

NH DOT – Nelson Stoddard (Route 9)

File No.: 199100593

City and State: Nelson-Stoddard, NH

General Impacts:

0.06 acre non-tidal emergent

3.99 acres non-tidal forested

Functions and Values Lost:

Wildlife Habitat

Year(s) Mitigation Constructed: August 1994

Size and Type of Mitigation as Proposed:

1.3 acres non-tidal emergent

2 acres other

12.5 acres upland

Proposed Functions and Values of Mitigation:

Wildlife Habitat

Floodflow Alteration

Nutrient Removal

Sediment Retention

Mitigation Special Condition(s):

1. The NH Department of Transportation (hereafter the Department) shall create approximately 2 acres of wetlands with the clay pit mitigation site as called for in the June '92 Wetland Mitigation Plan, create approximately 1.3 acres of emergent wetlands/detention basins within the infields of the new interchange (referred to as sites 1 and 2), and preserve approximately 12.5 acres of shrub swamp and uplands adjacent to Otter Brook (referred to as site 3) as described in your June 18, 1992 letter. Final plans specifying final elevations for the compensatory mitigation areas shall be provided to and approved by the Corps at least 30 days before the contractor is given a notice to proceed. The purpose of the mitigation work is to compensate for the loss of functions and values provided by those wetlands which will be destroyed by the project. The permittee by agreeing to this special condition commits to undertake the construction, landscaping, monitoring, and remedial actions necessary to create (over a period of 5 years) several acres of functioning wetlands capable of providing flood storage, water quality renovation, and habitat values similar to those of the adjacent wetlands.

Remedial measures, if necessary, may include, but are not limited to, replanting with different wetland species, relocating plantings to a more suitable location within the mitigation area, removal of invasive, weedy species such as *Lythrum salicaria*, and

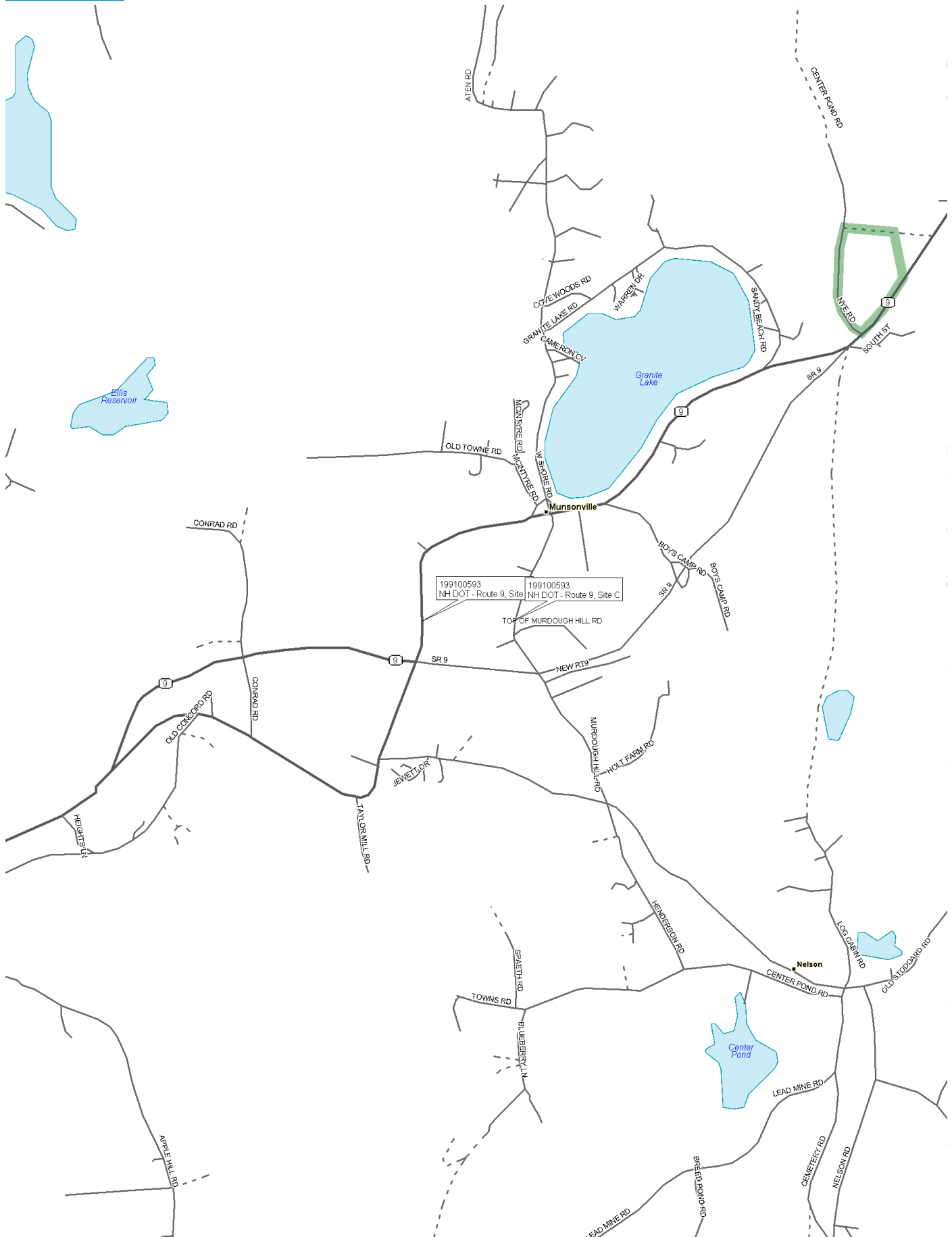
Phragmites australis, changing soil composition and depth, changing the elevation of the wetland surface, changing the hydraulic regime, and undertaking further hydrological and biological analysis as required and approved by the Corps.

