STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 13, 2004

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

ATTN: Mr. Michael Bell
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide 23 Permit Application** for the Replacement of Bridge No. 26 over Deep Creek on SR 1154, Carteret County, Federal Aid Project No. BRSTP-1154(2); State Project No. 8.2161001; TIP No. B-3626.

The project involves the removal and replacement of Bridge Number 26 carrying SR 1154 over Deep Creek in Carteret County. A new bridge approximately 90 feet (27.3 meters) long and clear width of 39 feet (11.8 meters) will be constructed to carry SR 1154 over the floodplain and creek. By utilizing phased construction, SR 1154 will remain open by maintaining half of the existing bridge while the new structure is under construction. The project is shown in the approved Categorical Exclusion.

Water Resources

The project is located near the confluence of Deep Creek and the Newport River. The majority of the area surrounding SR 1154 and bridge No. 26 is comprised of wetlands and/or surface waters. The main wetland complex, through which the existing roadway and bridge are located, is dominated by a cypress-gum swamp community. This community type comprises the majority of the project area and occurs adjacent to SR 1154 and the banks of Deep Creek, except where human development or disturbance has displaced it. Approximately 0.386 acre of wetland will be filled by the proposed project and 0.492 acres will require excavation in wetlands. The project will also require 0.324 acre of wetland to be mechanically cleared to provide room for bridge construction.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-733-3141
FAX: 919-715-1501
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

In order to reduce impacts to wetlands, phased construction will be utilized making an on-site detour unnecessary. The project will also be using a structure of increased length to improve the existing flood plain and associated wetland community.

Mitigation

Based upon the agreements stipulated in the "Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District" (MOA), it is understood that the North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP), will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for NCDOT projects that are listed in Exhibit 1 of the subject MOA during the EEP transition period which ends on June 30, 2005.

Since the subject project is listed in Exhibit 1, the necessary compensatory mitigation to offset unavoidable impacts to waters that are jurisdictional under the federal Clean Water Act will be provided by the EEP. The offsetting mitigation will derive from an inventory of assets already in existence within the same 8-digit cataloguing unit. The Department has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The remaining, unavoidable impacts to 1.202 acres of jurisdictional will be offset by compensatory mitigation provided by the EEP program.

Bridge Demolition

Bridge No. 26 is composed of a reinforced concrete deck and railings on timber joists. The substructure consists of timber caps on timber caps on timber piles. The bridge was constructed in 1959. The bridge has a clear roadway width of 24 feet (7.3 meters) and is 53 feet (16.2 meters) long. As stated in the NCDOT Best Management Practice for Construction and Maintenance Activities, because a CAMA permit is required, dropping any component of Bridge No. 26 into "Waters of the United States," will not be permitted.

NCDOT will also remove, or cut at mud line, all previously installed pilings under bridge No 26.

Federally Protected Species

Plants and animals with federal classifications of Endangered, Threatened, Proposed Endangered, and Proposed Threatened are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended.

As of January 29, 2003, the USFWS lists 7 federally protected species for Carteret County. Table 1 depicts these species and their biological conclusions.

Table 1. Federally protected species for Carteret County

Common Name	Scientific Name	Status	Biological Conclusion
American alligator	*Alligator mississippiensis*	T(S/A)	No Effect
Eastern cougar	*Puma concolor couguar*	Endangered*	No Effect
Green sea turtle	*Chelonia mydas*	Threatened	No Effect
Hawksbill turtle	*Eretmochelys imbricata*	Endangered	No Effect
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	No Effect
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	No Effect
Loggerhead sea turtle	*Caretta caretta*	Threatened	No Effect
West Indian Manatee	*Trichechus manatus*	Endangered	No Effect
Piping Plover	*Charadrius melodus*	Threatened	No Effect
Red-cockaded woodpecker	*Picoides borealis*	Endangered	No Effect
Roseate tern	*Sterna dougallii*	Endangered	No Effect
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered	No Effect
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered	No Effect
Seabeach amaranth	*Amaranthus pumilus*	Threatened	No Effect

KEY:

Status	Definition
Endangered -	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened -	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
T(S/A) -	Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.

*Historic record - the species was last observed in the county more than 50 years ago.

Regulatory Approvals

Section 404 Permit: This project is being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). Therefore, we do not anticipate requesting an individual permit but propose to proceed under a Nationwide 23 as authorized by a Nationwide Permit (67 FR 2020; January 15, 2002).

Section 401 Water Quality Certification: We anticipate 401 General Certification numbers 3403 will apply to this project. In accordance with 15A NCAC 2H, Section .0500(a) we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review.

The NCDOT hereby requests that this project be authorized by the North Carolina Division of Water Quality and the U. S. Army Corps of Engineers. The NCDOT has also requested authorization by the issuance of a Coastal Area Management Act Major Development Permit under separate cover. If there are any questions, please contact Mr. Michael Turchy of my staff at maturchy@dot.state.nc.us or (919) 715-1468.

A copy of this permit application will be posted on the DOT website at: http://www.ncdot.org/planning/pe/naturalunit/Permit.html.

Sincerely,

Gregory J. Thorpe, Ph.D.,
Environmental Management Director
Project Development and Environmental Analysis Branch

Cc:

W/attachment

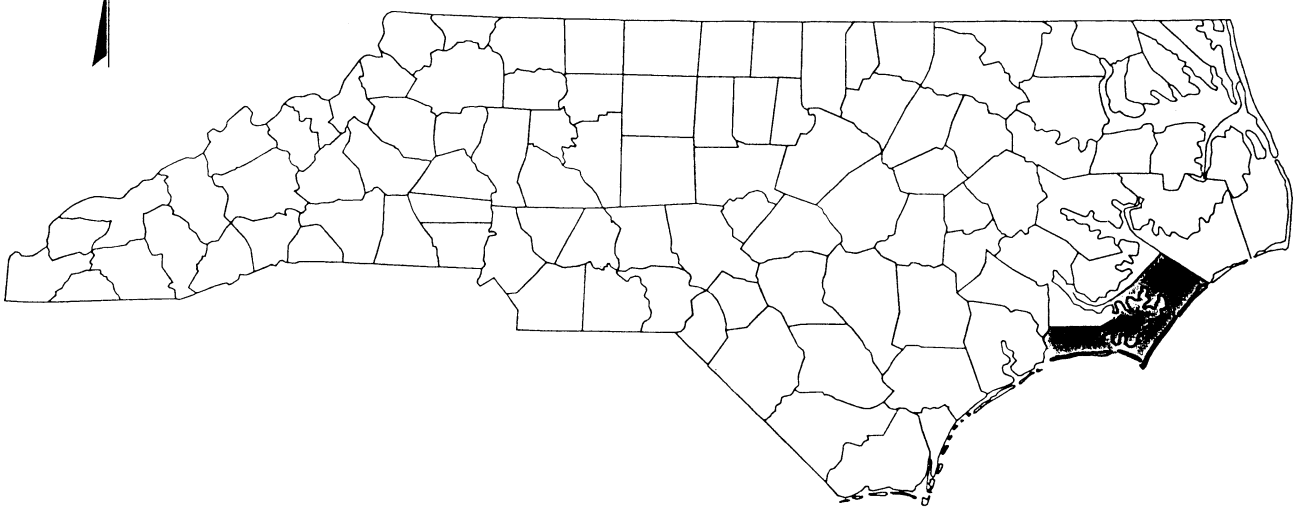
Ms. Cathy Brittingham, NCDCM
Mr. Bill Biddlecomb, USACE, Washington
Mr. John Hennessy, DWQ, Raleigh*** (one copy)
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Mr. Mike Street, NCDMF
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. C. E. Lassiter, P.E., Division 2
Mr. Jay Johnson, DEO, Division 2

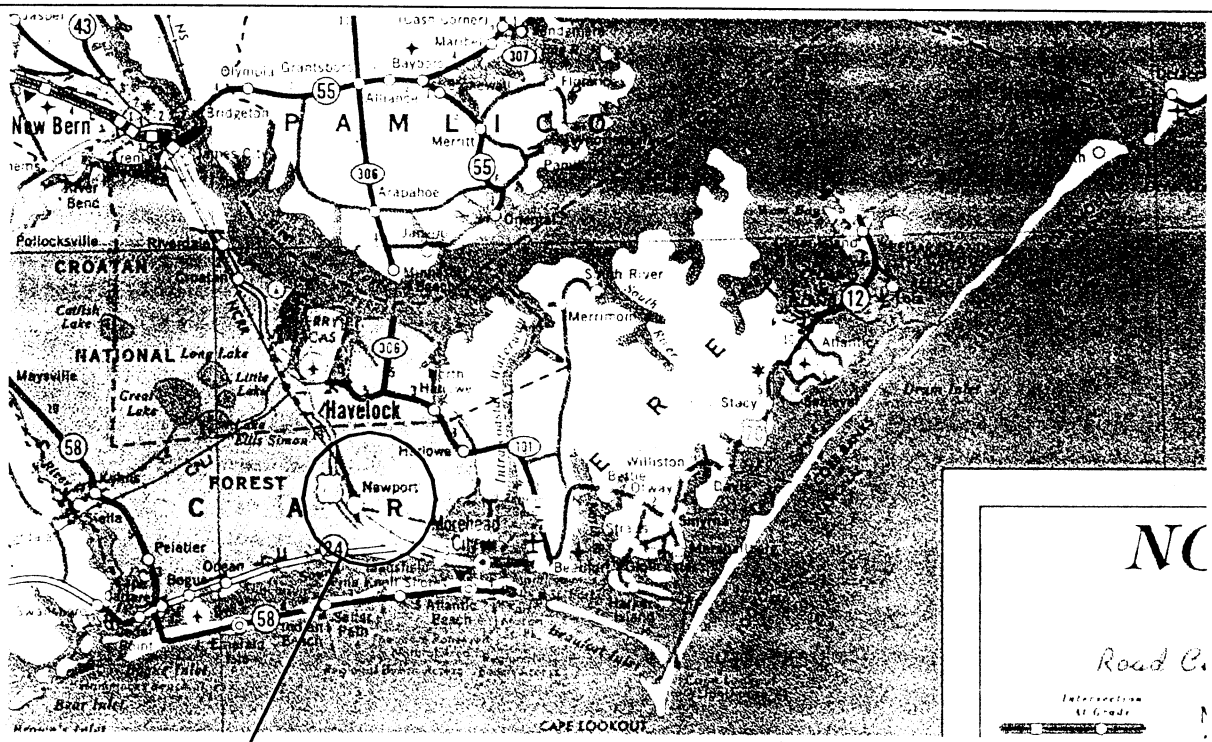
W/o attachment

Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Mark Staley, Roadside Environmental
Ms. Beth Harmon, EEP
Ms. Stacy Baldwin, PE, PDEA Planning Engineer

***CAMA office will furnish Mr. John Hennessy seven (7) copies of the CAMA permit application package after it is determined that the permit application is complete and the review can begin.

VICINITY MAP
NORTH CAROLINA





NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

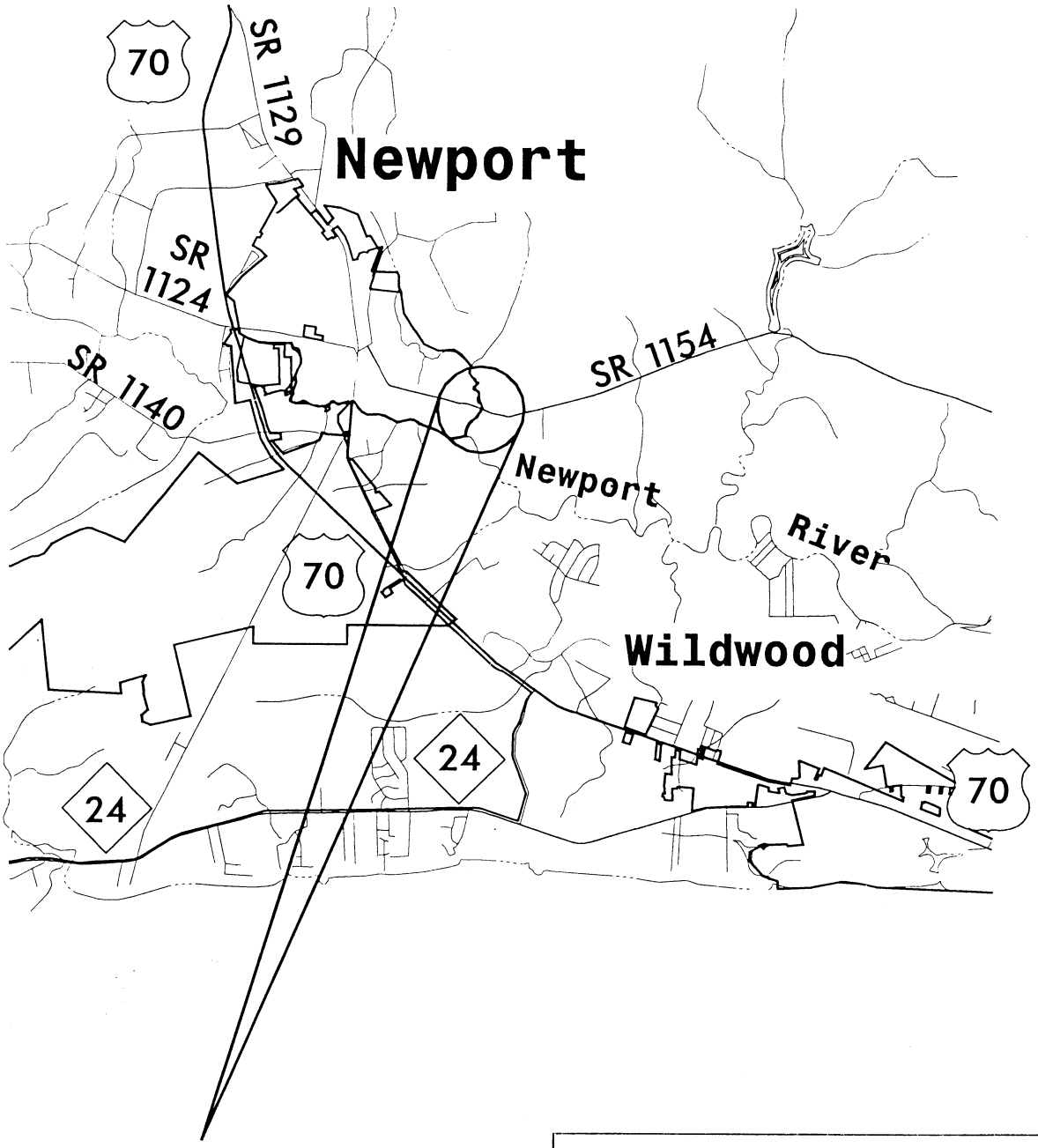
BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

NOT TO SCALE

DATE: 1-20-03

SHEET 1 OF 11

SITE MAP



NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

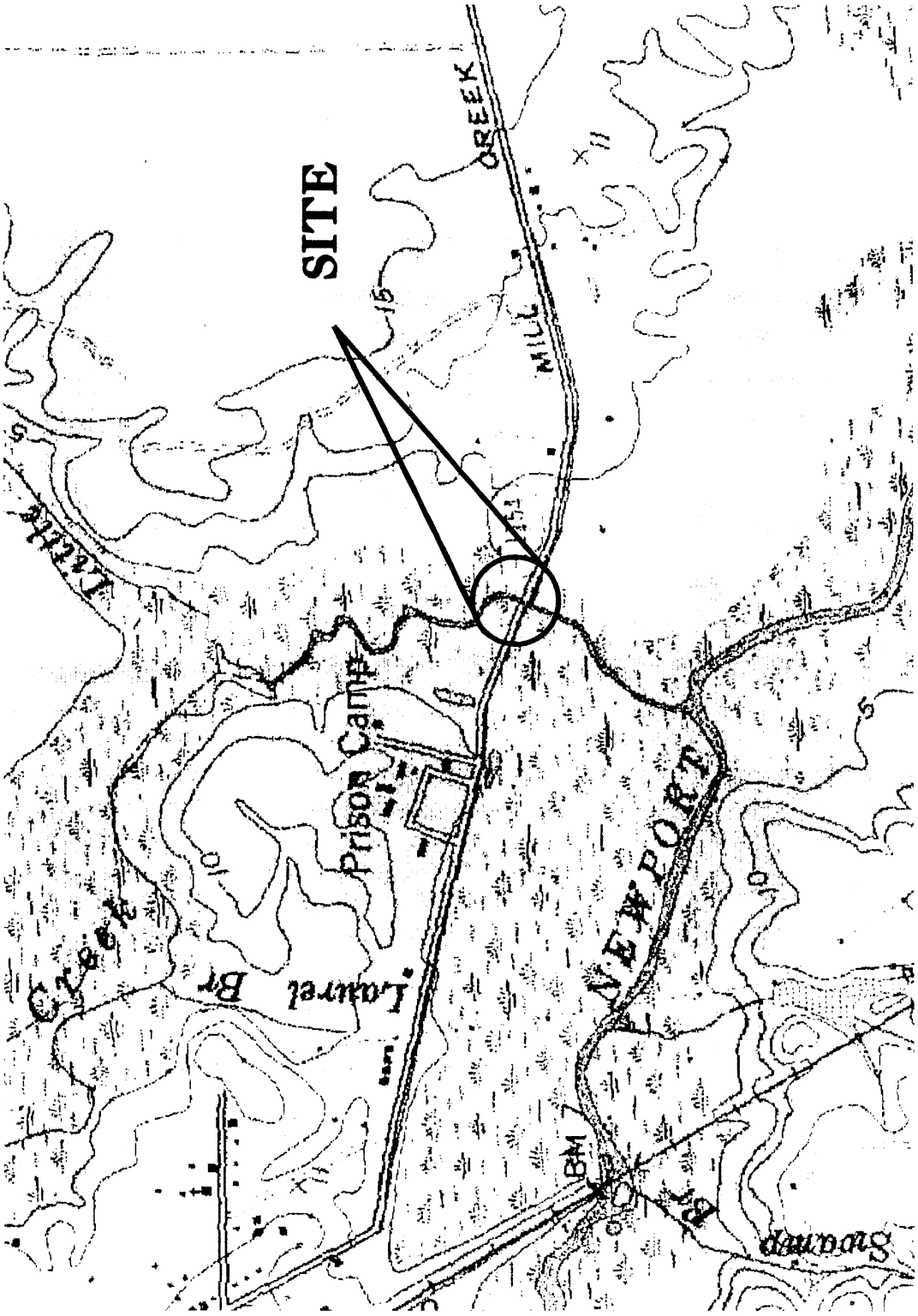
BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

NOT TO SCALE

DATE: 1-20-03

SHEET 2 OF 11

3/20/2003
03:26 PM
c:\proj\3626\dgn\permits\3626-vicinity.prm



SITE MAP

SCALE: 1" = 1000'

1000 0 500

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

NOT TO SCALE

DATE: 1-20-03

SHEET 3 OF 11

01/21/2003
06:56:40 AM
p:\hydro\b3626\dgn\permits\B3626-site.prm

WETLAND LEGEND

- WLB — WETLAND BOUNDARY
- WETLAND
- DENOTES FILL IN WETLAND
- DENOTES FILL IN SURFACE WATER
- DENOTES FILL IN SURFACE WATER (POND)
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND
- DENOTES TEMPORARY FILL IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- FLOW DIRECTION
- TB — TOP OF BANK
- WE — EDGE OF WATER
- C — PROP. LIMIT OF CUT
- F — PROP. LIMIT OF FILL
- PROP. RIGHT OF WAY
- NG — NATURAL GROUND
- PL — PROPERTY LINE
- TDE — TEMP. DRAINAGE EASEMENT
- PDE — PERMANENT DRAINAGE EASEMENT
- EAB — EXIST. ENDANGERED ANIMAL BOUNDARY
- EPB — EXIST. ENDANGERED PLANT BOUNDARY
- WATER SURFACE
- LIVE STAKES
- BOULDER
- CORE FIBER ROLLS

- PROPOSED BRIDGE
- PROPOSED BOX CULVERT
- PROPOSED PIPE CULVERT
  - 12"-48" PIPES
  - 54" PIPES & ABOVE
- (DASHED LINES DENOTE EXISTNG STRUCTURES)
- SINGLE TREE
- WOODS LINE
- DRAINAGE INLET
- ROOTWAD
- RIP RAP
- 5 — ADJACENT PROPERTY OWNER OR PARCEL NUMBER (IF AVAILABLE)
- PREFORMED SCOUR HOLE
- LEVEL SPREADER (LS)
- DITCH / GRASS SWALE

