbed and/or created wetland habitats, dominated mainly by low diversity, invasive species on the eastern side, could much more readily be replaced by newly constructed habitats onsite, that would provide similar functions.

Many of the wetland boundaries along the west side of the A-series wetlands, and the roadside ditches, have very steep banks that reduce the habitat value and increase the erosion potential of these areas. In addition, much of the wetland areas in AOC1W, outside of the N-series are located on fill material. These soils are low in organic content, and range from compacted mineral soils high in silt content to coarse fill. These poor quality soil conditions may contribute to the relatively high proportion of invasive species inhabiting the wetland.

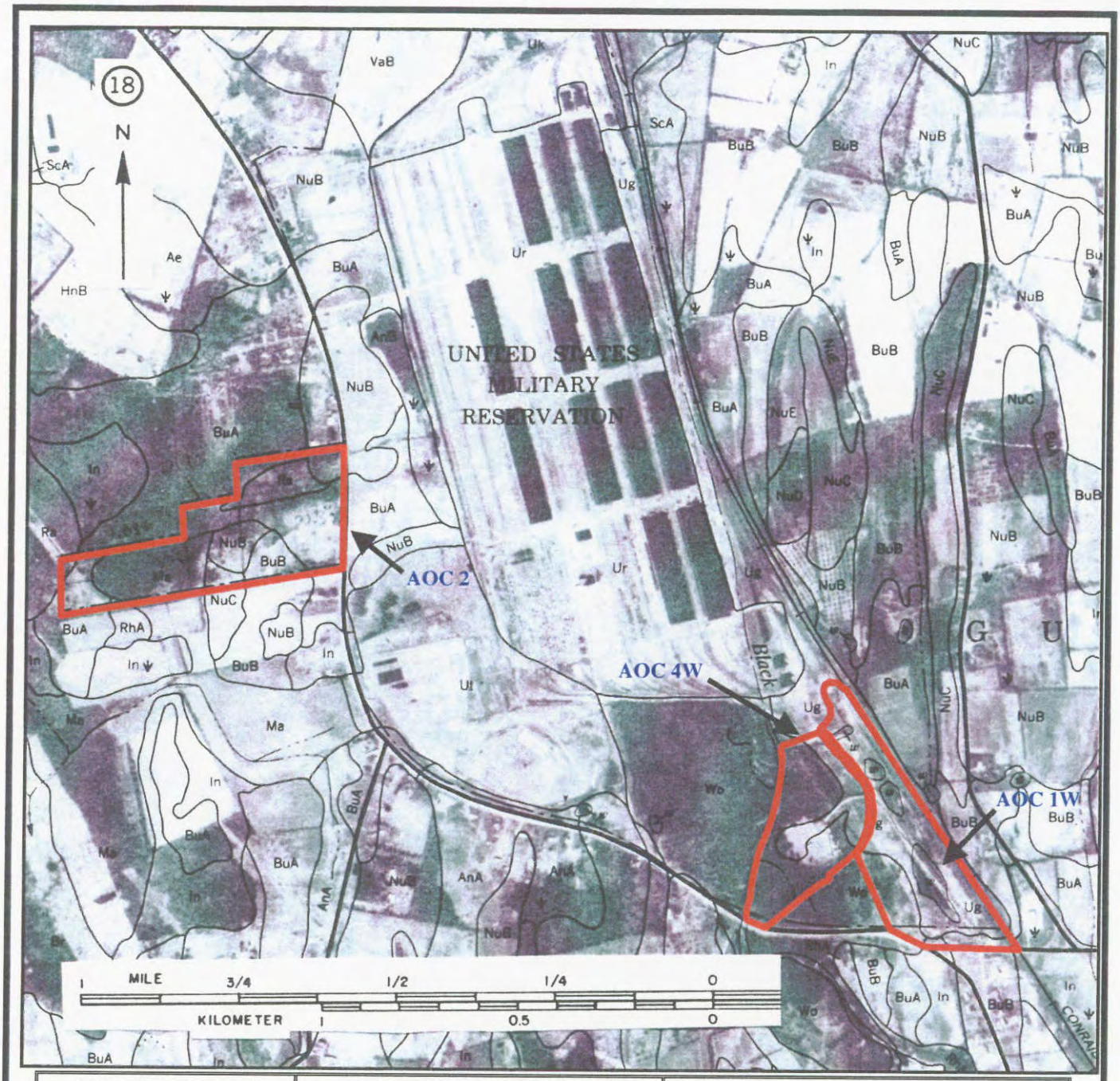
3.5 RECOMMENDATIONS FOR MANAGEMENT

Disturbance of any portion of the forested wetland of the N-series should be avoided or minimized. Any remedial actions undertaken within the forested wetland boundary should adhere to strict erosion and sedimentation control practices to prevent discharge of sediment

to the wetland. Any unavoidable disturbance of these wetland areas should include a plan to restore wetland functions within the wetland.

Any remedial alternatives impacting the remaining wetland areas on AOC1W should include mitigation to enhance wetland functions on the site. These alternatives may include improving the slopes on the wetland banks, improving the quality of the substrate, and/or attempting to control/replace invasive plant species with vegetation that will provide higher habitat quality for wildlife.

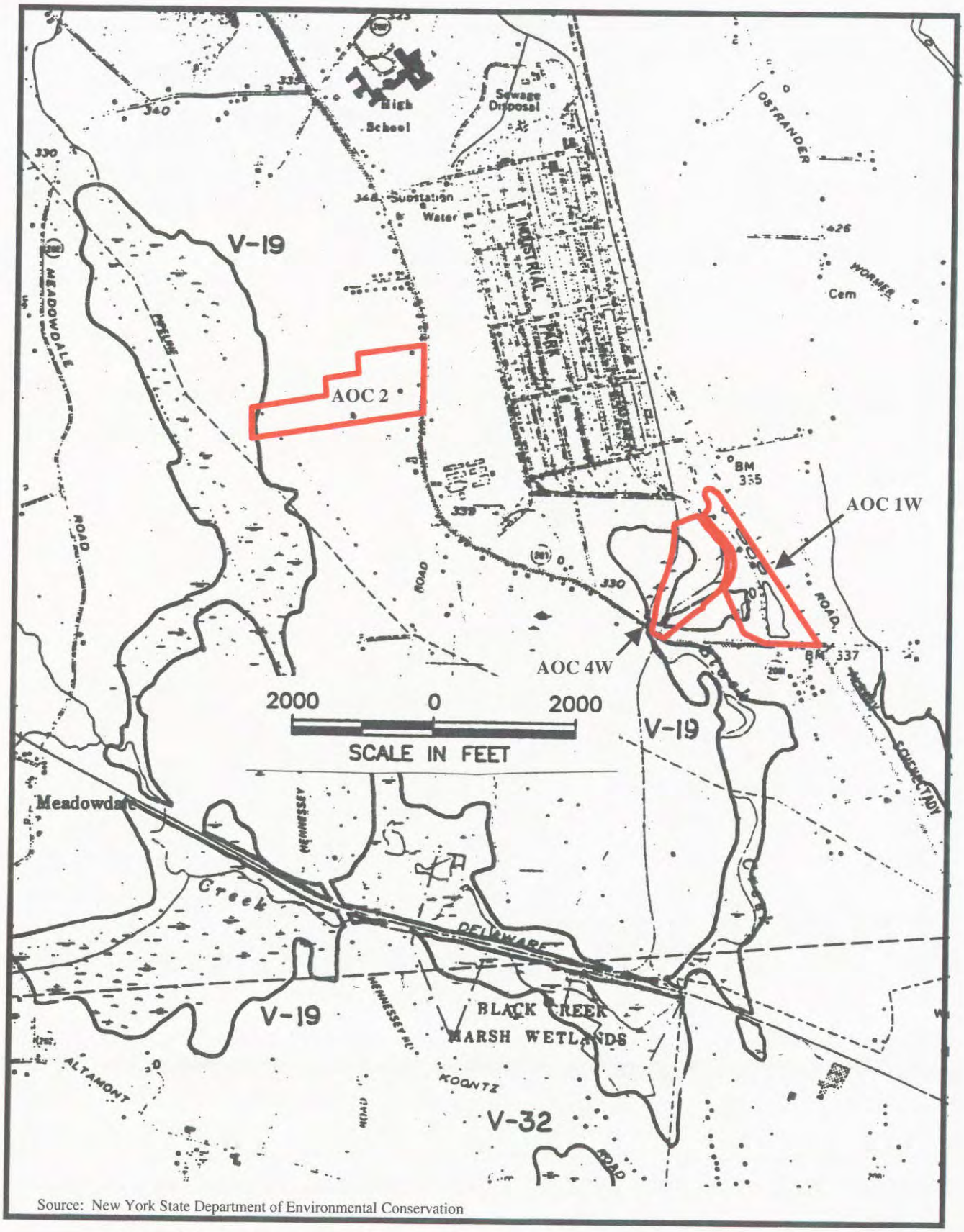
Due to the possible occurrence of the state-listed plant, marsh valerian, in wetland habitats in the vicinity of the former SADVA, an onsite survey for this species is likely to be required prior to disturbance of wetland habitat. Since there is no evidence of the occurrence of federally-listed threatened or endangered species in the project area, no Biological Assessment or further consultation under Section 7 of the Endangered Species Act will likely be required for remedial activities at the former SADVA.



Mapping Symbol	Soil Series Name	Drainage Sequence
BuA, BuB	Burdett, silt loam	Somewhat poorly drained
Ma	Madalin, silt loam	Poorly and very poorly drained
NuB, NuC	Nunda, silt loam	Moderately well drained
Ra	Raynham, very fine sandy loam	Poorly drained
Ud	Udothents, loamy	Well and moderately well drained
Wo	Wayland, silt loam	Poorly and very poorly drained

Source: Soil Conservation Service (1975)

Figure 3-1. Soil map for the vicinity of the former Schenectady Army Depot-Voorheesville Area.



Source: New York State Department of Environmental Conservation

Figure 3-2. Freshwater wetlands map for the vicinity of the former Schenectady Army Depot-Voorheesville Area.

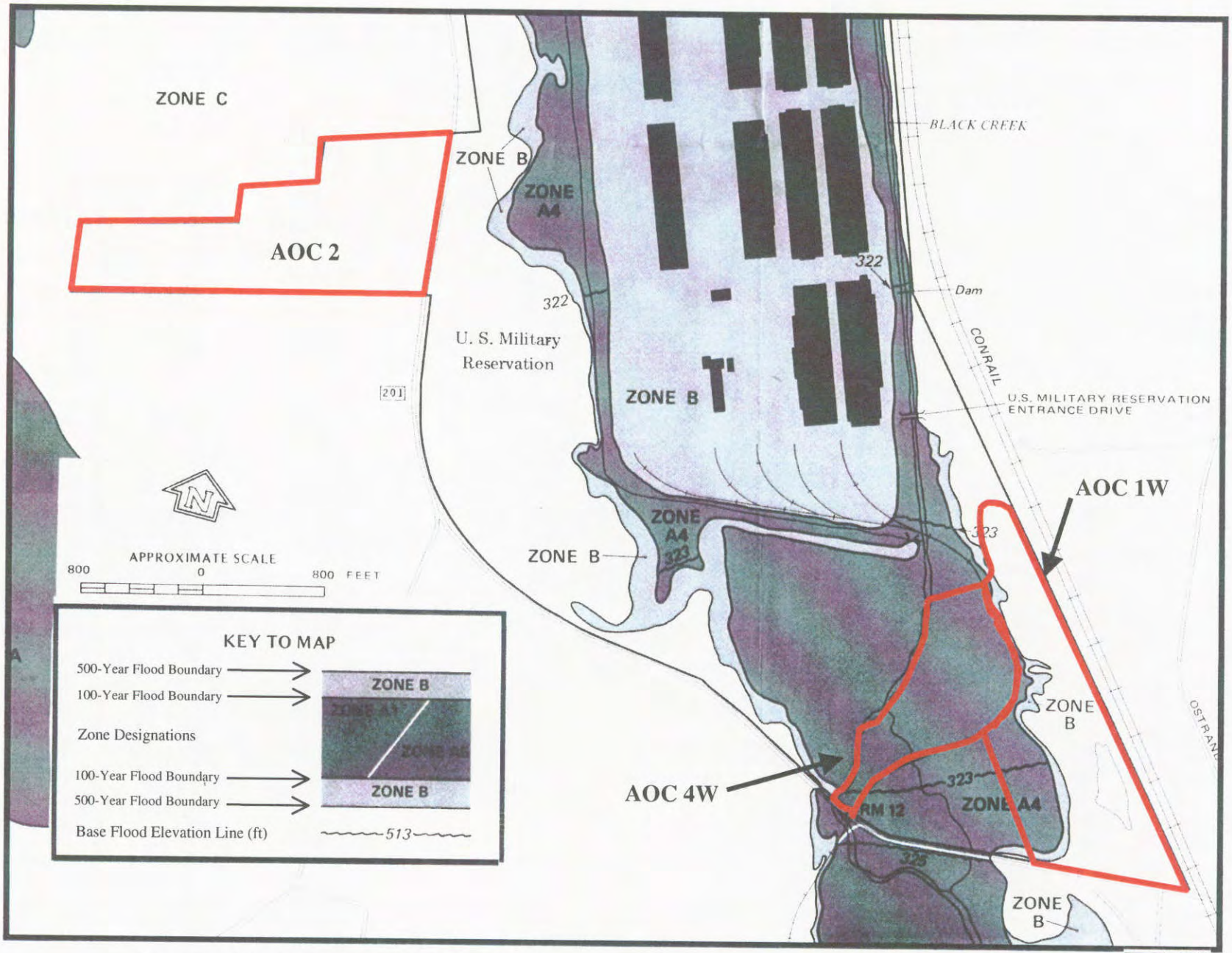


Figure 3-3. Flood zone map in the vicinity of the former Schenectady Army Depot-Voorheesville Area.

