STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

Mr. Brad Shaver
U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1890
Wilmington, NC 28402

Mr. Stephen Lane
Division of Coastal Management
N. C. Dept. of Env. & Natural Resources
400 Commerce Avenue
Morehead City, NC 28557

Dear Sirs:

Subject: **Nationwide 12 Permit Application and CAMA General Permit Application,** for the proposed replacement of Bridge No. 72 on NC 179 over Jinnys Branch in Brunswick County. Federal Aid Project No. BRSTP-0179 (2), State Project No. 8.1231701, TIP No. B-4031. Debit $200.00 from WBS Element 33398.1.1

Please find enclosed the CAMA MP-1, North Carolina Division of Water Quality (NCDWQ) Stormwater Permit, permit drawings, half-size plans, the certified mail receipts for the above-mentioned project. A Categorical Exclusion (CE) was completed for this project in November 2004, and distributed shortly thereafter. Additional copies will be made available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 72 on NC 179 over Jinnys Branch in Brunswick County. The project involves replacement of the existing 121-foot bridge structure with a 300-foot single span bridge at approximately the same location and roadway elevation of the existing structure using top-down construction. Traffic will be detoured off-site along surrounding roads, during construction.

Due to the project's schedule and need to expedite utility relocations, NCDOT is proposing to separate the utility work necessary for the project from the majority of the actual bridge replacement. To accomplish this, permitting is being requested via this Nationwide Permit 12 and CAMA General Permit application for utility work. A Nationwide Permit 23 and CAMA Major Development Permit application will be submitted under separate cover for all remaining work associated with the bridge replacement.

Impacts to Waters of the United States

General Description: The project is located within subbasin 030759 of the Lumber River Basin (Hydrologic Unit 03040207). Jinnys Branch has been assigned Stream Index Number [DWQ Index # 15-25-2-16-1-(1.5)] and a Best Usage Classification of "C Sw HQW". Neither Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within 1.0 mile of project study area. Jinnys Branch is not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

River. Jinnys Branch is designated as an estuarine waterway by NCDCM. Additionally, Jinnys Branch is not listed on the Final 2006 303(d) list of impaired waters due to sedimentation for the Lumber River Basin, nor does it drain into any Section 303 (d) waters within 1.0 mile of the project study area.

Utility Impacts: No impacts to jurisdictional resources will occur due to relocation of utilities in the project area. However, due to Jinny's Branch Section 10 Waters designation, NCDOT is requesting authorization for these activities. Existing utility lines are in conflict with the proposed project; however, all utility work will be conducted in upland areas. All utility lines will be replaced using the directional bore method.

Federally Protected Species

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 18, 2008 the U.S. Fish and Wildlife Service (FWS) lists 14 federally protected species for Brunswick County (Table 1). The biological conclusion has changed since the completion of the CE (November 2004) for the West Indian manatee. In addition, the bald eagle has been deleted from the list since the completion of the CE.

Table 1. Federally Protected Species for Brunswick County

Scientific Name	Common Name	Habitat Present	Status	Biological Conclusion
Puma concolor couguar	Eastern cougar	No	E	No Effect
Trichechus manatus	West Indian manatee	Yes	E	MANLAA
Mycteria americana	Wood stork	No	E	No Effect
Charadrius melodus	Piping plover	No	T	No Effect
Picoides borealis	Red-cockaded woodpecker	No	E	No Effect
Alligator mississippiensis	American alligator	No	T(S/A)	N/A
Caratta carretta	Loggerhead sea turtle	No	T	No Effect
Chelonia mydas	Green sea turtle	No	T	No Effect
Dermochelys coriacea	Leatherback sea turtle	No	E	No Effect
Lepidochelys kempii	Kemp's ridley sea turtle	No	E	No Effect
Acipenser brevirostrum	Shortnose sturgeon	No	E	No Effect
Thalictrum cooleyi	Cooley's meadowrue	No	E	No Effect
Amaranthus pumilus	Seabeach amaranth	No	T	No Effect
Lysimachia asperulaefolia	Rough leaved loosestrife	No	E	No Effect

The West Indian manatee was originally given a "No Effect" biological conclusion; however, based on the latest survey conducted on December 6, 2005, a biological conclusion of "May Affect, Not Likely to Adversely Affect" was given. This biological conclusion was given because habitat for the species exists within the project area. Ideal habitat does not appear to be present; however, in order to protect the manatee, the USFWS requests that the *Precautions for Construction in Areas Which May be Used by the West Indian Manatee in North Carolina*, be incorporated into the project. National Heritage Program (NHP) records do not document any occurrences of this species within one mile of the project study area as of September 28, 2007; however, there is a documented occurrence of this species approximately two miles from the project area near Ocean Isle Beach in the Intracoastal Waterway.

Effective August 8, 2007, the bald eagle (*Haliaeetus leucocephalus*) was delisted from the Endangered Species Act. A Biological Conclusion is no longer necessary for this species. The bald eagle is protected under the Bald and Golden Eagle Protection Act. Nesting habitat for bald eagles does exist within 660 feet of the project area. NHP records do not document any occurrences of this species within 660 feet of the project area as of January 26, 2007. A survey was conducted on August 2, 2006. Four man-hours were spent conducting a foot survey for this species. No bald eagles or nests were observed during this site visit.

Avoidance and Minimization

Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States." The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts. Minimization measures were incorporated as part of the project design include:

- The use of directional bore rather than trenching
- All work associated with the utility relocation will occur in upland areas.

Mitigation

Due to the lack of impacts to jurisdictional resources, no compensatory mitigation is proposed.

Project Schedule

The review date for this project is April 29, 2008 and the Let Date is June 17, 2008. However, in order to allow adequate time for utility relocation to occur, NCDOT is requesting that these permits be issued by March 28, 2008, if possible. All other permits required for the bridge replacement will be obtained prior to the project Let Date.

Regulatory Approvals

CAMA: NCDOT requests that the proposed utility work be authorized under a Coastal Area Management Act General Permit. Copies of the certified mail receipts are attached. The authority to debit $200.00 from WBS Element 33398.1.1 for the processing fee is hereby granted.

Section 404 Permit: We do not anticipate requesting an Individual Permit but propose to proceed under a Nationwide 12 for utility line activities (72 CFR; 11092-11198, March 12, 2007).

Section 401 Permit: We anticipate 401 General Certification number 3699 will apply to this project. All general conditions of the Water Quality Certification will be met. Therefore, NCDOT is not requesting written concurrence. NCDOT is providing two copies of this application to the NCDWQ, for their review. NCDOT received a stormwater permit (SW7070417), dated July 2, 2007, from NCDWQ (attached).

A copy of this application will be posted on the NCDOT website at: http://www.doh.dot.state.nc.us/preconstruct/pe/neu/permit.html

Thank you for your time and assistance with this project. Please contact John Merritt at jsmerritt@dot.state.nc.us or (919) 715-5536 if you have any questions or need additional information.

Sincerely,

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

CC: w/attachment

Mr. Brian Wrenn, NCDWQ (2 Copies)
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Ms. Jeanne Hardy, NCDMF
Mr. Steve Sollod, NCDCM
Dr. David Chang, P.E., Hydraulics

W/o attachment (see website for attachments)

Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Elmo Vance, PDEA
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. H. Allen Pope, P.E., Division 3 Engineer
Mr. Mason Herndon, Division 3 Environmental Officer
Ms. LeiLani Paugh, NEU
Mr. Randy Griffin, NEU

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Post Office Box 1890
Wilmington, NC 28402

Mr. Stephen Lane
Division of Coastal Management
N. C. Dept. of Env. & Natural Resources
400 Commerce Avenue
Morehead City, NC 28557

Dear Sirs:

Subject: **Nationwide 23 Permit Application and CAMA Major Development Permit Application,** for the proposed replacement of Bridge No. 72 on NC 179 over Jinnys Branch in Brunswick County. Federal Aid Project No. BRSTP-0179 (2), State Project No. 8.1231701, TIP No. B-4031. Debit $400.00 from WBS Element 33398.1.1

Please find enclosed the CAMA MP forms, North Carolina Division of Water Quality (NCDWQ) Stormwater Permit, On-site Wetland Restoration Plan, permit drawings, half-size plans, the certified mail receipts for the above-mentioned project. A Categorical Exclusion (CE) was completed for this project in November 2004, and distributed shortly thereafter. Additional copies will be made available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 72 on NC 179 over Jinnys Branch in Brunswick County. The project involves replacement of the existing 121-foot bridge structure with a 300-foot single span bridge at approximately the same location and roadway elevation of the existing structure using top-down construction. Traffic will be detoured off-site along surrounding roads, during construction.