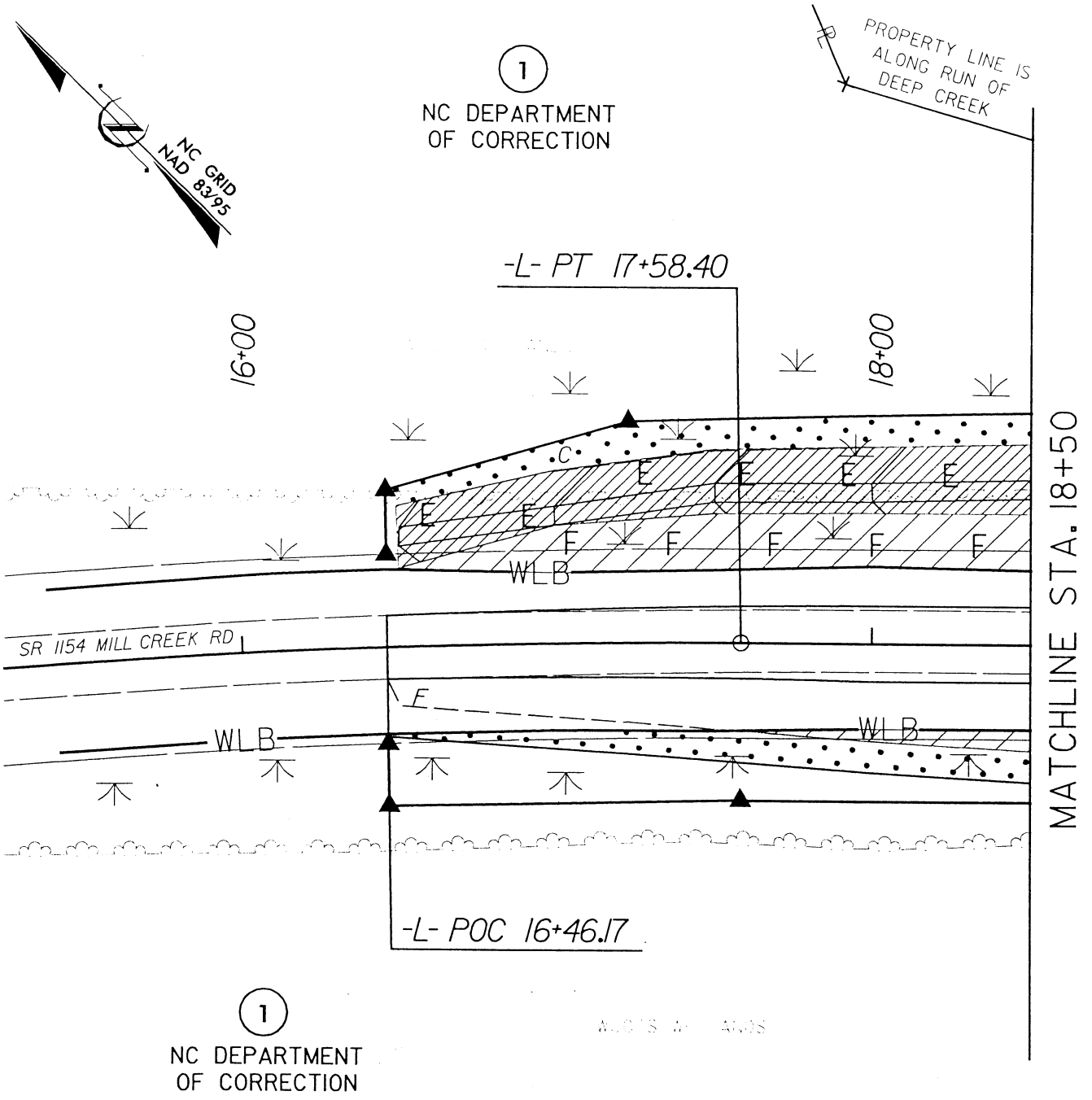
NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

NOT TO SCALE

DATE: 1-20-03



PLAN VIEW
SITE 1

LEGEND

—WLB— WETLAND

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

DENOTES MECHANIZED CLEARING

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

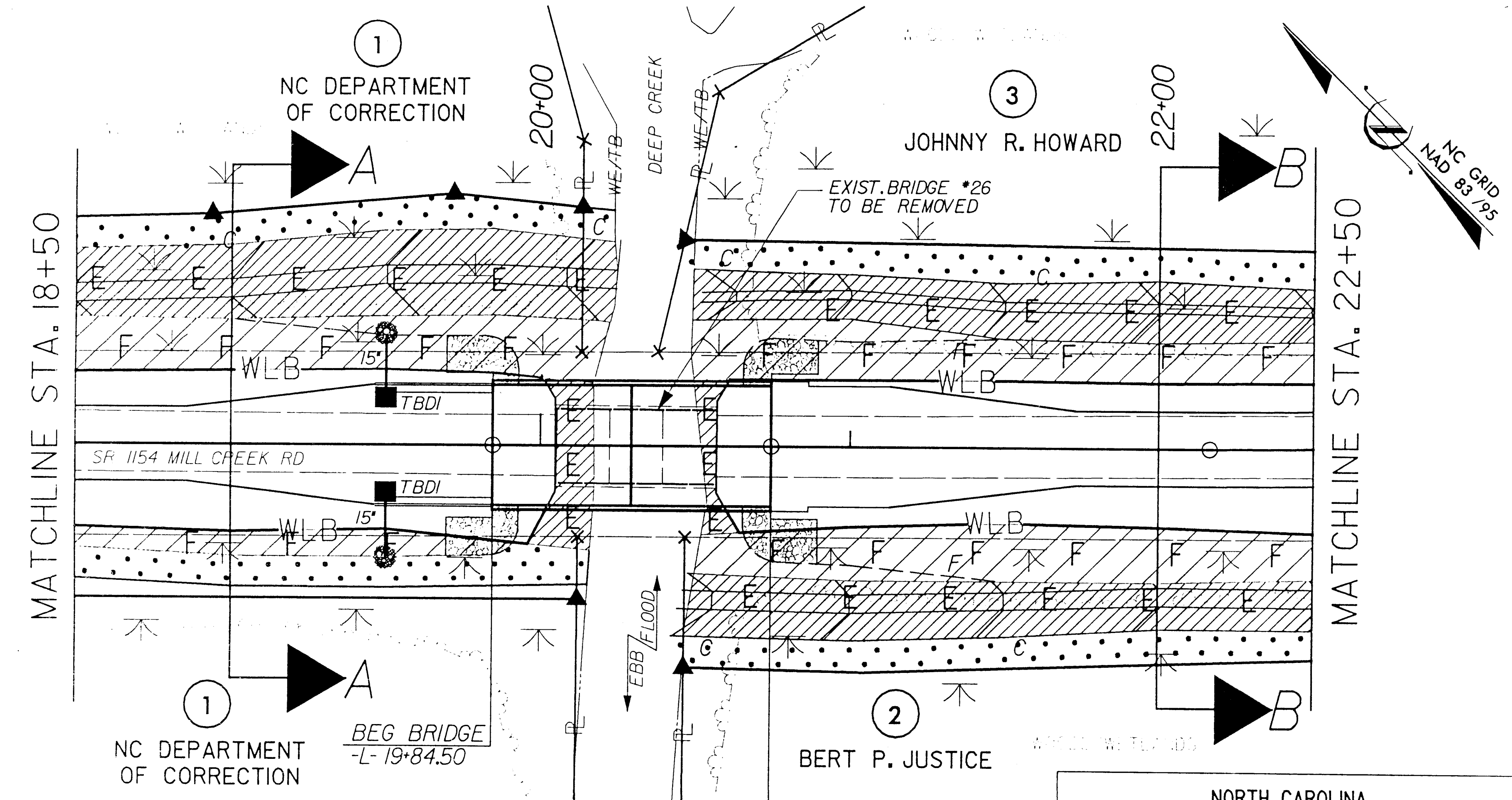
BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

25 0 50

SCALE: 1" = 50'

DATE: 1-20-03

SHEET 5 OF 11



LEGEND

—WLB— WETLAND

F F — DENOTES FILL IN WETLAND

E E — DENOTES EXCAVATION IN WETLAND

• • • — DENOTES MECHANIZED CLEARING

PLAN VIEW
SITE 1

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

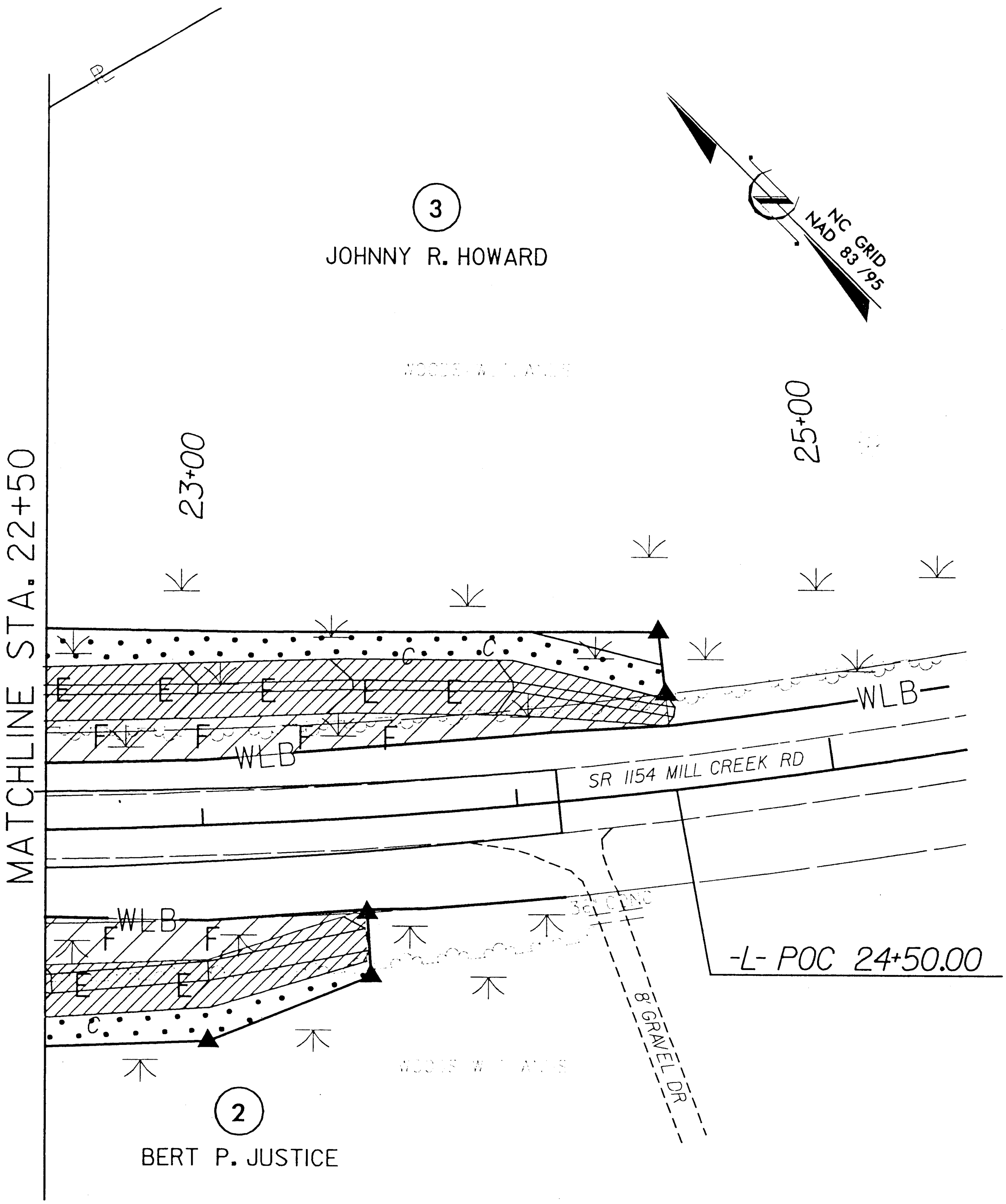
CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

25 0 50
SCALE: 1" = 50'

DATE: 1-20-03

SHEET 6 OF 11



PLAN VIEW
SITE 1

LEGEND

——WLB—— WETLAND

F F — DENOTES FILL IN WETLAND

E E — DENOTES EXCAVATION IN WETLAND

• • • — DENOTES MECHANIZED CLEARING

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

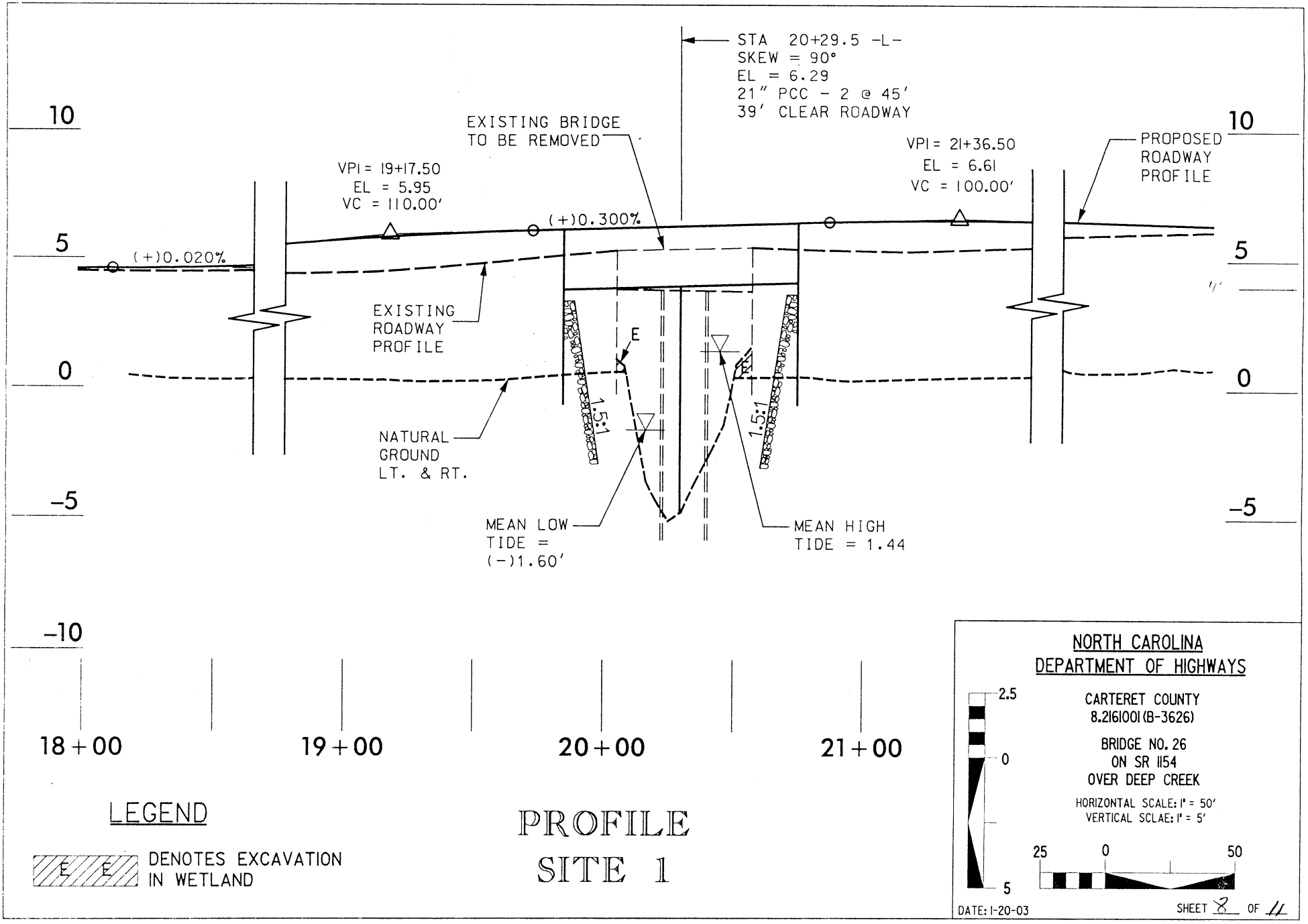
CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

25 0 50
SCALE: 1" = 50'

DATE: 1-20-03

SHEET 7 OF 11



LEGEND

E E DENOTES EXCAVATION IN WETLAND

PROFILE
SITE 1

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

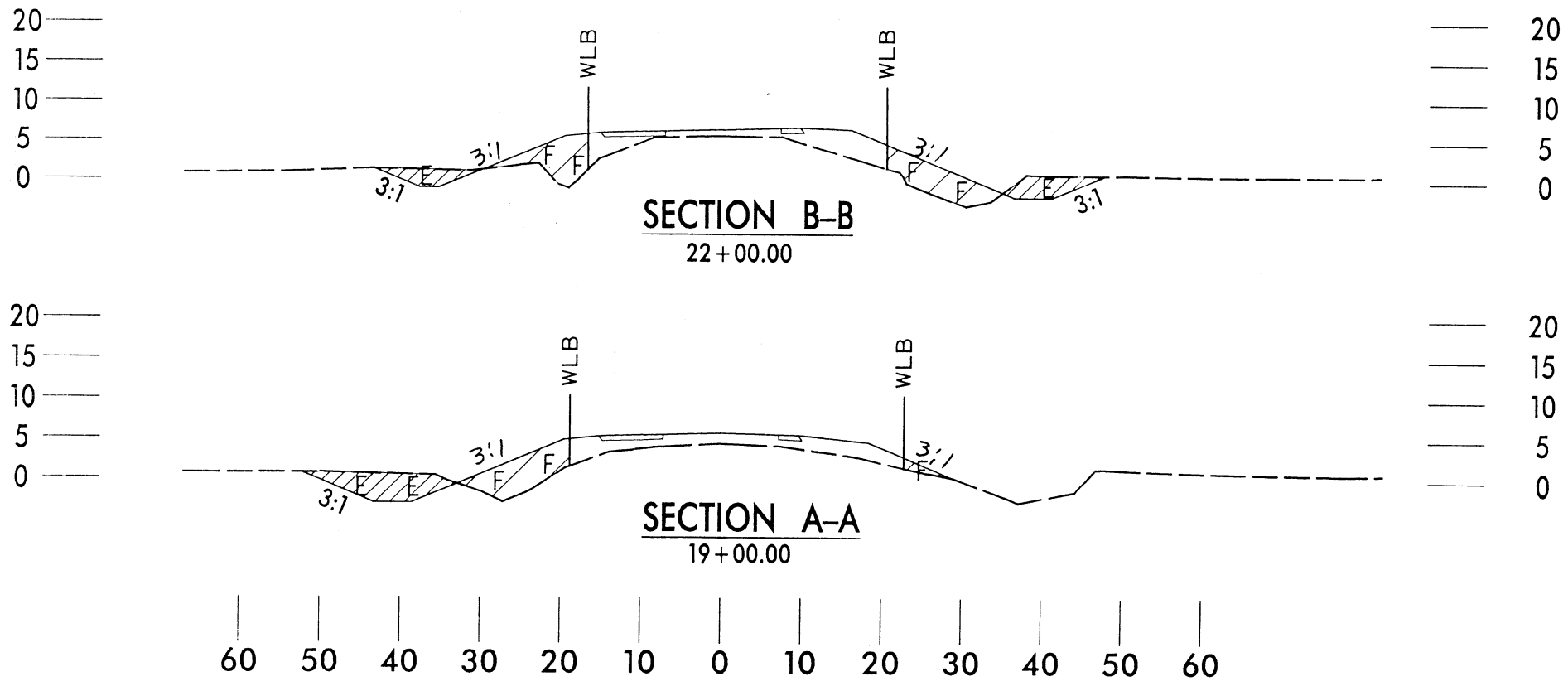
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCLAE: 1" = 5'

2.5
0
5

25 0 50

DATE: 1-20-03

SHEET 8 OF 11



TYPICAL X-SECTIONS
SITE 1

LEGEND

—WLB— WETLAND

F F DENOTES FILL IN WETLAND

E E DENOTES EXCAVATION IN WETLAND

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCLAE: 1" = 20'

10 0 20

10 0 20

DATE: 1-20-03

SHEET 9 OF 11

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS				SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)	Existing Channel Impacted (ft)	Natural Stream Design (ft)
1	16+46.17 - 19+84.50	ROADWAY APPROACH (WEST) LT & RT	0.154	---	0.171	0.142	---	---	---	---	---
1	19+84.50 - 20+74.50	BRIDGE LT & RT	0.035	---	0.071	0.031	---	---	---	---	---
1	20+74.50 - 24+50.00	ROADWAY APPROACH (EAST) LT & RT	0.197	---	0.250	0.151	---	---	---	---	---
TOTALS:			0.386	0	0.492	0.324	0	0	0	0	0

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CARTERET COUNTY
PROJECT: 8.2161001 (B-3626)

1/16/2003

Form Revised 3/22/01

SUMMARY OF AFFECTED PROPERTY OWNERS

TRACT NO.	PROPERTY OWNER	ADDRESS	SITE NO.
(1)	NC DEPARTMENT OF CORRECTION	1084 ORANGE ST. P.O. Box 220 NEWPORT, NC 28570	1
(2)	BERT P. JUSTICE	P.O. Box 615 NEWPORT, NC 28570	1
(3)	JOHNNY R. HOWARD	153 MILL CREEK RD. NEWPORT, NC 28570	1

NORTH CAROLINA
DEPARTMENT OF HIGHWAYS

CARTERET COUNTY
8.2161001 (B-3626)

BRIDGE NO. 26
ON SR 1154
OVER DEEP CREEK

NOT TO SCALE

DATE: 1-20-03

SHEET 11 OF 11

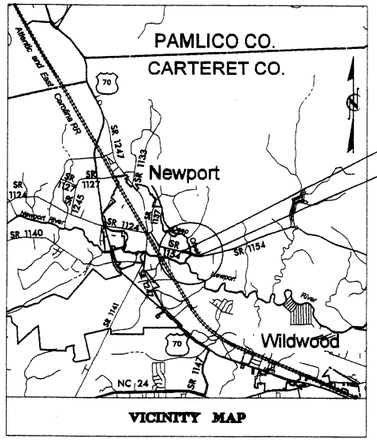
5/22/2003
03:01:1 PM

09/08/99

CONTRACT NO.: C200818 TIP PROJECT: B-3626

$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$USERNAME$$$$

See Sheet 1-A For Index of Sheets
See Sheet 1-B for Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

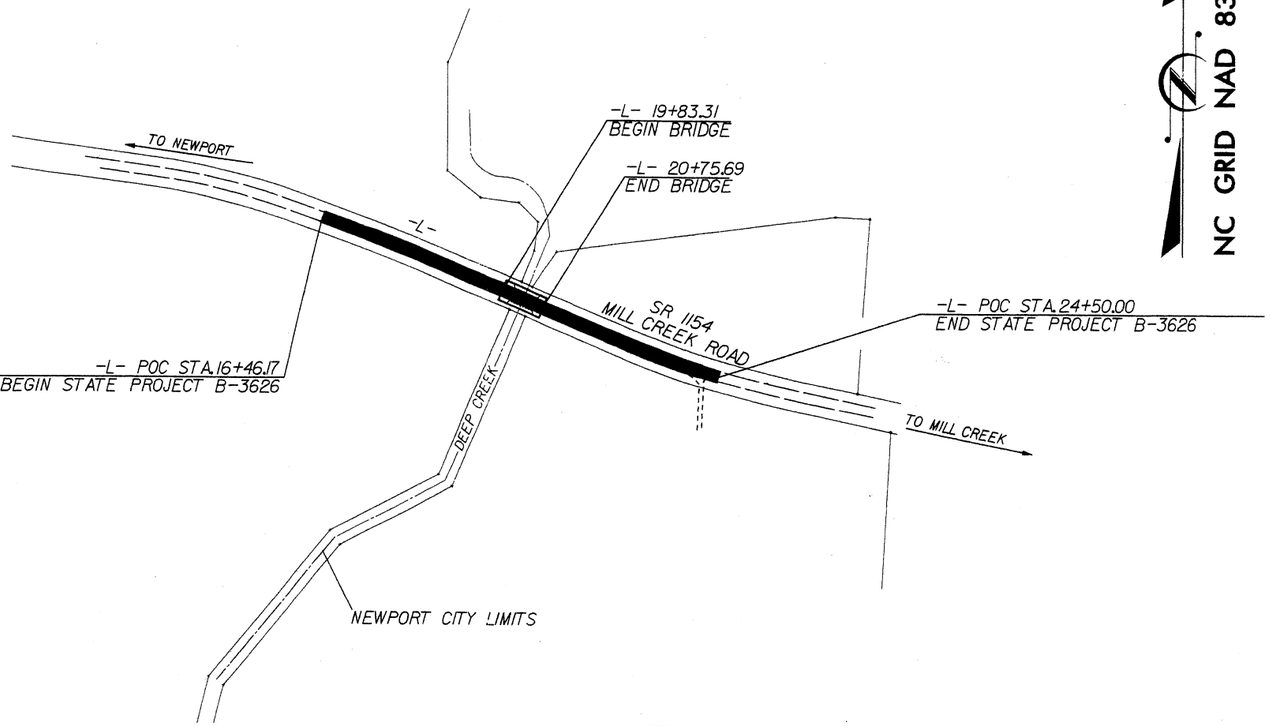
CARTERET COUNTY

LOCATION: BRIDGE NO. 26 OVER DEEP CREEK AND APPROACHES ON SR 1154 (MILL CREEK ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3626	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33174.1.2	BRSTP-1154(2)	PE
33174.2.2	BRSTP-1154(2)	R/W & UTILITY
33174.3.2	BRSTP-1154(3)	CONSTR.