4. RESULTS OF WETLANDS IDENTIFICATION AND DELINEATION FOR AOC2 – THE BIVOUAC AREA

4.1 RESULTS OF OFFSITE MAPPING ANALYSIS

The Bivouac Area (AOC2) is located (Figure 2-1) on the west side of Route 201 across from SADVA proper. The area for the wetland survey for AOC2 included the 40-acre tract. The site consists of a residence and outbuildings, including a barn, bordering Route 201. In general, the parcel slopes from east to west, with a small knoll located along the southern property line (USGS 1954, photorevised 1980). The only surface water feature shown on the USGS map is a small pond along the southern property line, which was not located in the field. In addition, the USGS map shows an extensive wetland west of AOC2. From the 1980 mapping, the western end of the area appeared to be forested, while the area from the knoll and around the buildings to the east, was not vegetated. This area is currently mowed and maintained as pasture.

The majority of AOC2 was mapped as somewhat poorly drained Burdett Series soils (SCS 1992) (Figure 3-1). The higher elevations in the center of the area were mapped as moderately well-drained Nunda soils. Two areas of hydric soils are mapped on the property. The majority of the forested area at the western end of the AOC2 corresponds to an area of very poorly drained Madalin soils on the SCS map (SCS 1992) (Figure 3-1). The other soil series mapped within AOC2 by SCS is an area of poorly drained Raynham soils to the northeast. Both the Madalin and Raynham Series are listed as hydric soils in the *Hydric Soils of the United States* (SCS 1988), which indicates these are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (SCS 1988). Hydric soils are considered wetland soils since they are typically developed under hydrologic conditions that support wetland vegetation.

The NYSDEC Freshwater Wetlands map (NYSDEC 1985) (Figure 3-2) shows a small portion of the Black Creek wetland system (V-19) that intersects the northern end of AOC2. According to the Flood Insurance Rate Maps (FEMA 1983), AOC2 is located outside both the 100- and 500-year flood boundaries (Figure 3-3).

The majority of the forested area, as shown on the 1980 USGS map, was forested on the aerial photographs from 1942 into the 1970s. The remainder of AOC2 was cleared until the 1970s. Aerial photos from 1986 and 1995 indicate that, in recent decades, the northeastern corner of AOC2 has been left relatively undisturbed and has matured to scrub/shrub and forested vegetative cover over this time period. In addition, the aerial photography indicates a pond was created on the site between 1986 and 1995, approximately 500 ft north of the barn.

4.2 RESULTS OF THE FIELD DELINEATION

Wetland delineations were conducted at AOC2 between 20 October 1998 and 27 October 1998. A baseline was established along County Road 201. Transects were walked east to west across the area at three locations, approximately at the center of the area, and approximately 100 ft from the property line on both the north and south edges of the site (Appendix A, Sheet S-1, Sheet 2 of 2). Data for test plots were collected at the locations of wetland Flags O3/O4, O37, O64, and Q1 (Appendix A, data sheets).

One major wetland complex was identified at AOC2. This complex is made up of a number of different habitat types. The wetland area west of wetlands Flags O1 through O36 is predominantly forested hardwood swamp (Appendix A, Sheet S-2). The southernmost edge of the wetland is within a power line right-of-way, and is dominated by scrub-shrub and wetland meadow communities where the canopy cover has been removed. Also along higher elevations within the western wetland, near the monitoring well and in the vicinity of Flags O7 to O21, the margin of the wetland is dominated by stiff dogwood. The adjacent forested margin at O3/O4 is dominated by red maple and slippery elm (*Ulmus rubra*) (Appendix B, data sheets). The more mature forested wetland extending to the west along the Q-flagged series is dominated by swamp white oak (*Quercus bicolor*) and red maple in the overstory, with high bush blueberry a common shrub (Appendix C, Figure C-16). The herb layer in the wetland was dominated by sedges. Within this forested wetland, the Q-, R-, S-, and T-flag series represent islands of uplands (Appendix C, Figure C-17), mainly dominated by American beech (*Fagus grandifolia*) and Eastern hemlock (*Tsuga canadensis*).

The wetlands delineated by Flags O36 through O51 include a man-made pond and a wet meadow swale created by the pond construction. The remainder of the wetland area on the eastern side of AOC2 is an immature, secondary growth forest (elm/ash) with a dense understory of stiff dogwood. This appears to be an area of seasonally saturated soils, consistent with the mapped Raynham soil series.

A roadside ditch was delineated along part of the property bordering County Road 201. The U-series, V-series, and a portion of the O-series (O78 through O84) also mark small areas of man-made wetland in the roadside ditch.

4.3 REGULATORY JURISDICTION

The wetland areas within AOC2 were delineated in accordance with the three parameter wetland delineation methodologies of the USACE. These wetlands can be regulated as Waters of the United States by USACE under Section 404 of the Clean Water Act. There is no minimum size necessary for a wetland area to be regulated by USACE. Man-made wetlands, meeting the delineation criteria, may also be regulated.

For a wetland to be regulated by the State of New York, it must not only meet the field criteria in the delineation manual, but also must meet the criteria of having a minimum size of 12.4 acres; or, if smaller than 12.4 acres, meet the standard of "unusual local importance." Wetlands under the jurisdiction of NYSDEC Freshwater Wetlands Law are mapped by NYSDEC on Freshwater Wetland maps. Within AOC2, the wetland boundary along the O-series is much farther east than the mapped NYSDEC wetland boundary. A field inspection conducted with a representative of NYSDEC to review the onsite conditions confirmed the boundaries represent the extent of wetland V-19 within the project area. The wetland areas along Route 201 delineated by the U-series, the V-series, 078-084, and the created pond (036-051) do not correspond to state wetland boundaries (Appendix A Site Plans). Any activity in the wetland, or within the 100-ft adjacent area, will require a permit from NYSDEC, unless the activity is exempt according to the Freshwater Wetlands Act and 6NYCRR663. These wetlands are classified as Class I wetlands by NYSDEC, indicating that they provide important benefits.

4.4 HABITAT CHARACTERIZATION

The forested wetland areas at AOC2 vary in maturity and habitat value. The wetlands on the western segment of AOC2 have been less disturbed historically and represent a well developed, relatively mature forested community. As the wetland is forested, and contiguous with a larger wetland system along Black Creek, it has the potential to provide high quality habitat for wildlife and waterfowl. This area also has the potential to provide some flood storage and stormwater functions as it is connected to the Black Creek system. However, the wetland on AOC2 is outside of the 100-year flood zone. The location of this wetland on private property, with no public access, limits the potential recreational and education functions potentially provided by the wetland. This forested wetland provides aesthetic values in developing landscape, surrounded by industrial, residential, and agricultural uses.

The lowest quality habitat within the wetlands on the site is the disturbed vegetation within the power line right-of-way along the southern property boundary and the scrub/shrub border of the forested wetland. This scrub/shrub border extends along the wetland boundary from approximately Flag O7 to O17 and varies in width up to approximately 100 ft. The soils in this area appear disturbed and the vegetation is nearly mono-typic stiff dogwood.

The disturbed wetland habitat at the edge of the pasture and residential part of the property provides some habitat functions. The pond has been stocked by the owners and is also used by muskrat. The wet meadow area surrounding the pond is maintained as a mowed pasture. Although it is not the purpose of this report to document the former extent of wetlands prior to construction of the pond, aerial photos and field evidence indicate the pond and surrounding berm were likely constructed in seasonally saturated wet meadow and scrub/shrub habitat which was formerly contiguous with the wetlands from O51 to O63 (Appendix A, Sheet S-2). The scrub/shrub and forested wetland east of the pond toward Road 201 (Appendix A, Sheet S-2) has been more recently disturbed. This area appears to be influenced by seasonally high ground-water conditions and may have limited flood attenuation or stormwater protection functions. The

vegetation in this area is not mature or diverse, but is likely to provide habitat for some wildlife species, particularly song birds. The adjacent roadside ditches are not important wetland habitat, but provide obvious drainage functions.

A request for information on the potential occurrence of rare or endangered species, natural communities, or other significant habitats in the vicinity of the AOC was submitted to NYSDEC's Natural Heritage Program. The Natural Heritage Report indicates a possible occurrence of *Valeriana uliginosa* (marsh valerian), a vascular plant species, which is state-listed as threatened (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998). According to the report, this plant may occur within the project area in appropriate habitat. The plant is known to occur on wet soils in wet meadows or swamps (Gleason and Cronquist 1963). No other occurrence of endangered species, threatened, or special concern wildlife species, rare plant, animal, or natural community were identified in their files (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998).

A request for information on the presence of endangered or threatened species in the vicinity of SADVA was also submitted to the USFWS. There are no federally listed or proposed threatened or endangered species known to exist in the project area (Appendix D, USFWS letter from S. Morgan, dated 4 November 1998).

4.5 RECOMMENDATIONS FOR MANAGEMENT

The majority of the obvious waste materials (bottles and barrels) in the surface soil were located in the uplands east of the wetland line from O1 to O4. Some materials in the wetland were observed near Flags O1 through O4. The area of wetland adjacent to the waste material is secondary forest and is located at the extreme upland extent of the wetland. If any remedial activity is required in this area, it should be accessed from the adjacent upland so disturbance of this forested wetland on the western part of AOC2 can be avoided or minimized. Remedial actions undertaken within the forested wetland boundary should adhere to erosion and sedimentation control practices to prevent discharge of sediment to the wetland and minimize impacts on the mature trees.

Remedial alternatives impacting the remaining wetland areas on AOC2 could include mitigation to restore or enhance wetland functions in impacted areas.

Due to the possible occurrence of the state-listed plant, marsh valerian, in wetland habitats in the vicinity of the former SADVA, an onsite survey for this species is likely to be required prior to disturbance of wetland habitat. Since there is no evidence of the occurrence of federally-listed threatened or endangered species in the project area, no Biological Assessment or further consultation under Section 7 of the Endangered Species Act will likely be required for remedial activities at the former SADVA.

5. RESULTS OF WETLANDS IDENTIFICATION AND DELINEATION FOR AOC4 – C&D LANDFILL

5.1 RESULTS OF OFFSITE MAPPING ANALYSIS

The C&D Landfill (AOC4) is located near the southern end of SADVA (Figure 2-1). The area for the wetland survey included AOC4, the property immediately surrounding the landfill on all sides, and extending east to the main channel of Black Creek. The area delineated around the C&D Landfill is bounded by the Delaware and Hudson railroad tracks to the south and east. The area surveyed for wetlands around AOC4 is referred to herein as AOC4W.

USGS mapping (Figure 2-1) shows the location of Black Creek and its associated wetlands, west of the C&D Landfill (USGS 1954, photorevised 1980). According to the USGS map, the access road to the C&D Landfill, and small building in the area, were constructed between 1954 and the photorevised map of 1980.

The footprint of the area cleared for the C&D Landfill is visible on the Soil Survey map (SCS 1992, Figure 3-1). The landfill area itself is mapped as loamy Udorthents (Figure 3-1). The remainder of AOC4W was mapped as Wayland Series soils, which are poorly and very poorly drained soils on floodplains. Wayland Series is listed as a hydric soil in the *Hydric Soils of the United States* (SCS 1988), which indicates these are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (SCS 1988). Hydric soils are considered wetland soils since these are generally soils that are developed under conditions that have hydrology consistent with the ability to support wetland vegetation.

The NYSDEC Freshwater Wetlands map (NYSDEC 1985, Figure 3-2) shows a small portion of the Black Creek wetland system (V-19) intersecting the western half of AOC4W. The Flood Insurance Rate Maps (FEMA 1983) show AOC4W within the 100-year flood boundaries (Figure 3-3).

In the 1943, aerial photography of SADVA, the area of AOC4W appears to be cleared, and possibly under cultivation. In this photo, it also appears that there are series of braided channels, flooded with water throughout the majority of AOC4W. Photos taken after 1973 (1973, 1986, and 1995) show the footprint of the C&D Landfill surrounded by forested habitat.

5.2 RESULTS OF THE FIELD DELINEATION

Wetland delineations were conducted at AOC4W between 24 September 1998 and 20 October 1998. A baseline was established along the Delaware and Hudson Railroad bed at the southern property line. Transects were walked south to north across the area at three locations,

approximately at the center of the area, and approximately 100 ft from the SADVA property line on both the north and south edges of the area (Appendix A, Sheet S-1). Data for test plots were collected at the locations of wetland Flags H23, H64, and H69 (Appendix B, data sheets).

The wetland surrounding the C&D Landfill was delineated with Flag H1, at the northwest corner, to Flag H78 at the bank of Black Creek near the culvert under Route 201. The wetlands surrounding AOC4 are forested floodplain wetlands associated with Black Creek (Appendix C, Figures C-18 through C-21). The wetland extends to the toe of the slope of the C&D Landfill, surrounding the landfill on all but the southeastern quadrant.

The observed soils in most of the wetlands were consistent with the mapped Wayland Series. The vegetation in the wetland is characterized by secondary growth forest, dominated by silver maple, red maple, and green ash. The majority of the wetlands at AOC4W had limited amounts of shrub and herbaceous understory, which are characteristic of floodplain wetlands. The upland/wetland boundary along most of the H-series flagged line is formed by the toe of the slope of the landfill, access road, or the edge of the railroad bed.

5.3 REGULATORY JURISDICTION

The wetland areas within AOC4W were delineated in accordance with the three parameter wetland delineation methodologies of USACE. These wetlands can be regulated as Waters of the United States by USACE under Section 404 of the Clean Water Act. There is no minimum size necessary for a wetland area to be regulated by the USACE. Any proposed action for dredge or fill in jurisdictional wetlands may require a permit from the USACE.

For a wetland to be regulated by the State of New York, it must not only meet the field criteria in the delineation manual, but also must meet the criteria of having a minimum size of 12.4 acres; or, if smaller than 12.4 acres, meet the standard of "unusual local importance." Wetlands under the jurisdiction of NYSDEC Freshwater Wetlands Law are mapped by NYSDEC on Freshwater Wetland maps. Within AOC4W, the wetland boundary from H1 to H69 is further east than the mapped NYSDEC wetland boundary. A field inspection conducted with a representative of NYSDEC to review the onsite conditions and wetland boundaries confirmed that the boundaries mapped in the field represent the extent of wetland V-19 within the project area. The majority of the area of AOC4W is within mapped NYSDEC wetlands. This wetland is classified as Class 1 wetlands by NYSDEC. This classification indicates that these wetlands provide important benefits. Any activity in the wetland, or within the 100-ft adjacent area, will require a permit from NYSDEC, unless the activity is exempt according to the Freshwater Wetlands Act and 6 NYCRR663.

