

ME DOT, Topsham Brunswick Bypass

File No.: 199100575

City and State: Topsham and Bath, ME

General Impacts:

- 2.75 non-tidal forested
- 3.65 non-tidal scrub-shrub
- 0.36 tidal emergent

Functions and Values Lost:

- Groundwater
- Floodflow Alteration
- Fish Habitat
- Sediment Retention
- Nutrient Removal
- Wildlife Habitat

Year(s) Mitigation Constructed: November 1995

Size and Type of Mitigation as Proposed:

- 3.7 acres freshwater tidal emergent (Bay Bridge)
- 4 acres upland (fairgrounds)
- 1.9 acres non-tidal forested (fairgrounds)

Proposed Functions and Values of Mitigation: (Wetland Mitigation Plan)

- Sediment/Toxicant Retention
- Nutrient Removal
- Floodflow Alteration
- Wildlife Habitat
- Production Export
- Uniqueness/Heritage

Mitigation Special Condition(s):

3. The permittee shall implement a mitigation plan to compensate for the project's impact to 6.9 acres of wetlands. The preliminary details of this plan are described in the document entitled "Preliminary Wetland 1994" and revised "November 1994". This plan involves the restoration of approximately 1.9 acres of disturbed wetlands and 1.5 acres of upland buffer on site; the preservation of approximately 2.5 acres of upland surrounding the on site parcel; and the restoration of approximately 3.7 acres of filled tidal freshwater wetlands off site located adjacent to the Androscoggin River 3.4 miles downstream from the project.

Remarks:

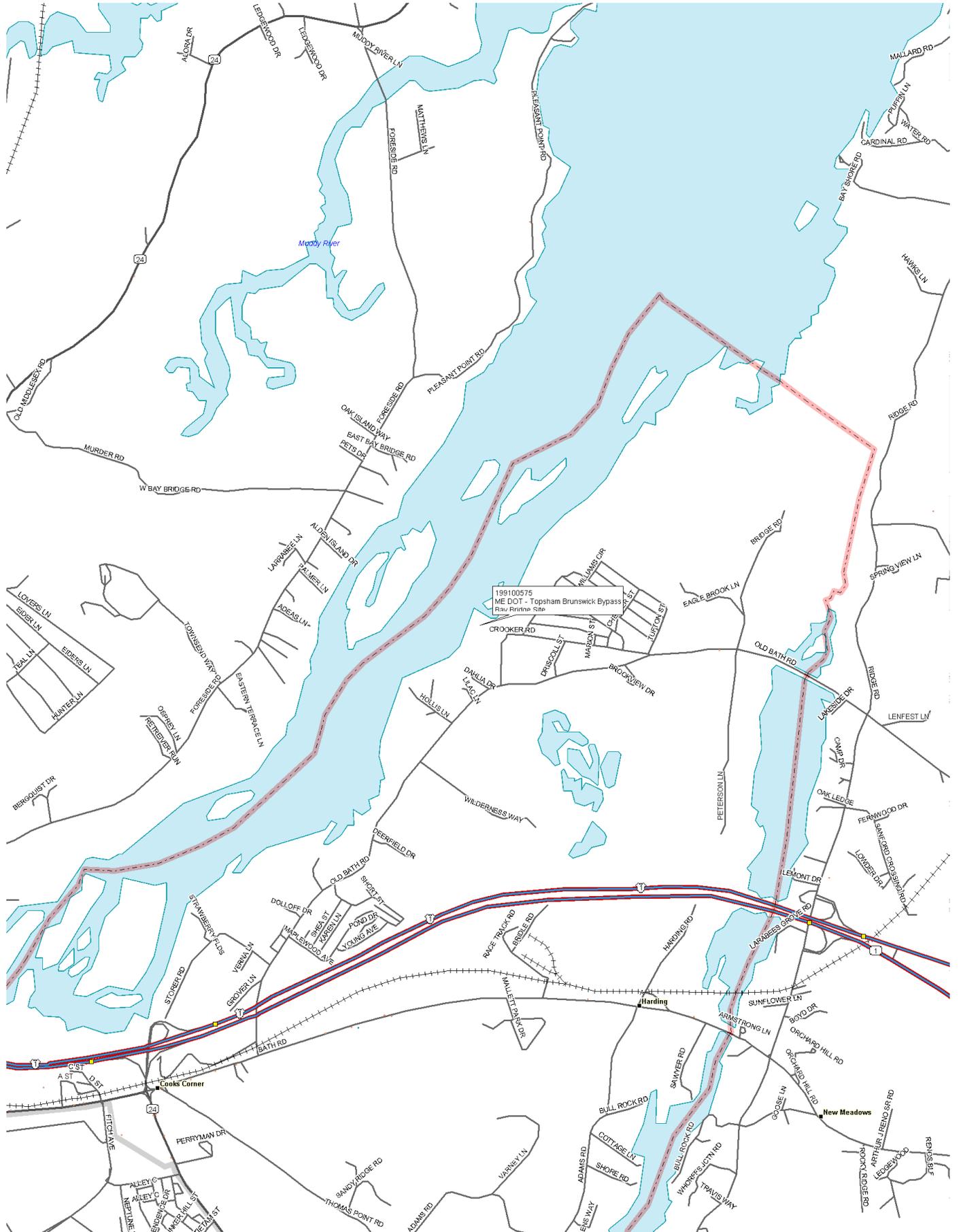
None

Directions:

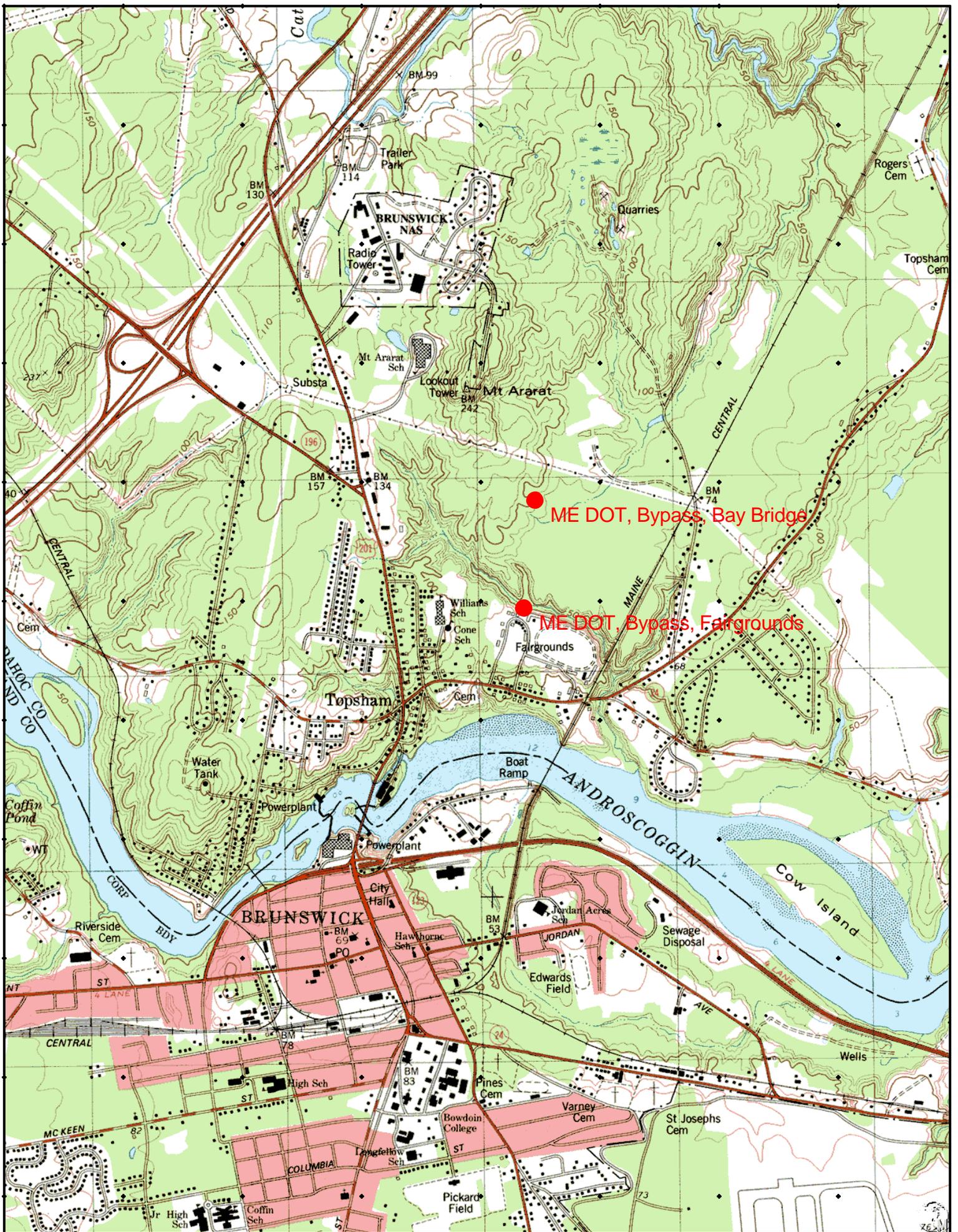
Bay Bridge: Take 128/95 north towards Peabody/Portsmouth, NH. When it splits, bear right staying on Route 95 north. Take exit 6A, I-295 north, South Portland/Portland. I-295 north becomes I-95 north. Take exit 24, ME-196 toward Topsham/Lisbon. Turn right onto ME-196 south, New Lewiston road. Continue on ME-196 south. Merge onto US-1 north toward Bath. Take the Cooks corner exit. Take a left at the lights onto Bath Road. Go north to Old Bath Road, and take a left. Go two miles, and take left onto Driscoll (sign for Bay Bridge Estates). Take a left at "T" onto Bay Bridge Road. Go 0.2 mile to the site at the end of the road.