Prepared in the Office of:

SEAR·BROWN
1000 Corporate Drive, Suite 101
Hillsborough, NC 27278-8551
(919) 732-3883
www.searbrown.com

GRAPHIC SCALES

50 0 100
PLANS

50 0 100
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

DESIGN DATA

ADT 2001 = 1500
ADT 2025 = 3000
DHV = 20%
D = 70%
T = 4%*
V = 60 MPH

* TTST 1% DUAL 3%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3626 = 0.135 mi
LENGTH STRUCTURES TIP PROJECT B-3626 = 0.017 mi
TOTAL LENGTH TIP PROJECT B-3626 = 0.152 mi

PREPARED FOR THE DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS, RALEIGH, NC

NCDOT CONTACT
CATHY S. HOUSER, PE
DESIGN SERVICES PROJECT ENGINEER

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBUARY 21, 2003

LETTING DATE:
APRIL 20, 2004

JAMES W. PARKER JR. PE, PLS
PROJECT ENGINEER

DENNIS NAILLON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
W. HERBERT TURNER, JR.
SEAL 21162
W. Herbert Turner Jr. P.E. 1-31-04
SIGNATURE:

ROADWAY DESIGN ENGINEER
SEAL 15455
P.E. 1/29/04
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Art McMillan P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

PREPARED BY:
SEAR·BROWN
1000 Corporate Drive, Suite 101
Hillsborough, NC 27278-8551
(919) 732-3883
www.searbrown.com

PROJECT REFERENCE NO.	SHEET NO.
B-3626	2

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing High Quality Wetland Boundary — HQ WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- River Basin Buffer — RBB
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Guage — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equaility Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — PH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — PH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

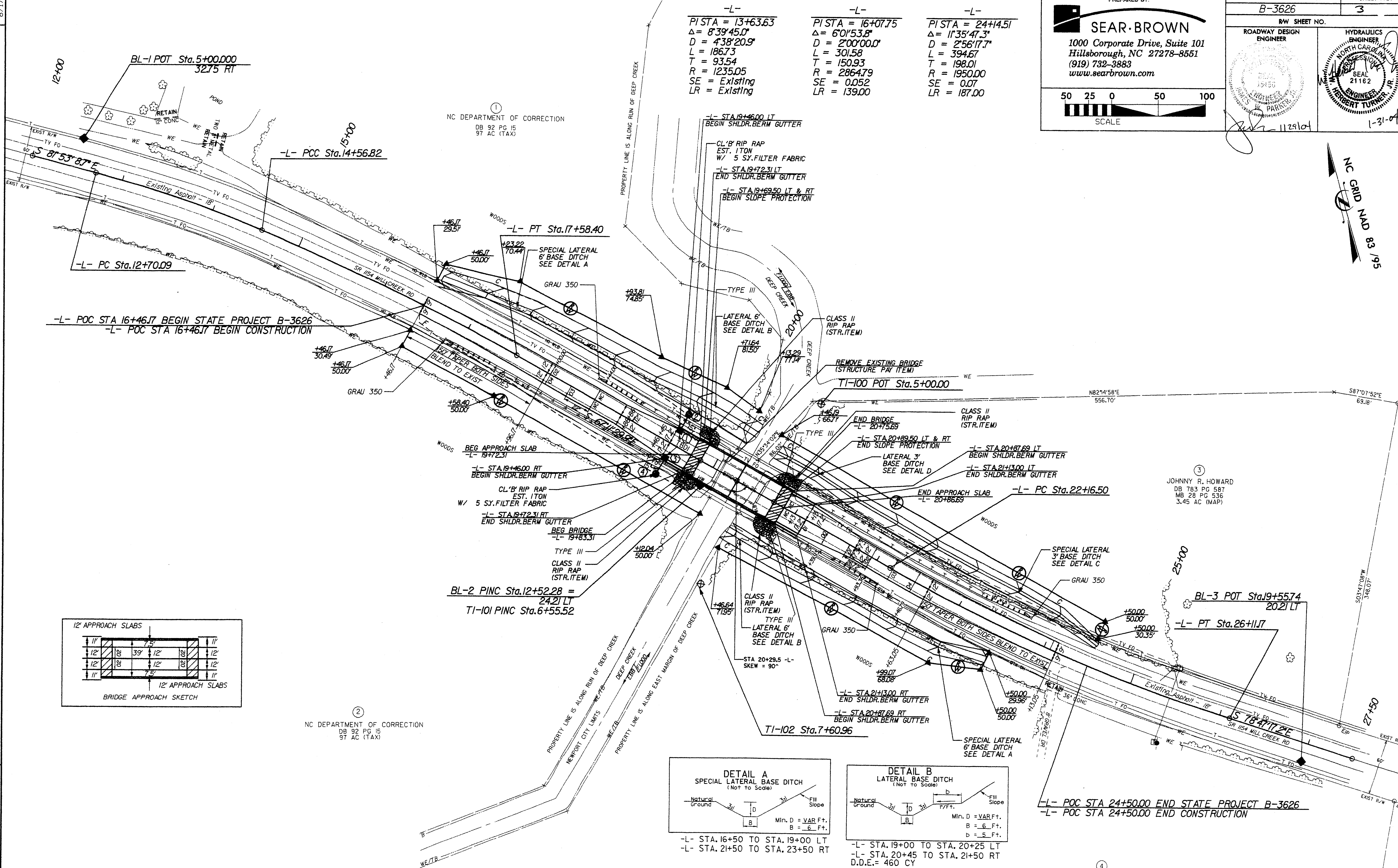
PROJECT REFERENCE NO. B-3626 — SHEET NO. 3

R/W SHEET NO.

PREPARED BY: SEAR·BROWN
1000 Corporate Drive, Suite 101
Hillsborough, NC 27278-8551
(919) 732-3883
www.searbrown.com

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

-L-	-L-	-L-
PI STA = 13+63.63	PI STA = 16+07.75	PI STA = 24+14.51
Δ= 8°39'45.0"	Δ= 6°01'53.8"	Δ= 11°35'47.3"
D = 4°38'20.9"	D = 2°00'00.0"	D = 2°56'17.7"
L = 186.73	L = 301.58	L = 394.67
T = 93.54	T = 150.93	T = 198.01
R = 1235.05	R = 2864.79	R = 1950.00
SE = Existing	SE = 0.052	SE = 0.07
LR = Existing	LR = 139.00	LR = 187.00



BL-1 POT Sta.5+00.000 32.75 RT
-L- PCC Sta.14+56.82
-L- PC Sta.12+70.09
-L- PT Sta.17+58.40
S 81°53'8.7" E
Existing Asphalt - 18'
SR 1154 MILL CREEK RD
NC DEPARTMENT OF CORRECTION DB 92 PG 15 97 AC (TAX)
-L- POC STA 16+46.17 BEGIN STATE PROJECT B-3626
-L- POC STA 16+46.17 BEGIN CONSTRUCTION
-L- STA.19+46.00 LT BEGIN SHLDR.BERM GUTTER
CL'B' RIP RAP EST. 1 TON W/ 5 SY.FILTER FABRIC
-L- STA.19+72.31 LT END SHLDR.BERM GUTTER
-L- STA.19+69.50 LT & RT BEGIN SLOPE PROTECTION
SPECIAL LATERAL 6' BASE DITCH SEE DETAIL A
LATERAL 6' BASE DITCH SEE DETAIL B
CLASS II RIP RAP (STR.ITEM)
REMOVE EXISTING BRIDGE (STRUCTURE PAY ITEM)
T1-100 POT Sta.5+00.00
END BRIDGE -L- 20+75.69
-L- STA.20+89.50 LT & RT END SLOPE PROTECTION
LATERAL 3' BASE DITCH SEE DETAIL D
-L- STA.20+87.69 LT BEGIN SHLDR.BERM GUTTER
-L- STA.21+13.00 LT END SHLDR.BERM GUTTER
END APPROACH SLAB -L- 20+86.69
-L- PC Sta.22+16.50
JOHNNY R. HOWARD DB 763 PG 587 MB 28 PG 536 3.45 AC (MAP)
BEG APPROACH SLAB -L- 19+72.31
-L- STA.19+46.00 RT BEGIN SHLDR.BERM GUTTER
-L- STA.19+72.31 RT END SHLDR.BERM GUTTER
BEG BRIDGE -L- 19+83.31
BL-2 PINC Sta.12+52.28 = 24.21 LT
T1-101 PINC Sta.6+55.52
SPECIAL LATERAL 3' BASE DITCH SEE DETAIL C
BL-3 POT Sta.19+55.74 20.21 LT
-L- PT Sta.26+11.17
S 78°47'17.2" E
STA 20+29.5 -L- SKEW = 90°
-L- STA.21+13.00 RT END SHLDR.BERM GUTTER
-L- STA.20+87.69 RT BEGIN SHLDR.BERM GUTTER
T1-102 Sta.7+60.96
SPECIAL LATERAL 6' BASE DITCH SEE DETAIL A
-L- POC STA 24+50.00 END STATE PROJECT B-3626
-L- POC STA 24+50.00 END CONSTRUCTION
NC DEPARTMENT OF CORRECTION DB 92 PG 15 97 AC (TAX)
BERT P. JUSTICE DB 366 PG 38 33.74 AC (DEED)
PROPERTY LINE IS ALONG RUN OF DEEP CREEK
NEWPORT CITY LIMITS
NC GRID NAD 83/95
BRIDGE APPROACH SKETCH
12' APPROACH SLABS

DETAIL A — SPECIAL LATERAL BASE DITCH (Not to Scale)
Min. D = VAR Ft. B = 6 Ft.
-L- STA. 16+50 TO STA. 19+00 LT
-L- STA. 21+50 TO STA. 23+50 RT

DETAIL B — LATERAL BASE DITCH (Not to Scale)
Min. D = VAR Ft. B = 6 Ft. b = 5 Ft.
-L- STA. 19+00 TO STA. 20+25 LT
-L- STA. 20+45 TO STA. 21+50 RT
D.D.E.= 460 CY

DETAIL C — SPECIAL LATERAL BASE DITCH (Not to Scale)
Min. D = VAR Ft. B = 3 Ft.
-L- STA. 21+50 TO STA. 24+50 LT

DETAIL D — LATERAL BASE DITCH (Not to Scale)
Min. D = VAR Ft. B = 3 Ft. b = 5 Ft.
-L- STA. 20+52 TO STA. 21+50 LT
D.D.E.= 68 CY

NOTES:
1) FOR -L- PROFILE SEE SHEET 5.
2) SEE STRUCTURE PLANS S1 THRU S___.

REVISIONS

5/14/99

PREPARED BY:
SEAR·BROWN
1000 Corporate Drive, Suite 101
Hillsborough, NC 27278-8551
(919) 732-3883
www.searbrown.com

PROJECT REFERENCE NO.	SHEET NO.
B-3626	4

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21162 ENGINEER HERBERT TURNER, JR.

1-31-04

50 25 0 50 100
SCALE - HORIZONTAL

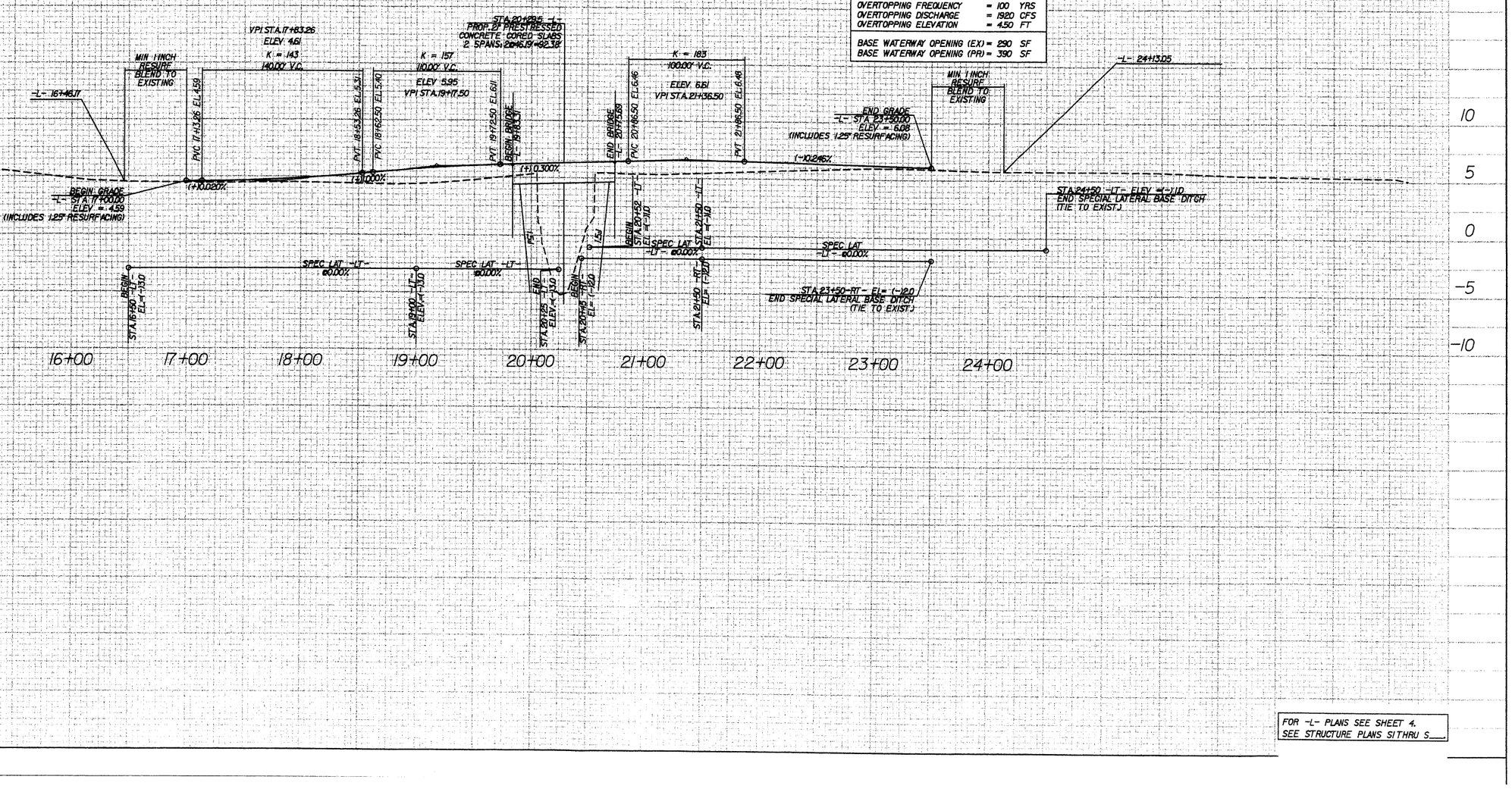
5 0 5 10
SCALE - VERTICAL

-L-

BM #1 RAILROAD SPIKE IN 24" PINE TREE
123.55' LT OF -L- STA 14+36.00, ELEV 5.94'

STRUCTURE HYDRAULIC DATA

DRAINAGE AREA	= 11.0 SQ MI
DESIGN DISCHARGE	= 1630 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 4.02 FT
BASE DISCHARGE	= 2095 CFS
BASE HW ELEVATION	= 4.63 FT
OVERTOPPING FREQUENCY	= 100 YRS
OVERTOPPING DISCHARGE	= 1920 CFS
OVERTOPPING ELEVATION	= 4.50 FT
BASE WATERWAY OPENING (EX)	= 290 SF
BASE WATERWAY OPENING (PR)	= 390 SF



FOR -L- PLANS SEE SHEET 4.
SEE STRUCTURE PLANS SITHRU S___.

$$$$$SYSTIME$$$$$
$$$$$SYSNAME$$$$$

02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-3626	X-3	5

PREPARED BY:
SEAR·BROWN
1000 Corporate Drive, Suite 101
Hillsborough, NC 27278-8551
(919) 732-3883
www.searbrown.com

SCALE 10 5 0 10 20

5.42
0.020 FT./FT. 0.020 FT./FT.
1:1 TEMP. SLOPE
5.42
20+75.69
(END BRIDGE)

6.15
0.020 FT./FT. 0.020 FT./FT.
1:1 TEMP. SLOPE
5.15
19+83.31
(BEGIN BRIDGE)

6.03
0.020 FT./FT. 0.020 FT./FT.
1:1 TEMP. SLOPE
4.80
19+50.00

5.73
TEMP. WIDENING
0.020 FT./FT. 0.020 FT./FT.
0.020 FT./FT.
1:1 TEMP. SLOPE
4.44
19+00.00

5.27
TEMP. WIDENING
0.020 FT./FT. 0.021 FT./FT.
0.020 FT./FT.
1:1 TEMP. SLOPE
4.44
18+50.00

01/14/2004
I:\Jobs\7929\100pc\plans\B3626_RDY_XPI.DGN
$$$$USERNAME$$$$

Carteret County

SR 1154

Replace Bridge No. 26 Over Deep Creek

Federal-Aid Project No. BRSTP-1154(2)

State Project No. 8.2161001

T.I.P. No. B-3626

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

9/11/01
DATE

for William D. Gilmore, P.E., Manager
Project Development and Environmental
Analysis Branch, NCDOT

9/14/01
DATE

for Nicholas L. Graf, P.E.
Division Administrator, FHWA

Carteret County

SR 1154

Replace Bridge No. 26 Over Deep Creek

Federal-Aid Project No. BRSTP-1154(2)

State Project No. 8.2161001

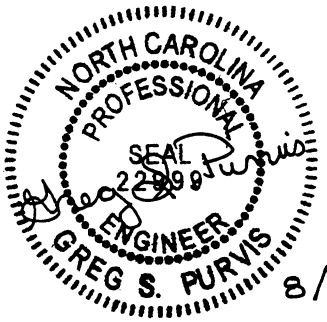
T.I.P. No. B-3626

CATEGORICAL EXCLUSION

August 2001

Document Prepared by:
Wang Engineering Company, Inc.

Greg S. Purvis, P.E.
Project Manager



8/31/01

James Wang, Ph.D., P.E.
Principal

For the North Carolina Department of Transportation

Stacy B. Harris, P.E.
Project Manager
Consultant Engineering Unit

PROJECT COMMITMENTS

Carteret County
SR 1154
Replace Bridge No. 26 Over Deep Creek
Federal-Aid Project No. BRSTP-1154(2)
State Project No. 8.2161001
T.I.P. No. B-3626

In addition to the standard Nationwide Permit No. 23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to

Division Engineer

The Stream Crossing Guidelines for Anadromous Fish Passage will be implemented, as applicable.

The United State Fish & Wildlife Service recommendations for general construction activities in aquatic areas will be implemented.

Project Development & Environmental Analysis

Mitigation will be provided for any unavoidable wetland losses. The final determination of mitigation requirements and measures rests with the Division of Coastal Management, with input from the US Army Corps of Engineers and the Division of Water Quality.

Carteret County
SR 1154
Replace Bridge No. 26 Over Deep Creek
Federal-Aid Project No. BRSTP-1154(2)
State Project No. 8.2161001
T.I.P. No. B-3626

INTRODUCTION: The replacement of Bridge No. 26 is included in the 2002-2008 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (T.I.P.) and the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion."

I. PURPOSE AND NEED

Bridge Maintenance Unit records indicated the bridge has a sufficiency rating of 16.2 out of a possible 100 for a new structure. The bridge is considered functionally obsolete and structurally deficient. The replacement of an inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

SR 1154 (Mill Creek Road) is classified as a rural major collector. Land use in the project area is primarily residential and woodland. Private residences and maintained yards are located in the eastern quadrant of the study area. Undeveloped woodlands are adjacent on the north and south sides of the study area. Deep Creek at the project site is designated as Public Trust Waters.