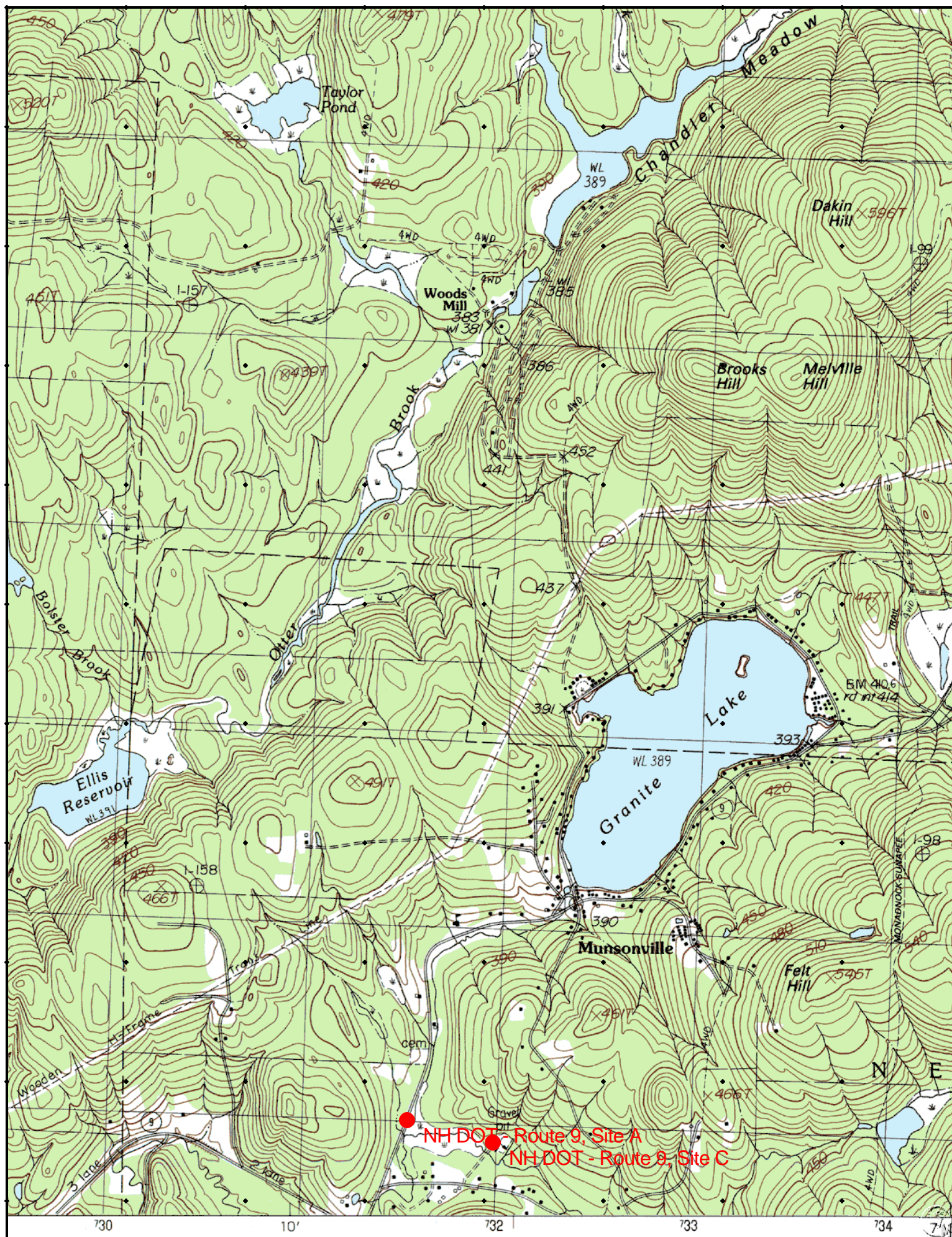
Remarks:

None

Directions:

Take Route 2 west to Route 140 north. At the end of 140, take a left onto route 12 north. Take Route 12 to Routes 9/10 towards Concord. Stay on Route 9 going toward Granite Lake (about 10 miles). It will be 1 mile past Sullivan town line sign for NH DOT maintenance shed. Drive up hill on left. Road is right next to Otter Brook. Munsonville Cemetery just past on left.





MITIGATION SITE FIELD DATA FORM

Site Name: NHDOT Nelson Stoddard File No. 199100593

City/Town: Nelson State: NH Waterbody: Otter Brook

Monitor(s): Kathleen McKee, Keith Wright Date: 7-12-02

Was site constructed? yes

Is site wetland? yes

Size of proposed wetland: 3.3 acres

Actual size of wetland: approximately the same

Landscape position: Site A is in the middle of highway exit ramp loops. Site C is adjacent to a forested wetland.

Lat/Long Points: Site C: 43.00335N
72.15358W

Saved GPS Waypoint name: NEL1 – Site C

GPS Tracking Log Name: N/A

Perimeter: TBD

Surrounding land use:

Site C: Forested wetland (S side), Forested upland (N side)

Site A: Highway

Is wetland function compromised by surrounding land use?

Site A is of limited use to wildlife due to their location. The path going from route 9 to Site C is used as a snowmobile path and as an ATV trail. A neighbor chops down all the cattails in winter to create a skating area. A used car battery was found on site. Wildlife function is compromised.

Plant health:

Healthy

Invasive species:

None at any of the sites. Pond dominated by *Typha angustifolia* and *T. latifolia*.

Wildlife use: Site C: 150' beaver dam, beaver channels (see photos), beaver feeding evidence, deer tracks, bullfrog, green frog, woodpecker. No wildlife observed in Site A.

Plants:

Site C:

Acer rubrum
Achillea millefolium
Carex crinita
Carex lurida
Carex sp. (ovales)
Carex stipata
Fragaria sp.
Juncus effusus
Lotus corniculatus
Lysimachia terrestris
Phalaris arundinacea
Phleum pratense
Poaceae spp.
Rosa sp.
Rubus sp.
Rudbeckia hirta
Sagittaria sp.
Scirpus atrovirens
Scirpus cyperinus
Solidago rugosa
Solidago sp.
Sparganium sp.
Spiraea latifolia
Spiraea tomentosa
Typha angustifolia
Typha latifolia
Vaccinium corymbosum
Vicia sp.

Site A1

Betula populifolia
Carex lurida
Carex sp. (ovales)
Carex stricta
Juncus effusus

Lysimachia terrestris
Prunus pensylvanica
Scirpus atrovirens
Scirpus cyperinus
Scirpus spp
Solidago rugosa
Sphagnum sp.
Spiraea latifolia
Spiraea tomentosa

Site A2

Alnus rugosa
Betula populifolia
Carex lurida
Carex lurida
Carex stricta
Eleocharis sp.
Fragaria sp.

Hypericum sp.
Juncus effusus
Larix laricina
Lysimachia terrestris
Onoclea sensibilis
Prunus pensylvanica
Rosa sp.
Rubus sp.
Sagittaria sp.
Sambucus canadensis
Scirpus atrovirens
Scirpus cyperinus
Sparganium sp.
Sphagnum sp.
Spiraea tomentosa
Vaccinium corymbosum
Viburnum dentatum

Soils Data:

Soils data not collected at this site.