Fairgrounds: Take 128/95 north towards Peabody/Portsmouth, NH. Take exit 24, Topsham. Go east on Route 195. Go right onto Main Street in Topsham. Take a left onto Route 24. The sign for the entrance to the Topsham Fairgrounds will be ahead on the left. Enter the fairgrounds, and proceed past stables to the rear of the property. The mitigation area begins where open fields end in a fallen timber barrier.



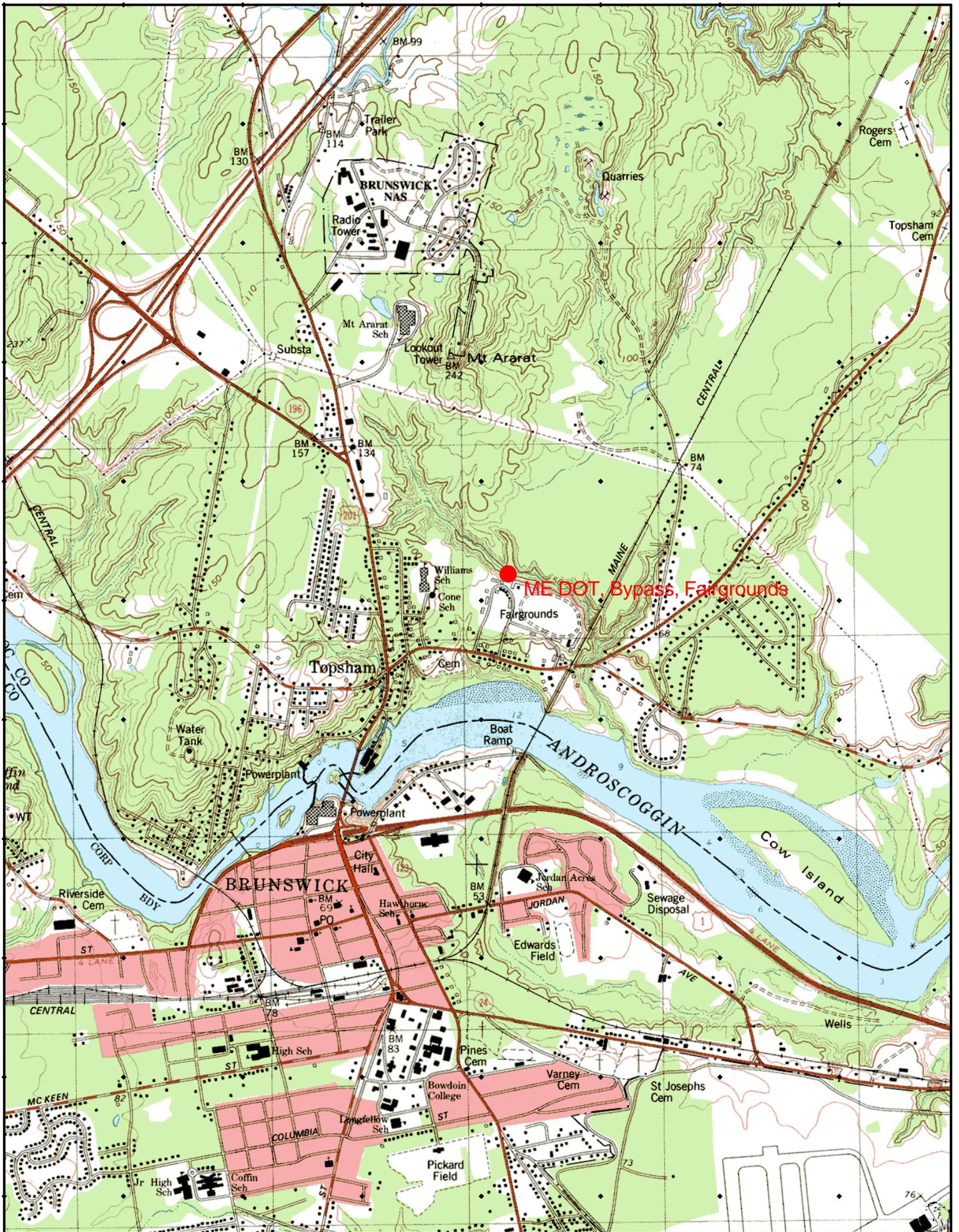


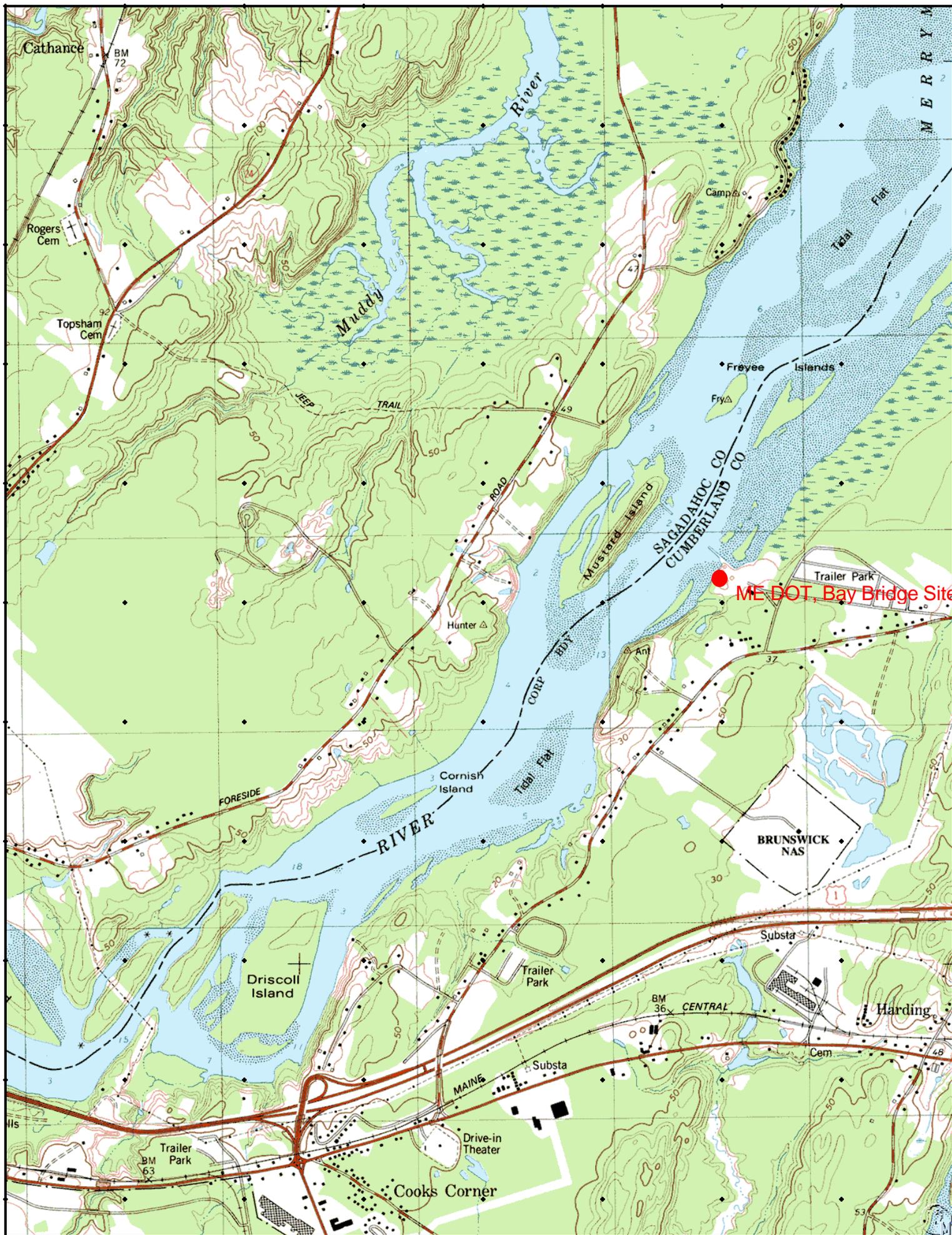
199100575
 ME DOT - Topsham Brunswick Bypass
 Ravine Site



ME DOT, Bypass, Bay Bridge

ME DOT, Bypass, Fairgrounds





MITIGATION SITE FIELD DATA FORM

Site Name: MEDOT – Brunswick-Topsham Bypass - Topsham Fairgrounds File No. 199100575

City/Town: Topsham State: ME Waterbody: none

Monitor(s): Jay Clement, Paul Minkin, Keith Wright, Kathleen McKee, Peter Tischbein

Date: 7-31-02

Was site constructed? yes

Is site wetland? yes

Size of proposed wetland: 1.9 acres

Actual size of wetland: approximately the same

Landscape position: bottom of slope

Lat/Long Points: 43.9292N,69.9533W

Saved GPS Waypoint name: N/A

GPS Tracking Log Name: N/A

Perimeter: TBD

Surrounding land use:

Fairgrounds, forested wetland with highway upslope on other side

Is wetland function compromised by surrounding land use?