5.4 HABITAT CHARACTERIZATION

The soil and vegetation characteristics of the wetland surrounding the C&D Landfill in AOC4W indicate this wetland is seasonally saturated, and to some extent flooded from periods extending from November to June. During a site visit in June 1998, inundation from flooding of Black Creek was observed in the vicinity of wetland Flag H69.

The soil in the western half of AOC4W appears to be relatively undisturbed; however, to the east, closer to AOC1, there is evidence of earlier disturbance. In this area, there are a series of shallow ditches and low berms running roughly parallel to the railroad tracks. In addition, there is a man-made ditch forming the northern boundary of the AOC, which connects the pond system in AOC1W to Black Creek.

A request for information on the potential occurrence of rare or endangered species, natural communities, or other significant habitats in the vicinity of the AOC was submitted to NYSDEC's Natural Heritage Program. The Natural Heritage Report indicates a possible occurrence of *Valeriana uliginosa* (marsh valerian), a vascular plant species, which is state-listed as threatened (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998). According to the report, this plant may possibly occur within the project area in appropriate habitat. The plant is known to occur on wet soils in wet meadows or swamps (Gleason and Cronquist 1963). No other occurrence of endangered species, threatened or special concern wildlife species, rare plant, animal, or natural community were identified in their files (Appendix D, NYSDEC letter from T. Mackey, dated 30 October 1998).

A request for information on the presence of endangered or threatened species in the vicinity of SADVA was also submitted to the USFWS. There are no federally listed or proposed threatened or endangered species known to exist in the project area (Appendix D, USFWS letter from S. Morgan, dated 4 November 1998).

Floodplain forest communities are hardwood forests occurring on mineral soils in river floodplains. These communities are distributed throughout upstate New York, and have a state rank of G3G4/S2S3, which indicates these communities have limited acreage in New York State and are potentially vulnerable (Reschke 1990).

This floodplain wetland is a moderately mature forest characterized by high habitat value. The size of the trees is consistent with the aerial photography data indicating the growth is 40-50 years old in most areas of the wetland, especially closer to Black Creek.

The assessment of the habitat quality as relatively high is based on a number of features of the wetland. The wetland in AOC4W is part of a large contiguous wetland system along Black Creek and its tributaries. The size and relative maturity of the floodplain wetland increases its potential to serve as good wildlife habitat. The floodplain wetland serves a variety of important functions. Floodplain wetlands serve important flood storage capacity functions,

providing the drainage basin with a natural stormwater retention capacity. The size and proximity of the wetland to urban development also indicates the importance of providing open space and aesthetic benefits. The location of this wetland within SADVA, with restricted public access, limits the potential recreational and education functions potentially provided by the wetland.

5.5 RECOMMENDATIONS FOR MANAGEMENT

Disturbance of the floodplain forest beyond the toe of the slope of the C&D Landfill should be avoided. Remedial actions undertaken along the landfill/wetland boundary should adhere to erosion and sedimentation control practices to prevent discharge of sediment to the wetland. Remedial actions impacting the landfill/wetland boundary could include mitigation such as stabilization of the base of the bank of the C&D Landfill material in order to prevent potential erosion of material into the wetland. In some areas, especially in the vicinity of wetland Flags H25 through H62, landfill material surrounds the trunks of large trees. It is recommended that remedial action involving removal of this material be conducted in a manner that attempts to protect these trees and minimize disturbance to adjacent wetlands.

Due to the possible occurrence of the state-listed plant, marsh valerian, in wetland habitats in the vicinity of the former SADVA, an onsite survey for this species is likely to be required prior to disturbance of wetland habitat. Since there is no evidence of the occurrence of federally-listed threatened or endangered species in the project area, no Biological Assessment or further consultation under Section 7 of the Endangered Species Act will likely be required for remedial activities at the former SADVA.

6. SUMMARY

The identification and delineation of wetland habitats was conducted in three AOCs (AOC1, AOC2, and AOC4) within the SADVA during the Fall of 1998. The study included examining existing mapping data, conducting wetland delineations in the field, preparing site maps with the wetland boundaries, characterizing the wetland habitats, and assessing the jurisdictional considerations for each of the wetlands based on the applicability of federal, state, or local wetland regulations to the identified wetlands.

Both state and federally regulated wetlands were identified and delineated within each AOC. There are portions of forested or forested floodplain wetlands within the limits of the three AOCs.

The majority of the wetlands contained in AOC1W and AOC1 proper include a series of wetland ponds and emergent marsh habitat that were created through human activities and developed on disturbed soils. Proposed activities to implement remedial actions within AOC1 could include mitigation to enhance wetland functions in this AOC. There is an area of forested wetland within the southwest corner of AOC1, which should be managed similarly to the wetlands surrounding AOC4, as discussed below.

Wetlands surrounding AOC4 are forested floodplain wetlands, and are regulated by both USACE and NYSDEC. Remedial alternatives that would potentially impact wetlands will require review and permits from both agencies. Disturbance of the forested wetland should be avoided or minimized. In addition, proposed activities within the 100-ft adjacent area surrounding the wetlands regulated by NYSDEC may also be regulated by NYSDEC in order to ensure protection of wetland functions in these Class I wetlands. This classification indicates these wetlands provide important wetland functions and protection of the wetlands is of concern due to these significant benefits. The benefits include flood storage protection, sediment and nutrient retention, and very high habitat value.

AOC2 (approximately 40 acres) includes several wetland habitats. The highest habitat quality area is the forested wetland in the western end of the property. This wetland is contiguous with NYSDEC wetland V-19, and will be regulated by both USACE and NYSDEC as discussed above for AOC1 and AOC4. Regulation of the 100-ft adjacent area will also apply to any NYSDEC wetland boundary. The wetlands in the eastern half of AOC2 are a mixture of scrub/shrub, forested, and created wetland habitats. Isolated wetlands along Route 201 and created wetlands around the man-made pond will be regulated by USACE but not by NYSDEC.

REFERENCES

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Gleason, H.A. and A. Cronquist. 1963. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada.* D. Van Nostrand Company, New York.

New York State Department of Environmental Conservation (NYSDEC). 1985. Freshwater Wetlands Map, dated 27 February.

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Reschke, C. 1990. *Ecological Communities of New York State.* New York Natural Heritage Program, NYSDEC, Latham, New York.

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U.S. Environmental Protection Agency (U.S. EPA). 1993. *Wetlands Regulatory Guidebook for New York State.* U.S. EPA, Region 2, Marine and Wetland Protection Branch, New York, New York. EPA-902-R-93-004.

U.S. Geological Survey (USGS). 1980. Topographic Map, Voorheesville, New York, 7.5-Minute Quadrangle.

Appendix A

Site Plans

MAGNETIC

WETLAND

WETLAND

WETLAND

LIMIT OF WETLAND SURVEY

LIMIT OF WETLAND SURVEY

A O C 4 W

A O C I W

UPLAND

I.P.F. #

"UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYORS SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW."

"ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYORS INK STAMPED SEAL SHALL BE CONSIDERED TO BE VALID "TRUE COPIES."

"ADDITIONAL CERTIFICATIONS NOT INCLUDED IN THIS SURVEY MAP SHALL BE CONSIDERED INVALID."

THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYORS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. SAID CERTIFICATIONS SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON THE DATE OF THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION."

Map made for

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

Town of Guilderland, Albany County, New York

NO.	DATE	DESCRIPTION
2	11-30-98	ADDITIONAL LOCATION
1	11-23-98	WETLAND LABELS

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Van Dusen & Steves

Land Surveyors, LLC

37 Chester Street Glens Falls, New York 12801

(518) 792-8474 New York Lic. No. 50135

S-1

SHEET 1 OF 2

Date: NOVEMBER 17, 1998

Scale 1"=100'

DWG. NO. 98186A

MAGNETIC

LIMIT OF WETLAND SURVEY

WETLAND

WETLAND

WETLAND

UPLAND

WETLAND

UPLAND

UPLAND

F.POND

I.P.F.

I.P.F.

I.P.F.

DITCH

ALBANY COUNTY ROAD 201

330

340

350

330

340

320

WETLAND AREAS SHOWN WITH HATCHING ARE REGULATED BY U.S. ARMY CORPS OF ENGINEERS AND NOT BY NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

"UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW."

"ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYORS SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES."

"ADDITIONAL CERTIFICATIONS INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION."

Map made for

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

Town of Guilderland, Albany County, New York

NO.	DATE	DESCRIPTION
1	12-01-98	ADDITIONAL LOCATION

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

Van Dusen & Steves

Land Surveyors, LLC

37 Chester Street Glens Falls, New York 12801

(518) 792-8474 New York Lic. No. 50135

Date: NOVEMBER 23, 1998

Scale 1"=100'

S-2

SHEET 2 OF 2

DWG. NO. 98168B

Appendix B

Wetland Data Sheets

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 3 **Flag #:** A09 **WETLAND OR UPLAND?** WET
REMARKS: Wet meadow along the fence at the eastern property line, at the north end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=	51		
HERBS AND SEEDLINGS:			
Juncus canadensis, Canada rush	5	Yes	OBL
Juncus tenuis, Path rush	50	Yes	FAC-
Carex vulpinoidea, Fox sedge	5	Yes	OBL
Panicum sp., Panic grass	30	Yes	-
Lythrum salicaria, Purple loosestrife	5	Yes	FACW+
dominance ratio 50%= 47.5 20%= 19 Total=	95		

Tally of Dominants: OBL= 2 FACW= 1 FAC⁺= FAC= FAC⁻= 1 FACU= UPL=	**SUM= 5**
[OBL+FACW+FAC⁺+FAC] X 100 = 80 - 100% **SUM**	**Area Disturbed?** Yes **Describe:** Former fill

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag A9, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	__X__Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth _____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
_____ Driftlines	__X__FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
_____Drainage Patterns	

Remarks: Water saturated to surface in wetland

CONCLUSIONS

__Yes__Hydrophytes Prevalent	__No__Hydric Soils
__Yes__Wetland Hydrology	__Yes__Wetland?

Remarks: Hydrophytes prevalent in swale along fenceline. Soils disturbed, and correspond to location of old landfill material. Hydrology indicators include oxidized roots, FAC neutral test and evidence of drainage pattern. Wetland line in the meadow follows the vegetation boundary between the rushes and sedges in the wetland and the upland species including chickweed and Queen Anne's Lace.

Field Personnel: D. Roberts & B. Anderson

Review: DARoberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** A09 **WETLAND OR UPLAND?** UPL
REMARKS: Upland field bordering the wet meadow along the fence at the eastern property line, at the north end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Ambrosia artemisiifolia, ragweed	10	Yes	FACU
Daucus carota, Queen Anne's Lace	10	Yes	UPL
Unknown grass	40	Yes	-
Centaurea maculosa, Spotted knapweed	20	Yes	UPL
Aster pilosus, White heath aster	10	Yes	UPL
Fragaria virginiana, Virginia strawberry	1	No	FACU
dominance ratio 50%= 45.5 20%= 18 Total=	91		

Tally of Dominants: OBL= FACW= FAC⁺= FAC= FAC⁻= FACU= 1 UPL= 3	**SUM=** 5
[OBL+FACW+FAC⁺+FAC] X 100 = 0-1/5 = 0-20% **SUM**	**Area Disturbed?** Yes **Describe:** Former fill

Continued on other side

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag A9, Upland

SOIL				
Depth	**Horizon**	**Munsell Color (wet)**	**USDA Texture (wet)**	**Remarks**
0-10"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		
Soil Taxonomy: Udorthents, loamy			Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy			Field observations confirm map type? Yes	
____ Organic soil			____ Reducing Conditions	____ NTCHS list
____ Histic Epipedon			____ Sulfidic Odor	____ Local Hydric Soil List
____ Gleyed or low-chroma colors			____ Aquic Moisture Regime	
____ Dark Vertical Streaking of Subsurface Horizons (sandy soils)				____ Other (explain)
____ High Organic Content in Surface Horizon (sandy soils)				
Remarks: Soils appear to be old fill material, matching map type				

HYDROLOGY	
____ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season Source: Dated:	
PRIMARY INDICATORS: ____ Inundation (Depth ____) ____ Saturation in Upper 12" (Depth ____) ____ Watermarks ____ Driftlines ____ Sediment Deposits ____ Drainage Patterns	**SECONDARY INDICATORS (2 or more required)** ____ Oxidized Root Channels in Upper 12" ____ Water-stained Leaves ____ Local Soil Survey ____ FAC Neutral Test ____ Other (Buttressed trees, Stooling)
Remarks: No indicators observed	

CONCLUSIONS	
No Hydrophytes Prevalent No Wetland Hydrology	No Hydric Soils No Wetland?
Remarks:	
Field Personnel: D. Roberts & B. Anderson	
Review: Deborah A. Roberts **Date:** 12/2/98	

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** A34 **WETLAND OR UPLAND?** WET
REMARKS: Emergent marsh at the bottom of the bank along the eastern property line in AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 26 20%= 10 total=	51		
HERBS AND SEEDLINGS:			
Juncus canadensis, Canada rush	20	Yes	OBL
Lythrum salicaria, Purple loosestrife	5	Yes	FACW+
Typha angustifolia, Narrow-leaved cattail	60	Yes	OBL
dominance ratio 50%= 42.5 20%= 17 Total=	85		

Tally of Dominants: OBL= 2 FACW= 1 FAC⁺= FAC= FAC⁻= FACU= UPL= | **SUM= 3**

[OBL+FACW+FAC⁺+FAC] X 100 = 100%
SUM

Area Disturbed? Yes
Describe: Former fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag A34, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
___ Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
___ Inundation (Depth ___)
_X_ Saturation in Upper 12" (Depth 0")
___ Watermarks
___ Driftlines
___ Sediment Deposits
___ Drainage Patterns

SECONDARY INDICATORS (2 or more required)
_X_ Oxidized Root Channels in Upper 12"
___ Water-stained Leaves
___ Local Soil Survey
_X_ FAC Neutral Test
___ Other (Buttressed trees, Stooling)

Remarks: Water saturated to surface in wetland

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: Obligate and FACW species at base of steep bank. Hydrophytes prevalent and boundary abrupt.