Due to the project's schedule and need to expedite utility relocations, NCDOT is proposing to separate the majority of the actual bridge replacement from the utility work necessary for the project. To accomplish this, permitting is being requested via this Nationwide Permit 23 and CAMA Major Development Permit application for work associated with the bridge replacement. A Nationwide Permit 12 and CAMA General Permit application will be submitted under separate cover for utility work.

Impacts to Waters of the United States

General Description: The project is located within subbasin 030759 of the Lumber River Basin (Hydrologic Unit 03040207). Jinnys Branch has been assigned Stream Index Number

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WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

[DWQ Index # 15-25-2-16-1-(1.5)] and a Best Usage Classification of "C Sw HQW". Neither Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), nor Outstanding Resource Waters (ORW) occur within 1.0 miles of project study area. Jinnys Branch is not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River. Jinnys Branch is designated as an estuarine waterway by NCDCM. Additionally, Jinnys Branch is not listed on the Final 2006 303(d) list of impaired waters due to sedimentation for the Lumber River Basin, nor does it drain into any Section 303 (d) waters within 1.0 mile of the project study area.

Permanent Impacts: No permanent impacts to jurisdictional resources will be necessary for the construction of this project.

Temporary Impacts: No temporary impacts to jurisdictional resources will be necessary for the construction of this project.

Hand Clearing: There will be less than 0.01 acre of hand clearing in coastal wetlands.

Bridge Demolition: The existing bridge consists of a reinforced concrete deck on timber joists with a concrete-wearing surface. The substructure is composed of timber end bents and interior bents consisting of timber caps on timber piles. The bridge can be removed without dropping components into Waters of the United States during construction. Best Management Practices for Bridge Demolition and Removal will be followed to avoid any temporary fill from entering Waters of the United States.

In-water Work Moratorium

A letter dated May 22, 2002 from the North Carolina Wildlife Resource Commission (NCWRC) stated that anadromous fish habitat is present at Jinnys Branch and requested an in-water work moratorium from February 15 to June 15. After further discussion with Travis Wilson with NCWRC on February 26, 2008, NCDOT may be allowed to remove the existing bents that are in the stream during the in-water work moratorium, providing that specific information about the bents and removal methodology be provided. NCDOT will provide this information to NCWRC as soon as it is available.

Federally Protected Species

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 18, 2008 the U.S. Fish and Wildlife Service (FWS) lists 14 federally protected species for Brunswick County (Table 1). The biological conclusion has changed since the completion of the CE (November 2004) for the West Indian manatee. In addition, the bald eagle has been deleted from the list since the completion of the CE.

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Avoidance and Minimization

Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States." Due to the presence of surface waters and wetlands within the project study area, avoidance of all impacts is not possible. The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts. Minimization measures were incorporated as part of the project design these included:

- Use of an off-site detour during construction.
- Use of turbidity curtains to control debris and protect aquatic life
- Construction of a 179-foot longer bridge
- 3:1 slope stakes on fill slopes, when applicable
- Best Management Practices will also be utilized during demolition of the existing bridge and construction of the new bridge.
- Avoid taking very old live oak (*Quercus virginiana)* located in the northwest side of the project area
- Design Standards in Sensitive Watersheds will be implemented to avoid erosion and runoff during the construction process

Mitigation

As a result of project construction, a portion of the existing bridge causeway will be removed and allow for 0.298 acre of on-site coastal marsh restoration (see restoration plan).

Project Schedule

The review date for this project is April 29, 2008 and the Let Date is June 17, 2008.

Regulatory Approvals

CAMA: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Development Permit. Copies of the certified mail receipts are attached. The authority to debit $400.00 from WBS Element 33398.1.1 for the processing fee is hereby granted.

Section 404 Permit: This project was 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 Permit 23 (72 CFR; 11092-11198, March 12, 2007). There are no Section 404 jurisdictional impacts. However, due to Jinnys Branch Section 10 Waters designation, NCDOT is requesting authorization for these activities.

Section 401 Permit: We anticipate 401 General Certification number 3701 will apply to this project. All general conditions of the Water Quality Certification will be met. Therefore, NCDOT is not requesting written concurrence. NCDOT is providing two copies of this application to the NCDWQ, for their review. NCDOT received a stormwater permit (SW7070417), dated July 2, 2007, from NCDWQ (attached).

A copy of this application will be posted on the NCDOT website at: http://www.doh.dot.state.nc.us/preconstruct/pe/neu/permit.html

Thank you for your time and assistance with this project. Please contact John Merritt at jsmerritt@dot.state.nc.us or (919) 715-5536 if you have any questions or need additional information.

Sincerely,

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

CC: w/attachment

Mr. Brian Wrenn, NCDWQ (2 Copies)
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
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Mr. Mason Herndon, Division 3 Environmental Officer
Ms. LeiLani Paugh, NEU
Mr. Randy Griffin, NEU

Michael F. Easley, Governor

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director
Division of Water Quality

July 2, 2007

Phillip Harris, Manager
NC DOT PDEA
1548 Mail Service Center
Raleigh, NC 27699-1548

Subject: **Permit No. SW8 060564**
B-4031 Bridge #72 over Jinny's Branch
Other Stormwater Permit
Linear Public Road / Bridge Project
Brunswick County

Dear Mr. Harris:

The Wilmington Regional Office received a complete Stormwater Management Permit Application for B-4031 Bridge #72 over Jinny's Branch on April 11, 2007. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H .1000. We are forwarding Permit No. SW8 060564 dated July 2, 2007, for the construction of the subject project.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the conditions and limitations as specified therein.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within sixty (60) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

If you have any questions, or need additional information concerning this matter, please contact either Linda Lewis or me at (910) 796-7215.

Sincerely,

Edward Beck
Regional Supervisor
Surface Water Protection Section

ENB/arl: S:\WQS\STORMWATER\PERMIT\060564.jul07

cc: Marshall Clawson, P.E., NCDOT Hydraulics Unit
Delaney Aycock, Brunswick County Building Inspections
Division of Coastal Management
Linda Lewis
Wilmington Regional Office
Central Files

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

STATE STORMWATER MANAGEMENT PERMIT

OTHER PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

NCDOT

B-4031 Bridge #72 over Jinny's Branch

NC 179, Brunswick County

FOR THE

construction of a public road / bridge in compliance with the provisions of 15A NCAC 2H .1000 (hereafter referred to as the *"stormwater rules")* and the approved stormwater management plans and specifications, and other supporting data as attached and on file with and approved by the Division of Water Quality and considered a part of this permit.

The Permit shall be effective from the date of issuance until rescinded and shall be subject to the following specific conditions and limitations:

I. DESIGN STANDARDS

1. The runoff from the impervious surfaces has been directed away from surface waters as much as possible.

2. The amount of built-upon area has been minimized as much as possible.

3. Best Management Practices are employed which minimize water quality impacts. The permitted BMP is an infiltration basin.

4. Approved plans and specifications for projects covered by this permit are incorporated by reference and are enforceable parts of the permit.

5. Vegetated roadside ditches are 3:1 slopes or flatter.

II. SCHEDULE OF COMPLIANCE

1. The permittee shall at all times provide adequate erosion control measures in conformance with the approved Erosion Control Plan.

2. The permittee shall submit all information requested by the Director or his representative within the time frame specified in the written information request.

3. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.

4. The permittee shall submit to the Director and shall have received approval for revised plans, specifications, and calculations prior to construction for the following items:

   a. Major revisions to the approved plans, such as road realignment, deletion of any proposed BMP, changes to the drainage area or scope of the project, etc.
   b. Project name change.
   c. Redesign of, addition to, or deletion of the approved amount of built-upon area, regardless of size.
   d. Alteration of the proposed drainage.

