NH International Speedway

File No.: 199901240

City and State: Canterbury and Loudon, NH

General Impacts: 9.88 acres PFO

Functions and Values Lost: (From EA/SOF)
Flood Storage
Water Quality
Wildlife Habitat

Year(s) Mitigation Constructed: Fall 2000 with some seeding in spring 2001.

Size and Type of Mitigation as Proposed:
12.4 acres creation
0.71 acre enhancement

Proposed Functions and Values of Mitigation: (From EA/SOF)
Wildlife Habitat
Sediment/Toxicant Retention

Mitigation Special Condition(s):

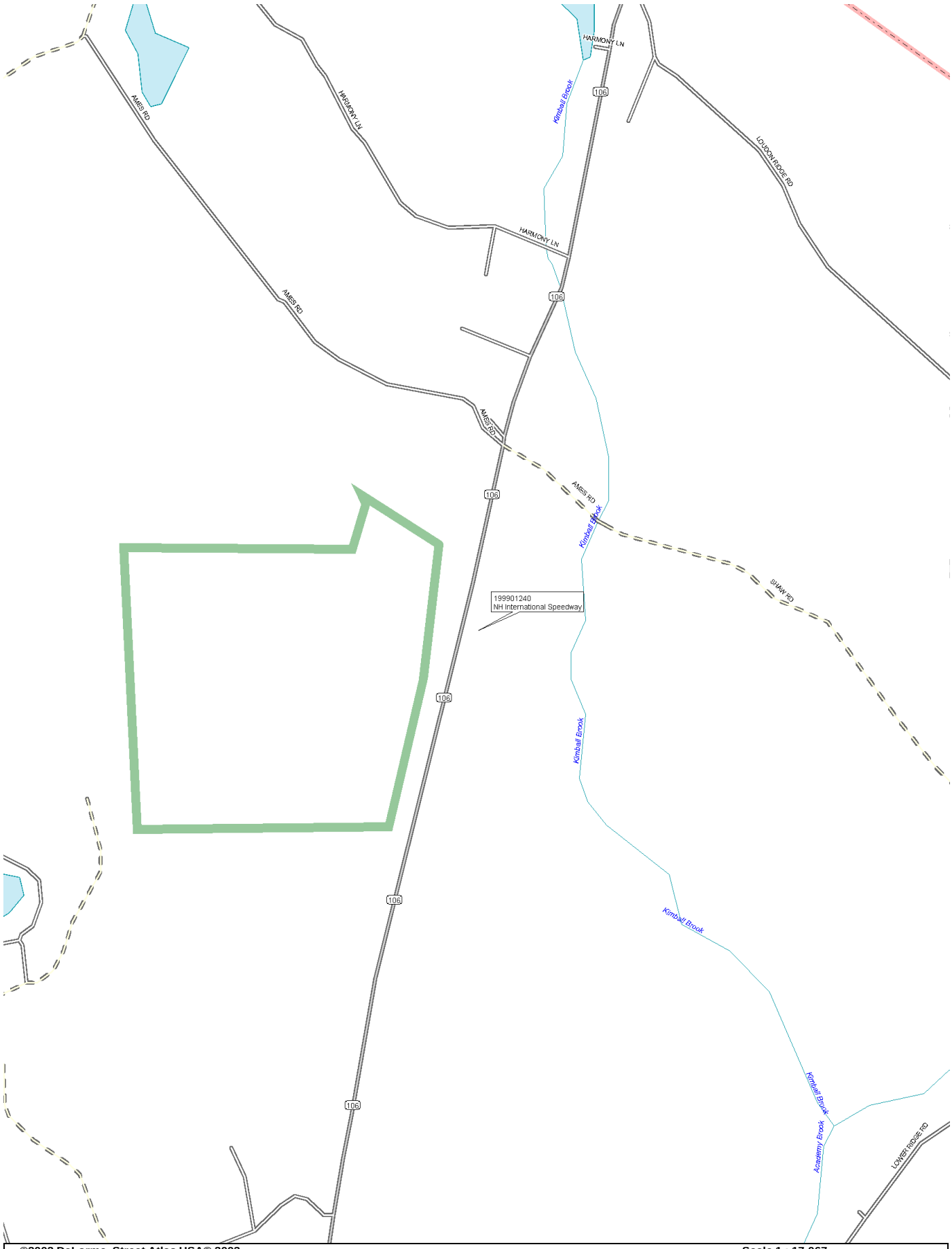
4. Mitigation shall be performed in accordance with a final mitigation plan which shall be submitted within 90 days of permit issuance and which shall not be implemented until the Corps of Engineers approves it in writing. The final mitigation plan shall be based on the draft mitigation plan entitled, "New Hampshire International Speedway Facility Expansion Revised Mitigation Specifications, in pages 1 through 18, and Appendix A, B, and C" and dated "April 1999" and shall include the monitoring, assessment, reporting, and other requirements which the Corps of Engineers shall provide as additional guidance under separate cover.