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** A34 **WETLAND OR UPLAND?** UPL
REMARKS: Disturbed upland adjacent to an area of wet meadow on fill adjacent to ponds at the southern end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
Cornus foemina, Stiff dogwood	50	Yes	FAC
Rhamnus frangula, Glossy buckthorn	1	No	FAC
dominance ratio 50%= 26 **20%=** 10 **total=**	51		
HERBS AND SEEDLINGS:			
Solidago sp., Goldenrod	5	No	-
Aster pilosus, White heath aster	30	Yes	UPL
Fragaria virginiana, Virginia strawberry	20	Yes	FACU
Cornus foemina, Stiff dogwood	20	Yes	FAC
Rhamnus frangula, Glossy buckthorn	1	No	FAC
dominance ratio 50%= 38 **20%=** 15.2 **Total=**	76		

Tally of Dominants: OBL= FACW= FAC⁺= FAC= 2 FAC⁻= FACU= 1 UPL= 1	**SUM= 4**
[OBL+FACW+FAC⁺±FAC] X 100 = 2/4 = 50% **SUM**	**Area Disturbed?** Yes **Describe:** Former fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag 34, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
____ Organic soil	____ Reducing Conditions	____ NTCHS list
____ Histic Epipedon	____ Sulfidic Odor	____ Local Hydric Soil List
____ Gleyed or low-chroma colors	____ Aquic Moisture Regime	
____ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		____ Other (explain)
____ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

____ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
____ Inundation (Depth ____)	____ Oxidized Root Channels in Upper 12"
____ Saturation in Upper 12" (Depth ____)	____ Water-stained Leaves
____ Watermarks	____ Local Soil Survey
____ Driftlines	____ FAC Neutral Test
____ Sediment Deposits	____ Other (Buttressed trees, Stooling)
____ Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks: Hydrophytes absent at top of steep bank. Soil is old fill

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** A63 **WETLAND OR UPLAND?** WET
REMARKS: Area of wet meadow on fill adjacent to ponds at the southern end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Phragmites australis, Common reed	50	Yes	FACW
Lythrum salicaria, Purple loosestrife	1	Yes	FACW
Juncus tenuis, Path rush	5	Yes	FAC-
Panicum virgatum, Switchgrass	10	Yes	FAC
dominance ratio 50%= 33 20%= 13.2 Total=	66		

Tally of Dominants: OBL= FACW= 2 FAC+= FAC=1 FAC-= 1 FACU= UPL= **SUM= 4**

[OBL+FACW+FAC+]/SUM X 100 = 3/4 = 75%

Area Disturbed? Yes
Describe: Old fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag A63, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
___ Organic soil	Reducing Conditions	NTCHS list
___ Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
___ Gleyed or low-chroma colors	Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

___Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
___Inundation (Depth ___)
___Saturation in Upper 12" (Depth ___)
___Watermarks
___ Driftlines
___Sediment Deposits
___Drainage Patterns

SECONDARY INDICATORS (2 or more required)
_X_Oxidized Root Channels in Upper 12"
___Water-stained Leaves
___Local Soil Survey
_X_FAC Neutral Test
___Other (Buttressed trees, Stooling)

Remarks: Water saturated to surface in wetland

CONCLUSIONS

Yes Hydrophytes Prevalent
Yes Wetland Hydrology

Yes Hydric Soils
Yes Wetland?

Remarks: Wet meadow bordering pond. Fill material with an absence of hydric indicators. Much of the wetland area and adjacent upland dominated by Switchgrass (FAC). Due to disturbed soil conditions, wetland boundary based on presence/absence of other indicator species.

Field Personnel: D. Roberts & B. Anderson

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** A63 **WETLAND OR UPLAND?** UPL
REMARKS: Disturbed upland adjacent to an area of wet meadow on fill adjacent to ponds at the southern end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Solidago nemoralis, Gray goldenrod	5	Yes	UPL
Aster pilosus, White heath aster	10	Yes	UPL
Daucus carota, Queen Anne's Lace	20	Yes	UPL
Lotus corniculatus, Birds-foot trefoil	1	Yes	FACU
Other	10	Yes	-
dominance ratio 50%= 23 20%= 9.2 Total=	46		

Tally of Dominants: OBL= FACW= FAC$^+$= FAC= FAC$^-$= FACU= 1 UPL= 3	**SUM= 5**
[OBL+FACW+FAC$^+$+FAC] X 100 = 0 or 1/5 = 0-20% **SUM**	**Area Disturbed?** Yes **Describe:** Former fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag A63, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"		Matrix: Mottles:	Gravelly fill	
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	_____Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth ____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
____ Driftlines	_____FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
____Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** D5 **WETLAND OR UPLAND?** WET
REMARKS: Small disticnt ditch with hydrophytes west of Wetland A, with similar conditions to wetland B and C.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Lythrum salicaria, Purple loosestrife	50	Yes	FACW
dominance ratio 50%= 20%= Total=	50		

Tally of Dominants: OBL= FACW= 1 FAC$^+$= FAC= FAC$^-$= FACU= UPL=	**SUM= 1**
[OBL+FACW+FAC$^+$+FAC] X 100 = 100% **SUM**	**Area Disturbed?** Yes **Describe:** Ditch in old fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag D5, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"	-	Matrix: 10YR3/1 Mottles:	Sandy loam fill	no distinct profile evident - fill
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
___ Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type. Faint oxidized roots observed.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	_X_ Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	___ Water-stained Leaves
___ Watermarks	___ Local Soil Survey
___ Driftlines	_X_ FAC Neutral Test
___ Sediment Deposits	___ Other (Buttressed trees, Stooling)
_X_ Drainage Patterns	

Remarks: Distinct ditch

CONCLUSIONS

Yes Hydrophytes Prevalent	No Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: FACW species in ditch in fill material.

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC4, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/24/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** H23 **WETLAND OR UPLAND?** WET
REMARKS: Forested wetland at the toe of C&D landfill and edge of access road.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Acer rubrum, Red maple	5	Yes	FAC
dominance ratio 50%= 20%= total=	5		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	50	Yes	FACW
Acer rubrum, Red maple	10	No	FAC
dominance ratio 50%= 30 20%= 12 total=	60		
SHRUBS (3-20'):			
Cornus stolonifera, Red osier dogwood	5	No	FACW
Cornus foemina, Stiff dogwood	5	No	FAC
Fraxinus pennsylvanica, Green ash	20	Yes	FACW
dominance ratio 50%= 15 20%= 6 total=	30		
HERBS AND SEEDLINGS:			
Carex scoparia, Pointed broom sedge	20	Yes	FACW
Fraxinus pennsylvanica, Green ash	1	No	FACW
Cornus stolonifera, Red osier dogwood	1	No	FACW
Lysimachia nummularia, Creeping Jennie	1	No	OBL
Acer rubrum, Red maple	5	No	FAC
Typha latifolia	5	No	OBL
dominance ratio 50%= 16.5 20%= 6.6 Total=	33		

Tally of Dominants: OBL= FACW= 3 FAC⁺= FAC= 1 FAC⁻= FACU= UPL=	**SUM= 4**
[OBL+FACW+FAC⁺+~~FAC~~] X 100 = 100% **SUM**	**Area Disturbed?** Yes **Describe:** Adjacent to base of landfill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC4, Flag H23, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR3/1 Mottles:7.5YR4 /6	Sandy loam	
6-10"	Bg1	Matrix:10YR4/1 Mottles:10YR5/6	Clay loam	
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Mollic Fluvaquents	Permeability: Moderately slow	Drainage Class: poorly drained
Series and Phase: Wayland	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Low chroma colored matrix with mottles at 6 inches

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
_____Inundation (Depth _____)
_____Saturation in Upper 12" (Depth _____)
__X__Watermarks
_____ Driftlines
_____Sediment Deposits
_____Drainage Patterns

SECONDARY INDICATORS (2 or more required)
__X__Oxidized Root Channels in Upper 12"
_____Water-stained Leaves
__X__Local Soil Survey
__X__FAC Neutral Test
_____Other (Buttressed trees, Stooling)

Remarks:

CONCLUSIONS

__Yes__Hydrophytes Prevalent
__Yes__Wetland Hydrology
__Yes__Hydric Soils
__Yes__Wetland?

Remarks: Upper edge of Floodplain forest surrounding the C&D landfill.

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC4, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/23/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** H23 **WETLAND OR UPLAND?** UPL
REMARKS: Disturbed upland adjacent to an area of wet meadow on fill adjacent to ponds at the southern end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Ulmus rubra, Slippery elm	5	Yes	FAC
dominance ratio 50%= 20%= total=	5		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	5	Yes	FACW
dominance ratio 50%= 20%= total=	5		
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	20	Yes	FAC
dominance ratio 50%= 20%= total=	20		
HERBS AND SEEDLINGS:			
Solidago canadensis, Canada goldenrod	20	Yes	FACU
Cornus foemina, Stiff dogwood	5	No	FAC
Fragaria virginiana, Virginia strawberry	10	Yes	FACU
Lysimachia nummularia, Creeping Jennie	1	No	OBL
Equisetum arvense, Field horsetail	5	No	FAC
dominance ratio 50%= 20.5 20%= 8.2 Total=	41		

Tally of Dominants: OBL= FACW= 1 FAC+= FAC= 2 FAC-= FACU= 2 UPL= | **SUM= 5**

[OBL+FACW+FAC+~~+FAC~~] X 100 = 3/5 = 60%
SUM

Area Disturbed? Yes
Describe: Fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC4, Flag H23, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"		Matrix: Mottles:	Gravelly fill	Coarse fill, concrete and asphalt rubble
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
____ Organic soil	____ Reducing Conditions	____ NTCHS list
____ Histic Epipedon	____ Sulfidic Odor	____ Local Hydric Soil List
____ Gleyed or low-chroma colors	____ Aquic Moisture Regime	
____ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		____ Other (explain)
____ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be fill material, matching map type

HYDROLOGY

____ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
____ Inundation (Depth ____)	____ Oxidized Root Channels in Upper 12"
____ Saturation in Upper 12" (Depth ____)	____ Water-stained Leaves
____ Watermarks	____ Local Soil Survey
____ Driftlines	____ FAC Neutral Test
____ Sediment Deposits	____ Other (Buttressed trees, Stooling)
____ Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

Yes Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC4, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/25/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** H64 **WETLAND OR UPLAND?** WET
REMARKS: Forested wetland between C&D landfill toe and railroad tracks. Upland is railroad bed.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Fraxinus pennsylvanica, Green ash	5	Yes	FACW
Ulmus rubra, Slippery elm	5	Yes	FAC
dominance ratio 50%= 10 20%= 4 total=	10		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	2	Yes	FACW
Rhamnus frangula, Glossy buckthorn	1	Yes	FAC
dominance ratio 50%= 1.5 20%= 0.6 total=	3		
SHRUBS (3-20'): *Fraxinus pennsylvanica*, Green ash	5	Yes	FACW
Rhamnus frangula, Glossy buckthorn	2	No	FAC
Cornus foemina, Stiff dogwood	5	Yes	FAC
Acer rubrum, Red maple	1	No	FAC
Cornus stolonifera, Red osier dogwood	1	No	FACW
Ulmus rubra, Slippery elm	2	No	FAC
dominance ratio 50%= 8 20%= 3.2 total=	16		
HERBS AND SEEDLINGS:			
Carex lurida, Shallow sedge	10	Yes	OBL
Acer rubrum, Red maple	1	No	FAC
Lysimachia nummularia, Creeping Jennie	10	Yes	OBL
Lythrum salicaria, Purple loosestrife	10	Yes	FACW
Carex cristatella, Crested sedge	1	No	FACW
dominance ratio 50%= 16 20%= 6.4 Total=	32		

Tally of Dominants: OBL= 2 FACW= 4 FAC⁺= FAC= 3 FAC⁻= FACU= UPL=	**SUM= 9**
[OBL+FACW+FAC⁺+FAC] X 100 = 100% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC4, Flag H64, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-3"	Ap	Matrix: 10/YR3/1 Mottles:	Silt loam	Mottles fine, soils friable, many fine roots
3-6"	AB	Matrix:10YR5/1 Mottles:10YR6/8	Clay loam	Tight, blocky, mottle prominant, many
6-12"	Bg1	Matrix:N3/0 Mottles:7.5YR5/8	Clay loam	Blocky, dark gray, mottles fine, many
"		Matrix: Mottles:		

Soil Taxonomy: Mollic Fluvaquents	Permeability: Moderately slow	Drainage Class: poorly drained
Series and Phase: Wayland	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Low chroma colored matrix with mottles at 8 inches

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	__X__Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth _____)	_____Water-stained Leaves
_____Watermarks	__X__Local Soil Survey
_____Driftlines	__X__FAC Neutral Test
_____Sediment Deposits	__X__Other (Buttressed trees, Stooling)
_____Drainage Patterns	Buttressed trees

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/95

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC4, Northeastern Industrial Park, Guilderland, NY	**Date:** 9/25/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 3 **Flag #:** H69 **WETLAND OR UPLAND?** WET
REMARKS: Forested floodplain wetland of Black Creek, near railroad tracks. Upland is railroad bed.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Fraxinus pennsylvanica, Green ash	10	Yes	FACW
Acer saccharinum, Silver maple	10	Yes	FACW
dominance ratio 50%= 10 20%= 4 total=	20		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	5	No	FACW
Rhamnus frangula, Glossy buckthorn	30	Yes	FAC
Quercus bicolor, Swamp white oak	10	Yes	FACW
Ulmus rubra, Slippery elm	5	No	FAC
dominance ratio 50%= 25 20%= 10 total=	50		
SHRUBS (3-20'):			
Rhamnus frangula, Glossy buckthorn	5	Yes	FAC
Cornus foemina, Stiff dogwood	5	Yes	FAC
dominance ratio 50%= 5 20%= 2 total=	10		
HERBS AND SEEDLINGS:			
Carex lurida, Shallow sedge	5	Yes	OBL
Glyceria canadensis, Canada manna grass	5	Yes	OBL
Lysimachia nummularia, Creeping Jennie	1	No	OBL
dominance ratio 50%= 5.5 20%= 2.2 Total=	11		

Tally of Dominants: OBL= 2 FACW= 3 FAC⁺= FAC= 3 FAC⁻= FACU= UPL=	**SUM= 8**
[OBL+FACW+FAC⁺+FAC] X 100 = 100% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC4, Flag H69, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-8"	Ap	Matrix: 10/YR3/1 Mottles:7.5YR4 /6	Silt loam	Mottles fine, soils friable, oxidized roots present
8-12"	Bg1	Matrix:10YR4/0 Mottles:10YR4/6	Clay loam	Tight, blocky
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Mollic Fluvaquents	Permeability: Moderately slow	Drainage Class: poorly drained
Series and Phase: Wayland	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Low chroma colored matrix with mottles at 8 inches

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	__X__Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth _____)	__X__Water-stained Leaves
_____Watermarks	__X__Local Soil Survey
_____Driftlines	__X__FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
_____Drainage Patterns	

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: Floodplain forest along Black Creek. D. Roberts observed this area to be inundated in June 1998, during flood conditions in Black Creek.