5. The Director may determine that other revisions to the project should require a modification to the permit.

6. The infiltration basin has been approved for the following design parameters and must be maintained at the permitted condition:

a.	Drainage Area, acres:	0.44
	Onsite, ft^2:	19,166
	Offsite, ft^2:	0
b.	Total Impervious Surfaces, ft^2:	19,166 (Bridge Deck only)
c.	Design Storm, inches:	1.5
d.	Basin Depth, feet:	0.7
e.	Bottom Elevation, FMSL:	7.30
f.	Bottom Surface Area, ft^2:	3,216
g.	Bypass Weir Elevation, FMSL:	8.0
h.	Permitted Storage Volume, ft^3:	2,424
i.	Type of Soil:	Sandy Loam
j.	Expected Infiltration Rate, in/hr:	18.6
k.	Seasonal High Water Table, FMSL:	5.2
l.	Time to Draw Down, hours:	10
m.	Receiving Stream/River Basin:	Jinny's Branch / LBR59
n.	Stream Index Number:	15-25-2-16-2-(1)
o.	Classification of Water Body:	"SA HQW"

7. The permittee shall provide all of the necessary operation and maintenance such that the infiltration basin operates at and meets the design conditions described in Section I.6 of this permit.

III. GENERAL CONDITIONS

1. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division of Water Quality, in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C.

2. The permit issued shall continue in force and effect until revoked or terminated.

3. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and reissuance, or termination does not stay any permit condition.

4. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by the laws, rules, and regulations contained in Title 15A of the North Carolina Administrative Code, Subchapter 2H.1000; and North Carolina General Statute 143-215.1 et. al.

5. The permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary. A formal permit request must be submitted to the Division of Water Quality accompanied by a Name/Ownership Change form signed by both parties involved, and other supporting documentation as listed on page 2 of the form. The approval of this request will be considered on its merits, and may or may not be approved. The permittee is responsible for compliance with the terms and conditions of this permit until such time as the Director approves the transfer.

6. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state and federal) which have jurisdiction.

Permit issued this, the 2nd day of July 2007

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

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for Coleen H. Sullins, Director
Division of Water Quality
By Authority of the Environmental Management Commission

Onsite Wetland Restoration Plan
At Bridge No. 072 over Jinnys Branch
on NC 179
Brunswick County

TIP B-4031
Federal Aid Project No. BRSTP-0179(2)
WBS No. 33398.1.1

August 30, 2007

The North Carolina Department of Transportation (NCDOT) will perform on-site mitigation for coastal marsh wetland impacts at Bridge No. 72 over Jinnys Branch in Brunswick County. This mitigation site occurs within Transportation Improvement Program (TIP) B-4031. The project begins approximately 270 feet south of existing Bridge No. 72 and continues to approximately 530 to the north of the bridge and will lengthen the existing bridge by approximately 179 feet. As a result, NCDOT will restore approximately 0.298 acres of coastal salt marsh wetland as onsite mitigation for B-4031.

EXISTING CONDITIONS

The project is located in Brunswick County on NC 179 over Jinnys Branch between the towns of Shallotte and Ocean Isle Beach. The project study area land use is mainly salt marsh or adjacent upland natural communities. Land use of uplands also consists of residential areas and a golf course. Jinnys Branch is designated as a High Quality Water, primary nursery habitat, primary trust waters, tidal salt waters, coastal waters and coastal shoreline within the project area.

The Natural Systems Technical Report for TIP B-4031, dated January 2002, provides further details concerning existing roadway and project study area conditions.

The existing causeway for the northern approach to Bridge No. 72 is located in the intertidal area of Jinnys Branch. This area exists on both sides of the causeway and is comprised of a tidal marsh wetland community. This community is dominated by herbaceous species consisting of smooth cordgrass (*Spartina alterniflora*), saltmeadow grass (*Spartina patens*), sea lavender (*Limonium carolinianum*) and blackneedle rush (*Juncus romerianus*). Marsh elder (*Iva frutescens*) and wax myrtle (*Myrica cerifera*) dominate the edge of the salt marsh, specifically in the transition zone where the coastal marsh wetland grades into the existing causeway slope. A narrow band of this wetland also exists along the southern bank of Jinnys Branch and is adjacent to the southern approach to the bridge.

PROPOSED CONDITIONS
DESIGN

The proposed wetland mitigation will consist of restoring 0.298 acres of coastal salt marsh wetland. Restoration will involve removing causeway fill mainly along the northern approach with a small area along the southern approach to Bridge No. 72. The restoration area will be graded to a range of 1.3 – 1.9 feet MSL based on the elevations of the adjacent existing marsh. The lower range of elevations, 1.3 feet, will be found nearest the creek and graded with a slight increase in elevation to 1.9 feet towards the end of the bridge. Excavated areas will be ripped and disked prior to planting of the site if necessary. Only the areas adjacent to the proposed bridge will be planted with appropriate species. The areas directly under the bridge will not be planted due to the sunlight restrictions caused by low bridge heights. By removing the causeway, the surface hydrologic functions and connectivity of these areas will be restored.

The Natural Environment Engineering Group shall be contacted to provide construction oversight to ensure that the wetland mitigation area is constructed appropriately.

VEGETATION PLANTING

The restoration site will be planted following the successful completion of the site grading. The site will be planted with smooth cordgrass (*Spartina alterniflora*), saltmeadow grass (*Spartina patens*) and blackneedle rush (*Juncus romerianus*) on 3 foot centers. Areas under the bridge will not be planted, however this area may naturally revegetate.

MONITORING:

Upon successful completion of construction, the following monitoring strategy is proposed for the mitigation site. NCDOT will document monitoring activities on the site in an annual report distributed to the regulatory agencies.

HYDROLOGIC MONITORING

No specific hydrological monitoring is proposed for this restoration site. The target elevation will be based on the adjacent wetland and verified during construction. Constructing the site at the adjacent wetland elevation will ensure the hydrology in the restored area is similar to the hydrology in the reference area.

VEGETATION SUCCESS CRITERIA

NCDOT shall monitor the restoration site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.

Form DCM MP-5

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES

☐ *This section not applicable*

a. Is the proposed bridge:
☐Commercial ☒Public/Government ☐Private/Community

b. Water body to be crossed by bridge:
Jennys Branch

c. Type of bridge (construction material):
33" and 39" Concrete box girder bridge

d. Water depth at the proposed crossing at NLW or NWL:
31 inches

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 121.2 feet
(iii) Width of existing bridge: 30.3 feet
(iv) Navigation clearance underneath existing bridge: 12.3 feet
(v) Will all, or a part of, the existing bridge be removed? (Explain) All

f. (i) Will proposed bridge replace an existing culvert? ☐Yes ☒No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed? (Explain)

g. Length of proposed bridge: 300 feet

h. Width of proposed bridge: 42 feet (out to out)

i. Will the proposed bridge affect existing water flow? ☒Yes ☐No
If yes, explain: This project will remove existing causeway, which should improve the hydraulic flow.

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: Increasing clearance by 0.7 feet

k. Navigation clearance underneath proposed bridge: 13.0 feet

l. Have you contacted the U.S. Coast Guard concerning their approval? ☒Yes ☐No
If yes, explain: By letter, the December 2002 response gave advance approval and indicated an individual permit will not be required. A copy is attached.

m. Will the proposed bridge cross wetlands containing no navigable waters? ☒Yes ☐No
If yes, explain: Increasing clearance by 0.7 feet. There are wetlands located up and downstream of the existing bridge. The wetlands are in the left and right overbank of Jinnys Branch.

n. Height of proposed bridge above wetlands: 5 feet

2. CULVERTS

☒ *This section not applicable*

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back>

c. Type of culvert (construction material):

d. (i) Will proposed culvert replace an existing bridge? ☐Yes ☐No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

_____

_____

_____

e. (i) Will proposed culvert replace an existing culvert? ☐Yes ☐No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

_____

_____

_____

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL.

_____

i. Depth of culvert to be buried below existing bottom contour.

_____

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? ☐Yes ☐No

If yes, explain:

_____

_____

_____

k. Will the proposed culvert affect existing water flow? ☐Yes ☐No

If yes, explain:

_____

_____

_____

3. EXCAVATION and FILL

☐*This section not applicable*

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☒CW 1,675 ☐SAV _____ ☐SB _____

☐WL _____ ☐None

(ii) Describe the purpose of the excavation in these areas:

Excavation of existing causeway to restore marsh and hydraulic regime will involve in taking some wetlands that have migrated up the slopes.