No

Plant health:

Good

Invasive species:

None

Wildlife use:

Many deer tracks

Plants:

- Acer rubrum*
- Alnus rugosa*
- Aronia arbutifolia*
- Betula populifolia*
- Carex* sp. (ovales)
- Comptonia peregrina*
- Carex vulpinoidea*
- Eleocharis* sp.
- Euthamia graminifolia*
- Glyceria* sp.
- Hypericum* sp.
- Iris versicolor*
- Juncus acuminatus*
- Juncus effusus*
- Juncus* sp.
- Juncus* sp.
- Kalmia angustifolia*
- Lemnaceae sp.
- Lyonia ligustrina*
- Lysimachia quadrifolia*
- Myrica pensylvanica*
- Onoclea sensibilis*
- Osmunda cinnamomea*
- Osmunda regalis*
- Panicum* sp.
- Picea* sp.
- Pinus strobus*
- Populus tremuloides*
- Rhynchospora capitellata*
- Rubus* sp.
- Scirpus cyperinus*
- Sphagnum* sp.
- Spiraea latifolia*
- Spiraea tomentosa*
- Typha latifolia*
- Vaccinium macrocarpon*

Soils Data:

At fairground edge of wetland:

DEPTH	HORIZON	MATRIX	REDOX	COMMENTS
0 – 7”	A	10YR 2/2		fine sandy loam
7 +	C		concretions, 50% at 8”	

in middle of site:

DEPTH	HORIZON	MATRIX	REDOX	COMMENTS
0 – 4”	A	10YR 3/1	none	saturated, loamy fine sand
4 – 8	B1	7.5YR 4/6 10YR 3/2	many, medium, distinct	red matrix, darker blackish part
8 +	B2	5Y 5/3	10YR 4/6 many, medium, distinct mottles	cemented loamy sand

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:

This site was marginal in terms of hydrology, for which it relies on ground and surface water. FACU species were mixed with wetland species throughout site. Weak hydrology could be due to sandy soils found on site (some redoxymorphic features at 10”). The site relies on pit and mound topography which manages to retain water in wetter seasons (spring), which accounts for wetland species survival. The site is surrounded on three sides by forest and one side by a mixed upland/wetland forest. The dominant vegetation for this site is scrub/shrub.

Comments, problems, recommendations:

This permit has two mitigation sites but neither currently replaces the wetland forest habitat that was destroyed.

MITIGATION SITE FIELD DATA FORM

Site Name: MEDOT- Brunswick-Topsham Bypass - Bay Bridge site File No. 199100575

City/Town: Brunswick State: ME Waterbody: Androscoggin River

Monitor(s): Paul Minkin, Keith Wright, Kathleen McKee Date: 8-1-02

Was site constructed? yes

Is site wetland? yes

Size of proposed wetland: 3.7 acres
freshwater tidal emergent

Actual size of wetland: TBD

Landscape position: freshwater tidal of
Androscoggin River

Lat/Long Points: TBD

Saved GPS Waypoint name: N/A

GPS Tracking Log Name: N/A

Perimeter: TBD

Surrounding land use:
Interpretive nature trail

Is wetland function compromised by
surrounding land use?
Wildlife may be inhibited from using the site due
to high human visitation volume.

Plant health:
Strong

Invasive species:
Forest: *Lythrum salicaria*
Shrub swamp: *Lythrum salicaria*

Wildlife use:
Nesting ospreys
Many nectar gathering insects

Plants:

Forest:

- Acer saccharinum*
- Alnus rugosa*
- Asclepias incarnata*
- Betula populifolia*
- Crataegus* sp.
- Eupatorium maculatum*
- Eupatorium perfoliatum*
- Fraxinus pennsylvanica*
- Lythrum salicaria*
- Sambucus canadensis*
- Scirpus validus*
- Typha latifolia*

Shrub swamp:

- Acer rubrum*
- Alisma* sp.
- Alnus rugosa*
- Boehmeria cylindrica*
- Carex lurida*
- Carex* sp. (ovales)
- Carex vulpinoidea*
- Cicuta maculata*
- Cornus amomum*
- Cornus amomum*
- Erigeron* sp.
- Eupatorium perfoliatum*
- Galium* sp.
- Glyceria* sp.
- Hypericum* sp.
- Ilex verticillata*
- Impatiens capensis*
- Juncus effusus*
- Juncus* sp.
- Lycopus* sp.
- Lysimachia* sp.

Lysimachia terrestris
Lythrum salicaria
Mimulus ringens
Onoclea sensibilis
Polygonum sagittatum
Polygonum sp.
Sagittaria latifolia

Salix sp.
Scirpus cyperinus
Solidago spp.
Spiraea tomentosa
Typha latifolia
Viburnum dentatum
Vicia sp.

Soils Data:

DEPTH	HORIZON	MATRIX	REDOX	COMMENTS
1.5 – 0 cm	O			
0 – 23	A	10YR 3/2	few depletions at 3 cm, many medium redox features starting at 12 cm	loamy sand
23 +	B	10Y 4/1 (gley)		medium loamy sand

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:

This site is a freshwater tidal system with pit and mound topography. It is characterized by tidal emergent marsh that holds several inches of water. The site is surrounded by a well-used interpretive nature trail and has high educational and aesthetic value.

Comments, problems, recommendations:

None.