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/14/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 3 **Flag #:** J20 **WETLAND OR UPLAND?** WET
REMARKS: Emergent marsh in ditch along dirt access road and along RR tracks.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
Ulmus rubra, Slippery elm	10	Yes	FAC
dominance ratio 50%= 20%= total=	10		
SAPLINGS (<5" dbh, >20'): None			
Ulmus rubra, Slippery elm	10	Yes	FAC
dominance ratio 50%= 20%= total=	10		
SHRUBS (3-20'): None			
Cornus foemina, Stiff dogwood	5	Yes	FAC
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Lycopus americanus, American bugleweed	1	No	OBL
Lythrum salicaria, Purple loosestrife	50	Yes	FACW
Euthamia graminifolia, Flat-top goldenrod	5	No	FAC
dominance ratio 50%= 28 20%= 11 Total=	56		

Tally of Dominants: OBL= FACW= 1 FAC⁺= FAC= 3 FAC⁻= FACU= UPL=	**SUM= 4**
[OBL+FACW+FAC⁺+FAC] X 100 = 100% **SUM**	**Area Disturbed?** Yes **Describe:** Old fill

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag J20, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6 "	A	Matrix: 10YR3/1 Mottles:	Sandy loam	
7-12"	B	Matrix: 10YR3/1 Mottles: 10YR5/4	Sandy loam	Mottles common, distinct
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
X Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Low chroma colors dominant within 12 inches.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
___ Inundation (Depth ___)
X Saturation in Upper 12" (Depth 1")
___ Watermarks
___ Driftlines
___ Sediment Deposits
___ Drainage Patterns

SECONDARY INDICATORS (2 or more required)
___ Oxidized Root Channels in Upper 12"
___ Water-stained Leaves
___ Local Soil Survey
___ FAC Neutral Test
___ Other (Buttressed trees, Stooling)

Remarks: Water saturated to surface in wetland

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: Distinct channel with steep banks.

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/14/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** **Flag #:** J20 **WETLAND OR UPLAND?** UPL
REMARKS: Disturbed upland adjacent to an area of wet meadow on fill adjacent to ponds at the southern end of AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	50	Yes	FAC
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Centaurea maculosa, Spotted knapweed	50	Yes	UPL
Cornus foemina, Stiff dogwood	10	Yes	FAC
Fragaria virginiana, Virginia strawberry	2	Yes	FACU
Daucus carota, Queen Anne's Lace	2	Yes	UPL
Unknown grass	30	Yes	-
dominance ratio 50%= 47 20%=18.8 Total=	94		

Tally of Dominants: OBL= FACW= FAC⁺= FAC= 2 FAC⁻= FACU= 1 UPL= 2	**SUM= 6**
[OBL+FACW+FAC⁺+FAC] X 100 = 2 -3 /6 = 33-50% **SUM**	**Area Disturbed?** Yes **Describe:** Old fill

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag J20, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"		Matrix: 10YR2/1 Mottles:	Gravelly fill	Fill consisting gravel and pieces of brick. Friable
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be fill material, matching map type

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	_____Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth ____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
_____Driftlines	_____FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
_____Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks: Upland field on fill, dominated at the borders by gray dogwood

Field Personnel: D. Roberts & B. Anderson

Review: D.A. Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/16/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** K43 **WETLAND OR UPLAND?** WET
REMARKS: Scrub/shrub wetland in a swale, surrounded by fill	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Fraxinus pennsylvanica, Green ash	10	Yes	FACW
Ulmus rubra, Slippery elm	5	Yes	FAC
dominance ratio 50%= 7.5 **20%=** 3 **total=**	15		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	10	Yes	FACW
Ulmus rubra, Slippery elm	10	Yes	FAC
dominance ratio 50%= 10 **20%=** 4 **total=**	20		
SHRUBS (3-20'):			
Rhamnus frangula, Glossy buckthorn	5	Yes	FAC
Cornus foemina, Stiff dogwood	5	Yes	FAC
Fraxinus pennsylvanica, Green ash	10	Yes	FACW
dominance ratio 50%= 15 **20%=** 6 **total=**	30		
HERBS AND SEEDLINGS:			
Fraxinus pennsylvanica, Green ash	5	No	FACW
Lythrum salicaria, Purple loosestrife	5	No	FACW
Glyceria canadensis, Canada manna grass	30	Yes	OBL
dominance ratio 50%= 20 **20%=** 4 **Total=**	40		

Tally of Dominants: OBL= 1 **FACW=** 3 **FAC⁺=** **FAC=** 4 **FAC⁻=** **FACU=** **UPL=**	**SUM=** 8
[OBL+FACW+FAC⁺+FAC] X 100 = 100% **SUM**	**Area Disturbed?** Yes **Describe:** fill

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag K43, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR3/1 Mottles:7.5YR4/6	Sandy loam	
6-12"	B	Matrix:10YR4/1 Mottles:10YR5/6	Sandy loam	
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be old fill material, matching map type

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	__X__Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth _____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
_____Driftlines	__X__FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
_____Drainage Patterns	

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/16/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** Yes **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** K43 **WETLAND OR UPLAND?** UPL
REMARKS: Upland consists of piles of fill along scrub/shrub wetland swale.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Centaurea maculosa, Spotted knapweed	60	Yes	UPL
Rumex crispus, Curly dock	5	Yes	FACU
Daucus carota, Queen Anne's Lace	2	Yes	UPL
Equisetum arvense, Field horsetail	2	Yes	FAC
dominance ratio 50%= 34.5 20%= 13.8 Total=	69		

Tally of Dominants: OBL= FACW= FAC⁺= FAC= 1 FAC⁻= FACU= 1 UPL= 2	**SUM= 4**
[OBL+FACW+FAC⁺+FAC] X 100 = 1/4 = 25% **SUM**	**Area Disturbed?** Yes **Describe:** Former fill

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag K43, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
"		Matrix: Mottles:		Concrete rubble, fill
"		Matrix: Mottles:		
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class: mod. well-drained
Series and Phase: Udorthents, loamy	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils appear to be fill material, matching map type

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	_____Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth ____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
____ Driftlines	_____FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
____Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/19/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** **Flag #:** N31 **WETLAND OR UPLAND?** WET
REMARKS: Upper edge of emergent wetland west of access road along AOC1.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Salix sp.	15	Yes	FACW
Fraxinus pennsylvanica, Green ash	5	Yes	FACW
dominance ratio 50%= 10 20%= 4 total=	20		
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	20	Yes	FAC
dominance ratio 50%= 20%= total=	20		
HERBS AND SEEDLINGS:			
Cornus foemina, Stiff dogwood	20	Yes	FAC
Solidago canadensis, Canada goldenrod	10	No	FACU
Solidago gigantea, Giant goldenrod	10	No	FACW
Euthamia graminifolia, Flat-top goldenrod	50	Yes	FAC
Carex sp.	5	No	-
dominance ratio 50%= 47.5 20%= 19 Total=	95		

Tally of Dominants: OBL= FACW= 2 FAC+= FAC= 3 FAC-= FACU= UPL=	**SUM= 5**
[OBL+FACW+FAC+FAC] X 100 = 100% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag N31, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-4"	Ap	Matrix: 10YR3/1 Mottles:	Gravelly silt loam	Friable, many fine roots
4-12"	AB	Matrix:10/YR4/1 Mottles:10YR5/6	Silt loam	
12-14"	Bg1	Matrix:10YR5/1 Mottles:10YR5/6	Silty clay loam	Large mottles, distinct. Blocky
"		Matrix: Mottles:		

Soil Taxonomy: Mollic Fluvaquents	Permeability: Moderately slow	Drainage Class: poorly drained
Series and Phase: Wayland silt loam	Field observations confirm map type? Yes	
___ Organic soil	Reducing Conditions	X NTCHS list
___ Histic Epipedon	Sulfidic Odor	___ Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Low chroma colored matrix with mottles within 12 inches.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	X Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	___ Water-stained Leaves
___ Watermarks	X Local Soil Survey
___ Driftlines	X FAC Neutral Test
___ Sediment Deposits	___ Other (Buttressed trees, Stooling)
___ Drainage Patterns	

Remarks: Water saturated to surface in wetland

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: Upper boundary of emergent cattail-dominated wetland. Vegetation characterized by gray dogwood and goldenrods at boundary.

Field Personnel: D. Roberts & B. Anderson

Review: D. Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC1, Northeastern Industrial Park, Guilderland, NY	**Date:** 10/19/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** **Flag #:** N31 **WETLAND OR UPLAND?** UPL
REMARKS:	

VEGETATION			
Dominant Plants by Stratum	**Percent cover**	**Dominant Species**	**NWI Status**
TREES: None			
dominance ratio 50%= 20%= total=			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	20	Yes	FAC
Populus tremula, Quaking aspen	1	Yes	FACU
dominance ratio 50%= 10.5 20%= 4.2 total=	21		
HERBS AND SEEDLINGS:			
Solidago canadensis, Canada goldenrod	50	Yes	FACU
Lonicera tartarica, Tartarian honeysuckle	5	Yes	FACU
Populus tremula, Quaking aspen	1	Yes	FACU
dominance ratio 50%= 28 20%= 11.2 Total=	56		
Tally of Dominants: OBL= FACW= FAC+= FAC= 1 FAC-= FACU= 4 UPL=		**SUM= 5**	
[OBL+FACW+FAC+~~+FAC~~] X 100 = 1/5 = 20% **SUM**		**Area Disturbed? Describe:**	

Continued on other side

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC1, Flag N31, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-4"	Ap	Matrix: 10YR4/2 Mottles:	Gravelly fill	
4-12"	A2	Matrix:10YR4/2 Mottles:		
12-16"	Bg	Matrix:2.5Y6/3 Mottles:10YR5/6		
"		Matrix: Mottles:		

Soil Taxonomy: Udorthents, loamy	Permeability:	Drainage Class:
Series and Phase: Udorthents, loamy	Field observations confirm map type? No	
____ Organic soil	____ Reducing Conditions	____ NTCHS list
____ Histic Epipedon	____ Sulfidic Odor	____ Local Hydric Soil List
____ Gleyed or low-chroma colors	____ Aquic Moisture Regime	
____ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		____ Other (explain)
____ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Mottles at 12 inches, but no low chroma matrix

HYDROLOGY

____ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
____ Inundation (Depth ____)	____ Oxidized Root Channels in Upper 12"
____ Saturation in Upper 12" (Depth ____)	____ Water-stained Leaves
____ Watermarks	____ Local Soil Survey
____ Driftlines	____ FAC Neutral Test
____ Sediment Deposits	____ Other (Buttressed trees, Stooling)
____ Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent	No Hydric Soils
No Wetland Hydrology	No Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/20/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** O3/O4 **WETLAND OR UPLAND?** WET
REMARKS: Upper edge of red maple swamp.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Acer rubrum, Red maple	20	Yes	FAC
dominance ratio 50%= 10 20%= 4 total=	20		
SAPLINGS (<5" dbh, >20'):			
Acer rubrum, Red maple	20	Yes	FAC
Ulmus rubra, Slippery elm	5	Yes	FAC
dominance ratio 50%= 12.5 20%= 5 total=	25		
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	50	Yes	FAC
Viburnum recognitum, Northern arrow-wood	5	No	FACW
dominance ratio 50%= 27.5 20%= 11 total=	55		
HERBS AND SEEDLINGS:			
Viburnum recognitum, Northern arrow-wood	2	No	FACW
Aster dumosus, Bush aster	10	Yes	FAC
Solidago rugosa, Wrinkled goldenrod	10	Yes	FAC
Onoclea sensiblis, Sensitive fern	5	Yes	FACW
Geum laciniatum, Rough avens	5	Yes	FAC+
dominance ratio 50%= 16 20%= 6.4 Total=	32		

Tally of Dominants: OBL= FACW= 1 FAC+= 1 FAC= 6 FAC-= FACU= UPL=	**SUM= 8**
[OBL+FACW+FAC+FAC] X 100 = 100% **SUM**	**Area Disturbed?** No **Describe:**

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag O3/O4, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR4/2 Mottles:	Sandy loam	
6-12"	BA	Matrix: 2.5Y6/2 Mottles:7.5YR5/8	Fine sandy loam	Gray matrix with prominent orange mottles
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Aeric Ochraqualfs	Permeability: Moderately slow	Drainage Class: Somewhat poorly dr.
Series and Phase: Rhinebeck	Field observations confirm map type? No	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
X Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Wetland soils to the west are predominantly Madalin series, as mapped. However, observed profile at base of upland slope (Nunda soils), is characteristic of the somewhat poorly drained Rhinebeck soils

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	X Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	___ Water-stained Leaves
___ Watermarks	___ Local Soil Survey
___ Driftlines	X FAC Neutral Test
___ Sediment Deposits	___ Other (Buttressed trees, Stooling)
___ Drainage Patterns	

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks:

Field Personnel: D. Roberts & B. Anderson

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/21/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** O37 **WETLAND OR UPLAND?** WET
REMARKS: Edge of wet meadow at the west end of pond.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES: None			
dominance ratio 50%= 20%= **total=**			
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= **total=**			
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= **total=**			
HERBS AND SEEDLINGS:			
Scirpus atrovirens, Green bulrush	25	Yes	OBL
Dactylis glomerata, Orchard grass	30	Yes	FACU
Phleum pratense, Timothy	30	Yes	FACU
Galium trifidum(?), Bedstraw	5	Yes	FACW
Daucus carota, Queen Anne's Lace	1	Yes	UPL
Trifolium pratense, Red clover	1	Yes	FACU
dominance ratio 50%= 46 20%= 18.4 **Total=**	92		

Tally of Dominants: OBL= 1 FACW= 1 FAC+= FAC= 0 FAC-= FACU= 3 UPL=1 **SUM= 6**

[OBL+FACW+FAC+~~+FAC-~~] X 100 =2/6 = 33%
SUM

Area Disturbed? Yes.
Describe: Edge of man-made pond. Mowed.