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be excavated: 165 feet

(iii) Avg. width of area to be excavated: 83 feet

(iv) Avg. depth of area to be excavated: N/A

(v) Amount of material to be excavated in cubic yards: 4000 cubic yards

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: Uplands, suitable offsite location

(ii) Dimensions of the spoil disposal area: To be determined by contractor

(iii) Do you claim title to the disposal area? ☐Yes ☒No *(If no, attach a letter granting permission from the owner.)*

(iv) Will the disposal area be available for future maintenance? ☐Yes ☒No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

☐CW ☐SAV ☐WL ☐SB ☒None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? ☐Yes ☒No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed below NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW __ ☐SAV ____ ☐SB ____

☐WL ____ ☒None

(ii) Describe the purpose of the excavation in these areas:

N/A

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed on high-ground? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☒Yes ☐No

If yes, explain: All utility work would be conducted in upland areas and existing road fill outside of the 75-foot AEC Buffer, utility lines will be replaced using the directional bore method. This work is being requested under a CAMA General Permit Application.

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

b. Will the proposed project require the construction of any temporary detour structures? ☒Yes ☐No

If yes, explain: Use of an off-site detour

< Form continues on back>

c. Will the proposed project require any work channels? ☐Yes ☒No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

Best Management Practices will be utilized

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Heavy road construction equipment to be determined by the contractor

f. Will wetlands be crossed in transporting equipment to project site?

☐Yes ☒No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization?

☐Yes ☒No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

Feb 29, 2008
Date

B-4031
Project Name

Elizabeth Lusk
Applicant Name

E. L. Lusk
Applicant Signature

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name: N. C. Department Of Transportation			Project Name (if applicable): B-4031	
Applicant 1: First Name: Gregory	MI: J		Last Name: Thorpe	
Applicant 2: First Name:	MI:		Last Name:	
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address: 1598 Mail Service Center		PO Box:	City: Raleigh	State: NC
ZIP: 27699-1548	Country: USA	Phone No.: 919 - 733 - 5536 ext.		FAX No.: 919 - 733 - 5501
Street Address *(if different from above)*:		City:	State:	ZIP: -
Email:				

2. Agent/Contractor Information

Business Name:				
Agent/ Contractor 1: First Name:	MI:	Last Name:		
Agent/ Contractor 2: First Name:	MI:	Last Name:		
Mailing Address:		PO Box:	City:	State:
ZIP:		Phone No. 1: - - ext.	Phone No. 2: - - ext.	
FAX No.:		Contractor #:		
Street Address *(if different from above)*:		City:	State:	ZIP: -
Email:				

<Form continues on back>

3. Project Location

County (can be multiple)	Street Address	State Rd. #
Brunswick	Beach Drive	NC 179

Subdivision Name	City	State	Zip
	Shallotte	NC	28459 -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
- - ext.	, , , ,

a. In which NC river basin is the project located?	b. Name of body of water nearest to proposed project
Lumber	Jennys Branch
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Saucepan Creek
e. Is proposed work within city limits or planning jurisdiction? ☐Yes ☒No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. Shallotte

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
60.6 ft.	357,628
c. Size of individual lot(s) N/A, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* 13 ft. ☐NHW or ☒NWL

e. Vegetation on tract

The project study area consists of existing maintained right-of-way, urban disturbed areas, pine and pine/hardwood forests and a tidal marsh. The tidal marsh community is dominated by smooth cordgrass (Spartina alterniflora), saltmeadow grass (Spartina patens), sea lavender (Limonium carolinianum) and blackneedle rush (Juncus romerianus).

f. Man-made features and uses now on tract

Bridge #72 over Jennys Branch and associated causeway is the only structure and use.

g. Identify and describe the existing land uses adjacent to the proposed project site.

Mixed residential and undeveloped with one commercial property (golf course).

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable) ☒Yes ☐No ☐NA
Residential	

j. Is the proposed activity part of an urban waterfront redevelopment proposal? ☐Yes ☒No

k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. ☐Yes ☒No ☐NA

If yes, by whom?

l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? ☐Yes ☒No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site? ☒Yes ☐No

(ii) Are there coastal wetlands on the site? ☒Yes ☐No

(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)* ☒Yes ☐No

n. Describe existing wastewater treatment facilities.
N/A

o. Describe existing drinking water supply source.
N/A

p. Describe existing storm water management or treatment systems.
N/A

5. Activities and Impacts

a. Will the project be for commercial, public, or private use? ☐Commercial ☒Public/Government ☐Private/Community

b. Give a brief description of purpose, use, and daily operations of the project when complete.
The NCDOT Bridge Maintenance Unit records indicated that Bridge No. 72 has a sufficiency rating of 7.0 out of a possible 100 for a new structure and is considered structurally deficient and functionally obsolete. The replacement of this inadequate structure will result in safer and more efficient traffic operations.

c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored.
Typical roadway construction methods and techniques. The project is necessary to replace an aging bridge. Heavy equipment will be used to remove the existing bridge, causeway, and construct the new bridge. Construction method will be top-down. Staging will be determined by contractor.

d. List all development activities you propose.
Replace Bridge No. 72 and remove existing causeway, resulting in wetland restoration.

e. Are the proposed activities maintenance of an existing project, new work, or both? Both

f. What is the approximate total disturbed land area resulting from the proposed project? 44,000 ☒Sq.Ft or ☐Acres

g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of? ☐Yes ☒No ☐NA

h. Describe location and type of existing and proposed discharges to waters of the state.
Surface runoff into an infiltration basin located north of Bridge No. 72, on the east side of NC 179. This basin will be located at least 30 feet from existing jursdictional CAMA marsh. See detail sheets 2-A and 2-B of the Type of Work: Grading, Paving, Drainage and Structure plans.

i. Will wastewater or stormwater be discharged into a wetland? ☒Yes ☐No ☐NA

If yes, will this discharged water be of the same salinity as the receiving water? ☐Yes ☒No ☐NA

j. Is there any mitigation proposed? ☒Yes ☐No ☐NA
If yes, attach a mitigation proposal.

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name See attached list
Phone No.

Address

Name
Phone No.

Address

Name
Phone No.

Address

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.
DWQ Stormwater Permit dated July 2, 2007
Permit No. SW8 060564

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date Feb 29 2008 Print Name Elizabeth Lisk

Signature E. L. Lisk

Please indicate application attachments pertaining to your proposed project.

☐DCM MP-2 Excavation and Fill Information ☒DCM MP-5 Bridges and Culverts

☐DCM MP-3 Upland Development

☐DCM MP-4 Structures Information

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

BL Golf Partners, LLC
2727 Prytania Street
Suite 20
New Orleans, LA 70130

Dear Landowner:

The North Carolina Department of Transportation (NCDOT) is planning to replace bridge number 72 on NC 179 over Jinnys Branch with a 300-foot long bridge. The additional length will allow for the replacement of a substandard structure as well as improve the existing floodplain. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (NCDCM), and must be approved by the NCDCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A permit application, vicinity map and site drawings are enclosed for your review.

Due to the project's schedule, NCDOT is proposing to separate the utility work necessary for the project from the majority of the actual bridge replacement. To accomplish this, permitting is being requested via a CAMA General Permit for utility work and a CAMA Major Development Permit for all remaining work associated with the bridge replacement.

The attached form is submitted to ensure that you have an opportunity to comment on the proposal. The work planned is depicted in the attached drawings. If you have **no** objections to the proposal for utility work, please return the form with your response within 10 days to this office. If you have **no** objections to the proposal for all remaining work associated with the bridge replacement, please return the form with your response within 30 days to this office. If you **do** have objections to any portion of the project, please forward your comments to:

Mr. Stephen Lane
N.C. Division of Coastal Management
400 Commerce Ave.
Morehead City, NC 28557

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Thank you for your cooperation.

Sincerely,

E. L. Luck

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Enclosures

cc: Stephen Lane, NCDCM
Elmo Vance, PDEA
File B-4031

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **General Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given ten (10) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 10-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

I, _____, am an adjacent riparian property owner and am aware of the North Carolina Department of Transportation's plans for replacing bridge number 72 over Jinnys Branch in Brunswick County, North Carolina. I am further aware that this work will occur in one or more Areas of Environmental Concern and therefore will require authorization from the Division of Coastal Management in accordance with the Coastal Area Management Act (CAMA).

_____ I have no objection to the project as presently proposed and hereby waive that right of objection as provided in General Statute 113-229.

_____ I have objections to the project as presently proposed and my comments are attached.

_____

Signature of Adjacent Riparian Landowner

_____

Date

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **Major Development Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given thirty (30) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 30-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

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_____

Signature of Adjacent Riparian Landowner

_____

Date

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

Mack L. Hewett
P.O. Box 3028
Shallotte, NC 28459

Dear Landowner:

The North Carolina Department of Transportation (NCDOT) is planning to replace bridge number 72 on NC 179 over Jinnys Branch with a 300-foot long bridge. The additional length will allow for the replacement of a substandard structure as well as improve the existing floodplain. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (NCDCM), and must be approved by the NCDCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A permit application, vicinity map and site drawings are enclosed for your review.