Bridge No. 26 was constructed in 1959. The existing structure is 53 feet (16.2 meters) in length, which consists of three spans with the maximum span of 18 feet (5.5 meters). The clear roadway width is 24 feet (7.2 meters), providing two ten-foot (three meters) travel lanes with two foot (0.6 meter) shoulders. The superstructure consists of a reinforced concrete floor slab on timber joists with an asphalt-wearing surface. The substructure is a timber abutment design. The interior bents consist of timber caps on timber piles. The crown to bed height is ten feet (three meters). The posted weight limit is 18 tons (16.3 metric tons) for single vehicles (SV) and 27 tons (24.5 metric tons) for truck-tractors semi-trailers (TTST).

The existing bridge and approaches on SR 1154 are tangent with a 2.5 degree (730 meter radius) curve approximately 130 feet (39.6 meters) from the east end and a 2 degree curve extending from a 6.5 degree (272.5 meter radius) curve that is approximately 245 feet (73.5 meters) from the west end of the structure. SR 1154 consists of two ten-foot (three meter) lanes with grassed shoulders ranging from seven feet (2.1 meters) to 14-feet (4.2 meters).

The estimated 2001 average daily traffic volume is 1,500 vehicles per day (vpd). The projected traffic volume is expected to increase to 3,000 vpd by the design year 2025. The volumes include one percent TTST and three percent dual tired vehicles.

The posted speed limit is 55 mph (90 km/h) on the east end of the structure and 45 mph (70 km/h) on the west end of the structure.

SR 1154 is not part of a designated bicycle route and there are no indications that an unusual number of bicyclists are using this route.

There are underground TV cables on the north side of the road, underground fiber optic cables owned by Sprint on the south side of the road, and there are no utilities attached to the bridge. There are aerial power lines 485 feet (145.5 meters) from the east end of the bridge on both sides of the roadway. Utility impacts are anticipated to be low.

There were no accidents reported for the three-year period of December 1, 1996 to November 30, 1999.

Four to six school buses cross this bridge four times daily.

III. ALTERNATIVES

A. Project Description

The proposed structure will provide two 12-foot (3.6 meters) travel lanes with eight foot (2.4 meters) shoulders for a total deck width of 40-feet (12 meters).

The proposed approach roadway will consist of a 24-foot (7.2-meter) travel-way providing for two 12-foot (3.6-meter) travel lanes with eight foot (2.4-meter) shoulders. The design speed will be 60 mph [100 (km/h)].

Based on a preliminary hydraulic analysis, Bridge No. 26 will be replaced by a cored slab bridge approximately 80 feet (24.0 meters) in length with a spill through design. The opening size of the proposed structure may increase or decrease as necessary to accommodate peak flows as determined from a more detailed hydraulic analysis to be performed during the final design phase of the project.

B. Reasonable and Feasible Alternatives

Two (2) reasonable and feasible alternatives studied for replacing the existing bridge are described below.

Alternate A (Preferred) replaces the bridge at the existing location. During construction, traffic will be maintained by an on-site detour with a temporary detour structure. The temporary detour structure will be a temporary bridge approximately 85-feet (25.5 meters) in

length, located south of the existing bridge. The length of approach work will be 1300 feet (390 meters) and the right of way width will be 100 feet (30 meters).

Alternate B replaces the bridge at the existing location with a new structure. During construction, traffic will be maintained by an off-site detour route along SR 1155, NC 101, and US 70 (Figure 1) that is approximately 29 miles (46.7 kilometers) in length. The length of approach work will be 800 feet (240 meters) and the right of way width will be 100 feet (30 meters).

A road user analysis was performed based on 1,600 vehicles per day (vpd) for the construction year 2003 and an average of 29 miles (46.7 kilometers) of indirect travel. The cost of additional travel will be approximately $2.75 million dollars during a six-month construction period.

C. Alternatives Eliminated From Further Study

Alternate C replaces the bridge with shifting its alignment approximately 14-feet (4.2 meters) upstream and stage construction. Stage One will include building 17-feet (5.1 meters) of the proposed structure and roadway approaches. During construction of Stage one, traffic will be maintained on the existing bridge. Stage two will include shifting traffic to the new one-lane structure with two-way traffic. The existing bridge will be removed and the proposed structure completed. The length of approach work will be 1660 feet (498 meters) and the right of way width will be 100 feet (30 meters).

Alternate C was eliminated because of the anticipated settlement problems that would occur from a fill height of over five feet (1.5 meters). Alternate C also has environmental impacts similar to those of Alternate A without a substantial reduction in construction cost.

The "Do-Nothing" Alternative will eventually necessitate removal of the bridge. This is not desirable due to the traffic service provided by SR 1154.

Investigation of the existing structure by the Bridge Maintenance Unit indicates the rehabilitation of the old bridge is not feasible due to its age and deteriorated condition.

D. Preferred Alternative

Alternate A, replacing the bridge at the existing location is the preferred alternate. Alternate A was selected because of the excessive length of the available off-site detour route associated with Alternate B.

The temporary detour structure for Alternate A will be a temporary bridge approximately 85-feet (25.5 meters) in length, located south of the existing bridge. The temporary embankment height will not exceed five feet (1.5 meters) to avoid stability problems.

The Division Engineer concurs with Alternate A as the preferred alternate.

IV. ESTIMATED COST

The estimated costs, based on current prices, are as follows:

	Alternate A (Preferred)	Alternate B
Structure Removal (existing)	$ 9,300	$ 9,300
Structure (proposed)	208,000	208,000
Detour Structure and Approaches	460,900	0
Roadway Approaches	154,800	154,700
Miscellaneous and Mobilization	375,000	168,000
Engineering and Contingencies	192,000	85,000
ROW/Const. Easements/Utilities:	22,100	12,000
TOTAL	$1,422,100	$637,000

The estimated cost of the project, as shown in the 2002-2008 Transportation Improvement Program, is $330,000 including $30,000 for right-of-way and $300,000 for construction.

V. NATURAL RESOURCES

A. Methodology

Materials and research data in support of this investigation have been derived from a number of sources including applicable U.S. Geological Survey (USGS) topographic mapping (Newport, NC 7.5 minute quadrangle), U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) mapping (7.5 minute quadrangle), U.S. Department of Agriculture Soils Conservation Service soils mapping (USDA 1978), and mapping depicting proposed construction impacts for each alternative (scale 1:2400).

The site was visited on January 3, 2001 and March 22, 2001. Weather during the site visit was cool and sunny. The project corridor was walked and visually surveyed for significant features. For purposes of this evaluation, the project corridor was assumed to be approximately 1500 feet (450 meters) in length and 200 feet (60 meters) in width. For this report, impact calculations are based on a right-of-way width of approximately 100 feet (30 meters). Actual impacts will be limited to cut-fill boundaries and are expected to be less than those shown for right-of-way. Special concerns evaluated in the field include 1) potential habitat for protected species and 2) wetlands and water quality protection in and adjacent to Deep Creek

Plant community descriptions are based on a classification system utilized by North Carolina Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant

names follow nomenclature found in Radford *et al.* (1968) with exceptions for updated nomenclature. Jurisdictional areas were evaluated using the three-parameter approach (hydrophytic vegetation, hydric soils, wetland hydrology) following U.S. Army Corps of Engineers (COE) delineation guidelines (DOA 1987). Jurisdictional areas were characterized according to a classification scheme established by Cowardin *et al.* (1979). Habitat used by terrestrial wildlife and aquatic organisms, as well as expected population distributions, were determined through field observations, evaluation of available habitat, and supportive documentation (Martof *et al.* 1980, Webster *et al.* 1985, Menhinick 1991, Potter *et al.* 1980, Hamel 1992, Palmer and Braswell 1995, Rohde *et al.* 1994). Water quality information for area streams and tributaries was derived from available sources (DWQ 1997a, DWQ 1997b). Quantitative sampling was not undertaken to support existing data.

The most current FWS listing of federally protected species with ranges extending into Carteret County (March 22, 2001) was obtained prior to initiation of the field investigation. In addition, NHP records documenting presence of federally or state listed species were consulted before commencing field investigations.

Bridge No. 26 is located along the outskirts of the Town of Newport in Carteret County, approximately 11.75 miles (18.9 kilometers) west of Morehead City (Figure 1). The project corridor is located at the crossing of Mill Creek Road (SR 1154) over Deep Creek. The area spans the channel of Deep Creek and adjacent banks, associated floodplain, and side-slopes. The project corridor primarily supports a mature bottomland forest with a well-developed canopy and a well-defined understory.

B. Physiography and Soils

The project corridor is located just inside of the Suffolk Scarp geologic formation within the lower Coastal Plain physiographic province of North Carolina. The Suffolk Scarp geologic formation formed approximately 600,000 years ago along the ocean bottom of the ancient Pamlico Sea. Elevations within this geologic formation typically do not exceed 25 feet (7.6 meters) above sea level. The physiographic area is described as a low marine terrace and stream terrace of the Pamlico Surface. This low marine terrace extends inland along some of the larger creeks and rivers until elevations exceed 25 feet (7.5 meters) above sea level. Topography in this region is described as level, low-lying inter-stream flats dissected by several sluggish Coastal Plain streams. The project corridor is located in, and adjacent to the floodplain of Deep Creek. Elevations within the project corridor do not exceed five feet (1.5 meters) National Geodetic Vertical Datum (USGS Newport, NC quadrangle).

Soils typically found along low marine and stream terraces that remain regularly flooded include deep mucky soils underlain by sands. One soil series has been mapped throughout the entire project corridor. Masontown mucky loam (*Cumulic Humaquepts*) has been mapped throughout the floodplain of Deep Creek. The Masontown mucky loam is a nearly level, very poorly drained soil typically found within the floodplains of drainageways. This soil is prone to frequent flooding for long periods. Seasonal high water table is at or near

the surface (USDA 1978). This soil type is typically forested and due to frequent flooding is not used for agricultural or development purposes. Masontown mucky loam is listed as a Type A hydric soil in Carteret County (USDA 1997).

Construction of a temporary detour structure along either side of existing SR 1154 is feasible. Geotechnical analysis using available Shelby Tube data and an embankment height of 5 feet (1.5 meters) indicates that approximately 1.3 feet (0.39 meters) of settlement will occur over a time period of 1 year in the surficial organic soils. No stability problems are anticipated if the embankment height does not exceed 5 feet (1.5 meters). Placement of soil stabilization fabric will be required along the majority of the detour approaches to assist in stabilizing the weak surficial deposits and to reduce disturbance of the wetland in order to reestablish the natural ground elevation when the detour embankment is removed.

C. Water Resources

1. Surface Waters

The project corridor is located within sub-basin 03-05-03 of the White Oak River Basin (DWQ 1997b), which is part of USGS hydrologic unit 03020106 of the Mid-Atlantic/Gulf Region. The drainage area at the project site is approximately 10.2 sq. miles (16.3 sq. kilometers). Deep Creek drains into the Newport River approximately 0.3 mile (0.5 kilometer) downstream. Although Deep Creek is a part of the White Oak River Basin, there is no direct or indirect connection with the White Oak River. The structure targeted for replacement (Bridge No. 26) spans the main channel of Deep Creek with no direct involvement of additional streams or tributaries. This section of Deep Creek has been assigned Stream Index Number 21-11 by the N.C. Division of Water Quality (DWQ 1997a). No other streams or tributaries exist within the project corridor.

2. Stream Characteristics

Deep Creek is described as a blackwater, regularly flooded, coastal swamp system. The headwaters to this palustrine system originate approximately 5.3 miles (8.5 kilometers) north of the project corridor. Deep Creek averages approximately 37 feet (11.1 meters) in width and five feet (1.5 meters) from the water surface to the bottom of the bridge. During field investigations, water depth was approximately four to six feet (1.2-1.8 meters) at the center of the bridge and flow velocity was slow. Height of stream banks above the water level was approximately three feet (0.9 meter). Water in the channel was transparent with a brownish tint possibly from tannic acid due to upstream organic deposition (typical in blackwater systems). The Deep Creek floodplain extends throughout the project corridor, is 900 feet (270 meters) in length, contains hydric soils, and supports hydrophytic vegetation. According to Cowardin *et al.* (1979), this system is characterized by semipermanent flooding; however, the stream was not at flood stage during field investigations.

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams or segments of streams in the basin. A best usage classification of **C** has been assigned to Deep Creek (DWQ 1997a). The designation Class **C** uses include aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Secondary recreation refers to human body contact with waters on an infrequent or incidental basis. No designated High Quality Waters (**HQW**), Outstanding Resource Waters (**ORW**), Water Supply I (**WS-I**), or Water Supply II (**WS-II**) waters occur within the Newport River or adjacent tributaries.

The Division of Water Quality (DWQ) has initiated a whole-basin approach to water quality management for the 17 river basins within the state. Water quality for the proposed project corridor is summarized in the basinwide water quality plan (DWQ 1997b). Water quality for individual streams is based on chemical, benthic, and fish monitoring stations spread throughout the basin. Deep Creek received a waterbody use support rating of **Partially Supporting** by the DWQ, which means this system is currently partially supporting the designated best usage classification. The leading potential sources of pollution in the Newport River watershed include both point and non-point sources.

Point source activities that may impact water quality involve point source dischargers within the sub-basin. This sub-basin (03-05-03) supports two major point-source dischargers and seven minor dischargers. Both of the major point-source municipal facilities are located downstream of the project corridor along the Newport River. Total permitted flow for the two major dischargers is 3.2 million gallons per day (43.5 million liters per day). Total permitted flow for the minor dischargers is 0.5 million gallons per day (6.8 million liters per day) (DWQ 1997b). Non-point source pollution within the sub-basin that may impact water quality includes agriculture, forestry, urban runoff, septic tanks, and marinas. However, pollution resulting from urban runoff, septic tanks, and marinas is concentrated down stream of the project corridor in Morehead City and Beaufort. Agriculture and forestry activities often result in fecal coliform bacteria, sedimentation, and increased nutrient levels in surface waters. According to DWQ (1997b), high levels of fecal coliform bacteria may have occurred in the Newport River at Newport. Neither sedimentation nor nutrient loading has been identified as a significant pollution problem within the Newport River (DWQ 1997b).

3. Anticipated Impacts

a) General Impacts

The proposed bridge replacement will allow for continuation of pre-project stream flows in Deep Creek, thereby protecting the integrity of these waterways. Long-term impacts to adjacent reaches resulting from construction are expected to be negligible. In order to minimize impacts to water resources, NCDOT Best Management Practices (BMPs) for the Protection of Surface Waters will be strictly

enforced during the entire life of the project. The following are methods to reduce sedimentation and water quality impacts:

- strict adherence to BMPs for the protection of surface waters during the life of the project;
- reduction and elimination of direct and non-point discharge into the water bodies and minimization of activities conducted in the stream;
- placement of temporary ground cover or re-seeding of disturbed sites to reduce runoff and decrease sediment loadings;
- reduction of clearing and grubbing along the stream.

There is potential for components of the bridge to be dropped into waters of the United States during construction. The resulting potential temporary fill associated with the concrete deck and bents is approximately 16 cubic yards (12.0 cubic meters). NCDOT's Best Management Practices for Bridge Demolition and Removal (BMP-BDR) will be applied for the removal of this bridge.

D. Biotic Resources

1. Plant Communities

Two distinct plant communities were identified within the project corridor: cypress-gum swamp forest, and roadside/disturbed land. These plant communities are described below.

a) Cypress-Gum Swamp Forest (Blackwater Subtype)

A cypress-gum swamp forest occurs throughout the floodplain and along stream margins of Deep Creek and makes up the majority of the project corridor. This type of community is common along blackwater streams in the Coastal Plain and approximates a Cypress–Gum Swamp based on the classification system used by NHP (Schafale and Weakley 1990). This community has a well-developed canopy and a sparsely developed understory due to frequent flooding. Regular flooding by Deep Creek deposits sediment and limited nutrients throughout this community. Denser undergrowth is found farther away from the stream channel where elevations slowly rise above flood levels. The canopy is dominated by swamp tupelo (*Nyssa biflora*), black gum (*Nyssa sylvatica*), and bald cypress (*Taxodium distichum*). The understory contains sub-canopy/shrub species such as Chinese privet (*Ligustrum sinense*), wax myrtle (*Myrica cerifera*), titi (*Cyrilla racemiflora*), and sweet bay (*Magnolia virginiana*). Herb and vine species identified in this community include

giant cane (*Arundinaria gigantea*), greenbriar (*Smilax laurifolia*), various sedges (*Carex* spp.), netted chain-fern (*Woodwardia areolata*), Japanese honeysuckle (*Lonicera japonica*), and rush (*Juncus* sp.). As elevations along adjacent side slopes increase, characteristics of a drier bottomland hardwood forest are exhibited. Additional species in drier areas include tulip poplar (*Liriodendron tulipifera*), sweetgum (*Liqiudambar styraciflua*), eastern red cedar (*Juniperus virginiana*), and loblolly pine (*Pinus taeda*) in the canopy, as well as various species of greenbrier (*Smilax* spp.) and American holly (*Ilex opaca*) in the understory.

b) Roadside/disturbed Land

Roadside/disturbed land is defined as the margins associated with roadside shoulders and surrounding development. This community is located along the existing roadside margins throughout the project corridor and averages approximately 20 feet (6.1 meters) in width. Most of the roadside/disturbed land is regularly maintained and is dominated by herbs. Common herbs found along roadside shoulders include English plantain (*Plantago lanceolata*), broom panic grass (*Dicanthelium scoparium*), dayflower (*Commelina* sp.), clover (*Trifolium* sp.), and various grasses.

c) Plant Communities within the Project Corridor

Plant community impacts are estimated based on the amount of each plant community present within the projected right-of way. Permanent impacts are considered to be those impacts that occur within the cut-fill limits that will permanently alter current plant communities. Temporary impacts are those impacts that occur between cut-fill limits and the proposed right-of-way. Portions of a specific plant community, which are to be impacted but returned to pre-project composition, will also be considered a temporary impact. A summary of potential plant community impacts is presented in Table 1.

From an ecological perspective, impacts of upgrading existing road facilities are relatively minimal. Permanent impacts to natural plant communities resulting from Alternates A and B are generally restricted to narrow strips adjacent to the existing facility. However, due to the construction of a temporary detour, as well as an extended temporary easement, temporary impacts to natural plant communities are expected to be larger for Alternate A. For all alternatives, no additional fragmentation of plant communities will be created, as the project will result only in alteration of community boundaries. Permanent impacts to natural plant communities will be minimized with planting of vegetation and the restoration of natural contours of the plant community.

Table 1: Projected plant community impacts within the Alternative Corridors. Permanent impacts are considered to be those impacts that occur within the cut-fill limits that will permanently alter current plant communities. Temporary impacts are those impacts that occur between cut-fill limits, temporary easements, and the proposed right-of-way. Portions of a specific plant community, which are to be impacted but returned to pre-project composition, will also be considered a temporary impact. Areas are given in acres (hectares).

TABLE 1
ANTICIPATED IMPACTS TO PLANT COMMUNITIES

		PLANT COMMUNITY		
Alternative Corridors	Impact Type	Successional Field Acres (hectares)	Roadside/ Disturbed Land Acres (hectares)	**Total** Acres (hectares)
A	Temporary	0.32 (0.13)	0.26 (0.10)	0.58 (0.23)
	Permanent	0.01 (0.004)	0.01 (0.004)	0.02 (0.008)
	Total	0.33 (0.13)	0.27 (0.11)	0.60 (0.24)
B	Temporary	--	0.14 (0.05)	0.14 (0.05)
	Permanent	0.48 (0.19)	0.02 (0.008)	0.50 (0.20)
	Total	0.48 (0.19)	0.16 (0.06)	0.64 (0.26)

2. Wildlife

a) Terrestrial

Mammal signs (tracks, scat, *etc.*) observed within the project corridor were limited to tracks of a raccoon (*Procyon lotor*) and white-tailed deer (*Odocoileus virginianus*). Opportunistic and characteristic species, which are expected to frequent woodlands and fringe areas in this part of the state, include the gray squirrel (*Sciurus carolinensis*), marsh rabbit (*Sylvilagus palustris*), marsh rice rat (*Oryzomys palustris*), Virginia opossum (*Didelphis virginianus*), cotton mouse (*Peromyscus gossypinus*), nutria (*Myocastor coypus*), golden mouse (*Ochrotomys nuttalli*), mink (*Mustela vison*), and black bear (*Ursus americanus*).

With the combination of a bottomland system and adjacent cleared uplands, several bird species are expected to occur within the project vicinity. Birds identified during the field investigation include belted kingfisher (*Ceryle alcyon*), Carolina chickadee (*Poecile carolinensis*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescens*), swamp sparrow (*Melospiza georgiana*), yellow-rumped warbler (*Dendroica coronata*), turkey vulture (*Cathartes aura*), eastern screech owl (*Otus asio*), ring-billed gull (*Larus delawarensis*), killdeer (*Charadrius vociferus*), and American robin (*Turdus migratorius*). Other bird species that may occur within the project vicinity include northern mockingbird (*Mimus polyglottos*),

Carolina wren (*Thryothorus ludovicianus*), palm warbler (*Dendroica palmarum*), mourning dove (*Zenaida macroura*), northern cardinal (*Cardinalis cardinalis*), and red-shouldered hawk (*Buteo lineatus).*

No terrestrial reptile species were identified within the project corridor. Common terrestrial reptiles and amphibians, which may occur within the project corridor, include eastern box turtle (*Terrapene carolina*), Carolina anole (*Anolis carolinensis*), rough green snake *(Opheodrys aestivus*), broadhead skink (*Eumeces laticeps*), five-lined skink (*Eumeces fasciatus*), rat snake (*Elaphe obsoleta*), eastern kingsnake (*Lampropeltis getulus*), and eastern garter snake (*Thamnophis sirtalis*).

b) Aquatic

Limited surveys resulted in no documentation of aquatic reptiles or amphibians in the project corridor. Deep Creek provides suitable habitat for aquatic and semi-aquatic reptiles and amphibians. Aquatic or semi-aquatic reptiles and amphibians which may occur within the project corridor include snapping turtle (*Chelydra serpentina*), yellowbelly slider (*Trachemys scripta*), spotted turtle (*Clemmys guttata*), mud snake (*Farancia abacura*), brown water snake (*Nerodia taxispilota*), redbelly water snake (*Nerodia erythrogaster*), cottonmouth (*Agkistrodon piscivorus*), eastern newt (*Notophthalmus viridescens*), southern dusky salamander (*Desmognathus auriculatus*), mud salamander (*Pseudotriton montanus*), green frog (*Rana clamitans*), southern cricket frog (*Acris gryllus*), and pickerel frog (*Rana palustris*).