Remarks:

None

Directions:

Take 128/95 north to Route 3 north to the Everett Turnpike. Then take I-293 north to I-93 north. Take exit 15 east, I-393 east. Take exit 3, NH-106 north. Follow to the Loudon Speedway. Continue past the track to a paved entrance/exit road on the right. Immediately past this road is a dirt road with a pipe gate. The site is a short distance down this road.

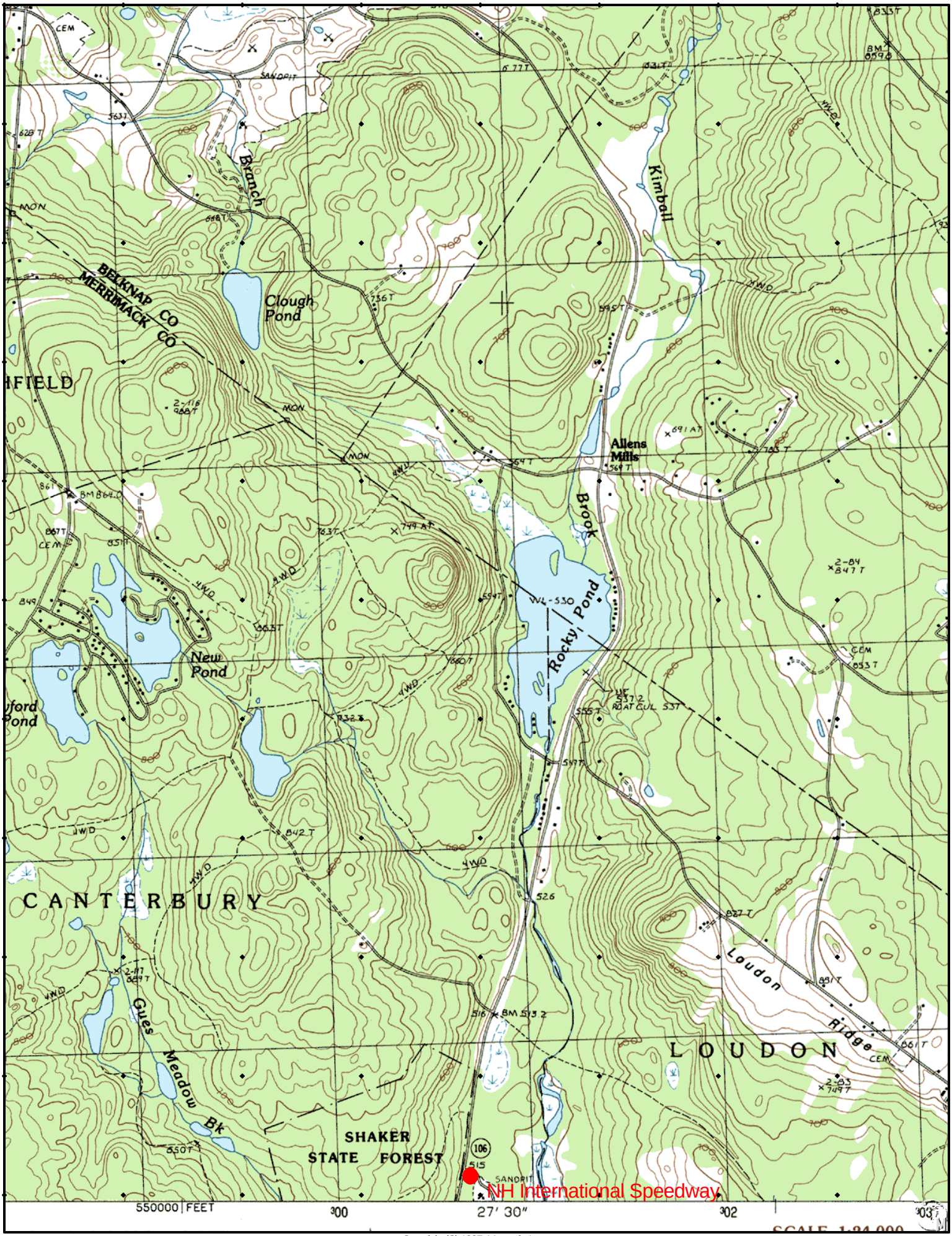


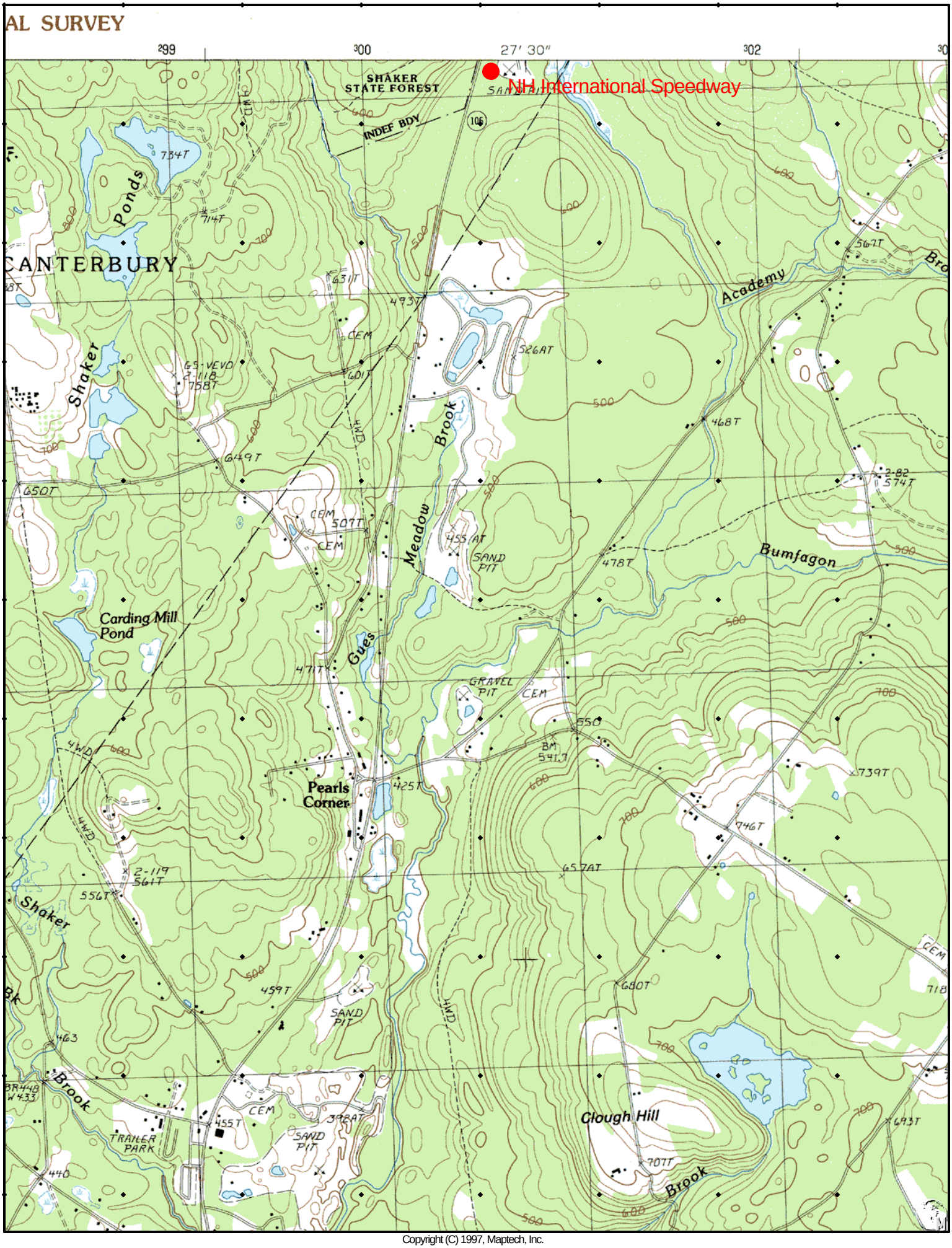
TN
MN (16.0°W)