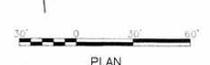
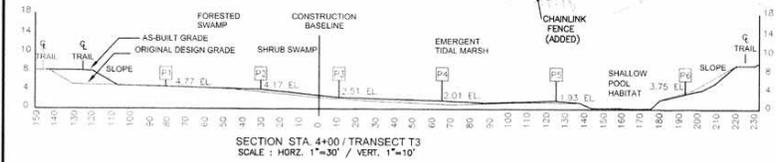
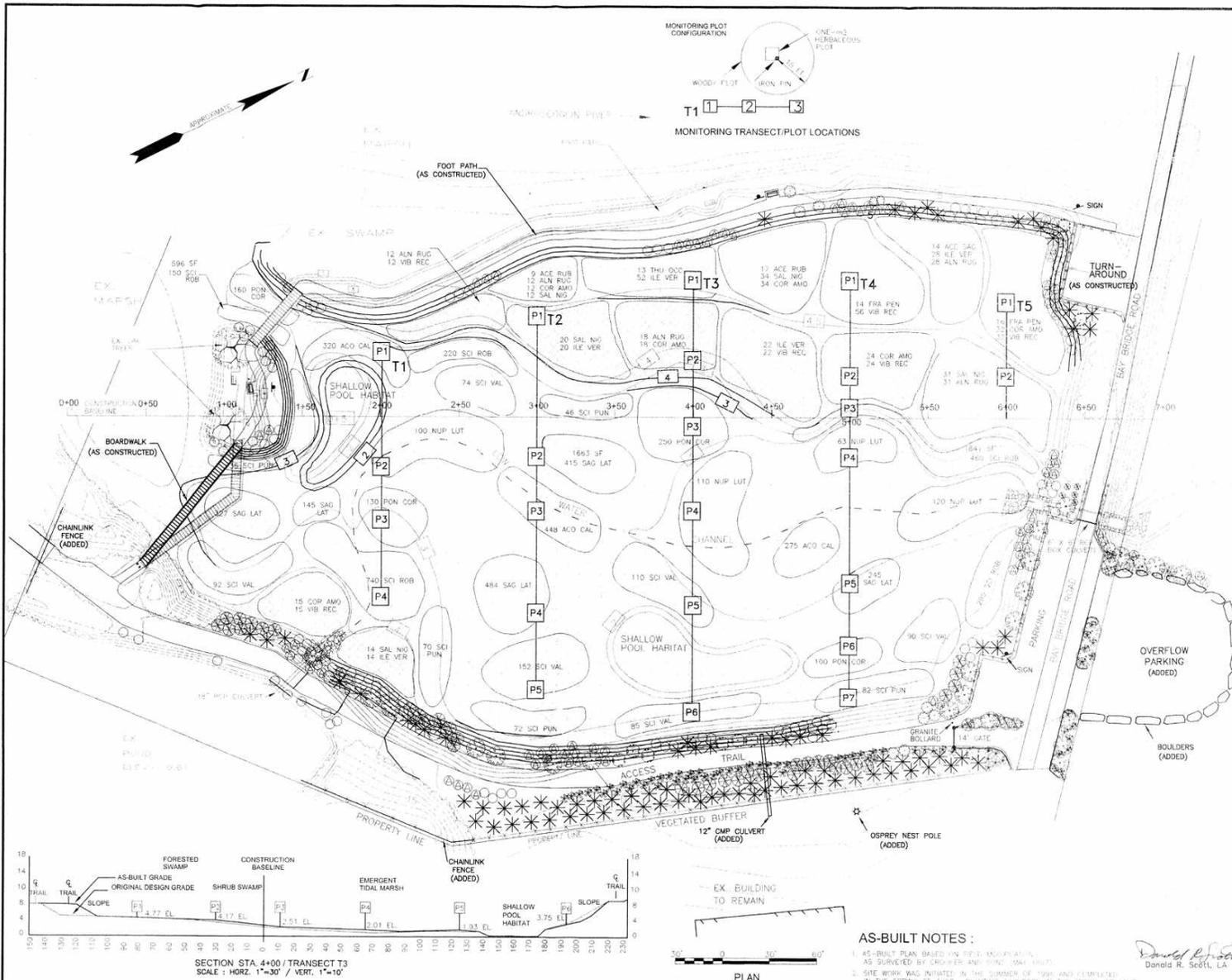
PARA	DATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	04/01	06-0091(806)		

LEGEND:

	FORESTED SWAMP		ORIGINAL DESIGN CONTOURS
	SHRUB SWAMP		MODIFIED CONTOURS
	EMERGENT TIDAL MARSH		STONE RIP RAP
			TIMBER GUARDRAIL
			CHAINLINK FENCE

PLANTING LIST:

QTY	SYMBOL	SIZE	UPLAND SPECIES	
32		5'-6"	ACER SACCHARINUM	SUGAR MAPLE
80		4'-5"	PINUS STROBUS	WHITE PINE
10		4'-5"	CRATAEGUS CRUGATUS	HAWTHORN
21		4'-5"	AMELANCHIER CANADENSIS	SERVICE BERRY
10		18"-24"	MYRTICA PENNSYLVANICA	BARBERRY
10		18"-24"	ROSIA RUGOSA	RUGOSA ROSE
96		18"-24"	CORNUS RACKUNSA	GRAY DOGWOOD
72		18"-24"	ARONIA MELANOCARPA	BLACK CHOKEBERRY
QTY	SYMBOL	SIZE	EMERGENT TIDAL MARSH	
400		SCI VAL/DR	SCIRPUS VALIDUS	SOFT-STEM BULRUSH
206		SCI PUN/DR	SCIRPUS FLUGENSIS	COMMON THREE-SQUARE
385		SCI ROB/DR	SCIRPUS ROBUSTUS	SALICADAR BULRUSH
440		PUN CNP/DR	PONTEDERIA CORICATA	PITCHER WEED
1321		SAG LAT/DT	SAGITTARIA LATIFOLIA	ARROWHEAD
953		NUP LUT/NS	NUPHAR LUTEUM	YELLOW WATERLILY
1043		ACO CAL/DR	ACORUS CALAMUS	SWEET FLAG
QTY	SYMBOL	SIZE	FORESTED AND SHRUB SWAMP	
10		FRA PEN/5'-6"	FRAXINUS PENNSYLVANICA	GREEN ASH
14		ACE SAC/5'-6"	ACER SACCHARINUM	SILVER MAPLE
26		ACE ROB/5'-6"	ACER RUBRUM	RED MAPLE
18		THU DEC/5'-6"	THUJA OCCIDENTALIS	NORTHERN WHITE CEDAR
135		COR AMO/18"-24"	CORNUS AMOMUM	SILKY DOGWOOD
101		ALN RUB/18"-24"	ALNUS RUGOSA	SPECIATED ALDER
146		ILEX VER/18"-24"	ILEX VERIFICOLATA	WINTERBERRY
163		VIB REY/18"-24"	VIBURNUM RELOCANUM	SPRINGWOOD
111		SAL NIG/18"-24"	SALIX NIGRA	BLACK WILLOW
790		SAL PUR/CT	SALIX PURPUREA	STREAMSIDE WILLOW
RR			GROWING BARE ROOT PLANT	
CT			CUTTING (8')	
EP			DORMANT RHIZOME	
DT			DORMANT TUBER	
MS			LARGE ROOTS/TWIG ENDS	
			SF = SQUARE FEET	



AS-BUILT NOTES:

- AS-BUILT PLAN BASED ON FIELD MEASUREMENTS AS SURVEYED BY CROWDER AND SOND (04/19/07).
- SITE WORK WAS INITIATED IN THE SUMMER OF 1998 AND COMPLETED IN THE SPRING OF 1999. PLANTING OCCURRED IN THE SPRING OF 1997.