No sampling or surveys were undertaken in Deep Creek to determine fishery potential; however, in April of 1995, the DWQ surveyed a portion of the Newport River, approximately 5.5 miles (8.8 kilometers), upstream of the confluence of the Newport River and Deep Creek. Due to the similarity of habitat and the direct connection between the two water bodies, Deep Creek is expected to contain similar species to the Newport River. Those species identified that may utilize Deep Creek include the American eel (*Anguila rostrata*), pirate perch (*Aphredoderus sayanus*), sawcheek darter (*Etheostoma serrifer)*, redfin pickerel *(Esox americanus*), and the bluespotted sunfish (*Enneacanthus gloriosus*) (DWQ Unpublished). Other species that may frequent the waters of the Branch of the Newport include the margined madtom (*Noturus insignis*), tadpole madtom (*Noturus gyrinus*), longnose gar (*Lepisosteus osseus*), creek chubsucker (*Erimyzon oblongus*), eastern mosquitofish (*Gambusia holbrooki*), and swamp darter.

The project corridor is located within the Coastal Plain and includes the crossing of Deep Creek, a tributary to the Newport River. For Coastal Plain streams, both anadromous and catadromous fish passage should be considered in the timing of any proposed in-stream activities associated with bridge replacement. According to Menhinick (1991), several species of anadromous fish and one species of catadromous fish may migrate through Deep Creek during scheduled bridge activities. The anadromous species may include striped bass (*Morone saxatilis*),

Atlantic sturgeon (*Acipenser oxyrhynchus*), sea lamprey (*Petromyzon marinus*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), and white perch (*Morone americana*); while the single catadromous fish species is the American eel (*Anguilla rostrata*). Design and scheduling of bridge replacement should avoid in-stream activities during the spring migration period for these fish species within the Neuse River and tributaries including Deep Creek.

c) Anticipated Impacts to Wildlife

Due to the limited extent of infringement on natural communities, the proposed bridge replacement will not result in loss or displacement of known terrestrial animal populations. No substantial habitat fragmentation is expected since most improvements will be restricted to existing roadside margins. Construction noise and associated disturbances will have short-term impacts on avifauna and migratory wildlife movement patterns. However, long-term impacts are expected to be negligible. Potential down-stream impacts to aquatic habitat will be avoided by bridging the system to maintain regular flow and stream integrity. Short-term impacts associated with turbidity and suspended sediments will affect benthic populations. Temporary impacts to downstream habitat from increased sediment during construction will be minimized by the implementation of stringent erosion control measures.

E. Special Topics

1. Waters of the United States

Surface waters within the embankments of Deep Creek are subject to jurisdictional consideration under Section 404 of the Clean Water Act as waters of the United States (33 CFR section 328.3). Field investigations indicate that, within the project corridor, Deep Creek is a low-velocity, Coastal Plain, blackwater stream with adjacent wetlands. The stream contains geomorphological features (sinuosity, defined stream channel, and continuous bed and bank) and provides extensive aquatic value (available habitat, presence of fish, and permanent water) characteristic of jurisdictional streams.

Wetlands surrounding Deep Creek are subject to jurisdictional consideration under Section 404 of the Clean Water Act as waters of the United States (33 CFR section 328.3). These areas are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a portion (12.5 percent) of the growing season (DOA 1987). NWI mapping indicates that the floodplain of Deep Creek exhibits characteristics of a palustrine, broad-leaved, deciduous forest system that is semipermanently flooded (PFO6F) (Cowardin *et al.* 1979). Field investigations indicate that floodplain wetlands do occur in the project corridor and do meet this general classification. Field investigations also indicate that the stream within the project corridor exhibits characteristics of a slow-flow, riverine,

lower perennial system with an unconsolidated bottom consisting of sand, silt, and mud (R2UB3H) (Cowardin *et al.* 1979).

The areas (acres [hectares]) of wetland within the alternative right-of-ways and the areas (acres [hectares]) and linear distances (feet [meters]) of stream shaded by proposed bridging are shown in Table 2.

TABLE 2
ANTICIPATED IMPACTS TO AQUATIC COMMUNITIES

Alternative Corridors	Impact Type	Wetland Area	Stream Area	Stream Linear distance
A	Temporary	0.34 (0.14)	0.01 (0.004)	30.0 (9.1)
	Permanent	0.34 (0.14)	0.03 (0.01)	40.0 (12.2)
	Total	0.68 (0.28)	0.04 (0.02)	70.0 (21.3)
B	Temporary	0.16 (0.06)	--	--
	Permanent	0.27 (0.10)	0.03 (0.01)	40.0 (12.2)
	Total	0.43 (0.16)	0.03 (0.01)	40.0 (12.2)
	Total	0.45 (0.18)	0.03 (0.01)	40.0 (12.2)

NOTES:

- Impacts are based on a 100-foot (30.5 meter) right-of-way for all alternates.
- Actual construction impacts may be less than those indicated above, calculations were based on the worst-case scenario.
- Areas are given in acre (hectare) and linear distances are depicted in feet (meters).

Permanent impacts to vegetated wetlands for all alternates will be restricted to narrow strips adjacent to the existing bridge. Due to the construction of a temporary on-site detour, temporary impacts to wetlands associated with Alternate A are larger than Alternate B. Upon completion of construction, temporary impacts associated with construction activities and the temporary alignment will be restored to pre-project conditions. Permanent impacts to the stream are limited to bridge shading; encroachment into the stream will be avoided. Surface waters within the project corridor are considered to be high quality and are designated as an Area of Environmental Concern (AEC) (Public Trust Waters) by the Division of Coastal Management (DCM). Consideration should be given to avoiding disturbances within these areas whenever practicable.

There is potential that components of the existing bridge may be dropped into waters of the United States during construction. The resulting potential temporary fill associated with the construction activities is not expected to exceed 16 cubic yards (12.0 cubic meters). This project can be classified as Case 2, where construction is restricted during moratorium periods associated with anadromous fish passage as well as those outlined in Best Management Practices for Protection of Surface Waters. No threatened or endangered species or protected water resources are expected to be impacted by

construction activities. NCDOT will coordinate with the various resource agencies during project planning to ensure that all concerns regarding bridge demolition are resolved.

2. Permits

The proposed project will occur in one (Carteret) of the 20 counties covered by the Coastal Area Management Act (CAMA). The only AEC within the project corridor is Public Trust Waters. Proposed impacts to Public Trust Waters are limited to shading; therefore, the project will avoid AEC's, and the N.C. Department of Coastal Management (DCM) will review the project application for consistency with the coastal management program. This project is being processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. The United States Army Corps of Engineers (COE) has made available Nationwide Permit (NWP) #23 (61 FR 65874, 65916; December 13, 1996) for CEs due to minimal impacts expected with bridge construction. The North Carolina Department of Environment and Natural Resources Division of Water Quality (DWQ) has made available a General 401 Water Quality Certification for NWP No. 23. However, authorization for jurisdictional area impacts through use of this permit will require written notice to DWQ. In the event that NWP No. 23 will not suffice, minor impacts attributed to bridging and associated approach improvements are expected to qualify under General Bridge Permit 031 issued by the COE. Notification to the Wilmington COE office is required if this general permit is utilized.

The Coast Guard Authorization Act of 1982 exempts bridge projects from Coast Guard bridge permits when the bridge project crosses non-tidal waters which are not used, susceptible to use in their natural condition, or susceptible to use by reasonable improvement as a means to transport interstate commerce. Due to this, this bridge project is exempt, and will not require a Coast Guard Bridge Permit (Appendix).

3. Mitigation

Compensatory mitigation is not proposed for this project due to the limited nature of project impacts. However, utilization of BMPs is recommended in an effort to minimize impacts. Temporary impacts to vegetated wetlands associated with construction activities could be mitigated by replanting disturbed areas with native wetland species and removal of temporary fill material upon project completion. A final determination regarding mitigation requirements rests with DCM, with input from the COE and DWQ.

F. Protected Species

1. Federally Protected Species

Species with the federal classification of Endangered (E) or Threatened (T), officially proposed (P) for such listing, or Threatened due to Similarity of Appearance (T[S/A]) are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C.

1531 *et seq.*). The term "Endangered Species" is defined as "any species which is in danger of extinction throughout all or a significant portion of its range", and the term "Threatened Species" is defined as "any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range" (16 U.S.C. 1532). The term "Threatened due to Similarity of Appearance" is defined as a species that is not "Endangered" or "Threatened", but "closely resembles an Endangered or Threatened species" (16 U.S.C. 1532). Federally protected species listed for Carteret County as of March 22, 2001 are provided in Table 3.

TABLE 3
FEDERALLY-PROTECTED SPECIES
FOR CARTERET COUNTY

Common Name	Scientific Name	Federal Status
American alligator*	*Alligator mississippiensis*	Threatened (S/A)
Loggerhead sea turtle	*Caretta caretta*	Threatened
Hawksbill sea turtle	*Eretmochelys imbricata*	Endangered
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Eastern cougar**	*Felis concolor cougar*	Endangered
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Roseate tern	*Sterna dougallii*	Endangered
Manatee	*Trichechus mantus*	Endangered
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered

NOTES:

- Species name and status for federally protected species in Carteret County as of March 22, 2001.

* Threatened due to similarity in appearance.

** Historic occurrence in county – last seen before 1979.

Federally protected sea turtles listed for Carteret County nest on sandy beaches and may enter into estuarine areas in the vicinity of Bogue Sound located approximately 12.5 miles (20.1 kilometers) to the east of the project corridor. However, proposed widening activities associated with the replacement of Bridge No. 26 will not adversely affect beach or estuarine habitat. No negative impacts to any federally protected sea turtles will result from proposed construction activities.

The status of non-pelagic or oceanic species includes the following.

Shortnose sturgeon – The shortnose sturgeon is a bottom-feeding fish that rarely exceeds three feet (0.9 meters) in length. This species has a heterocercal tail; an

inferior, protrusible mouth proceeded by barbells and a body covered with rows of bony scutes (Ross 1997). Adults have a short, blunt snout; the body is brown to blackish dorsally, yellowish on the sides, and white ventrally (FWS 1993b). The usual habitat is estuaries and lower sections of large rivers. The sturgeon is anadromous, spending most of the year in brackish estuarine environments and moving into fresh water only when spawning (Gilbert 1989). This species occurs in Atlantic seaboard rivers from the St. Johns River, Florida, to eastern Canada. Currently, the Lower Cape Fear River drainage area may contain North Carolina's only self-sustaining population of shortnose sturgeon (Ross 1997).

Deep Creek, within the study corridor, is a shallow, freshwater, Coastal Plain swamp and does not provide the deep-water habitat preferred by the shortnose sturgeon. Shaken Creek does not provide suitable breeding habitat preferred by this species. The shortnose sturgeon has not been documented to occur within one mile (1.6 kilometers) of the study corridor. No current records exist which identify the shortnose sturgeon in the White Oak River Basin. Furthermore, the Shaken Creek River Basin is not listed by the National Marine Fisheries Service (NMFS) as supporting of short-nosed sturgeon (Appendix).

> **BIOLOGICAL CONCLUSION:** Deep Creek does not provide habitat preferred by this species, and NHP records indicate that shortnose sturgeon has not been documented to occur within one mile (1.6 kilometers) of the study corridor. Shaken Creek is not listed by the NMFS as supporting of shortnose sturgeon. This project will not affect shortnose sturgeon. **NO EFFECT**

American alligator - American alligator is listed as threatened based on the similarity in appearance to other federally listed crocodilians; however, there are no other crocodilians within North Carolina. American alligators can be found in a variety of freshwater to estuarine aquatic habitats including swamp forests, marshes, large streams and canals, and ponds and lakes. NHP records indicate that American alligator has not been documented within 2.4 miles (3.8 kilometers) of the project corridor.

T S/A species are not subject to Section 7 consultation and a biological conclusion is not required. However, the project is not expected to affect the American alligator.

Piping plover - Piping plovers are the smallest of the plovers found in the Carolinas, measuring only six to eight inches (15 to 20 centimeters) in length (Golder and Parnell 1987). This species is characterized by a white head and back and white breast and belly, yellow legs, narrow black neck band and a narrow band above the eyes, and a black bill in the winter and yellow and black bill in the summer (Potter *et al.* 1980). These small, Nearctic birds occur along beaches above the high tide line, sand flats at the ends of sand spits and barrier islands, gently sloping foredunes, blowout areas behind primary dunes, and washover areas cut into or between dunes (Dyer *et al.* 1987). Nests are most often on open, wide, sandy stretches of beach similar to those associated with inlets and capes.

BIOLOGICAL CONCLUSION: The project corridor contains no saltwater or beach habitat suitable for piping plovers. NHP records do not document piping plovers within one mile (1.6 kilometer), and none were observed during the site visit. Based on the habitat needs of piping plovers, NHP records, and professional judgement, the proposed project will not directly impact the Piping Plover. **NO EFFECT**.

Eastern Cougar - The eastern cougar is a possibly extinct eastern subspecies of the widespread mountain lion species. This species was possibly extirpated from North Carolina by the late 1800s although recent sporadic sightings have been reported from remote areas of the Mountains and Coastal Plain (Lee 1987). Mountain lions are large, long-tailed cats; adult males may measure seven to nine feet (2.1 to 2.7 meters) total length with females averaging 30 to 40 percent smaller (Handley 1991). Adult mountain lion tracks measure approximately 3.5 inches (nine centimeters) (Lee 1987). Recent specimens of mountain lion taken in North Carolina and elsewhere in mid-Atlantic states have proved to be individuals of other subspecies that have escaped or been released from captivity (Lee 1987, Handley 1991). The eastern cougar requires large tracts of relatively undisturbed habitat that support large populations of white-tailed deer (Webster *et al.* 1985).

BIOLOGICAL CONCLUSION: Due to local urbanization and development, no suitable habitat for eastern cougar exists in or near the project corridor. NHP documents no occurrences of eastern cougar within Carteret County since 1979 and no signs were observed during systematic surveys of the project corridor. Based on habitat studies, NHP records, and professional judgement, the proposed project will not have an effect on the eastern cougar. **NO EFFECT**

Red-cockaded Woodpecker - This small woodpecker (seven to 8.5 inches [18 to 22 centimeters] long) has a black head, prominent white cheek patch, and black-and-white barred back. Males often have red markings (cockades) behind the eye, but the cockades may be absent or difficult to see (Potter *et al.* 1980). Primary habitat consists of mature to over-mature southern pine forests dominated by loblolly, long-leaf (*P. palustris*), slash (*P. elliottii*), and pond (*P. serotina*) pines (Thompson and Baker 1971). Nest cavities are constructed in the heartwood of living pines, generally older than 70 years, that have been infected with red-heart disease. Nest cavity trees tend to occur in clusters, which are referred to as colonies (FWS 1985). The woodpecker drills holes into the bark around the cavity entrance, resulting in a shiny, resinous buildup around the entrance that allows for easy detection of active nest trees. Pine flatwoods or pine-dominated savannas, which have been maintained by frequent natural fires, serve as ideal nesting and foraging sites for this woodpecker. Development of a thick understory may result in abandonment of cavity trees. The woodpeckers utilize pine stands in close proximity to the colony site for foraging. Foraging areas, depending on the quality of habitat, have been found to range from 84 acres (34 hectares) to over 409 acres (165.5 hectares). Food sources include wood-boring insects, grubs, beetles, corn worms and

other invertebrates found within 0.5 mile (0.8 kilometer) of the colony site. Pines greater than 30 years of age dominate stands preferred by foraging birds although mixed pine/hardwood stands are also used.

> **BIOLOGICAL CONCLUSION:** The project area contains scattered loblolly pine trees; however, these trees are not dominant and are of a relatively young age. Also, Cypress-Gum Swamp communities have reasonably well-developed shrub and midstory layers, which red-cockaded woodpeckers avoid for both nesting and foraging. According to NHP records, red-cockaded woodpeckers have been documented in Carteret County within the last 20 years, but not within one mile (1.6 kilometer) of the project corridor. No red-cockaded woodpeckers were observed during the field visit. The project corridor contains no suitable foraging or nesting habitat for red-cockaded woodpeckers. Based on NHP records, field observations, and professional judgement, proposed construction associated with this project will not adversely affect the red-cockaded woodpecker. **NO EFFECT**.

Roseate Tern - The roseate tern is a medium- sized tern, 14 to 17 inches (36 to 43 centimeters) long. In breeding plumage, it has a black bill and cap, light gray mantle, red legs, and a long, deeply forked white tail, which exceeds the wing length when the bird is at rest. Tern prey consists of small coastal fish, which are caught by diving on them from the air. The roseate tern is a rare coastal migrant from late March to mid May and from late July to October (Potter *et al.* 1980). The nest of this colonial ground-nesting seabird is generally a depression on open sand with shells or grasses, usually on the upper beach or dune areas. This species nested in Carteret County in 1973 (Potter *et al.* 1980).

> **BIOLOGICAL CONCLUSION**: The project corridor contains no saltwater or beach habitat suitable for roseate terns. NHP records do not document roseate terns within one mile (1.6 kilometer), and none were observed during the site visit. Based on the habitat needs of roseate terns, NHP records, and professional judgement, the proposed project will not directly impact the roseate tern. **NO EFFECT**.

Manatee - The West Indian Manatee is a large, gray or brown aquatic mammal that averages ten to 13 feet (three to four meters) in length and weighs up to 1,000 pounds (455 kilograms). During summer month's manatees migrate from their Florida wintering areas as far north as coastal Virginia. These mammals inhabit warm waters, both fresh and salt, where their diet consists mostly of aquatic vegetation (Webster *et al.* 1985). According to NHP records, a manatee was identified in Adams Creek approximately 4.5 miles (7.2 kilometers) east of the project corridor in July 2000.

Deep Creek is a freshwater, Coastal Plain stream that likely does not provide passage and/or suitable forage habitat for the manatee. Manatees rarely occur within inland

waters of North Carolina and have not been documented to occur within one mile (1.6 kilometers) of the study corridor.

The FWS has developed recommendations for general construction activities in aquatic areas, which may be used by the manatee (FWS memo dated July 2, 1995). The FWS directs that construction that can be completed within a seven month period should take place between November and May. The FWS also makes a series of recommendations pertaining to construction and the manatee, some of which are summarized as follows: 1) construction managers should advise all construction personnel to be aware of the possibility of manatee appearance and the legal obligation to avoid harassment of the species; 2) construction personnel will watch for manatee sightings and be prepared to shut down equipment if one is made; 3) any sightings or contact with manatees will be reported to the appropriate natural resource agencies (FWS, Wildlife Resources Commission); 4) a sign will be posted providing instructions to equipment operators in case a manatee is sighted; 5) special steps will be taken on site concerning operations during the no-blast moratorium period, such as guidelines for operating water craft and placement of siltation barriers.

> **BIOLOGICAL CONCLUSION**: Based on available information, the manatee is not expected to occur within the study corridor during the period from November to May, and is unlikely to occur from June to October. To avoid impacts to manatee, all construction associated with the project should be conducted under the above mentioned guidelines prepared by the FWS. Assuming these guidelines are adhered to during construction activities, this project will not affect manatee. **NO EFFECT**

Seabeach Amaranth - Seabeach amaranth is a low-growing, fleshy, annual herb. The spatula-shaped leaves are pink and range from 0.5 to one inch (1.3 to 2.5 centimeters) in diameter. The leaves are clustered near the end of the stem and are notched apically. Flowers and fruits are inconspicuous, and occur along the stem. This plant is primarily found on foredunes and sand spits of Atlantic coast barrier beaches and inlets in areas where periodic overwash eliminates vegetative competition. Some of the largest remaining populations of this species occur in North Carolina (FWS 1993). This species has been documented on sand spits on both sides of Beaufort Inlet and on Bird Shoal (NHP records). The preferred habitat of this plant does not occur within the project area as beach slopes are too steep for inland overwash except on rare occasions and there are no nearby accreting spits.

> **BIOLOGICAL CONCLUSION:** Seabeach amaranth has been documented in Carteret County by the NHP within the last 20 years, but not within five miles (eight kilometers) of the project corridor. The project corridor is located approximately 13 miles (20.9 kilometers) from the ocean, and contains no bare, open sandy habitat suitable for this seaside annual with poor competitive abilities. Suitable habitat does not exist within or near the project corridor for seabeach amaranth. Based on habitat needs, NHP records, and professional

judgement, effects on the proposed bridge work will not directly impact the seabeach amaranth. **NO EFFECT**.

Rough-leaved loosestrife - Rough-leaved loosestrife is a rhizomatous perennial with erect stems one to two inches (2.5 to 5.8 centimeters) tall. Leaves are sessile in whorls of three or four, broadest at the base, and have three prominent veins. The leaf margins are entire and slightly revolute. Flowers are yellow and bisexual, and usually have five petals that flowers from late May to June. Seeds form in August and the small round capsules, surrounded by the persistent calyx, dehisce in October. Rough-leaved loosestrife typically occurs along the ecotone between long-leaf pine savannas and wetter, shrubby areas where lack of canopy vegetation allows abundant sunlight into the herbaceous layer. Rough-leaved loosestrife is endemic to the Coastal Plain and Sandhill regions of the Carolinas. This species is fire maintained, and suppression of naturally occurring fires has contributed to the loss of habitat in our state. Drainage of habitat may also have adverse effects on the plant. (FWS 1994). Habitats where rough-leaved loosestrife have been found are low and high pocosin, wet pine flatwoods, pine savanna, streamhead pocosins, and sandhill seeps (Schafale and Weakley 1990), as well as peaty pond margins, and disturbed sites such as roadside depressions, power line right-of-ways, and firebreaks (FWS 1994).