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Mr. Stephen Lane
N.C. Division of Coastal Management
400 Commerce Ave.
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MAILING ADDRESS:
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TELEPHONE: 919-733-3141
FAX: 919-733-9794
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Thank you for your cooperation.

Sincerely,

E. P. Luck

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Enclosures

cc: Stephen Lane, NCDCM
Elmo Vance, PDEA
File B-4031

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **General Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given ten (10) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 10-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

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_____ I have no objection to the project as presently proposed and hereby waive that right of objection as provided in General Statute 113-229.

_____ I have objections to the project as presently proposed and my comments are attached.

_____

Signature of Adjacent Riparian Landowner

_____

Date

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **Major Development Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given thirty (30) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 30-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

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_____ I have objections to the project as presently proposed and my comments are attached.

_____

Signature of Adjacent Riparian Landowner

_____

Date

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

David Holden
95 Ocean Isle Beach Rd. SW
Ocean Isle, North Carolina 28459

Dear Landowner:

The North Carolina Department of Transportation (NCDOT) is planning to replace bridge number 72 on NC 179 over Jinnys Branch with a 300-foot long bridge. The additional length will allow for the replacement of a substandard structure as well as improve the existing floodplain. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (NCDCM), and must be approved by the NCDCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A permit application, vicinity map and site drawings are enclosed for your review.

Due to the project's schedule, NCDOT is proposing to separate the utility work necessary for the project from the majority of the actual bridge replacement. To accomplish this, permitting is being requested via a CAMA General Permit for utility work and a CAMA Major Development Permit for all remaining work associated with the bridge replacement.

The attached form is submitted to ensure that you have an opportunity to comment on the proposal. The work planned is depicted in the attached drawings. If you have **no** objections to the proposal for utility work, please return the form with your response within 10 days to this office. If you have **no** objections to the proposal for all remaining work associated with the bridge replacement, please return the form with your response within 30 days to this office. If you **do** have objections to any portion of the project, please forward your comments to:

Mr. Stephen Lane
N.C. Division of Coastal Management
400 Commerce Ave.
Morehead City, NC 28557

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Thank you for your cooperation.

Sincerely,

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Enclosures

cc: Stephen Lane, NCDCM
Elmo Vance, PDEA
File B-4031

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **General Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given ten (10) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 10-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

I, _____, am an adjacent riparian property owner and am aware of the North Carolina Department of Transportation's plans for replacing bridge number 72 over Jinnys Branch in Brunswick County, North Carolina. I am further aware that this work will occur in one or more Areas of Environmental Concern and therefore will require authorization from the Division of Coastal Management in accordance with the Coastal Area Management Act (CAMA).

_____ I have no objection to the project as presently proposed and hereby waive that right of objection as provided in General Statute 113-229.

_____ I have objections to the project as presently proposed and my comments are attached.

_____

Signature of Adjacent Riparian Landowner

_____

Date

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

General Statutes and Division of Coastal Management **Major Development Permit** approval procedures require that riparian landowners with property adjoining a proposed development in an Area of Environmental Concern (AEC) be given thirty (30) days in which to comment on the proposed development. This form allows the adjacent riparian landowner to express either: (1) that he objects to the project; or, (2) that he does not object and desires to waive his/her right to the 30-day period so that the processing of the application can progress more rapidly. Of course, the adjacent riparian landowner need not sign this form at all if he/she so chooses.

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Signature of Adjacent Riparian Landowner

_____

Date

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

Billy E. Lefler
P.O. Box 1034
Albemarle, NC 28001

Dear Landowner:

The North Carolina Department of Transportation (NCDOT) is planning to replace bridge number 72 on NC 179 over Jinnys Branch with a 300-foot long bridge. The additional length will allow for the replacement of a substandard structure as well as improve the existing floodplain. This project crosses an Area of Environmental Concern, as defined by the North Carolina Division of Coastal Management (NCDCM), and must be approved by the NCDCM under provisions of the Coastal Area Management Act (CAMA). One of the prerequisites to this approval is that adjacent riparian landowners be given an opportunity to comment on the proposal. A permit application, vicinity map and site drawings are enclosed for your review.

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RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Thank you for your cooperation.

Sincerely,

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Enclosures

cc: Stephen Lane, NCDCM
Elmo Vance, PDEA
File B-4031

ADJACENT RIPARIAN LANDOWNER STATEMENT

(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

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(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

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Date

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 29, 2008

Davis D. Stanley
1305 Bricklanding Road SW
Shallotte, NC 28459

Dear Landowner:

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FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
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RALEIGH NC

Thank you for your cooperation.

Sincerely,

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Enclosures

cc: Stephen Lane, NCDCM
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File B-4031

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(Brunswick County: Replace Bridge No. 72 over Jinnys Branch)

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Signature of Adjacent Riparian Landowner

_____

Date

09/08/99

TIP PROJECT: B-4031

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4031	1	

W.S.R. ELEMENT	F.A. PROJ. NO.	DESCRIPTION
33398.1.1	BRSTP-0179(2)	P.E.
33398.2.1	BRSTP-0179(2)	R/W & UTL.

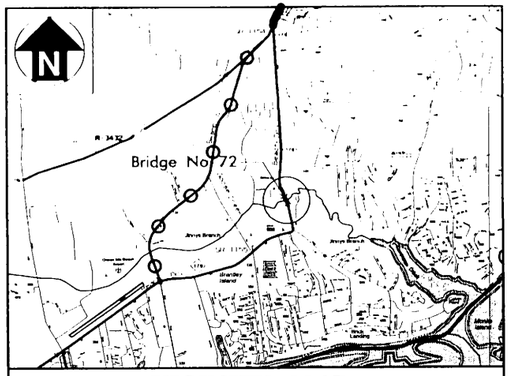
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

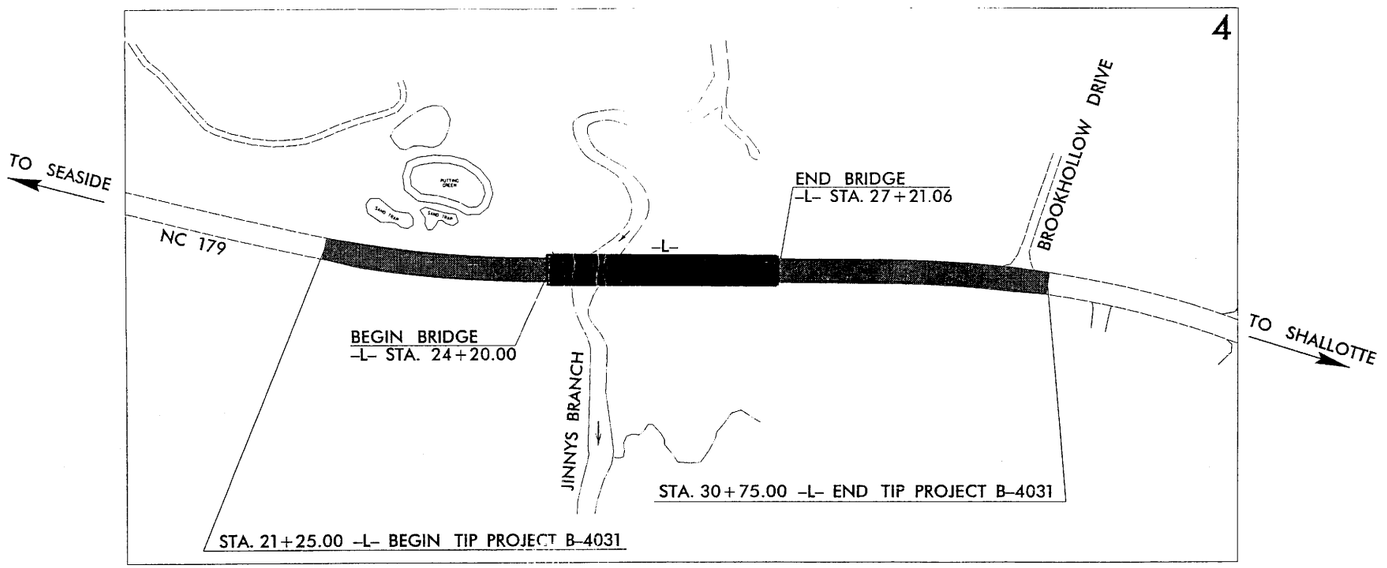
LOCATION: BRIDGE NO. 72 OVER JINNYS BRANCH ON NC 179