Scale 1 : 17,067

0 400 800 1200 1600 2000 ft
0 140 280 420 560 700 m

1" = 1420 ft





MITIGATION SITE FIELD DATA FORM

Site Name: Loudon International Speedway **File No.** 199901240

City/Town: Canterbury **State:** NH **Waterbody:** none

Monitor(s): Ruth Ladd, Keith Wright, Kathleen McKee **Date:** 7-18-02

Was site constructed? yes

Is site wetland? yes

Size of proposed wetland: 12.4 acres

Actual size of wetland: many waypoints were recorded – see GIS

Landscape position: lowland surrounded by gently sloping upland or wetland

Lat/Long Points: 43.3467N 71.4622W

Saved GPS Waypoint name: LISxx

GPS Tracking Log Name: N/A

Perimeter: TBD

Surrounding land use:
Wetland, upland forest, piles of fill from raceway construction

Is wetland function compromised by surrounding land use?
Human land use could interfere with wildlife as evidenced by charcoal lighter fluid and ATV tracks that have formed a path around the gate to the site. Also, fill is unstable and eroding into waterbodies.

Plant health:
Approximately 35% of planted trees are dead or dying. Volunteer oak, maple, and birch were observed. Most other plants were healthy, except for boneset, which was being eaten.

Invasive species:
Upland areas are dominated by bird's foot trefoil.

Wildlife use:
Frog spp., American toad, killdeer, dragonflies, otter (?) trail, small heron (green?) in adjacent wetland to west, many birds (finches, sparrows, doves, kingbird, wren and others), we heard a moose snorting several times in the adjacent wetland to the East, saw moose tracks around mitigation area E. See photos of animal tracks.

Plants:
Acer rubrum
Agrostis gigantea
Alnus rugosa
Asteraceae sp.
Betula populifolia
Carex lurida
Cephalanthus occidentalis
Chamaedaphne calyculata
Comptonia peregrina
Cornus amomum
Drosera rotundifolia
Eleocharis sp.
Elymus sp.
Equisetum sp.
Eriophorum sp.
Eupatorium perfoliatum
Galium sp.
Glyceria sp.
Hypericum sp.
Juncus effusus
Lotus corniculatus
Lysimachia terrestris
Mimulus ringens
Nymphaea odorata
Onoclea sensibilis
Osmunda regalis
Panicum sp.
Phalaris arundinacea

Picea sp.
Poaceae spp.
Populus tremuloides
Potamogeton spp.
Rubus occidentalis
Salix sp.
Scirpus acutus
Scirpus cyperinus
Scirpus validus
Solidago spp.
Sparganium sp.
Sphagnum sp.
Spiraea alba
Spiraea latifolia
Spiraea tomentosa
Thistle sp.
Tsuga canadensis
Typha angustifolia
Vaccinium angustifolium
Vaccinium corymbosum
Viburnum dentatum

Soils Data:
In marsh areas, there were deep (S>12") organic soils over most of the site. More detailed soils data was not collected due to the abrupt wetland/upland boundaries.