Continued on other side

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag 037, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR4/1 Mottles:	Sandy loam	
6-12"	BA	Matrix: 2.5Y6/2 Mottles:7.5YR5/8	Fine sandy loam	Gray matrix with prominent orange mottles
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Aeric Ochraqualfs	Permeability: Moderately slow	Drainage Class: Somewhat poorly dr.
Series and Phase: Rhinebeck	Field observations confirm map type? No	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
X Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Mapped as upland Burdett series. Low chroma matrix and bright mottles indicate hydric soils, and upper portion of profile matches Rhinebeck series.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season

Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	X Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	___ Water-stained Leaves
___ Watermarks	___ Local Soil Survey
___ Driftlines	___ FAC Neutral Test
___ Sediment Deposits	___ Other (Buttressed trees, Stooling)
X Drainage Patterns	

Remarks: Evidence of poor drainage around edge of man-made pond. FAC neutral test not applicable due to disturbed vegetation (mowed).

CONCLUSIONS

No* Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: * Obligate wetlands species present in mowed field, with hydric soils present. Wetland boundary based on the extent of obligate species evidence of topography to support wetland conditions.

Field Personnel: D. Roberts, B. Anderson & P. Muessig

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/21/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** O37 **WETLAND OR UPLAND?** UPL
REMARKS: At forested border of wet meadow in an area of scattered pines in an partially open and infrequently mowed field.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Acer rubrum, Red maple	2	No	FAC
Pinus backsiana, Jack pine	10	Yes	FACU
dominance ratio 50%= 6 **20%=** 2.4 **total=**	12		
SAPLINGS (<5" dbh, >20'): None			
dominance ratio 50%= 20%= total=			
SHRUBS (3-20'):			
Rhamnus frangula, Glossy buckthorn	10	Yes	FAC
Cornus foemina, Stiff dogwood	1	No	FAC
Viburnum recognitum, Northern arrow-wood	1	No	FACW
dominance ratio 50%= 6 **20%=** 2.4 **total=**	12		
HERBS AND SEEDLINGS:			
Dactylis glomerata, Orchard grass	50	Yes	FACU
Other grasses	10	Yes	-
Rubus flagellaris, Northern dewberry	5	No	UPL
Ulmus rubra, Slippery elm	1	No	FAC
Prunella vulgaris, Heal-all	1	No	FACU
dominance ratio 50%= 33.5 **20%=** 13.4 **Total=**	67		

Tally of Dominants: OBL= FACW= FAC+= FAC= 1 FAC-= FACU= 2 UPL=	**SUM=** 4
[OBL+FACW+FAC+FAC] X 100 = 1 or 2 / 4 = 25 - 50% **SUM**	**Area Disturbed?** Yes. **Describe:** Mowed.

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag O37, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-10"	Ap	Matrix: 10/YR4/2 Mottles:	Sandy loam	Fibrous roots
10-14"	2E/B	Matrix: 2.5Y5/4 Mottles:10YR5/8	Sandy loam	Stony @ 10 inches. Common faint mottles. Small-medium cobbles
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Glossaquic Hapludalfs	Permeability: Moderate	Drainage Class: mod. well-drained
Series and Phase: Nunda Silt Loam	Field observations confirm map type? Yes	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Mapped as upland Nunda series. No redoxomorphic features in upper 12 inches.

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
_____Inundation (Depth _____)	_____Oxidized Root Channels in Upper 12"
_____Saturation in Upper 12" (Depth _____)	_____Water-stained Leaves
_____Watermarks	_____Local Soil Survey
_____Driftlines	_____FAC Neutral Test
_____Sediment Deposits	_____Other (Buttressed trees, Stooling)
_____Drainage Patterns	

Remarks: No indicators observed

CONCLUSIONS

No* Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: * Faculative wetlands species present in herb layer of mowed field, with hydric soils absent.

Field Personnel: D. Roberts, B. Anderson & P. Muessig

Review: D A Roberts **Date:**

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/27/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** O64 **WETLAND OR UPLAND?** WET
REMARKS: .	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Fraxinus pennsylvanica, Green ash	10	Yes	FACW
dominance ratio 50%= 5 **20%=** 2 **total=**	10		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	6	Yes	FACW
Ulmus rubra, Slippery elm	3	Yes	FAC
dominance ratio 50%= 4.5 **20%=** 1.8 **total=**	9		
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	20	Yes	FAC
Viburnum recognitum, Northern arrow-wood	5	Yes	FACW
dominance ratio 50%= 12.5 **20%=** 5 **total=**	25		
HERBS AND SEEDLINGS:			
Cornus foemina, Stiff dogwood	10	Yes	FAC
Rhamnus frangula, Glossy buckthorn	5	No	FAC
Cornus stolonifera, Red osier dogwood	5	No	FACW
Unknown grass	10	Yes	-
dominance ratio 50%= 15 **20%=** 6 **Total=**	30		

Tally of Dominants: OBL= FACW= 3 **FAC⁺= FAC=** 3 **FAC⁻= FACU= UPL=**	**SUM=** 7
[OBL+FACW+FAC⁺+~~FAC⁻~~] X 100 = 6 or 7 / 7 = 86 -100% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag O64, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR4/2 Mottles:	Sandy loam	
6-12"	Bg	Matrix: 10YR5/1 Mottles:7.5YR5/6	Fine sandy loam	Mottles many, fine,distinct
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Aeric Haplaquepts	Permeability: Moderate to moderately slow	Drainage Class: Poorly drained
Series and Phase: Raynham	Field observations confirm map type? Yes	
___ Organic soil	Reducing Conditions	NTCHS list
___ Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
X Gleyed or low-chroma colors	Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils mapping indicates a long finger of Raynham soils that corresponds approximately to the location of this scrub/shrub wetland.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	X Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	___ Water-stained Leaves
___ Watermarks	___ Local Soil Survey
___ Driftlines	X FAC Neutral Test
___ Sediment Deposits	___ Other (Buttressed trees, Stooling)
___ Drainage Patterns	

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: This area of forested wetland, with a thick shrub understory extends along the eastern end of the property, from the edge of the maintained lawn and fields to the northern property line. The wetland boundary was based on the presence of FACW species including Sensitive fern and arrow wood in the wetland and tartarian honeysuckle in the upland, along with the depth to low-chroma, mottled soil.

Field Personnel: D. Roberts & K. Shutty

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/27/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 2 **Flag #:** O64 **WETLAND OR UPLAND?** UPL
REMARKS: .	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Pinus strobus, White pine	10	Yes	FACU
dominance ratio 50%= 5 **20%=** 2 **total=**	10		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	5	Yes	FACW
Ulmus rubra, Slippery elm	5	Yes	FAC
Pinus strobus, White pine	1	No	FACU
dominance ratio 50%= 5.5 **20%=** 2.2 **total=**	11		
SHRUBS (3-20'): None			
dominance ratio 50%= 20%= total=			
HERBS AND SEEDLINGS:			
Cornus foemina, Stiff dogwood	5	Yes	FAC
Gallium sp., Bedstraw	5	Yes	-
dominance ratio 50%= 15 **20%=** 6 **Total=**	30		

Tally of Dominants: OBL= FACW= 1 **FAC⁺= FAC=** 2 **FAC⁻= FACU=** 1 **UPL=**	**SUM=** 5
[OBL+FACW+FAC⁺+FAC] X 100 = 3 or 4 / 5 = 60 - 80% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag 064, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR4/3 Mottles:	Silt loam	
6-12"	B	Matrix: 10YR5/4 Mottles:	Fine sandy loam	No mottles
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Aeric Ochraqualfs | Permeability: Moderate | Drainage Class: Somewhat poorly

Series and Phase: Burdett Silt Loam ? | Field observations confirm map type? Yes

Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		_____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils mapping indicates a long finger of Raynham soils that corresponds approximately to the location of this scrub/shrub wetland surrounded by Burdett Soil in the upland. No low chroma colors or mottles within 12 inches.

HYDROLOGY

_____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
_____Inundation (Depth _____)
_____Saturation in Upper 12" (Depth _____)
_____Watermarks
_____Driftlines
_____Sediment Deposits
_____Drainage Patterns

SECONDARY INDICATORS (2 or more required)
_____Oxidized Root Channels in Upper 12"
_____Water-stained Leaves
_____Local Soil Survey
_____FAC Neutral Test
_____Other (Buttressed trees, Stooling)

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent | No Hydric Soils
No Wetland Hydrology | No Wetland?

Remarks: The wetland boundary was based on the presence of FACW species including sensitive fern and arrow wood in the wetland and tartarian honeysuckle, white pine and cherry in the upland, along with the depth to low-chroma, mottled soil.

Field Personnel: D. Roberts & K. Shutty

Review: D A Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/27/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** Q1 **WETLAND OR UPLAND?** WET
REMARKS: Edge of large hardwood forested wetland.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Acer rubrum, Red maple	40	Yes	FAC
Quercus bicolor, Swamp white oak	10	Yes	FACW
dominance ratio 50%= 25 **20%=** 10 **total=**	50		
SAPLINGS (<5" dbh, >20'):			
Fraxinus pennsylvanica, Green ash	5	Yes	FACW
Acer rubrum, Red maple	5	Yes	FAC
Quercus bicolor, Swamp white oak	10	Yes	FACW
dominance ratio 50%= 10 **20%=** 4 **total=**	20		
SHRUBS (3-20'):			
Cornus foemina, Stiff dogwood	5	No	FAC
Vaccinium corymbosum, High bush blueberry	40	Yes	FACW
dominance ratio 50%= 22.5 **20%=** 9 **total=**	45		
HERBS AND SEEDLINGS:			
Carex stricta, Uptight sedge	10	Yes	OBL
Carex lurida, Shallow sedge	1	No	OBL
Quercus bicolor, Swamp white oak	1	No	FACW
dominance ratio 50%= 24 **20%=** 2.4 **Total=**	12		

Tally of Dominants: OBL= 1 **FACW=** 4 **FAC⁺=** **FAC=** 2 **FAC⁻=** **FACU=** **UPL=**	**SUM=** 7
[OBL+FACW+FAC⁺+FAC] X 100 = 7 / 7 = 100% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag Q1, Wetland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-6"	Ap	Matrix: 10/YR2/1 Mottles:	Silt loam	High Organic content
6-12"	Btg	Matrix: 10YR5/1 Mottles:7.5YR5/6	Silty clay loam	Mottles many, Prominent
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Mollic Ochraqualfs	Permeability: Moderately slow	Drainage Class: Poorly drained
Series and Phase: Madalin silt loam	Field observations confirm map type? Yes	
___ Organic soil	___ Reducing Conditions	___ NTCHS list
___ Histic Epipedon	___ Sulfidic Odor	___ Local Hydric Soil List
X Gleyed or low-chroma colors	___ Aquic Moisture Regime	
___ Dark Vertical Streaking of Subsurface Horizons (sandy soils)		___ Other (explain)
___ High Organic Content in Surface Horizon (sandy soils)		

Remarks: Soils mapping indicates a long finger of Raynham soils that corresponds approximately to the location of this scrub/shrub wetland.

HYDROLOGY

___ Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:	SECONDARY INDICATORS (2 or more required)
___ Inundation (Depth ___)	X Oxidized Root Channels in Upper 12"
___ Saturation in Upper 12" (Depth ___)	X Water-stained Leaves
___ Watermarks	X Local Soil Survey
___ Driftlines	X FAC Neutral Test
___ Sediment Deposits	X Other (Buttressed trees, Stooling)
___ Drainage Patterns	Buttressed trees

Remarks:

CONCLUSIONS

Yes Hydrophytes Prevalent	Yes Hydric Soils
Yes Wetland Hydrology	Yes Wetland?

Remarks: Hardwood swamp with hydric Madalin soils.

Field Personnel: D. Roberts & K. Shutty

Review: DA Roberts **Date:** 12/2/98

Roberts Environmental Consulting, Inc.

THREE PARAMETER WETLAND DELINEATION SHEET

Project Title: NEIP Wetlands **Location:** AOC2,Burns Property, Guilderland, NY	**Date:** 10/27/98 **County:** Albany
Do Normal Circumstances exist on site? Yes **Is the site significantly disturbed?** No **Is the area a potential problem area?** No	**Transect:** 1 **Flag #:** Q1 **WETLAND OR UPLAND?** UPL
REMARKS: Upland island in large forested wetland.	

VEGETATION

Dominant Plants by Stratum	Percent cover	Dominant Species	NWI Status
TREES:			
Fagus grandifolia, American beech	20	Yes	FACU
Tsuga canadensis, Eastern hemlock	10	Yes	FACU
dominance ratio 50%= 15 **20%=** 6 **total=**	30		
SAPLINGS (<5" dbh, >20'):			
Fagus grandifolia, American beech	50	Yes	FACU
dominance ratio 50%= 25 **20%=** 10 **total=**	50		
SHRUBS (3-20'):			
Fagus grandifolia, American beech	1	Yes	FACU
dominance ratio 50%= 0.5 **20%=** 0.2 **total=**	1		
HERBS AND SEEDLINGS:			
Fagus grandifolia, American beech	1	Yes	FACU
dominance ratio 50%= 0.5 **20%=** 0.2 **Total=**	1		

Tally of Dominants: OBL= FACW= FAC⁺= FAC= FAC⁻= FACU= 5 **UPL=**	**SUM=** 5
[OBL+FACW+FAC⁺+FAC] X 100 = 0% **SUM**	**Area Disturbed?** No **Describe:**

Continued on other side

Roberts Environmental Consulting, Inc.
THREE PARAMETER WETLAND DELINEATION SHEET

Sample Location: AOC2, Flag Q1, Upland

SOIL

Depth	Horizon	Munsell Color (wet)	USDA Texture (wet)	Remarks
0-4"	Ap	Matrix: 10/YR2/1 Mottles: none	Silt loam	
4-12"	B	Matrix: 10YR5/4 Mottles: faint	Silty clay loam	
"		Matrix: Mottles:		
"		Matrix: Mottles:		

Soil Taxonomy: Aeric Ochraqualfs	Permeability: Moderate	Drainage Class: Somewhat poorly
Series and Phase: Burdett Silt Loam ?	Field observations confirm map type? No	
Organic soil	Reducing Conditions	NTCHS list
Histic Epipedon	Sulfidic Odor	Local Hydric Soil List
Gleyed or low-chroma colors	Aquic Moisture Regime	
Dark Vertical Streaking of Subsurface Horizons (sandy soils)		____Other (explain)
High Organic Content in Surface Horizon (sandy soils)		

Remarks: Area mapped as Madalin series soils which are hydric, and correspond to adjacent wetland. No hydric indicators observed. Upper soil profile resembles Burdett series.