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE



VICINITY MAP
(NOT TO SCALE)
DETOUR ROUTE

NC GRID
NAD 83'95



MULKEY
ENGINEERS & CONSULTANTS
PO Box 33127
Raleigh, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

Permit Drawing
Sheet 1 of 5

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2007 = 9,100
ADT 2027 = 16,800
DHV = 15%
D = 55%
* T = 4%
** V = 60 mph

* Duals 3% TTST 1%
** Design Exception – Sag vertical Curve K Horizontal Curve Radius

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4031 = 0.123 MILE

LENGTH STRUCTURE TIP PROJECT B-4031 = 0.057 MILE

TOTAL LENGTH STATE TIP PROJECT B-4031 = 0.180 MILE

Prepared In the Office of:
Mulkey Engineers & Consultants
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 16, 2006

LETTING DATE: JUNE 19, 2007

TIM JORDAN, PE
MULKEY E & C
PROJECT MANAGER

JONATHAN SCARCE, PE
MULKEY E & C
HYDRAULICS ENGINEER

NCDOT CONTACT: CATHY S. HOUSER, P.E.
ROADWAY DESIGN – PROJECT ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

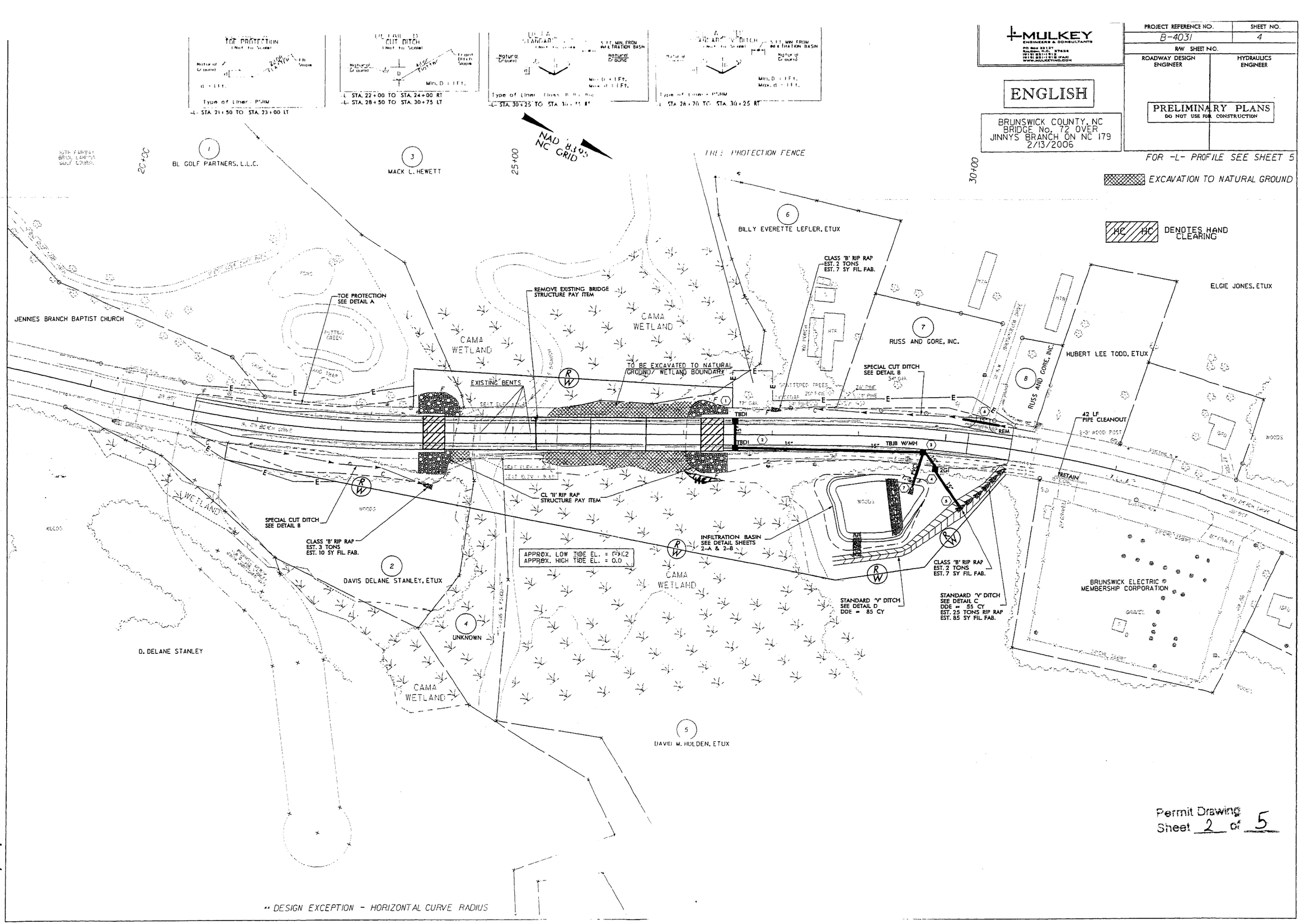
ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

4/26/2006
R:\Roadway\Proj\b4031_rdy_tsh.dgn
12:01:13 PM



MULKEY ENGINEERS & CONSULTANTS
P.O. Box 33127
Raleigh, NC 27636
(919) 851-1812
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

PROJECT REFERENCE NO.	SHEET NO.
B-4031	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BRUNSWICK COUNTY, NC
BRIDGE No. 72 OVER
JINNYS BRANCH ON NC 179
2/13/2006

FOR -L- PROFILE SEE SHEET 5

** DESIGN EXCEPTION - HORIZONTAL CURVE RADIUS

1/30/08

Permit Drawing
Sheet 2 of 5

MULKEY
ENGINEERS & CONSULTANTS
PO Box 33187
RALEIGH, NC 27636
(919) 851-1313
(919) 851-1318 (FAX)
WWW.MULKEYINC.COM

PROJECT REFERENCE NO.	SHEET NO.
B-4031	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

BRUNSWICK COUNTY, NC
BRIDGE No. 72 OVER
JINNYS BRANCH ON NC 179
2/13/2006

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 5

EXCAVATION TO NATURAL GROUND

HC HC DENOTES HAND CLEARING

DETAIL 'A'
TOE PROTECTION
(NOT TO SCALE)
Type of Liner "TBRM"
L STA. 21+50 TO STA. 23+00 LT

DETAIL 'B'
CUT DITCH
(NOT TO SCALE)
L STA. 22+00 TO STA. 24+00 RT
L STA. 28+50 TO STA. 30+75 LT

DETAIL 'C'
STANDARD
(NOT TO SCALE)
Type of Liner - Class B Rip Rap
L STA. 30+25 TO STA. 30+75 RT

DETAIL 'D'
STANDARD
(NOT TO SCALE)
L STA. 28+75 TO STA. 30+25 RT

NAD 1983
NC GRID

20+00
25+00
30+00

1 BL GOLF PARTNERS, L.L.C.
3 MACK L. HEWETT
6 BILLY EVERETTE LEFLER, ETUX
7 RUSS AND GORE, INC.
8 RUSS AND GORE, INC.
ELGIE JONES, ETUX
HUBERT LEE TODD, ETUX
JENNIES BRANCH BAPTIST CHURCH
2 DAVIS-DELANE STANLEY, ETUX
4 UNKNOWN
D. DELANE STANLEY
5 DAVID M. HOLDEN, ETUX
BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION

TOE PROTECTION SEE DETAIL A
REMOVE EXISTING BRIDGE STRUCTURE PAY ITEM
EXISTING BENTS
TO BE EXCAVATED TO NATURAL GROUND/ WETLAND BOUNDARY
CL 'II' RIP RAP STRUCTURE PAY ITEM
SPECIAL CUT DITCH SEE DETAIL B
CLASS 'B' RIP RAP EST. 3 TONS EST. 10 SY FIL FAB.
APPROX. LOW TIDE EL. = -0.2
APPROX. HIGH TIDE EL. = 0.0
CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY FIL FAB.
SPECIAL CUT DITCH SEE DETAIL B
42 LF PIPE CLEANOUT
TBJB W/MH
INFILTRATION BASIN SEE DETAIL SHEETS 2-A & 2-B
STANDARD 'V' DITCH SEE DETAIL D DDE = 85 CY
STANDARD 'V' DITCH SEE DETAIL C DDE = 55 CY EST. 25 TONS RIP RAP EST. 85 SY FIL FAB.
CLASS 'B' RIP RAP EST. 2 TONS EST. 7 SY FIL FAB.
CAMA WETLAND
WETLAND
WOODS