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:

Site C is a large ponded area with depth of approximately 3 feet. Water fluctuates a few feet in depth due to a 50-ft. long beaver dam that periodically gives way. The site is surrounded on the northern side by a moderately to sharply sloping upland, and on the southwestern side by a extensive forested wetland that is full of beaver channels that are about 3 feet deep. A stream flows easterly in a bed parallel to the southern side of the ponded area. A smaller stream enters the pond on the southeast side and water drains out via the beaver dam on the southwest side. A fifty-foot-long beaver dam spans the southwestern corner of the ponded area. Ponded area is dominated by *Typha* spp. and *Juncus effusus*.

Site A1 is surrounded by an off-ramp north of route 9 and west of Stoddard Road. It is characterized by hummocks, pools with one to six inches of water, and saturated soils. It is connected to Site A2 by culverts.

Site A2 is surrounded by an off-ramp south of route 9 and west of Stoddard Road. It is characterized by high plant diversity, shallow (<1 ft.) and deep (>1 ft.) water, and is approximately ten feet lower in the landscape than Site A1. It drains out through a culvert into an adjacent wetland. Richard Roach tells that this site was created by putting a rubber sheet under it to keep it from draining.

Comments, problems, recommendations:

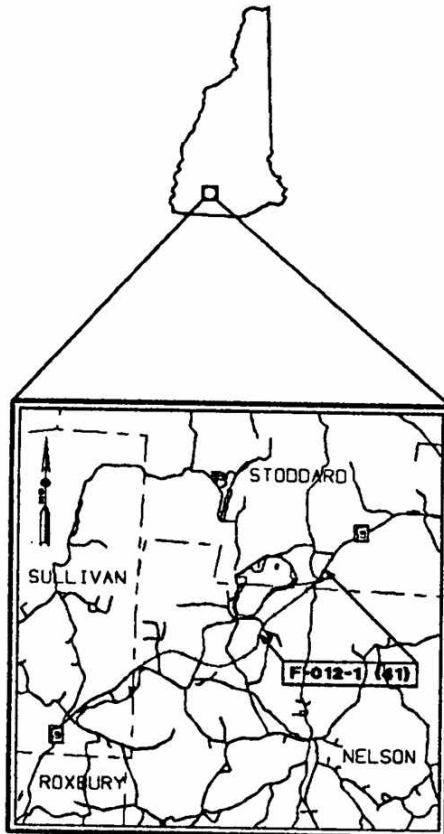
Pollution and compaction erosion from snowmobiles and ATV's diminishes the integrity of Site C. A beaver dam is currently limiting human land use, though regular dam breaches, as reported by a local resident, lower the water level and make the site more accessible.

Site A mitigates for the flood water function but provides limited wildlife habitat due to the fact they are completely surrounded by highway; birds and aquatic insects can access the site most easily. These sites function as floodwater retention sites and also remove sediments and toxins from highway runoff.

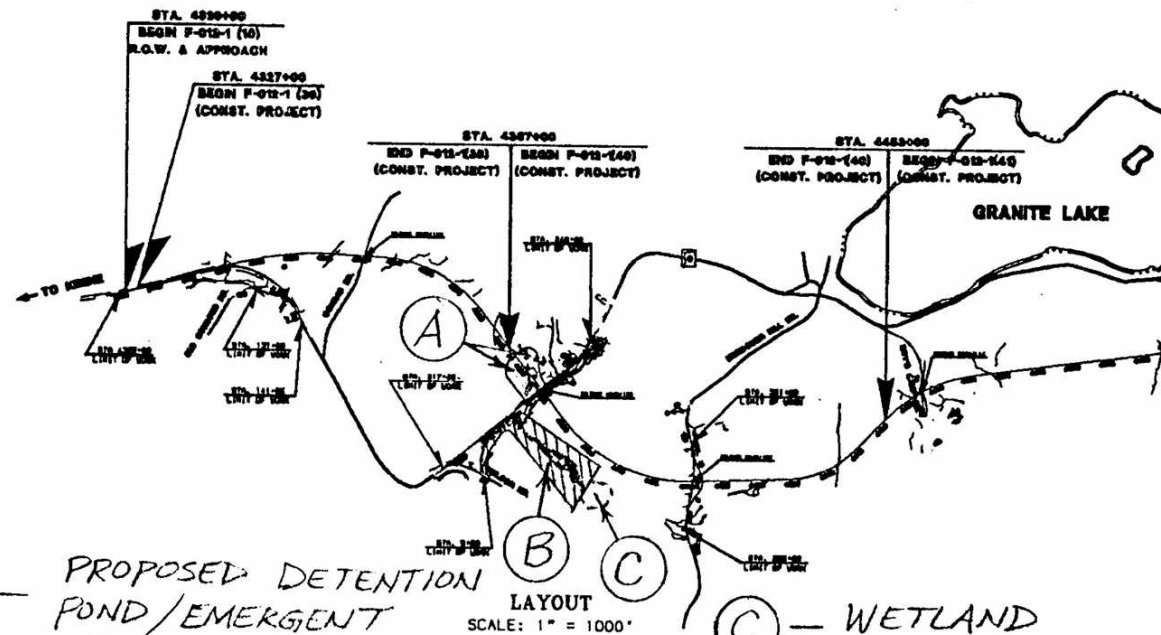
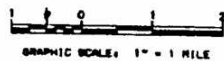
THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
CONSOLIDATED PRIMARY PROJECT