HYDROLOGY

____Recorded Data Indicating Inundation or Saturation for Extended Period During the Growing Season
Source: Dated:

PRIMARY INDICATORS:
____Inundation (Depth _____)
____Saturation in Upper 12" (Depth ____)
____Watermarks
____ Driftlines
____Sediment Deposits
____Drainage Patterns

SECONDARY INDICATORS (2 or more required)
____Oxidized Root Channels in Upper 12"
____ Water-stained Leaves
____Local Soil Survey
____FAC Neutral Test
____Other (Buttressed trees, Stooling)

Remarks: No indicators observed

CONCLUSIONS

No Hydrophytes Prevalent
No Wetland Hydrology

No Hydric Soils
No Wetland?

Remarks:

Field Personnel: D. Roberts & K. Shutty

Review: D A Roberts **Date:** 12/2/98

Appendix C

Photographs

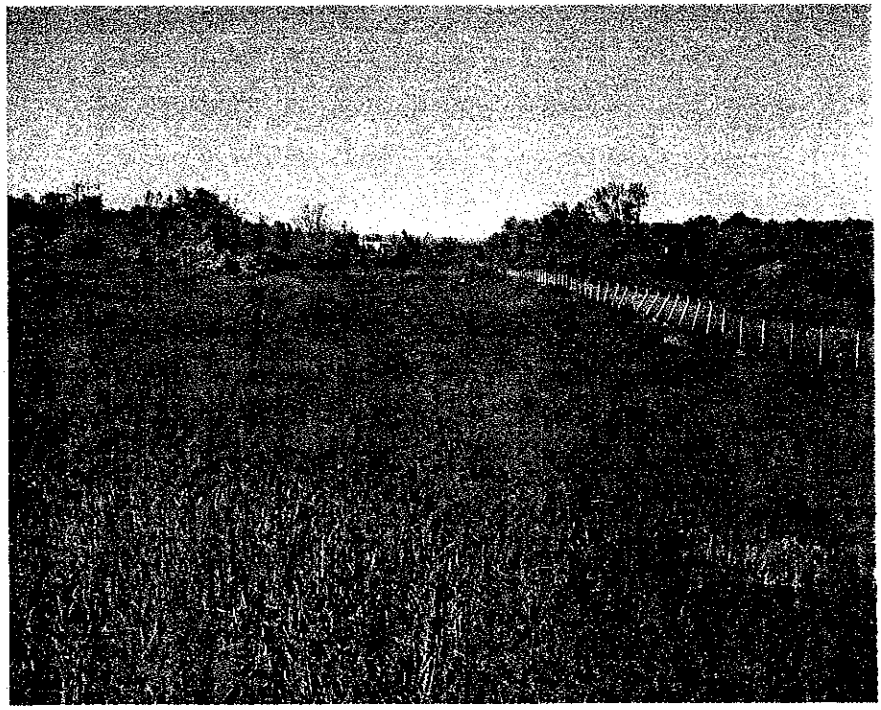

Figure C-1. SADVA AOC1, Wetland A from southeast corner of site, looking north, September 24, 1998.

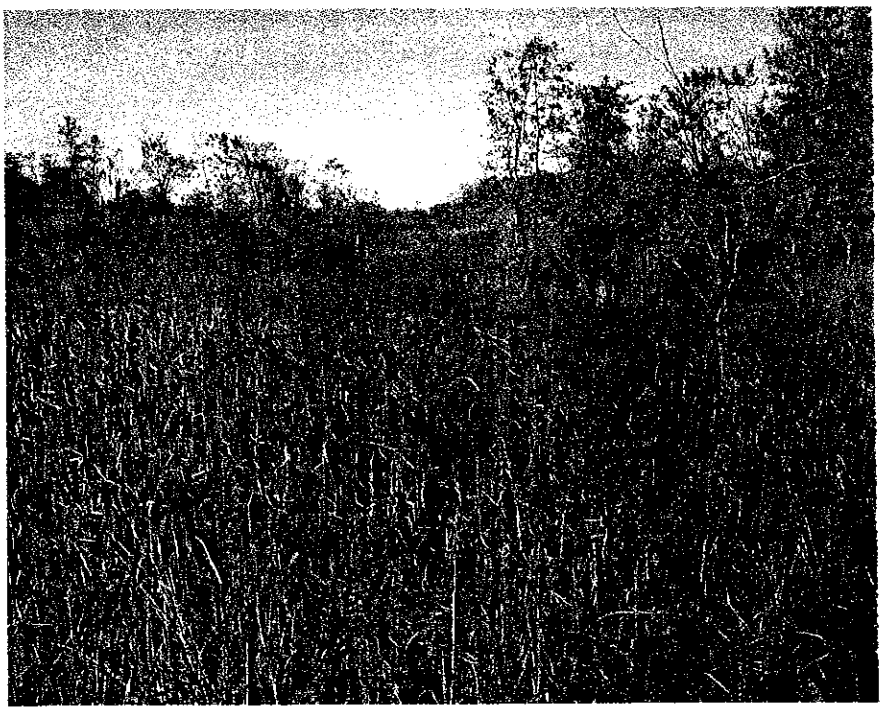

Figure C-2. SADVA AOC1, View north of Wetland A, from Wetland Flag A42, September 24, 1998.

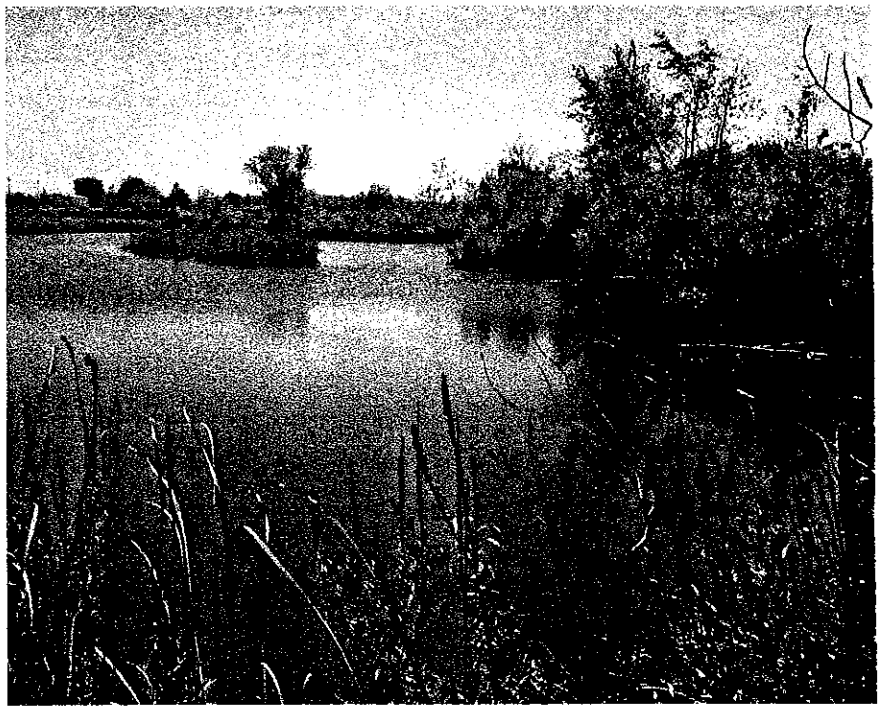

Figure C-3. SADVA, AOC1, South pond from Wetland Flag A42, September 24, 1998.

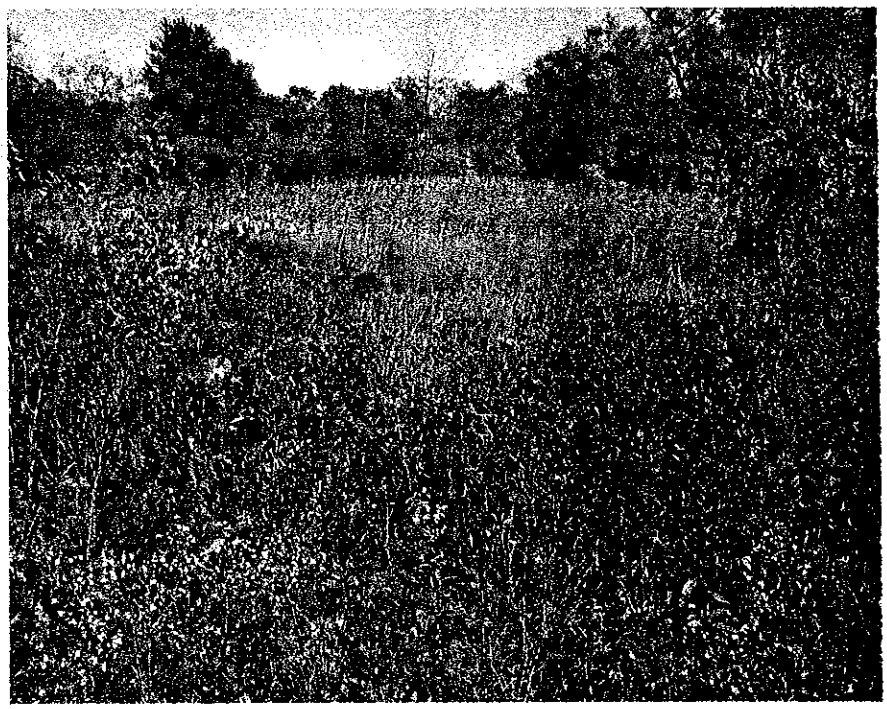

Figure C-4. SADVA AOC1, From upland at A34, across cattail marsh of Wetland A, September 24, 1998.

Figure C-5. SADVA AOC1, Northern end of Wetland A in the background near Wetland Flag A9.

Figure C-6. SADVA AOC1, Wetland D foreground, and upland background, September 24, 1998.

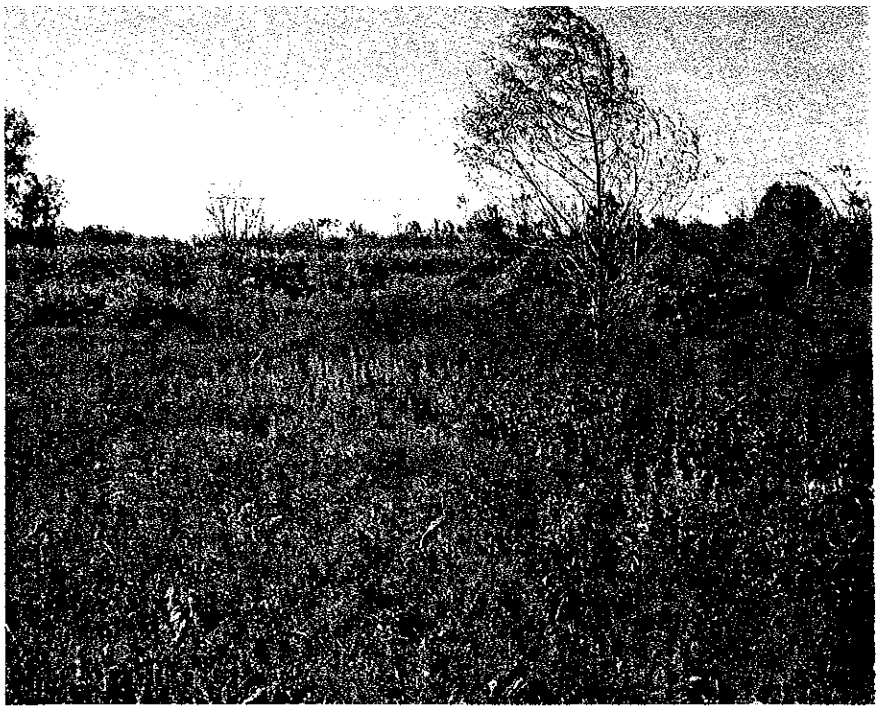

Figure C-7. SADVA AOC1, Wetland C (to right) and adjacent upland (left), September 24, 1998.

Figure C-8. SADVA AOC1, Wetland B (center of photo) from flag B1 looking north, September 24, 1998.

Figure C-9. SADVA AOC1, Near Wetland flag A64, looking northeast, September 24, 1998.

Figure C-10. SADVA, AOC1W, at Flag J1 (foreground) with Flag J21 in the background, October 14, 1998.

Figure C-11. SADVA, AOC1, Wetland at flag K43, and upland (piles of fill) in background, October 16, 1998.

Figure C-12. SADVA, AOC2, Upland at flag O37, adjacent to pasture, October 21, 1998.

Figure C-13. SADVA, AOC2, Wetland at flag O37, swale around pond in pasture, October 21, 1998.

Figure C-14. SADVA, AOC2,Wetland at flag O64, October 21, 1998.

Figure C-15. SADVA, AOC2, Upland at flag O64, October 21, 1998.

Figure C-16. SADVA, AOC2,Wetland at flag Q1, October 27, 1998.

Figure C-17. SADVA, AOC2, Upland at flag Q1, October 27, 1998.

Figure C-18. SADVA AOC4, Wetland at Flag H64, September 25, 1998.

Figure C-19. SADVA AOC4, Upland at Flag H64, September 25, 1998.

Figure C-20. SADVA AOC4, Black Creek near Route 201, September 25, 1998.

Figure C-21. SADVA, AOC4, Wetland Flag H69, September 24, 1998.

Appendix D

Agency Correspondence

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Wildlife Resources Center – New York Natural Heritage Program
700 Troy-Schenectady Road, Latham, New York 12110-2400
Phone: (518) 783-3932 FAX: (518) 783-3916

John P. Cahill
Commissioner

October 30, 1998

Deborah A. Roberts
Roberts Environmental Consulting, Inc.
273 Haviland Road
Queensbury, NY 12804

Dear Ms. Roberts:

We have reviewed the New York Natural Heritage Program files with respect to your recent request for biological information concerning the Defenses Environmental Restoration Program, Northeastern Industrial Park, site as indicated on your enclosed map, located in the Town of Guilderland, Albany County, New York State.