BIOLOGICAL CONCLUSION: The project corridor contains Coastal Plain Small Stream Swamp forest and highly maintained agricultural, roadside, and residential areas. None have the acidic soils coupled with open canopy that are important for the establishment and maintenance of rough-leaved loosestrife. No pocosin, pine flat or sandhill habitat, nor any ecotone of these habitats, were noted in the area of the project corridor. Rough-leaved loosestrife is senescent in January, at the time of the field survey, and would not have been detectable. However, it is not expected that this species would be found in this habitat. NHP records do not document rough-leaved loosestrife within one mile (1.6 kilometer) of the project corridor. Based on the absence of suitable habitat, NHP records, and professional judgement, the proposed project will not adversely impact the rough-leaved loosestrife. **NO EFFECT**

Federal Species of Concern - The March 22, 2001 FWS list also includes a category of species designated as "Federal Species of Concern" (FSC). A species with this designation is one that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing). A list of FSC species for Carteret County with habitat survey results is located in Table 4.

The FSC designation provides no federal protection under the ESA for the species listed. However, NHP files have no documentation of FSC species within one mile (1.6 kilometer) of the project corridor.

TABLE 4
Federal Species of Concern listed for Carteret County

Common Name	Scientific Name	Potential Habitat	State Status**
Bachman's sparrow	*Aimophila aestivalis*	No	SC
Henslow's sparrow	*Ammodramus henslowii*	No	SR
Southern hognose snake*	*Heterodon simus*	No	SR (PSC)
Black rail	*Laterallus jamaicensis*	No	SR
Northern diamondback terrapin	*Malaclemys terrapin terrapin*	No	SC
Mimic glass lizard	*Ophisaurus mimicus*	No	SC (PT)
Eastern painted bunting*	*Passerina ciris ciris*	No	SR
Carolina gopher frog	*Rana capito capito*	No	SC (PT)
A skipper (butterfly)	*Atrytonopsis sp*	Yes	SR
Arogos skipper	*Atrytone arogos arogos*	No	SR
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	No	SR
Croatan crayfish	*Procambarus plumimanus*	Yes	W3
Carter's noctuid moth	*Spartiniphaga carterae*	No	SR
Chapman's sedge	*Carex chapmanii*	Yes	W1
Venus flytrap	*Dionea muscipula*	No	C-SC
Pondspice	*Litsea aestivalis*	No	C
Loose watermilfoil	*Myriophyllum laxum*	No	T
Savanna cowbane	*Oxypolis ternata*	No	W1
Carolina goldenrod	*Solidago pulchra*	No	E
Carolina asphodel	*Tofieldia glabra*	No	C
Dune bluecurls	*Trichostema* sp. 1	No	C
Savanna campylopus	*Campylopus carolinae*	No	C

* Historic record - The species was last observed in the county more than 50 years ago.

** State Status Codes:

C - Candidate
E – Endangered
PE - Proposed Endangered
PT - Proposed Threatened
SC - Special Concern
SR - Significantly Rare
T – Threatened
W1: rare, but relatively secure
W3 - Watch List: rare, but with uncertain documentation

2. State Protected Species

Plant and animal species which are on the North Carolina state list as Endangered (E), Threatened (T), Special Concern (SC), Candidate (C), Significantly Rare (SR), or

Proposed (P) (Amoroso 1999, LeGrand and Hall 1999) receive limited protection under the North Carolina Endangered Species Act (G.S. 113-331 *et seq.*) and the North Carolina Plant Protection Act of 1979 (G.S. 106-202 *et seq.*). NHP records indicate that no terrestrial or aquatic State-listed species have been documented within one mile (1.6 kilometer) of the project corridor.

VI. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historical Preservation Act of 1966, as amended, implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires that for federally funded, licensed, or permitted projects having an effect on properties listed in or eligible for the National Register of Historic Places, the Advisory Council on Historic Preservation be given the opportunity to comment.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted on July 2, 1999. All structures within the APE were photographed, and later reviewed by the North Carolina State Historic Preservation Office (HPO). In a concurrence form dated December 19, 2000, the HPO concurred that there are no historic architectural resources either listed in or eligible for listing on the National Register of Historic Places within the APE. A copy of the concurrence form is included in the Appendix.

C. Archaeology

The State Historic Preservation Officer (SHPO), in a memorandum dated December 20, 2000, had no comment on the project as was currently proposed. There is little likelihood of any National Register archaeological sites occurring in the project area because of the disturbed landforms, the SHPO recommends no further action. A copy of the SHPO memorandum is included in the Appendix.

VII. ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The project is a Federal "Categorical Exclusion" due to its limited scope and lack of significant environmental consequences.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current NCDOT standards and specifications.

The project is not in conflict with any plan, existing land use, or zoning regulation. No significant change in land use is expected to result from construction of the project.

No adverse impact on families or communities is anticipated. Right of way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

There are no publicly owned recreational facilities, or wildlife and waterfowl refuges of national, state, or local significance in the vicinity of the project.

No North Carolina Geodetic Survey control monuments will be impacted during construction of this project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). Since there are no prime or important farmlands in the immediate vicinity of the proposed bridge the Farmland Protection Policy does not apply.

This project is an air quality "neutral" project, so it is not required to be included the regional emission analysis (if applicable) and a project level CO analysis is not required.

This project is located in Carteret County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Part 51 is not applicable, because the proposed project is located in an attainment area. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

The traffic volumes will not increase or decrease because of this project. There are no receptors located in the immediate project area. No noise impacts are anticipated as a result of this project.

Noise levels could increase during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA) and no additional reports are required.

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no hazardous waste sites in the project area. No facility with underground storage tanks (UST), hazardous waste sites, regulated landfills and unregulated dumpsites were identified in the project vicinity.

Carteret County is a participant in the National Flood Insurance Regular Program. This site on the Deep Creek is included in a detailed F.E.M.A. flood study. Attached is a copy of the Flood Insurance Rate Map, on which are shown the approximate limits of the 100-year flood plain in the vicinity of the project (Figure 5).

On the basis of the above discussion, it is concluded that no significant adverse environmental effects will result from implementation of the project.

IX. AGENCY COMMENTS

1. United States Army Corps of Engineers (COE)

   Comment: *"...it is recommended that geotechnical evaluations be conducted at the project site to estimate the magnitude of sediment consolidation that can occur due to an on-site detour."*

   Response: Geotechnical analysis indicates that approximately 1.3 feet (0.4 meters) of settlement will occur over a time period of one year in the surficial organic soils. No stability problems are anticipated if the embankment height does not exceed 5 feet (1.52 meters).

2. United States Army Corps of Engineers (COE)

   Comment: *Off-site detours are always preferable to on-site (temporary) detours in wetlands."*

   Response: Alternate A, replacing the bridge at the existing location is the preferred alternate. Alternate A was selected because of the excessive length of the available off-site detour. The temporary detour structure will be a temporary bridge approximately 85-feet (25.9 meters) in length, located south of the existing bridge. The temporary embankment height will not exceed five feet (1.5 meters) to avoid stability problems.

3. National Marine Fisheries Service (NFMS)

   Comment: *"Mitigation will be provided for any unavoidable wetland losses."*

   Response: see Project Commitments.

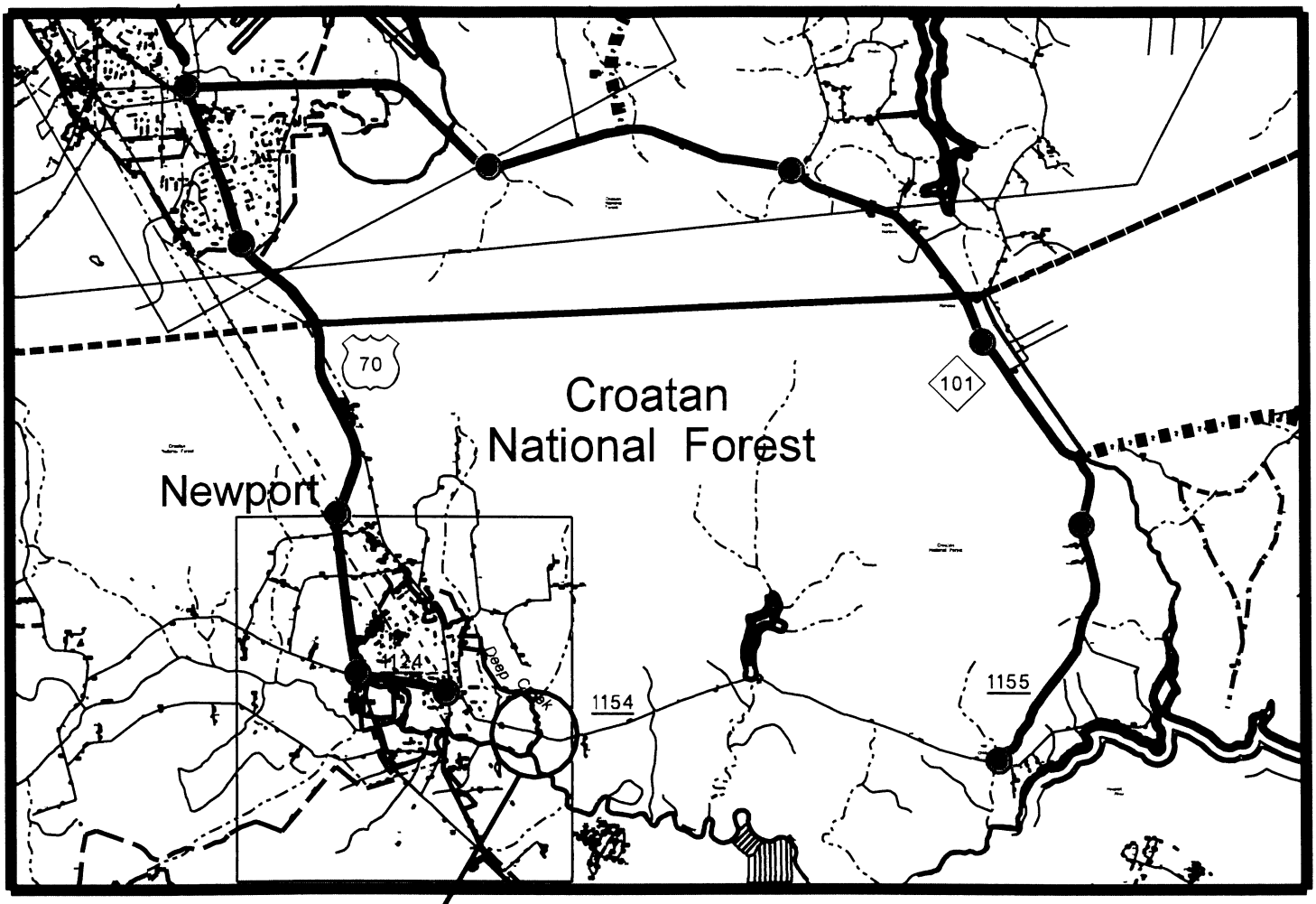
4. Carteret County Board Of Education

   Comment: *"...our system would have four to six buses crossing this particular bridge. Route plans at this time call for these buses to cross four times daily. This would mean that we could have from 16 to 24 crossings per day...this*

change would add considerable time and mileage to each bus route thus making the students board their bus much earlier...this could also have an affect on our operating budget for that year."

Response: Alternate A, replacing the bridge at the existing location is the preferred alternate. Alternate A was selected because of the excessive length of the available off-site detour for Alternate B.

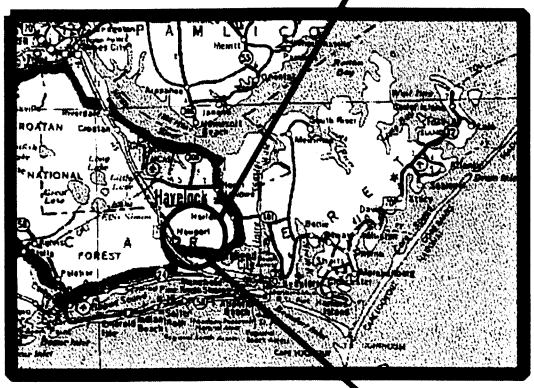
FIGURES

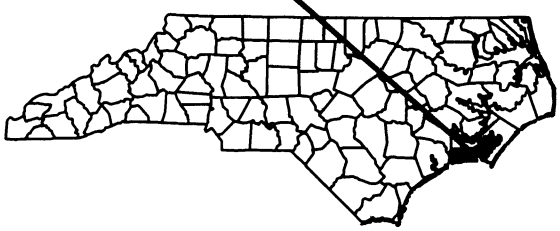


1 0 1 2 3 4 5 MILES

1 0 1 2 3 4 5 6 KILOMETERS

SCALE





LEGEND

Studied Detour Route

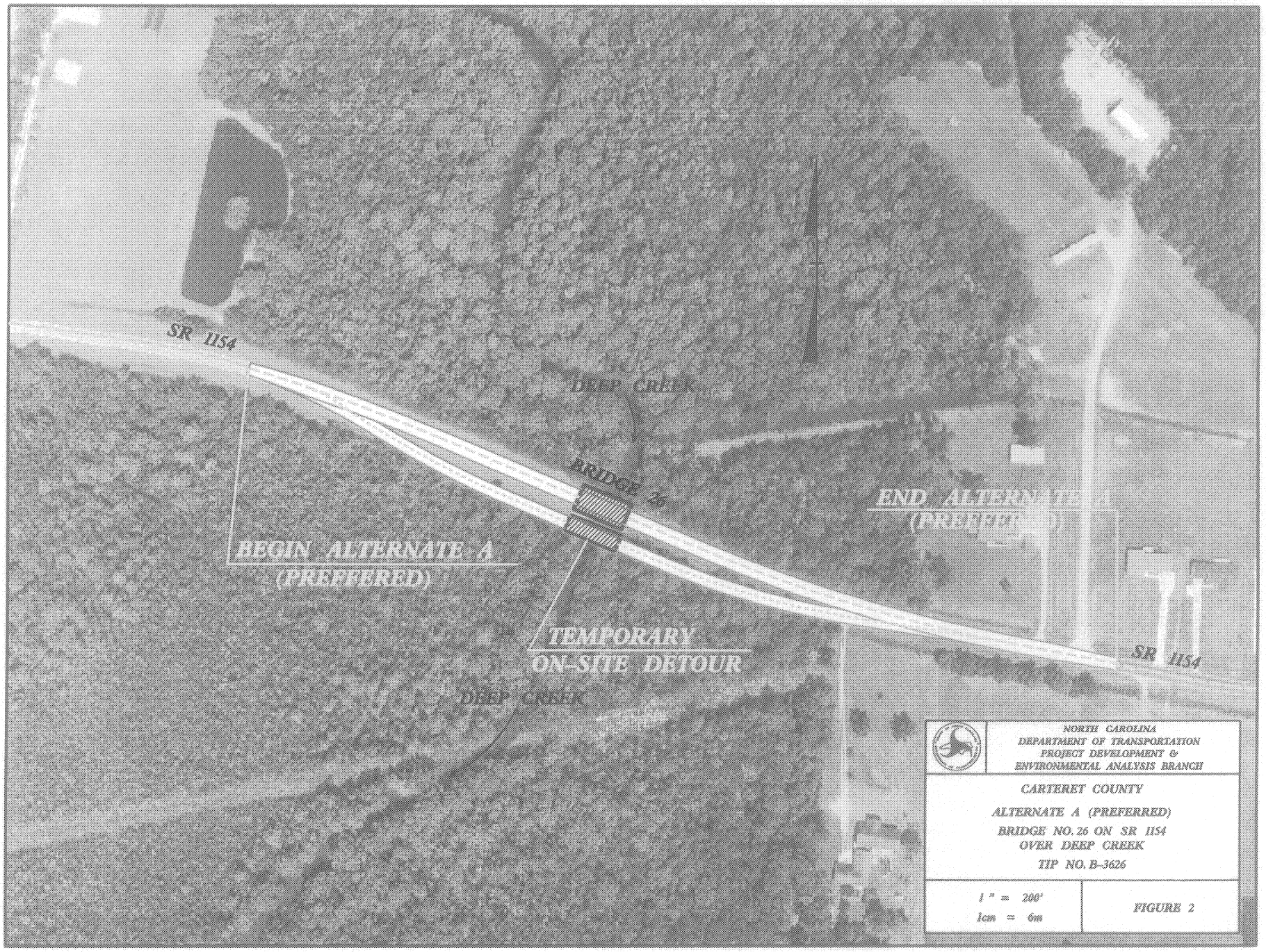
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT

CARTERET COUNTY

BRIDGE NO. 26 ON SR 1154
OVER DEEP CREEK

TIP NO. B-3626

VICINITY MAP | *FIGURE 1*



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

CARTERET COUNTY

ALTERNATE A (PREFERRED)

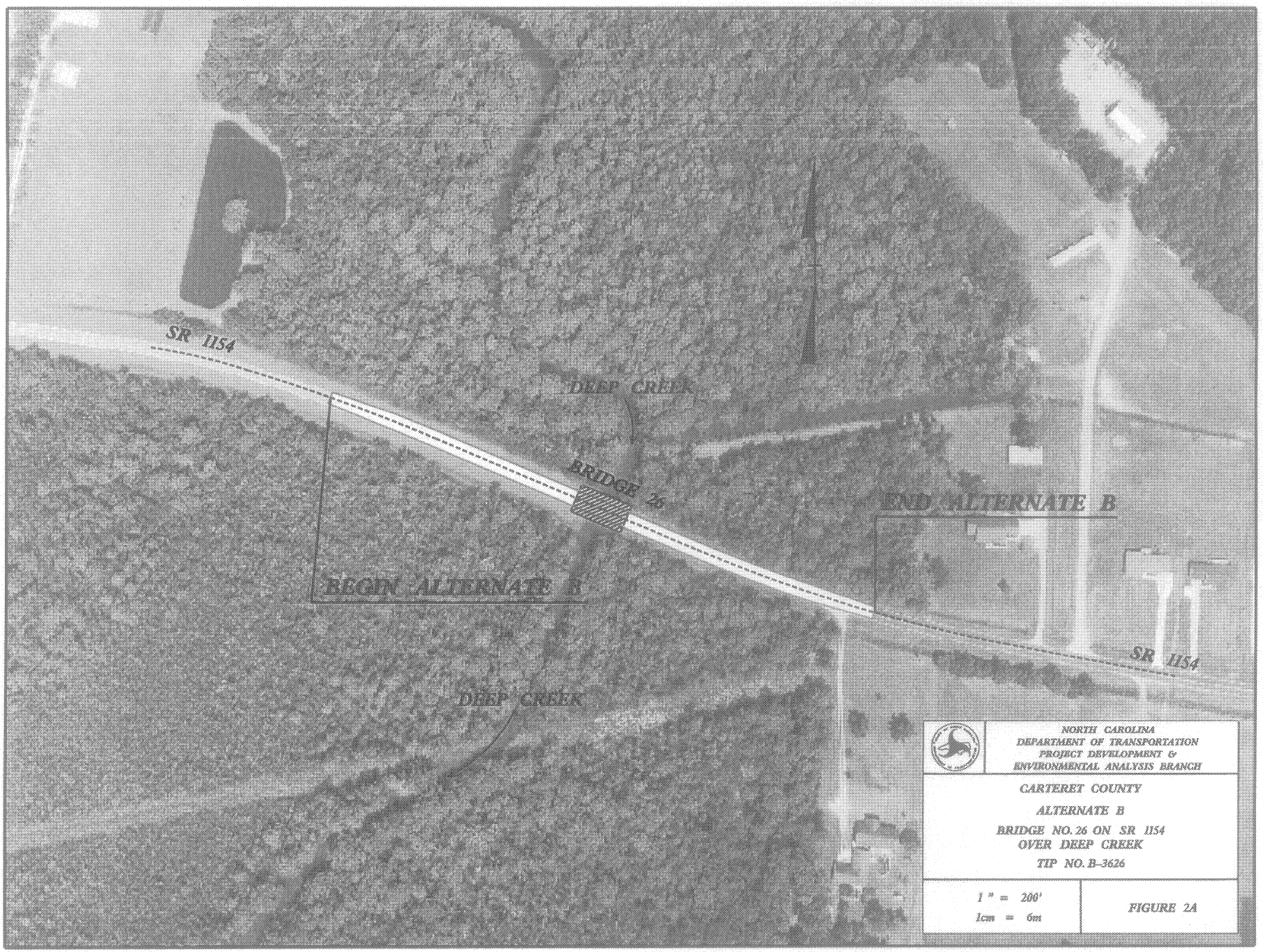
BRIDGE NO. 26 ON SR 1154
OVER DEEP CREEK

TIP NO. B-3626

1 " = 200'