Sketch approximate mitigation site, noting areas and types of wetlands, waters, other features, landscape position, landmarks, etc., and data and photo point(s)
See file.

Overall Description of site:
The top foot of material from speedway wetland impact sites was scraped off and placed at this site to carry over soils, roots, aboveground woody materials, and seeds. That approach seems to have resulted in good diversity of woody and herbaceous species.

There is a good source for wildlife and other wetland seeds from neighboring wetlands on the East and West sides of the site.

Hydrology is influenced by groundwater discharge as indicated by a strong flow during drought conditions and cool water temperature.

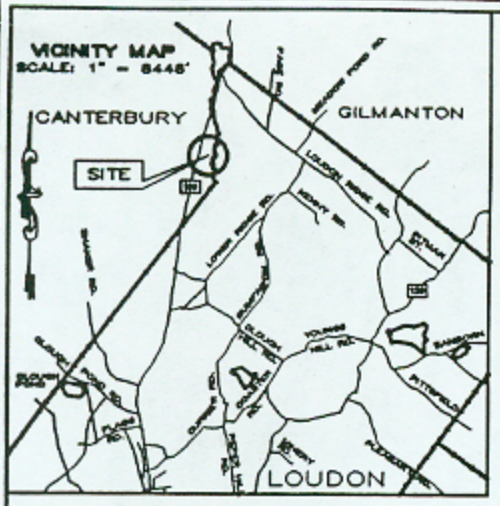
Pond on north end is very murky due to erosion from steep, coarse-grained bank (see photos 5 & 6) but had many large tadpoles and small fish. That pond and the middle pond had large-cobble bottoms with steep, unstable gravel/sand banks. The middle pond was quite clear.

A couple patches of the marsh areas were lacking much vegetation, probably due to low pH. A lot of woody transplants died but many volunteers have sprouted and dying plants have resprouted from their roots. Standing dead wood gives good structure to the wetland for use by wildlife and addition, eventually, to the organics of the site. Birch, alder, maple and cottonwood are volunteering. There are constructed turtle nests on East side of middle pond (no photos – see sketch in file). These are about 5'x5' wooden containers built into the gentle sloping banks – only accessible to turtles from back side. In the front, the constructed containers are 1 ½' or so vertical walls.

On other side of Shaw road on the north, is a very large deforested area currently being cleared, graded (photo b15, b16). There is a small old swamp wetland to the immediate west of that (photo b17).

Comments, problems, recommendations:

- Upland areas are dominated by bird's foot trefoil.
- More should be done to block ATV's which use the access road on the site – they drive around the gate that is blocking the road (see sketch in file).
- Unstable banks on the ponds
- Low pH likely in one area—adding pelletized lime would probably resolve this problem.
- Racing car noise is quite audible here.
- Site is well-developed for a young site (completed August 2000) as a result of the transplanting.



N.H. ROUTE 106

MITIGATION AREA F
TOTAL AREA
67,460± SQ. FT.
OR
1.55± ACRES

MITIGATION AREA E
TOTAL AREA
94,510± SQ. FT.
OR
2.10± ACRES

MITIGATION AREA D
TOTAL AREA
35,078± SQ. FT.
OR
.81± ACRES

MAGNETIC

NEW HAMPSHIRE INTERNATIONAL SPEEDWAY PROPOSED PARKING EXPANSION

WETLAND NOTES

1. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING NOVEMBER, 1997.
2. WETLAND DELINEATION WAS PERFORMED TO THE STANDARDS OF THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, (JANUARY, 1987)
3. DOMINANT HYDRIC SOIL CONDITIONS WITHIN THE WETLANDS WERE IDENTIFIED BY GOVE ENVIRONMENTAL SERVICES, INC. UTILIZING THE CRITERIA OF FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 1, MAY 1, 1995.
4. DOMINANCE OF WETLAND VEGETATION WA ASSESSED BY GOVE ENVIRONMENTAL SERVICES, INC. UTILIZING THE NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: 1988 NORTHEAST (REGION)(PORTER B. REED, JR.)
5. WETLANDS WERE CLASSIFIED BY GOVE ENVIRONMENTAL SERVICES, INC. UTILIZING THE CRITERIA OF THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-79/31 CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES (COWARDIN ET AL, 1979).
6. WETLAND MITIGATION DESIGN BY GOVE ENVIRONMENTAL SERVICES, INC. DECEMBER, 1998.