** DESIGN EXCEPTION - HORIZONTAL CURVE RADIUS

1/30/08

Permit Drawing
Sheet 3 of 5

PROPERTY OWNERS

NAMES AND ADDRESSES

	NAMES	ADDRESSES
1	BL Golf Partners, LLC	2727 Prytania Street, Suite 20, New Orleans, LA 70130
2	Billy E. Lefler	P.O. Box 1034, Albemarle, NC 28001
3	Davis D. Stanley	1305 Bricklanding Road SW, Shallotte, NC 28459
4	Mack L. Hewett	P.O. Box 3028, Shallotte, NC 28459
5	David Holden	95 Ocean Isle Beach Rd. SW, Ocean Isle, North Carolina 28459

NCDOT

DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

PROJECT: 33398.1.1 (B-4031)

BRIDGE NO. 72 OVER

JINNYS BRANCH ON NC 179

Permit Drawing

SHEET Sheet 4 OF 5

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	24+20 -L- To 27+20 -L-	4 Span Bridge					<0.01					
		1 @ 105' - 39" Conc. Box Girder										
		3 @ 65' - 33" Conc. Box Girder										
TOTALS:			0.000				<0.01					

Permit Drawing
Sheet 5 of 5

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
WBS - 33398.1.1 (B-4031)

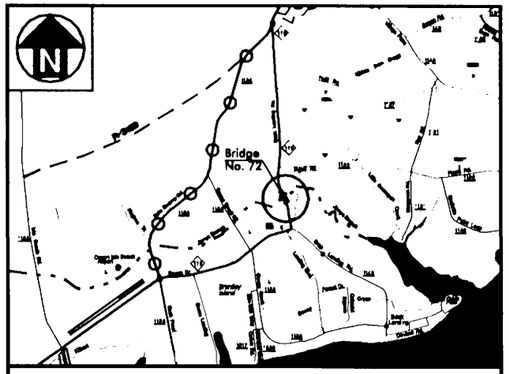
SHEET January-08

ATN Revised 3/31/05

TIP PROJECT: B-4031

CONTRACT:

See Sheet 1A For Index of Sheets.
See Sheet 1B For Conventional Symbols.



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

LOCATION: BRIDGE NO. 72 OVER JINNYS BRANCH ON NC 179

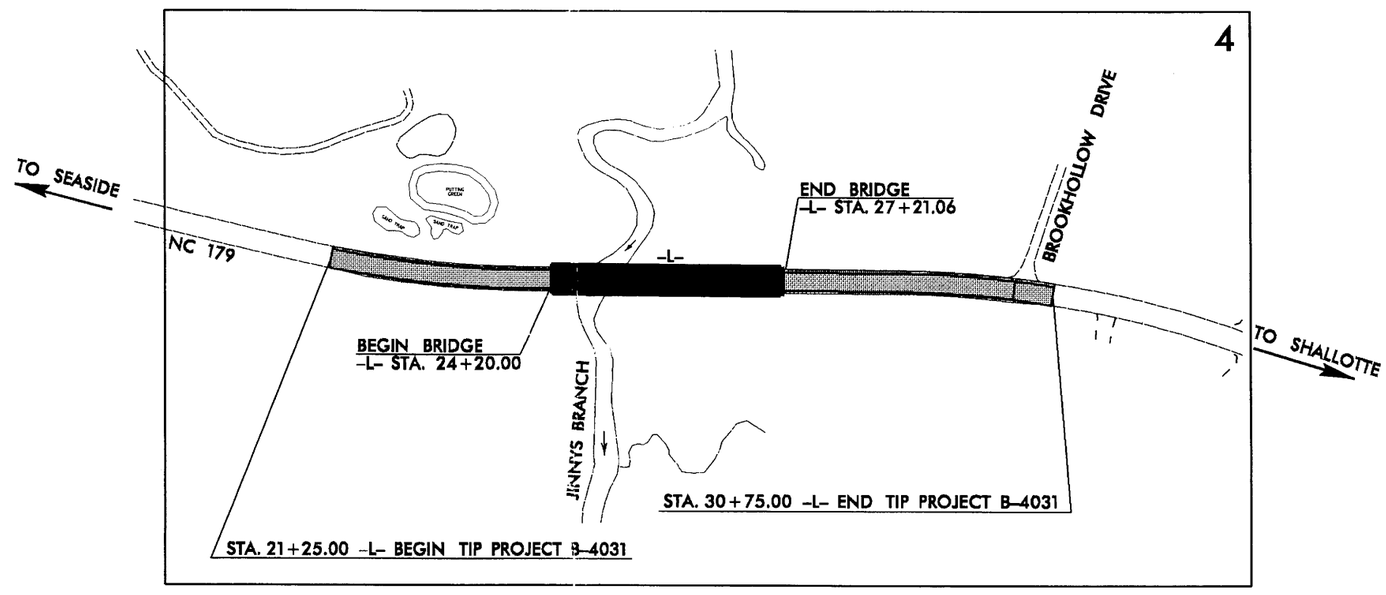
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4031	1	

WBS ELEMENT	F.A. PROJ. NO.	DESCRIPTION
33398.1.1	BRSTP-0179(2)	P.E.
33398.2.1	BRSTP-0179(2)	R/W & UTL.

PRELIMINARY PLANS
- DO NOT USE FOR CONSTRUCTION

NC GRID
NAD 83'95



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GRAPHIC SCALES

PLANS: 50 25 0 50 100
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PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2007 = 9,100
ADT 2027 = 16,800
DHV = 15%
D = 55%
* T = 4%
** V = 60 mph

* Duals 3% TTST 1%

** Design Exception – Sag vertical Curve K Horizontal Curve Radius

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FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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MULKEY E & C
PROJECT MANAGER

JONATHAN SCARCE, PE
MULKEY E & C
HYDRAULICS ENGINEER

NCDOT CONTACT: CATHY S. HOUSER, P.E.
ROADWAY DESIGN - PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

8/17/99

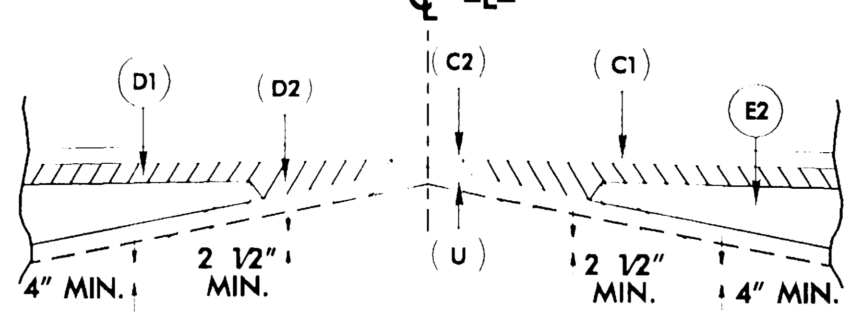
	MULKEY ENGINEERS & CONSULTANTS PO Box 33127 RALEIGH, N.C. 27636 (919) 851-1912 (919) 851-1918 (FAX) WWW.MULKEYINC.COM
PROJECT REFERENCE NO.	SHEET NO.
B-4031	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE
(FINAL PAVEMENT DESIGN)

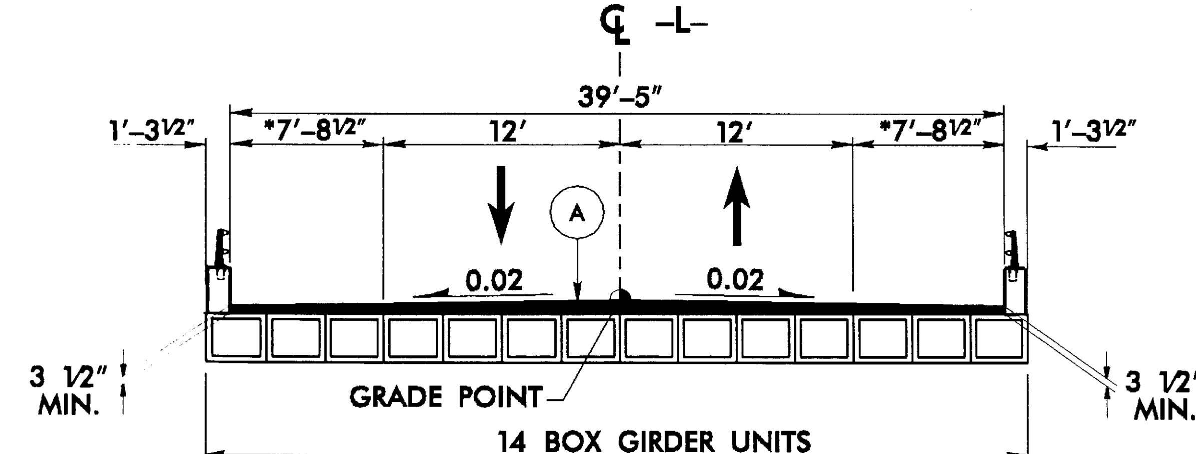
A	CONCRETE WEARING SURFACE (STRUCTURE PAY ITEM)
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