1cm = 6m

FIGURE 2



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

CARTERET COUNTY

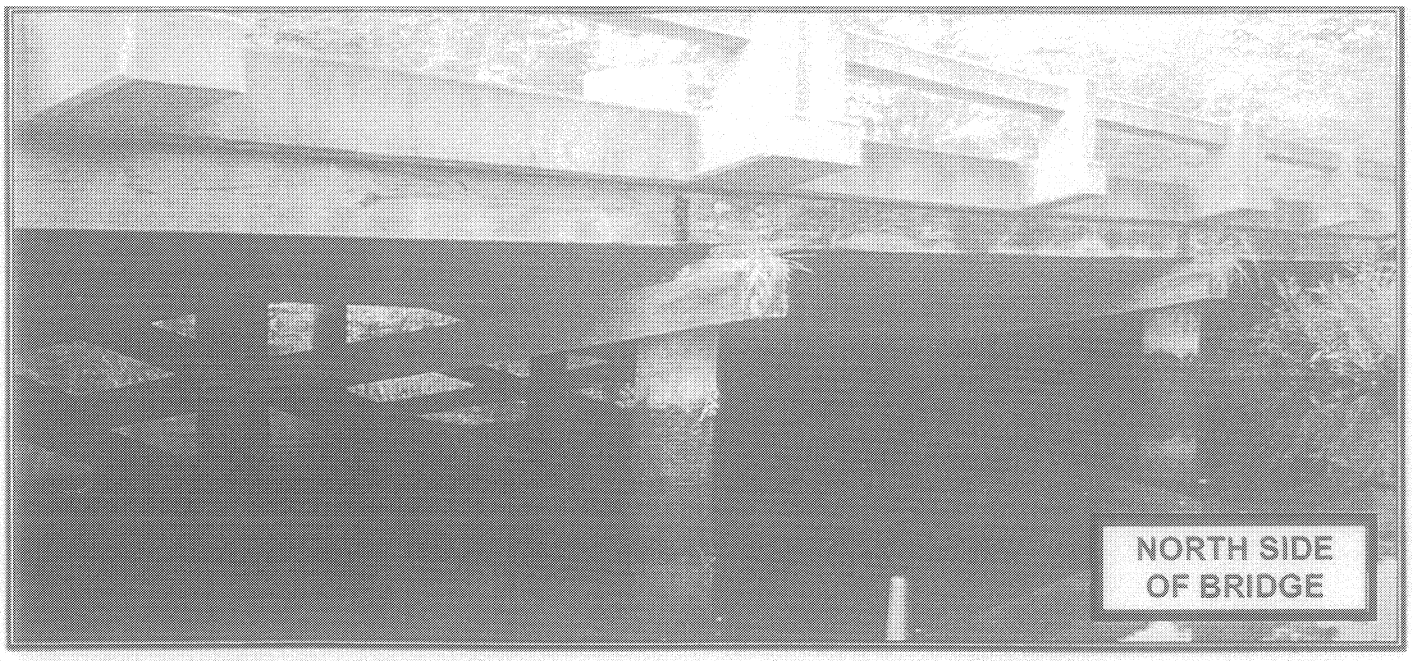
ALTERNATE B

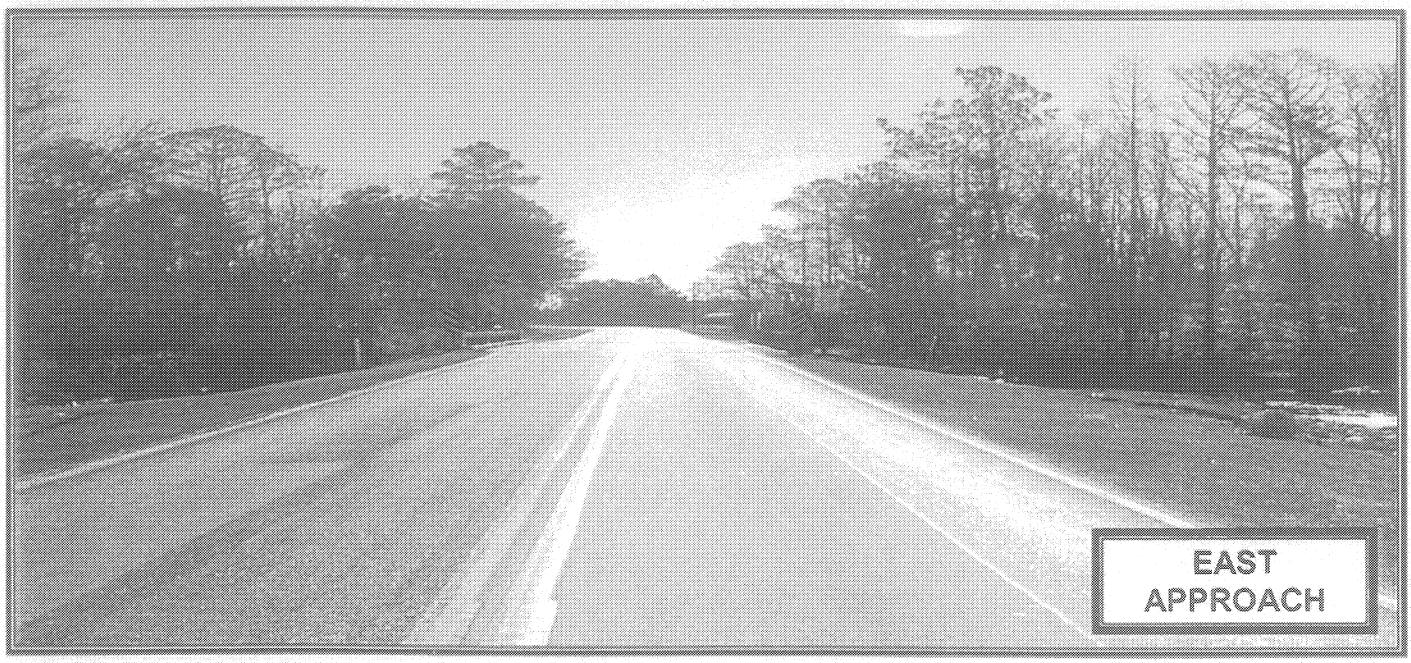
BRIDGE NO. 26 ON SR 1154
OVER DEEP CREEK

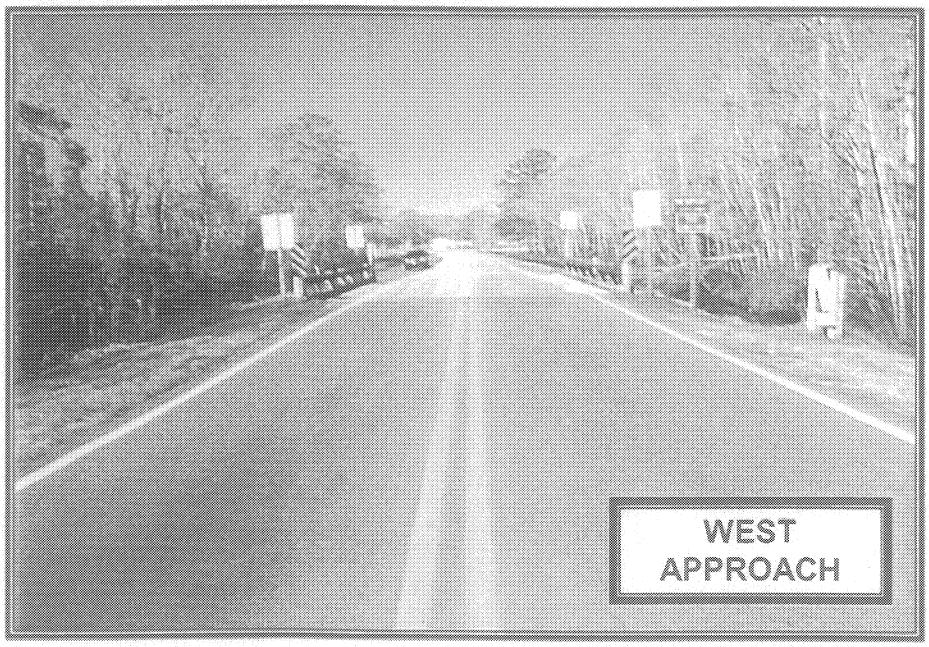
TIP NO. B-3626

1 " = 200'
1cm = 6m

FIGURE 2A



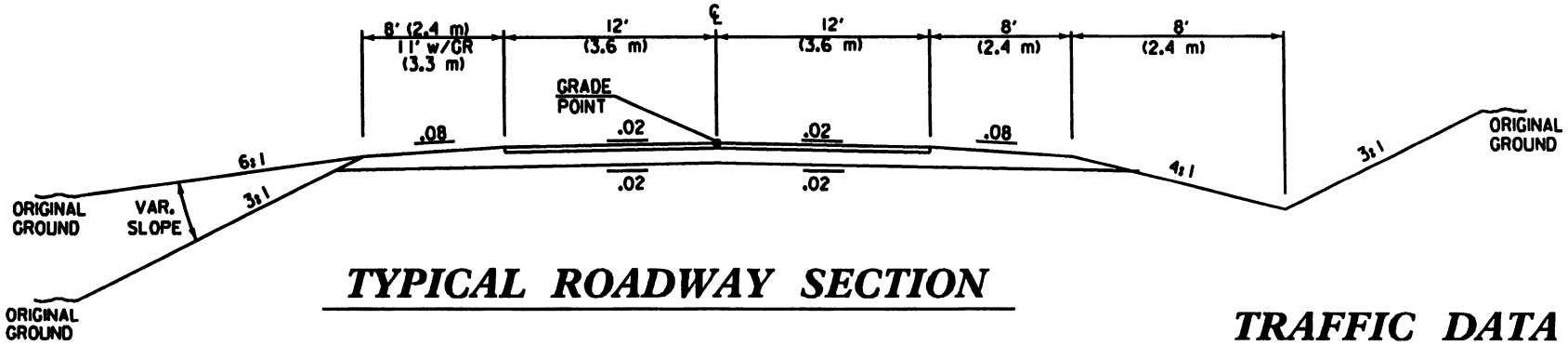




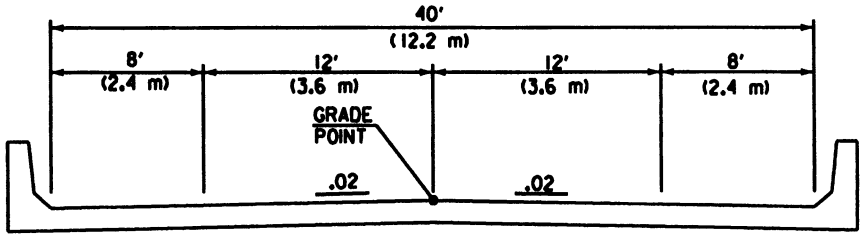
B-3626
Replacement of Bridge No. 26 on SR 1154 Over Deep Creek
Carteret County

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

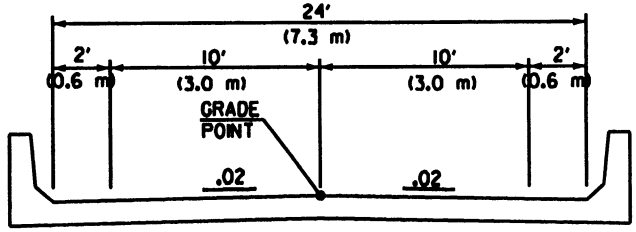
FIGURE 3



TYPICAL ROADWAY SECTION



TYPICAL BRIDGE SECTION



TYPICAL DETOUR BRIDGE SECTION

TRAFFIC DATA

ADT 2001	1500
ADT 2003	1600
ADT 2025	3020
DUAL	3%
TTST	1%

FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPEMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

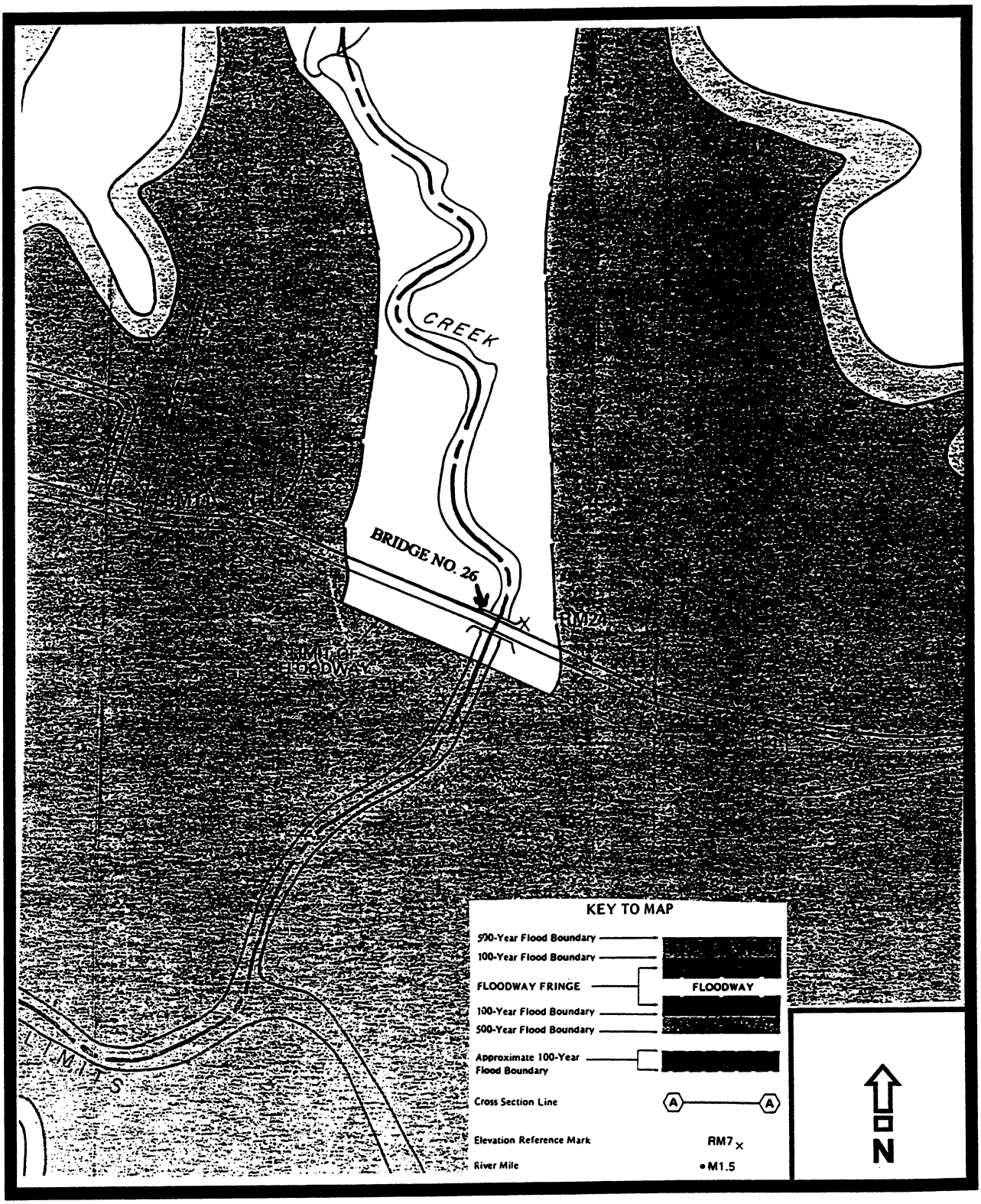
CARTERET COUNTY

BRIDGE NO. 26 ON SR 1154
OVER DEEP CREEK

B-3626

FIGURE 4

B-3626
BRIDGE N0. 26
CARTERET COUNTY



FEMA FLOOD STUDY 100 YEAR FLOOD PLAIN

Panel No. 370049 0004
Date: October 18, 1983
Street Name: SR 1154
Town of Newport, North Carolina

1000 ft. 0 1000 ft

305 m 305 m

Approximate Scale

FIGURE 5

APPENDIX

RECORD OF CONTACT

DATE: 7/11/01
CONTACT WITH: Mike Bell, Corps of Engineers – Washington Office
SUBJECT: Bridge Group 27 Scoping comments(B-3612, B-3626, B-3640, B-3684, B-3685, B-3711, B-3712, B-3809, B-3810, and B-3871)

VIA: Telephone 1:00 pm

DISCUSSED: He said he agreed with the specific comments for each bridge from David Cox's(from the North Carolina Wildlife Resource Commission) letter dated 6/08/2001(included in appendix) and the general comments from David Franklin's (of the Corps of Engineers) letter dated 8/2/2000 (included in appendix). He will not be sending out a letter.

Signed: Greg Purvis Greg Purvis, Wang Engineering

U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: (Aowb)
Phone: (757)398-6422

16590
15 FEB 01

Mr. William D. Gilmore, P.E.
Manager, Project Development and Environmental
Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Gilmore:

Our Bridge Staff has reviewed your plans and specifications dated July 3, 2000, for the replacement of 14 bridges in 10 different counties of North Carolina.

All of the waterways involved in this project are considered navigable waterways of the United States for Bridge Administration purposes. Must also meet the criteria for advance approval waterway set forth in Title 33, Code of Federal Regulations, Section 115.70, at all of the bridge sites. Advance approval waterways are those that are navigable in law, but not actually navigated by other than small boats. In such cases, the Commandant of the Coast Guard has given his advance approval to the construction of bridges across such waterways. The North Carolina State projects include bridge #143 over Northeast Cape Fear River, bridge #26 over a branch of the Newport River, bridge #16 over Merchants Mill Pond, bridge #30 over Green Mill Run, bridge 42 over Neuse River, bridge #88 over Falling Creek, bridge #64 over Pungo Creek, bridge #272 over Big Swamp, bridge #64 over Dog Branch, bridge #40 over Squires Run and bridge #116 over Shaken Creek which all qualify for the Advance Approval category. Accordingly, individual Coast Guard bridge permits will not be required for the new bridges across these waterways.

The fact that a Coast Guard permit will not be required for these advance approval bridges, does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of these projects.

Sincerely,

ANN B. DEATON
Chief, Bridge Administration Office
By direction of the Commander
Fifth Coast Guard District

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

August 2, 2000

Regulatory Division

Action ID No. 200001525, 200001526, 200001527, 200001528, 200001529, 200001530, 200001531.

Mr. William D. Gilmore, P.E., Manager
Project Development & Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, N.C. 27699-1548

Dear Mr. Gilmore:

Reference your letters dated June 7, 2000, June 28, 2000, and July 3, 2000 regarding the following proposed bridge replacement projects, including those of Group XXVII:

1. TIP Project B-3449, Duplin County, Bridge No. 204 on SR 1827 over Northeast Cape Fear River, Action ID 200001525.
2. TIP Project B-3626, Carteret County, Bridge No. 26 on SR 1154 over a branch of the Newport River, Action ID 200001526.
3. TIP Project B-3884, Onslow County, Bridge No. 40 on SR 1308 over Squires Run, Action ID 200001527.
4. TIP Project B-3887, Pender County, Bridge No. 116 on SR 1520 over Shaken Creek, Action ID 200001528.
5. TIP Project B-3516, Scotland County, Bridge No. 59 on SR 1614 over Gum Swamp Creek, Action ID 200001529.
6. TIP Project B-3515, Scotland County, Bridge No. 46 on SR 1612 over Big Shoe Heel Creek, Action ID 200001530.
7. TIP Project B-3613, Bladen/Sampson County, Bridge No. 44 on NC 41 over South River, Action ID 200001531.

Based on the information provided in the referenced letters, it appears that each proposed bridge replacement project may impact jurisdictional wetlands. Department of the Army (DA) permit authorization, pursuant to Section 404 of the Clean Water Act of 1977, as amended, will be required for the discharge of excavated or fill material in waters of the United States or any adjacent wetlands in conjunction with these projects, including

disposal of construction debris. Specific permit requirements will depend on design of the projects, extent of fill work within the waters of the United States, including wetlands, construction methods, and other factors.

Although these projects may qualify as a Categorical Exclusion, to qualify for nationwide permit authorization under Nationwide Permit #23, the project planning report should contain sufficient information to document that the proposed activity does not have more than a minimal individual or cumulative impact on the aquatic environment. Our experience has shown that replacing bridges with culverts often results in sufficient adverse impacts to consider the work as having more than minimal impacts on the aquatic environment. Accordingly, the following items need to be addressed in the project planning report:

a. The report should contain the amount of permanent and temporary impacts to waters and wetlands as well as a description of the type of habitat that will be affected.

b. Off-site detours are always preferable to on-site (temporary) detours in wetlands. If an on-site detour is the recommended action, justification should be provided. On-site detours can cause permanent wetland impacts due to sediment consolidation resulting from the on-site detour itself and associated heavy equipment. Substantial sediment consolidation in wetland systems may in turn cause fragmentation of the wetland and impair the ecological and hydrologic functions of the wetland. Thus, on-site detours constructed in wetlands can result in more than minimal wetland impacts. These types of wetland impacts will be considered as permanent wetland impacts.

For proposed projects and associated on-site detours that cause minimal losses of wetlands, an approved wetland restoration plan will be required prior to issuance of a DA nationwide or general permit. For proposed projects and associated on-site detours that cause significant wetland losses, an individual DA permit and a mitigation proposal for the unavoidable wetland impacts may be required.

In view of our concerns related to onsite detours constructed in wetlands, recent field inspections were conducted at each of the proposed project sites and a cursory determination was made on the potential for sediment consolidation due to an onsite detour. Based on these inspections, potential for sediment consolidation in wetlands exists at several of the proposed projects. Therefore, it is recommended that geotechnical evaluations be conducted at <u>each</u> project site to estimate the magnitude of sediment consolidation that can occur due to an on-site detour and the results be provided in the project planning report.

Based on our field inspections, we strongly recommend that geotechnical evaluations be conducted at the following proposed project sites:

1) TIP Project B-3626, Carteret County, Bridge No. 226 on SR 1154 over a branch of the Newport River, Action ID 200001526.
2) TIP Project B-3884, Onslow County, Bridge No. 40 on SR 1308 over Squires Run, Action ID 200001527.
3) TIP Project B-3887, Pender County, Bridge No. 116 on SR 1520 over Shaken Creek, Action ID 200001528.
4) TIP Project B-3516, Scotland County, Bridge No. 59 on SR 1614 over Gum Swamp Creek, Action ID 200001529.
5) TIP Project B-3515, Scotland County, Bridge No. 46 on SR 1612 over Big Shoe Heel Creek, Action ID 200001530.

c. Project commitments should include the removal of all temporary fills from waters and wetlands and "time-of-year" restrictions on in-stream work if recommended by the NC Wildlife Resources Commission. In addition, if undercutting is necessary for temporary detours, the undercut material should be stockpiled to be used to restore the site.

d. All restored areas should be planted with endemic vegetation including trees, if appropriate.

e. The report should provide an estimate of the linear feet of new impacts to streams resulting from construction of the project.

f. If a bridge is proposed to be replaced with a culvert, NCDOT must demonstrate that the work will not result in more than minimal impacts on the aquatic environment, specifically addressing the passage of aquatic life including anadromous fish. In addition, the report should address the impacts that the culvert would have on recreational navigation.

g. The report should discuss and recommend bridge demolition methods and shall include the impacts of bridge demolition and debris removal in addition to the impacts of constructing the bridge. The report should also incorporate the bridge demolition policy recommendations pursuant to the NCDOT policy entitled "Bridge Demolition and Removal in Waters of the United States" dated September 20, 1999.