F-012-1(41)
N.H. PROJECT NO. P-2445-C
N.H. ROUTE 9



LOCATION MAP

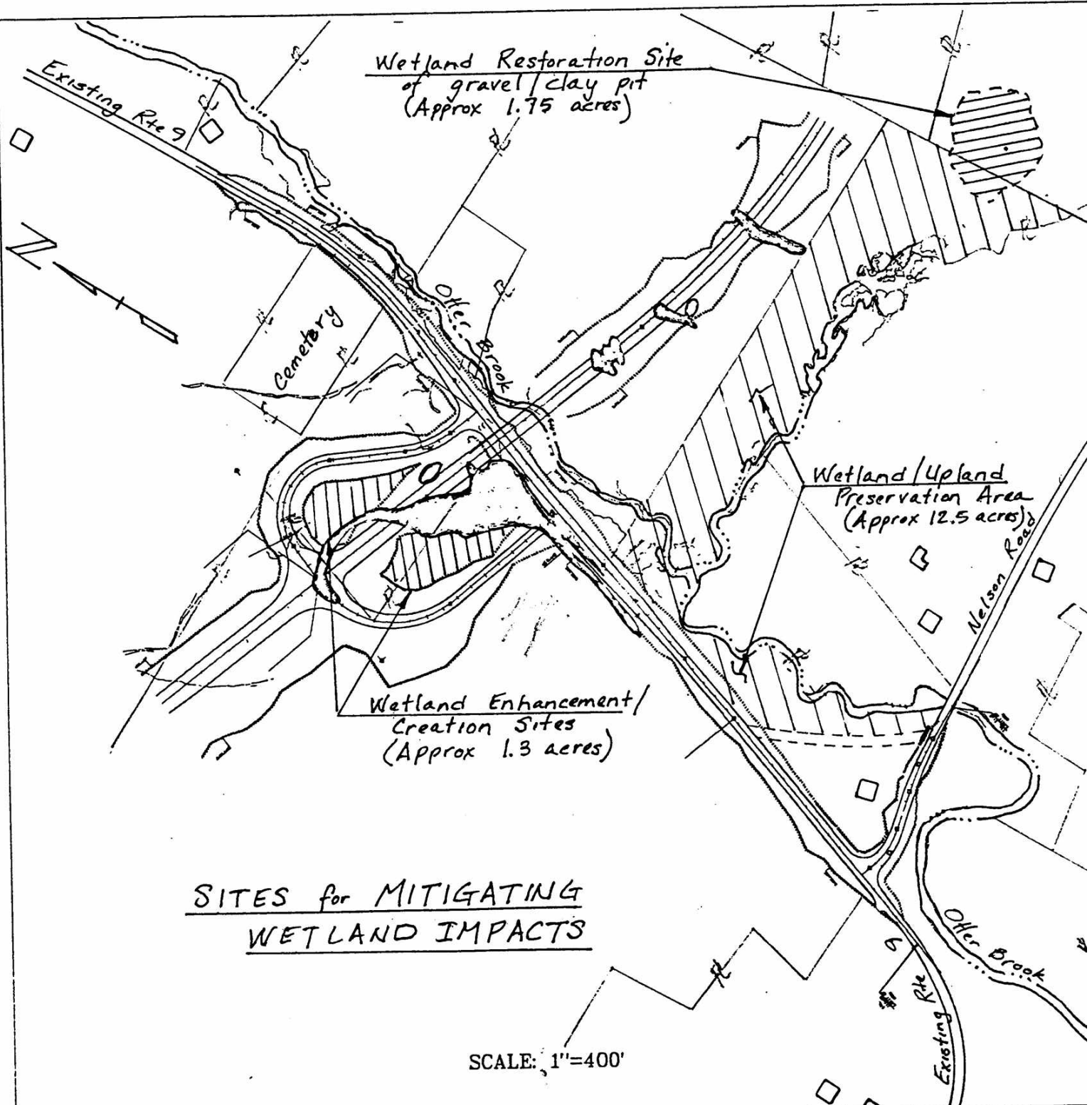


(A) — PROPOSED DETENTION
POND/EMERGENT
WETLAND
APPROX. 1.3 AC.