NO.	DATE	REVISION
1	4/15/99	MISC.

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LICENSED LAND SURVEYORS

MITIGATION SITE PLAT prepared for the: N.H. INTERNATIONAL SPEEDWAY

PROJECT LOCATION: N.H. ROUTE 106 CANTERBURY, N.H.

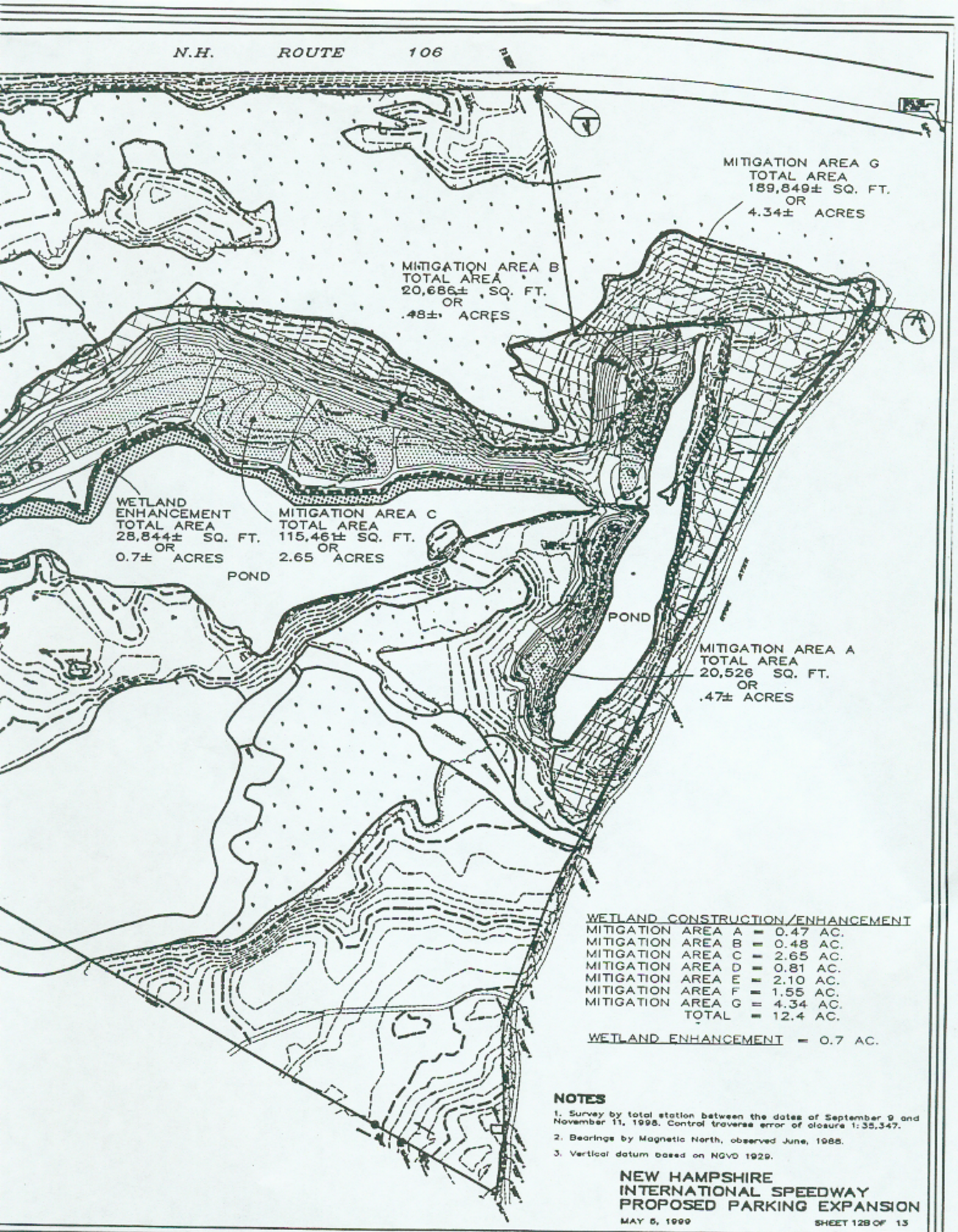
GRAPHIC SCALE 0' 100' 200' 50'