Should you have any questions, please call Mr. David L. Timpy at the Wilmington Field office at 910-251-4634.

Sincerely,

E. David Franklin

E. David Franklin
NCDOT Team Leader

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive N
St. Petersburg, Florida 33702

July 25, 2000

Colonel James W. DeLony,
District Engineer, Wilmington District
Department of the Army, Corps of Engineers
P. O. Box 1890
Wilmington, North Carolina 28402-1890

Attention Dave Timpy/Mike Bell

Dear Colonel DeLony:

Please reference the July 3, 2000, letter (copy enclosed) from the North Carolina Department of Transportation requesting National Marine Fisheries Service's (NMFS) comments on the proposed replacement of eleven highway bridges in eastern North Carolina under the Federal Categorical Exclusion (CE). The letter specifically addresses the potential impacts of demolition and removal of the existing structure and other environmental concerns in the project areas. We have reviewed the information provided with the letter and offer the following comments for consideration.

A. Anadromous Fishery Resources/Wetlands

Project No. 1	B-3449, Duplin County, Replace Bridge No. 204 on SR 1827 over the Northeast Cape Fear River
Project No. 2	B-3612, Bertie County, Replace Bridge No. 143 on SR 1123 over Branch of Indian Creek
Project No. 4	B-3684, Pitt County, Replace Bridge No. 129 on SR 1565 over the Tar River
Project No. 5	B-3708, Washington/Martin Counties, Replace Bridge No. 66 on SR 1325/SR1583 over Welch Creek
Project No. 7	B-3712, Wayne County, Replace Bridge No. 88 on SR 1006 over Falling Creek
Project No. 8	B-3809, Beaufort County, Replace Bridge No. 64 on NC 99 over Pungo Creek
Project No. 11	B-3887, Pender County, Replace Bridge No. 116 on SR 1520 over Shaken Creek

The projects listed above span waters that support anadromous fishery resources for which the NMFS is responsible. Anadromous fish species commonly found through the project area include American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), blueback herring (*Alosa*

aestivalis), alewife (*Alosa pseudoharengus*), striped bass (*Morone saxatilis*), and Atlantic sturgeon (*Acipenser oxyrhynchus*). Each of the above project areas provide spawning and nursery habitat for some subset of these anadromous species. Bridge demolition and construction can result in sediment disturbing activities and discharges of highway construction materials and pollutants that are detrimental to early life history stages of these species. In addition to habitat, wooded wetlands within the project area provide water quality maintenance functions that are important for the production of fishery resources in downstream waters. Any wetland losses associated with these seven projects will add to the cumulative loss of wetlands that are detrimental to the continued production of NMFS trust resources.

Therefore, in order to minimize adverse impacts to fisheries, we recommend that these projects not be processed under the Federal CE unless the following conditions are incorporated:

> "No construction or demolition activities shall be allowed in the water between February 15 and June 1 of any year."
>
> "Mitigation shall be provided for any unavoidable wetland losses."

In addition to the above, Project Nos. 1, 2, and 5 are located in river basins that support the endangered shortnose sturgeon (*Acipenser brevirostrum*). Accordingly, we recommend coordination with our Protected Resources Division at the letterhead address or at 727/570-5312.

B. Wetlands

Project No. 6	B-3711, Wayne County, Replace Bridge No. 42 on NC 111 over Neuse River Overflow
Project No. 9	B-3810, Beaufort County, Replace Bridge No. 272 on SR 1514 over Big Swamp
Project No. 10	B-3884, Onslow County, Replace Bridge No. 40 on SR 1308 over Squires Run

Wooded wetlands within these project areas provide water quality maintenance functions that are important for the continued production of fishery resources in downstream waters. Therefore, in order to minimize adverse impacts to fishery resources, we recommend that this work not be processed under the Federal CE unless the following condition is incorporated:

> "Mitigation shall be provided for any unavoidable wetland losses."

C. Estuarine Fishery Resources/Wetlands

Project No. 3	B-3626 Carteret County, Replace Bridge No.26 on SR 1154 over Branch of Newport River

Wooded wetlands within the project area provide water quality maintenance functions that are important for the continued production of estuarine dependent fishery resources. Therefore, in order to minimize adverse impacts to estuarine resources, we recommend that this work not be processed under the Federal CE unless the following condition is incorporated:

"Mitigation shall be provided for any unavoidable wetland losses."

Thank you for the opportunity to provide these comments. If we can be of further assistance, please advise.

Sincerely,

Ronald L. Schaller

for Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

Enclosure

cc: FWS, ATLA, GA
FWS, Raleigh, NC
EPA, ATLA, GA
NCDENR, Raleigh, NC
NCDENR, Morehead City, NC
NCDOT, Raleigh, NC
F/SER4

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

July 25, 2000

Mr. William D. Gilmore, P.E., Manager
NCDOT
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Gilmore:

Thank you for your July 3, 2000 request for information from the U.S. Fish and Wildlife Service (Service) on the potential environmental impacts of fourteen proposed bridge replacements in various counties in eastern North Carolina. This report provides scoping information and is provided in accordance with provisions of the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667d) and Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). This report also serves as initial scoping comments to federal and state resource agencies for use in their permitting and/or certification processes for this project.

The North Carolina Department of Transportation (NCDOT) proposes to replace the following bridge structures:

1. B-3449, Bridge No. 204 on SR 1827 over the Northeast Cape Fear River, Duplin County;

2. B-3612, Bridge No. 143 on SR 1123 over Branch of Indian Creek, Bertie County;

3. B-3626, Bridge No. 26 on SR 1154 over Branch of Newport River, Carteret County;

4. B-3640, Bridge No. 16 on SR 1400 over Merchants Mill Pond, Gates County;

5. B-3684, Bridge No. 129 on SR 1565 over the Tar River, Pitt County;

6. B-3685, Bridge No. 30 on SR 1703 over Green Mill Run, Greenville, Pitt County;

7. B-3708, Bridge No. 66 on SR 1325/SR 1583 over Welch Creek, Washington/Martin Counties;

8. B-3711, Bridge No. 42 on NC 111 over the Neuse River Outflow, Wayne County;

9. B-3712, Bridge No. 88 over SR 1006, Falling Creek, Wayne County;

10. B-3809, Bridge No. 64 on NC 99 over Pungo Creek, Beaufort County;

11. B-3810, Bridge No. 272 on SR 1514 over Big Swamp, Beaufort County;

12. B-3871, Bridge No. 64 on SR 1001 over Dog Branch, Martin County;

13. B-3884, Bridge No. 40 on SR 1308 over Squires Run, Onslow County; and,

14. B-3887, Bridge No. 116 on SR 1520 over Shaken Creek, Pender County.

The following recommendations are provided to assist you in your planning process and to facilitate a thorough and timely review of the project.

Generally, the Service recommends that wetland impacts be avoided and minimized to the maximum extent practical as outlined in Section 404 (b)(1) of the Clean Water Act Amendments of 1977. In regard to avoidance and minimization of impacts, we recommend that proposed highway projects be aligned along or adjacent to existing roadways, utility corridors, or previously developed areas in order to minimize habitat fragmentation and encroachment. Areas exhibiting high biodiversity or ecological value important to the watershed and region should be avoided. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a structure wherever feasible. Where bridging is not feasible, culvert structures that maintain natural water flows and hydraulic regimes without scouring, or impeding fish and wildlife passage, should be employed. Highway shoulder and median widths should be reduced through wetland areas. Roadway embankments and fill areas should be stabilized by using appropriate erosion control devices and techniques. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons.

The National Wetlands Inventory (NWI) maps of the Chinquapin, Grantham,Greenville SW, Grimesland, Merchants Mill Pond, Newport, Old Ford, Ransomville, Richlands, SE Goldsboro, Stag Park, Washington, Williamston, and Woodville 7.5 Minute Quadrangles show wetland resources in the specific work areas. However, while the NWI maps are useful for providing an overview of a given area, they should not be relied upon in lieu of a detailed wetland delineation by trained personnel using an acceptable wetland classification methodology. Therefore, in addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action.

1. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory. Wetland boundaries should be determined by using the 1987 Corps of Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers (Corps).

2. If unavoidable wetland impacts are proposed, we recommend that every effort be made to

identify compensatory mitigation sites in advance. Project planning should include a detailed compensatory mitigation plan for offsetting unavoidable wetland impacts. Opportunities to protect mitigation areas in perpetuity, preferably via conservation easement, should be explored at the outset.

The enclosed lists identify the federally-listed endangered and threatened species, and Federal Species of Concern (FSC) that are known to occur in Beaufort, Bertie, Carteret, Duplin, Gates, Martin, Onslow, Pender, Pitt, Washington, and Wayne Counties. The Service recommends that habitat requirements for the listed species be compared with the available habitats at the respective project sites. If suitable habitat is present within the action area of the project, biological surveys for the listed species should be performed. Environmental documentation that includes survey methodologies, results, and NCDOT's recommendations based on those results, should be provided to this office for review and comment.

FSC's are those plant and animal species for which the Service remains concerned, but further biological research and field study are needed to resolve the conservation status of these taxa. Although FSC's receive no statutory protection under the ESA, we would encourage the NCDOT to be alert to their potential presence, and to make every reasonable effort to conserve them if found. The North Carolina Natural Heritage Program should be contacted for information on species under state protection.

The Service appreciates the opportunity to comment on this project. Please continue to advise us during the progression of the planning process, including your official determination of the impacts of this project. If you have any questions regarding these comments, please contact Tom McCartney at 919-856-4520, ext. 32.

Sincerely,

Dr. Garland B. Pardue
Ecological Services Supervisor

Enclosures

cc:
COE, Washington, NC (Michael Bell)
COE, Wilmington, NC (David Timpy)
NCDWQ, Raleigh, NC (John Hennessey)
NCDNR, Northside, NC (David Cox)
FHWA, Raleigh, NC (Nicholas Graf)
EPA, Atlanta, GA (Ted Bisterfield)

FWS/R4:TMcCartney:TM:07/24/00:919/856-4520 extension 32:\14brdgs.var

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: Stacy Harris, PE
Project Engineer, NCDOT

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: June 8, 2001

SUBJECT: NCDOT Bridge Replacements in Duplin, Bertie, Carteret, Gates, Pitt, Wayne, Beaufort, Martin, Onslow, and Pender counties of North Carolina. TIP Nos. B-3449, B-3612, B-3626, B-3640, B-3684, B-3685, B-3711, B-3712, B-3809, B-3810, B-3871, B-3884, and B-3887.

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

On bridge replacement projects of this scope our standard recommendations are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.

2. Bridge deck drains should not discharge directly into the stream.

3. Live concrete should not be allowed to contact the water in or entering into the stream.

4. If possible, bridge supports (bents) should not be placed in the stream.

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 ext. 281 • Fax: (919) 715-7643

structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the steam underneath the bridge.

7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.

8. In streams that contain threatened or endangered species, NCDOT biologist Mr. Tim Savidge should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.

9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.

10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.

11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.

12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.

13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.

14. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.

15. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.

16. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for fish passage. Generally, this means that the culvert or pipe invert is buried at least 1 foot below the natural stream bed. If multiple cells are required the second and/or third cells should be placed so that their

bottoms are at stream bankful stage (similar to Lyonsfield design). This could be accomplished by constructing a low sill on the upstream end of the other cells that will divert low flows to another cell. This will allow sufficient water depth in the culvert or pipe during normal flows to accommodate fish movements. If culverts are long, notched baffles should be placed in reinforced concrete box culverts at 15 foot intervals to allow for the collection of sediments in the culvert, to reduce flow velocities, and to provide resting places for fish and other aquatic organisms moving through the structure.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.

3. Culverts or pipes should be situated so that no channel realignment or widening is required. Widening of the stream channel at the inlet or outlet of structures usually causes a decrease in water velocity causing sediment deposition that will require future maintenance.

4. Riprap should not be placed on the stream bed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-3449 – Duplin County – Bridge No. 204 over Northeast Cape Fear River. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 1 to June 15 for areas where there is the potential for Shortnose sturgeon, an endangered species. We request that High Quality Sedimentation and Erosion Control Measures be used due to the presence of HQW waters.

2. B-3612 – Bertie County – Bridge No. 143 over a branch of Indian Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. NCDOT should be aware that NCWRC has designated NCWRC gamelands in the vicinity of this bridge. Impacts to gameland properties should be avoided.

3. B-3626 – Carteret County – Bridge No. 26 over a branch of the New Port River. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

4. B-3640 – Gates County – Bridge No. 16 over Merchant's Mill Pond. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

5. B-3684 Pitt County – Bridge No. 129 over Tar River. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

6. B-3685 – Pitt County – Bridge No. 30 over Green Mill Run. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

7. B-3711 – Wayne County – Bridge No. 42 over the Neuse River Overflow. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

8. B-3712 · Wayne County – Bridge No 88 over Falling Creek. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

9. B-3809 - Beaufort County – Bridge No. 64 over Pungo Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

10. B-3810 – Beaufort County – Bridge No. 272 over Big Swamp. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

11. B-3871 – Martin County – Bridge No. 64 over Dog Branch. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

12. B-3884 Onslow County – Bridge No. 40 over Squires Run. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

13. B-3887 Pender County – Bridge No. 116 over Shaken Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases.

Spanning structures allow wildlife passage along streambanks, reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on these projects.

North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

December 20, 2000

MEMORANDUM

To: William D. Gilmore, P.E., Manager
Project Development and Environmental Analysis Branch

From: David Brook DSH for David Brook
Deputy State Historic Preservation Officer

Re: Replace Bridge No. 26 on SR 1154 over Branch of Newport River, B-3626, Carteret County, ER 01-7086

Thank you for your memo of July 3, 2000, concerning the above project.

We have conducted a review of the project and are aware of no properties of architectural, historic, or archaeological significance which would be affected by the project. Therefore, we have no comment on the project as currently proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

Federal Aid #BRSTP-1154(2) *TIP* #B-3626 *County*: Carteret

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Replace Bridge No. 26 on SR 1154 over branch of Newport River

On September 21, 2000, representatives of the

- [X] North Carolina Department of Transportation (NCDOT)
- [ ] Federal Highway Administration (FHWA)
- [X] North Carolina State Historic Preservation Office (SHPO)

Reviewed the subject project at

- [ ] a scoping meeting
- [X] photograph review session/consultation
- [ ] other

All parties present agreed

- [X] there are no properties over fifty years old within the project's area of potential effect.
- [X] there are no properties less than fifty years old which are considered to meet Criterion Consideration G within the project's area of potential effect.
- [ ] there are properties over fifty years old (list attached) within the project's area of potential effect, but based on the historical information available and the photographs of each property, properties identified as _____ are considered not eligible for the National Register and no further evaluation of them is necessary.
- [X] there are no National Register-listed properties located within the project's area of potential effect.

Signed:

Mary Pope Furr — 9-21-00
Representative, NCDOT — Date

Michael C Dawson — 12/15/00
FHWA, for the Division Administrator, or other Federal Agency — Date

April Montgomery — 9/21/00
Representative, SHPO — Date

David Brook — 10/27/00
State Historic Preservation Officer — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

Dr. David K. Lenker, Jr.
Superintendent

Jane R. Alexander
Assistant Superintendent

John A. Welmers, Jr.
Assistant Superintendent

Quality Makes The Difference

Carteret County Schools

Carteret County Board of Education

P.O. Box 600, Beaufort, NC 28516-0600
252-728-4583 / 252-728-3028 FAX
http://www.clis.com/ccs/

July 21, 2000

Mr. William D. Gilmore, P.E., Manager
Project Development and Environmental
Analysis Branch

RE: Number of Buses Crossing Bridge #26 on SR 1154

Dear Mr. Gilmore:

During a regular school day, our system would have four to six buses crossing this particular bridge. Route plans at this time call for these buses to cross four times daily. This would mean that we could have from 16 to 24 crossings per day. This would affect four or possibly five of our schools. Keep in mind that all routes are subject to change at anytime during the school year from year to year, which means the number of buses, and schools could vary.

The only options that we would have without this bridge would be to bring all buses through Havelock. This change would add considerable time and mileage to each bus route thus making the students board their bus much earlier. The number of days that we would need to do this could also have an affect on our operating budget for that year.

There might be one possible solution to our bus routing problems. If the bridge could be scheduled for replacement during our summer break, it would affect very few if any of our buses.

If I can be of further assistance, please contact my office at 252-728-4726.

Sincerely,

John A. Barbour
Transportation Director
Carteret County Schools

Wetland Rating Worksheet

Project name B-3623: SR 1154 over Dry Creek Nearest road SR 1154
County Carteret Name of Evaluator Adam V McDaniel Date 01/03/01

Wetland location
_ on pond or lake
_ on perennial stream
_ on intermittent stream
_ within interstream divide
_ other

Adjacent land use (within 1/2 mile upstream)
forested/natural vegetation 75 %
agriculture, urban/suburban 20 %
impervious surface 5 %

Dominant Vegetation
(1) Bald Cypress
(2) Blackgum
(3) Titi

Soil Series Masontown mucky loam
_ predominantly organic-humus, muck, or peat
✓ predominantly mineral- non-sandy
_ predominantly sandy

Flooding and Wetness
_ semipermanently to permanently flooded or inundated
_ seasonally flooded or inundated
✓ intermittently flooded or temporary surface water
_ no evidence of flooding or surface water

Hydraulic Factors
_ steep topography
_ ditched or channelized
✓ wetland width >/= 50 feet

Wetland Type (select one)
_ Bottomland hardwood forest
_ Headwater forest
✓ Swamp forest
_ Wet flat
_ Pocosin
_ Pine savanna
_ Freshwater marsh
_ Bog/fen
_ Ephemeral wetland
_ Other

*The rating system cannot be applied to salt or brackish marshes

Water storage	4	*	4	=	16
Bank/Shoreline stabilization	3	*	4	=	12
Pollutant removal	4	*	5	=	20
Wildlife habitat	5	*	2	=	10
Aquatic life value	5	*	4	=	20
Recreation/Education	5	*	1	=	5

Total score 83

Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: B-3626 Carteret County	Date: 1/03/01
Applicant/Owner: NC DOT	County: Carteret
Investigator: Adam V. Williams	State: NC
Do Normal Circumstances exist on the site? (Yes) No	Community ID: Roadside
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID: Area 2
Is the area a potential Problem Area? Yes (No)	Plot ID:
(If needed, explain on reverse	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Toxaracum officinale	H	FACU	9.		
2. Plantago lanceolata	H	FAC	10.		
3. Trifolium repens	H	FACU	11.		
4. Digitaria sanguinalis	H	FAC-	12.		
5. Allium canadense	H	FACU-	13.		
6. Geranium carolinianum	H	UPL	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): < 50%

Remarks: Roadside grass - Maintained

HYDROLOGY

___Recorded Data (Describe in Remarks):
- ___Stream, Lake or Tide Gauge
- ___Aerial Photographs
- ___Other

X No Recorded Data Available

Field Observations:
- Depth of Surface Water: > 12 (in.)
- Depth to Free Water in Pit: _____ (in.)
- Depth to Saturated Soil: > 12 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___Inundated
- ___Saturated in Upper 12 Inches
- ___Water Marks
- ___Drift Lines
- ___Sediment Deposits
- ___Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___Oxidized Root Channels in Upper 12 Inches
- ___Water-Stained Leaves
- ___Local Soil Survey Data
- ___FAC-Neutral Test
- ___Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): [illegible] Drainage Class: [illegible]

Taxonomy (Subgroup): [illegible] Field Observations Confirm Mapped Type: Yes (No)

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
A	0-4	2.5 Y 2.5/6	—	—	sandy
	4+	2.5 YR 5/6	—	—	loamy sand

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- ___ Sulfidic Odor
- ___ Aquic Moisture Regime
- ___ Reducing Conditions
- ___ Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- ___ Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is this Sampling Point Within a Wetland? Yes (No)

Remarks:

Approved by HQUSACE 2/92

HJL

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: B-3626 Carteret County	Date: 11/03/01
Applicant/Owner: NC DOT	County: Carteret
Investigator: Adam V McIntyre	State: NC
Do Normal Circumstances exist on the site? (Yes) No	Community ID: Cypress-Gum
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID: AA 03
Is the area a potential Problem Area? Yes (No)	Plot ID: Wetland
(If needed, explain on reverse	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Taxodium distichum	T	OBL	9.		
2. Magnolia virginiana	T	FACW+	10.		
3. Nyssa sylvatica	T	FAC	11.		
4.			12.		
5. Cyrilla racemiflora	S	FACW	13.		
6. Ilex opaca	S	FAC-	14.		
7.			15.		
8. Carex spp.	H		16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): > 50 %

Remarks: Obvious wetland vegetation

HYDROLOGY

__Recorded Data (Describe in Remarks):
- __Stream, Lake or Tide Gauge
- __Aerial Photographs
- __Other

X No Recorded Data Available

Field Observations:
- Depth of Surface Water: 10 (in.)
- Depth to Free Water in Pit: _____ (in.)
- Depth to Saturated Soil: 5 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- __Inundated
- X Saturated in Upper 12 Inches
- __Water Marks
- __Drift Lines
- __Sediment Deposits
- __Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- X Oxidized Root Channels in Upper 12 Inches
- X Water-Stained Leaves
- __Local Soil Survey Data
- __FAC-Neutral Test
- __Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Mais[illegible] mucky loam

Drainage Class: VPD

Taxonomy (Subgroup): Cumulic Humaquepts

Field Observations
Confirm Mapped Type: Yes ○ No
↳ similar

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0+		10YR 2/1	—	—	silt loam

Hydric Soil Indicators:

- ___ Histosol
- ___ Histic Epipedon
- X Sulfidic Odor
- ___ Aquic Moisture Regime
- X Reducing Conditions
- X Gleyed or Low-Chroma Colors
- ___ Concretions
- ___ High Organic Content in Surface layer in Sandy Soils
- ___ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- ___ Listed on National Hydric Soils List
- ___ Other (Explain in Remarks)

Remarks:

very dark mucky soil

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No (Circle)	(Circle)
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	Is this Sampling Point Within a Wetland? (Yes) No

Remarks:

Approved by HQUSACE 2/92

HJL
8/93