Enclosed is a computer printout covering the area you requested to be reviewed by our staff. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals and/or significant wildlife habitats. Please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State Law.

If this proposed project is still active one year from now we recommend that you contact us again so that we may update this response. Kindly address your requests to the above address,

Sincerely,

Teresa Mackey

Teresa Mackey, Information Services
NY Natural Heritage Program

Encs
cc: Reg. 4, Wildlife Mgr.
Reg. 4, Fisheries Mgr.

NATURAL HERITAGE REPORT on RARE SPECIES and ECOLOGICAL COMMUNITIES

Prepared 28 OCT 1998 by NY Natural Heritage Program, NYS DEC, Latham, New York.

Records with a PRECISION value of "S" are known to be in a location which may be impacted by the proposed action.
Records with a PRECISION value of "M" may possibly occur within the project area in appropriate habitat.
This report contains SENSITIVE information which should be treated in a sensitive manner -- Please see cover letter.

REFER TO THE USERS GUIDE FOR EXPLANTIONS OF CODES, RANKS, AND FIELDS.

LOCATION SCIENTIFIC NAME & Common Name	NY LEGAL STATUS & HERITAGE RANK	FEDERAL STATUS	PRECISION & ACRES	EORANK & LAST SEEN	GENERAL HABITAT AND QUALITY	TOWN(S) & DETAILED LOCATION	USGS TOPO QUAD LAT & LONG	OFFICE USE
MEADOWDALE								
VALERIANA ULIGINOSA Marsh valerian VASCULAR PLANT	THREATENED G4Q S1S2		M	F 1974	FAILED TO FIND.	GUILDERLAND. MEADOWDALE.	VOORHEESVILLE [redacted]	4207368 12

Records Processed

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL PERMITS REGIONAL OFFICES

REGION	COUNTIES	NAME	ADDRESS AND PHONE NO.
Region 1	Nassau Suffolk	Robert Greene Permit Administrator	Loop Road, Bldg. 40 SUNY Stony Brook, NY 11790-2356 (516) 444-0365
Region 2	New York City	George Danskin Permit Administrator	Hunters Point Plaza 4740 21st Street Long Island City, NY 11101-5407 (718) 482-4997
Region 3	Dutchess Orange Putnam Rockland, Sullivan Ulster, Westchester	Margaret Duke Permit Administrator	21 South Putt Corners Road New Paltz, NY 12561-1696 (914) 256-3059
Region 4	Albany Columbia Delaware Greene, Montgomery, Otsego Rensselaer, Schenectady, Schoharie	William J. Clarke Permit Administrator	1150 N. Westcott Road Schenectady, NY 12306-2014 (518) 357-2234
Region 5	Clinton Essex Franklin Fulton, Hamilton Saratoga, Warren, Washington	Richard Wild Permit Administrator	Route 86 Ray Brook, NY 12977 (518) 897-1234
Region 6	Herkimer Jefferson Lewis Oneida, St. Lawrence	Randy Vaas Permit Administrator	State Office Building 317 Washington Street Watertown, NY 13601 (315) 785-2246
Region 7	Broome Cayuga Chenango Cortland, Madison, Onondaga Oswego, Tioga, Tompkins	Ralph Manna, Jr. Permit Administrator	615 Erie Blvd. West Syracuse, NY 13204-2400 (315) 426-7439
Region 8	Chemung Genesee Livingston Monroe, Ontario, Orleans Schuyler, Seneca, Steuben Wayne, Yates	Albert Butkas Permit Administrator	6274 East Avon-Lima Road Avon, NY 14414 (716) 226-2466
Region 9	Allegany Cattaraugus Chautauqua Erie, Niagara, Wyoming	Steven Doleski Permit Administrator	270 Michigan Avenue Buffalo, NY 14203-2999 (716) 851-7165

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 700 Troy-Schenectady Road, Latham NY 12110-2400 phone: (518) 783-3932

NATURAL HERITAGE PROGRAM: The Natural Heritage Program is an ongoing, systematic, scientific inventory whose goal is to compile and maintain on the rare plants and animals native to New York State, and significant ecological communities. The data provided in the report facilitate sound plann conservation, and natural resource management and help to conserve the plants, animals and ecological communities that represent New York's natural herita

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-hc use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

NATURAL HERITAGE REPORTS (may contain any of the following types of data):

COUNTY NAME: County where the occurrence of a rare species or significant ecological community is located.
TOWN NAME: Town where the occurrence of a rare species or significant ecological community is located.
USGS 7 ½' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).
LAT: Centrum latitude coordinate of the location of the occurrence. Caution: latitude & longitude must be used with PRECISION (e.g. the location of occurrence with M (minute) precision is not precisely known & is thought to occur within a 1.5 mile radius of the latitude/longitude coordinates).
LONG: Centrum longitude coordinate of the location of the occurrence. See also LAT above.
PRECISION: S - seconds: location known precisely. (within a 300' or 1-second radius of the latitude and longitude given.
M - minutes: location known only to within a 1.5 mile (1 minute) radius of the latitude and longitude given.
G - general: location known to within a 5 mile radius of the latitude and longitude given.
SIZE (acres): Approximate acres occupied by the rare species or significant ecological community at this location.
SCIENTIFIC NAME: Scientific name of the occurrence of a rare species or significant ecological community.
COMMON NAME: Common name of the occurrence of a rare species or significant ecological community.
ELEMENT TYPE: Type of element (i.e. plant, animal, significant ecological community, other, etc.)
LAST SEEN: Year rare species or significant ecological community last observed extant at this location.
EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use with LAST SEEN and PRECISIC
A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficient data to assign a rank of A - D.
F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.
H = Historical. Historical occurrence without any recent field information.
X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
? = Unknown.
Blank = Not assigned.

NEW YORK STATE STATUS (animals): Categories of Endangered and Threatened species are defined in New York State Environmental Conservat Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E = Endangered Species: any species which meet one of the following criteria:
1) Any native species in imminent danger of extirpation or extinction in New York.
2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.1
T = Threatened Species: any species which meet one of the following criteria:
1) Any native species likely to become an endangered species within the foreseeable future in NY.
2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.
SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for th continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmen Conservation Law section 11-0535 (Endangered and Threatened Species).
P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildli
U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license take may be required.
G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmenta Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NEW YORK STATE STATUS (plants): The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservati Law section 9-1503.

(blank) = no state status
E = Endangered Species: listed species are those with:
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
T = Threatened: listed species are those with:
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
R = Rare: listed species have:
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.
U = Unprotected
V = Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the stat if causal factors continue unchecked.

NEW YORK STATE STATUS (communities): At this time there are no categories defined for communities.

continued on next page

FEDERAL STATUS (plants and animals): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527.

(blank) = No Federal Endangered Species Act status.
LE = The taxon is formally listed as endangered.
LT = The taxon is formally listed as threatened.
LELT = The taxon is formally listed as endangered in part of its range and threatened in other parts.
PE = The taxon is proposed as endangered.
PT = The taxon is proposed as threatened.
C1 = Candidate, category 1 - There is sufficient information to list the taxon as endangered or threatened.
C2 = Candidate, category 2 - The taxon may be appropriate for listing but more data are needed.
3A = The taxon considered extinct by the U. S. Fish and Wildlife Service (USFWS).
3B = The taxon is no longer considered taxonomically distinct by the USFWS and thus is not appropriate for listing.
3C = The taxon has been shown to be more abundant, widespread, or better protected than previously thought and therefore not in need of official listing.
* = The taxon is possibly extinct.
** = The taxon is thought to be extinct in the wild but extant in cultivation.

Additional codes:
(C2NL) = Heritage code indicating that the taxon is a candidate in some areas, not listed in other areas.
(E/SA) = Heritage code indicating that the taxon is endangered because of similarity of appearance to other endangered species or subspecies.

FEDERAL STATUS (ecological communities): At this time there are no federal status categories defined for ecological communities.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Infraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world.

GLOBAL RANK:
G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.
G2 = Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.
G3 = Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.
G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH = Historically known, with the expectation that it might be rediscovered.
GX = Species believed to be extinct.
GU = Status unknown.

STATE RANK:
S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4 = Apparently secure in New York State.
S5 = Demonstrably secure in New York State.
SH = Historically known from New York State, but not seen in the past 15 years.
SX = Apparently extirpated from New York State.
SA = Accidental or casual in the state.
SE = Exotic, not native to New York State.
SP = Element potentially occurs in the state but there are no occurrences reported.
SR = Reported in the state but without persuasive documentation.
SU = Status unknown.
TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way the Global ranks (G1 - G5) are but the T-rank only refers to the rarity of the subspecific taxon of the species as a whole.
T1 through T5 = See Global Rank definitions above.
Q = Indicates a question exists whether or not the taxon is a good taxonomic entity.
? = Indicates a question exists about the rank.

OFFICE USE: Information for use by the Natural Heritage Program.

SIGNIFICANT HABITAT DATABASE REPORTS (Use of this database is slowly being discontinued as the data is integrated into Heritage databases)
REPORT ID: Significant habitat file code.
NAME OF AREA: Site name where the significant habitat is located.
TYPE OF AREA: Type of significant habitat.
COUNTY/TOWN OR CITY: County and town where the significant habitat is located.
QUADRANGLE: Name of the USGS 7.5 minute topographic map where the significant habitat is located.
LATITUDE: Latitude coordinate (degrees, minutes, seconds) for the location of the significant habitat.
LONGITUDE: Longitude coordinate for the location of the significant habitat.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 LUKER ROAD
CORTLAND, NY 13045

November 4, 1998

Deborah A. Roberts, Ph.D.
President
Roberts Environmental Consulting, Inc.
273 Haviland Road
Queensbury, NY 12804

Dear Dr. Roberts:

This responds to your letter of October 13, 1998, requesting information on the presence of endangered or threatened species in the vicinity of the Northeastern Industrial Park, especially at three Areas of Concern that were Formerly Used Defense Sites, in the Town of Guilderland, Albany County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. A compilation of Federally listed and proposed endangered and threatened species in New York is enclosed for your information.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under the Fish and Wildlife Coordination Act or other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact:

New York State Department of
Environmental Conservation
Region 4
1150 N. Westcott Road
Schenectady, NY 12306
(518) 357-2066

New York State Department of
Environmental Conservation
Wildlife Resources Center - Information Services
New York Natural Heritage Program
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
Telephone: (607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting Mr. Joseph Seebode, Chief, Regulatory Branch, U.S. Army Corps of Engineers, 26 Federal Plaza, New York, NY 10278 (telephone: [212] 264-3996).

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,
Mark W. Clough
ACTING FOR

Sherry W. Morgan
Field Supervisor

Enclosure

cc: NYSDEC, Schenectady, NY (Environmental Permits)
NYSDEC, Latham, NY
COE, New York, NY

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES IN NEW YORK

Common Name	Scientific Name	Status	Distribution
FISHES			
Sturgeon, shortnose*	*Acipenser brevirostrum*	E	Hudson River & other Atlantic coastal rivers
REPTILES			
Turtle, bog	*Clemmys muhlenbergii*	T	Albany, Columbia, Dutchess, Genesee, Orange, Oswego, Putnam, Seneca, Ulster, Wayne, and Westchester Counties
Turtle, green*	*Chelonia mydas*	T	Oceanic summer visitor coastal waters
Turtle, hawksbill*	*Eretmochelys imbricata*	E	Oceanic summer visitor coastal waters
Turtle, leatherback*	*Dermochelys coriacea*	E	Oceanic summer resident coastal waters
Turtle, loggerhead*	*Caretta caretta*	T	Oceanic summer resident coastal waters
Turtle, Atlantic ridley*	*Lepidochelys kempii*	E	Oceanic summer resident coastal waters
BIRDS			
Eagle, bald	*Haliaeetus leucocephalus*	T	Entire state
Falcon, peregrine	*Falco peregrinus*	E	Entire state - re-establishment to former breeding range in progress
Plover, piping	*Charadrius melodus*	E	Great Lakes Watershed
		T	Remainder of coastal New York
Tern, roseate	*Sterna dougallii dougallii*	E	Southeastern coastal portions of state
MAMMALS			
Bat, Indiana	*Myotis sodalis*	E	Entire state
Cougar, eastern	*Felis concolor couguar*	E	Entire state - probably extinct
Whale, blue*	*Balaenoptera musculus*	E	Oceanic
Whale, finback*	*Balaenoptera physalus*	E	Oceanic
Whale, humpback*	*Megaptera novaeangliae*	E	Oceanic
Whale, right*	*Eubalaena glacialis*	E	Oceanic
Whale, sei*	*Balaenoptera borealis*	E	Oceanic
Whale, sperm*	*Physeter catodon*	E	Oceanic
MOLLUSKS			
Snail, Chittenango ovate amber	*Succinea chittenangoensis*	T	Madison County
Mussel, dwarf wedge	*Alasmidonta heterodon*	E	Orange County - lower Neversink River

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

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FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES IN NEW YORK (Cont'd)

Common Name	Scientific Name	Status	Distribution
BUTTERFLIES			
Butterfly, Karner blue	*Lycaeides melissa samuelis*	E	Albany, Saratoga, Warren, and Schenectady Counties
PLANTS			
Monkshood, northern wild	*Aconitum noveboracense*	T	Ulster, Sullivan, and Delaware Counties
Pogonia, small whorled	*Isotria medeoloides*	T	Entire state
Swamp pink	*Helonias bullata*	T	Staten Island - presumed extirpated
Gerardia, sandplain	*Agalinis acuta*	E	Nassau and Suffolk Counties
Fern, American hart's-tongue	*Asplenium scolopendrium* var. *americana*	T	Onondaga and Madison Counties
Orchid, eastern prairie fringed	*Platanthera leucophea*	T	Not relocated in New York
Bulrush, northeastern	*Scirpus ancistrochaetus*	E	Not relocated in New York
Roseroot, Leedy's	*Sedum integrifolium* ssp. *Leedyi*	T	West shore of Seneca Lake
Amaranth, seabeach	*Amaranthus pumilus*	T	Atlantic coastal plain beaches
Goldenrod, Houghton's	*Solidago houghtonii*	T	Genesee County

E=endangered T=threatened P=proposed

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