DATE: MAY 7, 1999

JOB NO.: 997.213

SHEET 12A OF 13

MATCH TO SHEET 12B


N.H. ROUTE 106
MITIGATION AREA G
TOTAL AREA
189,849± SQ. FT.
OR
4.34± ACRES
MITIGATION AREA B
TOTAL AREA
20,686± SQ. FT.
OR
.48± ACRES
WETLAND
ENHANCEMENT
TOTAL AREA
28,844± SQ. FT.
OR
0.7± ACRES
MITIGATION AREA C
TOTAL AREA
115,461± SQ. FT.
OR
2.65 ACRES
POND
POND
MITIGATION AREA A
TOTAL AREA
20,526 SQ. FT.
OR
.47± ACRES
WETLAND CONSTRUCTION/ENHANCEMENT
MITIGATION AREA A = 0.47 AC.
MITIGATION AREA B = 0.48 AC.
MITIGATION AREA C = 2.65 AC.
MITIGATION AREA D = 0.81 AC.
MITIGATION AREA E = 2.10 AC.
MITIGATION AREA F = 1.55 AC.
MITIGATION AREA G = 4.34 AC.
TOTAL = 12.4 AC.
WETLAND ENHANCEMENT = 0.7 AC.
NOTES
1. Survey by total station between the dates of September 9 and November 11, 1998. Control traverse error of closure 1:35,347.
2. Bearings by Magnetic North, observed June, 1988.
3. Vertical datum based on NGVD 1929.
NEW HAMPSHIRE
INTERNATIONAL SPEEDWAY
PROPOSED PARKING EXPANSION
MAY 6, 1999
SHEET 12B OF 13

Wetland Function-Value Evaluation Form

Total area of wetland 12.4 ac Human made? yes Is wetland part of a wildlife corridor? yes or a "habitat island"?

Adjacent land use wetland, upland Distance to nearest roadway or other development 100 yards

Dominant wetland systems present POW/EM/SS Contiguous undeveloped buffer zone present yes

Is the wetland a separate hydraulic system? no If not, where does the wetland lie in the drainage basin? middle

How many tributaries contribute to the wetland? Wildlife & vegetation diversity/abundance (see attached list)

Loudon International Speedway 199901240

Wetland I.D.

Latitude N43.3467 Longitude W71.4622

Prepared by: RL KM KW Date 7/18/02

Wetland Impact:
Type Area

Evaluation based on:
Office Field X

Corps manual wetland delineation completed? Y N X

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	X		3,4,12,7,2	X	mostly discharge
Floodflow Alteration	X		1,5,6,7,11 race track, 13, 15	X	
Fish and Shellfish Habitat	X		1,3,5,9,10,12		
Sediment/Toxicant Retention	X		1,3,4	X	
Nutrient Removal	X		1,2,3,5,6,7,8		
Production Export	X				blueberries, sedges, rushes, grasses, fish
Sediment/Shoreline Stabilization	X		1,2,3,9		
Wildlife Habitat	X		3,5,13,11,10,9,8,7,6	X	some ATV use, surrounded by wetland, upland
Recreation	X		2,4,5,6,10,11,12		
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics	X				a little
ES Endangered Species Habitat		X			
Other					

Notes:

* Refer to backup list of numbered considerations.