Donald R. Scott, LA

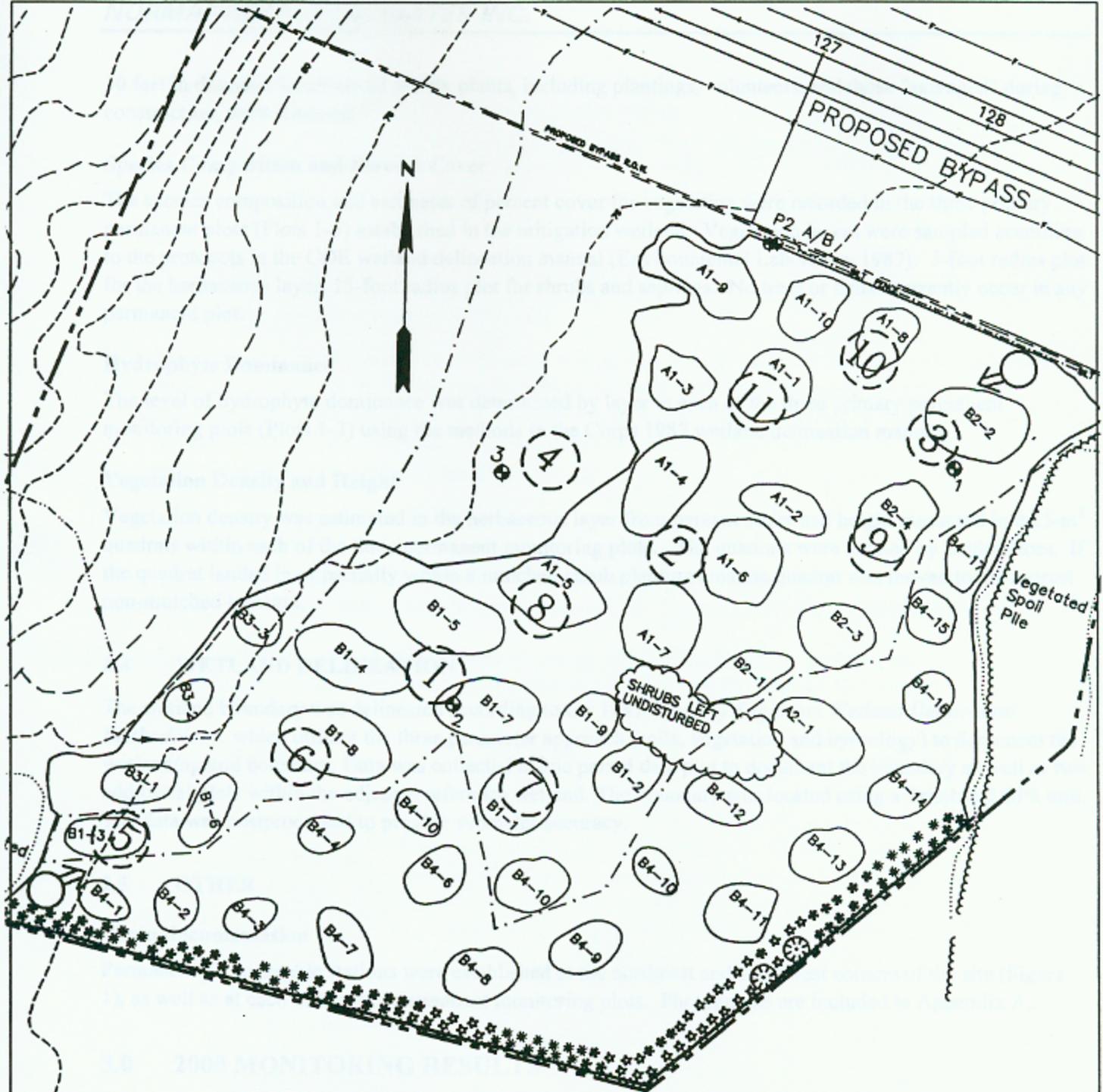


STATE OF LAINE
DEPARTMENT OF TRANSPORTATION

TOPSHAM/BRUNSWICK
COASTAL CONNECTOR

AS-BUILT PLAN FOR
BAY BRIDGE MITIGATION SITE- 1997

NORMANDEAU ASSOCIATES INC.
ENVIRONMENTAL CONSULTANTS
335 Main Street, Portsmouth, Maine 04095



LEGEND :

- | | | | |
|--|---|--|-----------------------|
| | PERIMETER PLANTINGS | | WETLAND LINE |
| | PLANT GROUPING | | PERMANENT PHOTO POINT |
| | APPROXIMATE LOCATION OF PERMANENT MONITORING PLOT (PLOTS 1-4 ARE PRIMARY PLOTS) | | GROUNDWATER WELLS |



FIGURE 1: Constructed wetland mitigation area at Topsham Fair Site showing planting zones, groundwater wells, and permanent monitoring plots.

Wetland Function-Value Evaluation Form

ME DOT – Topsham

Fairgrounds 199100575

Total area of wetland 1.9 ac Human made? yes Is wetland part of a wildlife corridor? yes or a "habitat island"? no

Adjacent land use soccer field, forested wetland, forest, fair ground Distance to nearest roadway or other development 150 feet to Rte 1

Dominant wetland systems present PEM/SS Contiguous undeveloped buffer zone present no

Is the wetland a separate hydraulic system? no If not, where does the wetland lie in the drainage basin? middle, below Rte 1 above grounds

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

Wetland I.D. _____

Latitude N43.9292 Longitude W69.9533

Prepared by: KM KW PM Date 7/31/02

Wetland Impact:
Type _____ Area _____

Evaluation based on:
Office _____ Field X

Corps manual wetland delineation completed? Y _____ N X

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
	Y	N			
 Groundwater Recharge/Discharge	X		5,6,15		no outlet - recharge
 Floodflow Alteration		X			
 Fish and Shellfish Habitat		X			
 Sediment/Toxicant Retention		X			no surface flows to or from site
 Nutrient Removal		X			no surface flows to on from site
 Production Export	X		1,4,5,8,12		
 Sediment/Shoreline Stabilization		X			
 Wildlife Habitat	X		1,3,7,8,10,14,17,19,21	X	birds and many deer, is corridor
 Recreation		X			
 Educational/Scientific Value		X			
 Uniqueness/Heritage		X			
 Visual Quality/Aesthetics		X			
ES Endangered Species Habitat		X			
Other					

Notes:

* Refer to backup list of numbered considerations.













W
RIVER















USGS Brunswick, Maine, United States 27 Apr 1997



0 200M

0 200yd

Image courtesy of the U.S. Geological Survey
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USGS 6 km NE of Brunswick, Maine, United States 07 May 1996



0 100M

0 100yd

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