(B) — WETLAND UPLAND
PRESERVATION AREA
APPROX. 12.5 AC.
(20.2 AC. DEED)

(C) — WETLAND
RESTORATION S.
APPROX. 2.3 AC.
75' UPLAND BUFF
APPROX. 2.0 AC.

TOWNS OF NELSON & STODDARD
COUNTY OF CHESHIRE



SITES for MITIGATING
WETLAND IMPACTS

PROJECT: NELSON-STODDARD
F-012-1(10)
P-2445

PURPOSE: Construction of
N.H. rte. 9 bypass in the towns
of Nelson and Stoddard













STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATIO
STRUCTURE: roads and bridges
WATERWAY: Otter brook, seasonal
streams, and unnamed wetlan
TOWN: Nelson and Stoddard
COUNTY: Cheshire
DATE: 1-92

SHEET 4 OF 1

Wetland Function-Value Evaluation Form

Total area of wetland 3.3 ac Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? yes
 Adjacent land use highway Distance to nearest roadway or other development 10 feet
 Dominant wetland systems present PEM Contiguous undeveloped buffer zone present none
 Is the wetland a separate hydraulic system? yes If not, where does the wetland lie in the drainage basin? _____
 How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

NH DOT, Route 9, Nelson-Stoddard – A 199100593
 Wetland I.D. _____
 Latitude N43.00335 Longitude W72.15358
 Prepared by: RL PM Date 5/14/03
 Wetland Impact:
 Type _____ Area _____
 Evaluation based on:
 Office X Field _____
 Corps manual wetland delineation completed? Y _____ N X

Function/Value	Suitability Y N		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge		X			insufficient information
 Floodflow Alteration	X			X	confined outlet (culvert)
 Fish and Shellfish Habitat		X			
 Sediment/Toxicant Retention	X				
 Nutrient Removal		X			
 Production Export		X			
 Sediment/Shoreline Stabilization		X			
 Wildlife Habitat	X				limited by adjacent highways
 Recreation		X			inside interchange
 Educational/Scientific Value		X			
 Uniqueness/Heritage		X			
 Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			none known
Other					













Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

total mit
 Total area of wetland 3.3 ac Human made? yes Is wetland part of a wildlife corridor? no or a "habitat island"? no
 Adjacent land use forested, upland, wetland Distance to nearest roadway or other development ~600 feet
 Dominant wetland systems present PEM Contiguous undeveloped buffer zone present 100%
 Is the wetland a separate hydraulic system? no If not, where does the wetland lie in the drainage basin? mid
 How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

NH DOT, Route 9, Nelson
 Wetland I.D. Stoddard - C 199100593
 Latitude N43.00335 Longitude W72.15358
 Prepared by: RL PM Date 5/14/03
 Wetland Impact:
 Type _____ Area _____
 Evaluation based on:
 Office X Field _____
 Corps manual wetland delineation
 completed? Y _____ N X

Function/Value	Suitability Y N		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge		X			not enough information
 Floodflow Alteration	X				minimal
 Fish and Shellfish Habitat		X			
 Sediment/Toxicant Retention	X				dense vegetation
 Nutrient Removal	X				dense vegetation
 Production Export	X				outflows to stream
 Sediment/Shoreline Stabilization		X			
 Wildlife Habitat	X			X	beaver activity, deer, bull frog, green frog, woodpecker
 Recreation		X			
 Educational/Scientific Value		X			
 Uniqueness/Heritage		X			
 Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			none known
Other					

Notes:

* Refer to backup list of numbered considerations.

199100593
NHDOT Nelson Stoddard
Nelson, NH
7/12/02



Site A1



Site A2



Looking south at Site C pond



Southwest side of pond beaver dam at Site C.



Site C area south of pond

USGS 1 km SW of Munsonville, New Hampshire, United States 13 Apr 1998



0 200M

0 200yd

Image courtesy of the U.S. Geological Survey
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