199901240
Loudon International Speedway
Canterbury/Loudon, NH
7/18/02

Iron precipitate in small pool—there is an abundance of iron in the soils at this site.

Looking north, east, and south at central portion of site with wetland cells on the left, the access path in the center and the pond (essentially untouched) on the right.

Close-up of wetland creation cell showing diversity of herbaceous vegetation.

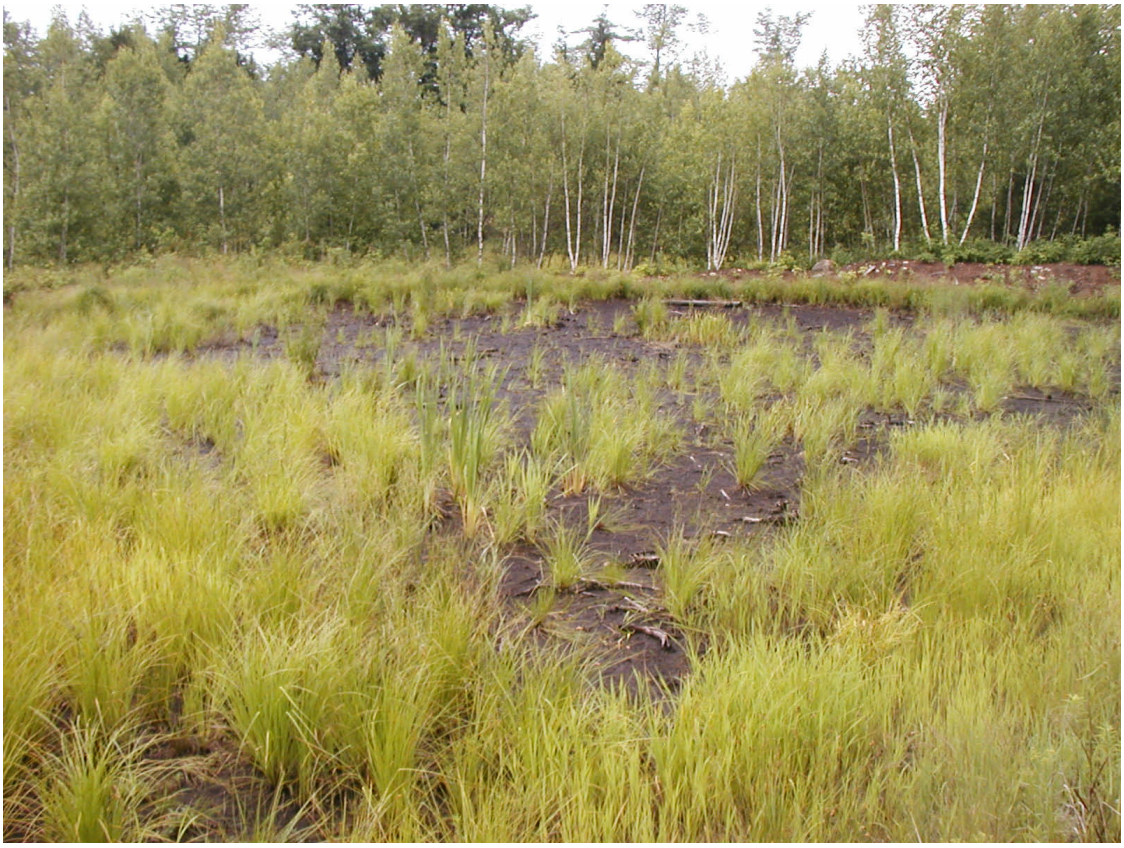
Area C1 showing cells (far left and center), berms (left of center) and pond (right)

Cell A2 showing trees which did not survive transplant.

Looking over stream, Cell B1, toward NW

Cell C5 north showing transplanted clump of *Acer rubrum* and other species.

Area D3 from near the access path



Area where vegetation is struggling, perhaps as a result of low pH.

USGS **11 km NE of Canterbury, New Hampshire, United States** 12 Apr 1998

Image courtesy of the U.S. Geological Survey