DETAIL SHOWING METHOD OF WEDGING

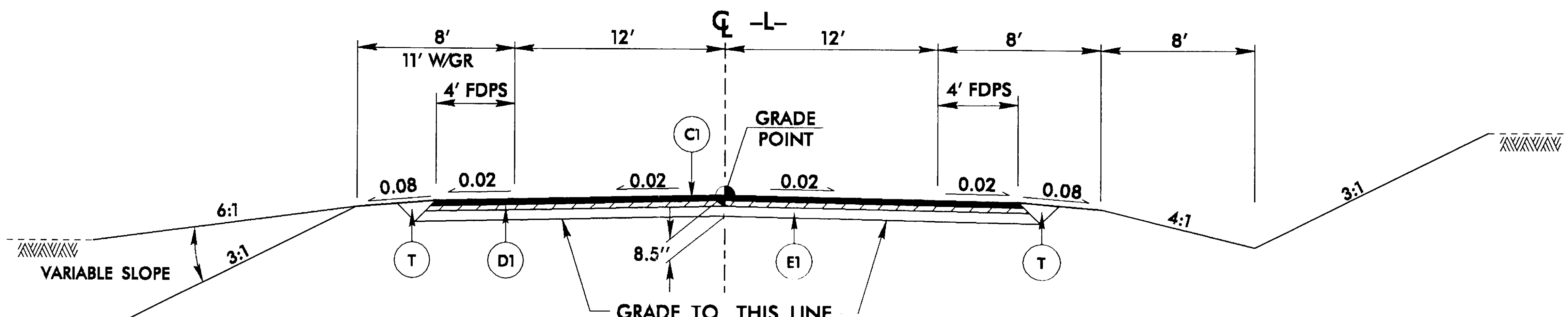
USE IN CONJUCTION WITH TYPICAL SECTION NO. 1



DETAIL OF BRIDGE

-L- STA 24+20.00 TO STA 27+21.06

* WIDENED FOR HYDRAULIC SPREAD ON STRUCTURE



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
AT THE FOLLOWING LOCATION:

TRANSITION FROM EXISTING TO T.S. NO. 1 FROM
-L- STA. 21+25 TO STA. 21+75

-L- STA 21+75.00 TO STA 24+20.00 (BEGIN BRIDGE)
-L- STA 27+21.06 (END BRIDGE) TO STA 30+25.00

TRANSITION FROM T.S. NO. 1 TO EXISTING FROM
-L- STA. 30+25 TO STA. 30+75

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8/17/99

REVISIONS

MULKEY
ENGINEERS & CONSULTANTS
PO BOX 98167
RALEIGH, N.C. 27624
(919) 851-1111 (PHONE)
(919) 851-1112 (FAX)
WWW.MULKEYINC.COM

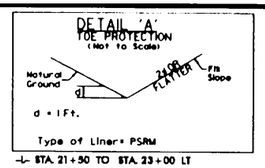
PROJECT REFERENCE NO.	SHEET NO.
B-4031	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 5

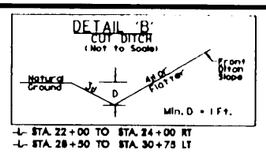
EXCAVATION TO NATURAL GROUND
APPROACH SLAB

DETAIL 'A'
TOE PROTECTION
(Not to Scale)



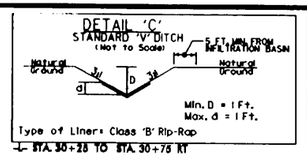
Type of Liner= PSRM
-L- STA. 21+30 TO STA. 23+00 LT

DETAIL 'B'
CUT DITCH
(Not to Scale)



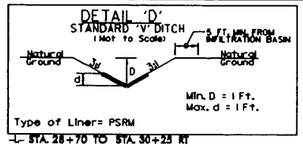
-L- STA. 22+00 TO STA. 24+00 RT
-L- STA. 28+50 TO STA. 30+75 LT

DETAIL 'C'
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap
-L- STA. 30+25 TO STA. 30+75 RT

DETAIL 'D'
STANDARD 'V' DITCH
(Not to Scale)



Type of Liner= PSRM
-L- STA. 28+70 TO STA. 30+25 RT

NAD 83/95 NC GRID

10TH FAIRWAY BRICK LANDING GOLF COURSE

1 OCEAN ISLE BEACH PLANTATION, LLC.
DB 238 PG 199
MB 33 PG 529

3 MACK L. HEWETT
DB 128 PG 321

-L- PC Sta. 20+76.91=
-EL- PC Sta. 20+76.91

BM #1
RAILROAD SPIKE IN 18" PINE TREE
-BL-STA 14+45.87 87' LEFT
ELEV. = 16.09'

-BL- 5 PINC 15+91.83
(-L- 22+43.21 19.04' LT)

-BL- 6 PINC 19+71.31
-BL-6 POT 6+82.99
(-L- 26+24.86 19.75' LT)

-L- PT Sta. 23+83.53

-L- PC Sta. 28+72.90

-BL- 7 PINC 24+05.88
(-L- 30+54.97 37.17' LT)

BM #2
RAILROAD SPIKE IN 18" PINE TREE
-BL-STA 24+66.54 120' LEFT
ELEV. = 24.51'

6 BILLY EVERETTE LEFLER, ETUX
DB 599 PG 459
DB 633 PG 167
MB PC 96
MB T PC 99

7 RUSS AND CORE, INC.
DB 1022 PG 597
MB L PG 56
MB T PC 99

HUBERT LEE TODD, ETUX
DB 286 PG 317

MARK TODD, ETUX
DB 1020 PG 223

ELGIE JONES, ETUX
DB 752 PG 98

9 JENNES BRANCH BAPTIST CHURCH
DB 1049 PG 265
DB 822 PG 480
DB 1258 PG 322
MB M PG 256

BEGIN PROJECT B-4031
-L- POC Sta. 21+25.00

END PROJECT B-4031
-L- POC Sta. 30+75.00

TREE PROTECTION FENCE

TOE PROTECTION SEE DETAIL A

REMOVE EXISTING BRIDGE STRUCTURE PAY ITEM

CAMA WETLAND

JENNES BRANCH

NC 179 BEACH DRIVE

N 10° 51' 21.3" W

N 23° 53' 14.3" W

-L-

CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY FIL FAB.

SPECIAL CUT DITCH
SEE DETAIL B

SCATTERED TREES
20" PINE
28" PINE
24" CEDAR
24" PINE
72" OAK
34" OAK

TBJB W/MH

42 LF PIPE CLEANOUT
2-8" WOOD POST

CL 'II' RIP RAP
STRUCTURE PAY ITEM

SHOULDER BERM GUTTER
FROM END OF APP. SLAB
TO STA 28+20.00

INFILTRATION BASIN
SEE DETAIL SHEETS
2-A & 2-B

STANDARD 'V' DITCH
SEE DETAIL C
DDE = 55 CY

STANDARD 'V' DITCH
SEE DETAIL D
DDE = 85 CY

CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY FIL FAB.

STANDARD 'V' DITCH
SEE DETAIL C
DDE = 55 CY
EST. 25 TONS RIP RAP
EST. 85 SY FIL FAB.

PROPOSED ASPHALT PATH TO BRUNSWICK EMC

BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION
DB 735 PG 69

T & J DEVELOPMENT OF NMB, LLC.
DB 2207 PG 1376
MB 33 PG 45

2 T & J DEVELOPMENT OF NMB, LLC.
DB 2207 PG 1376
MB 33 PG 45

5 PIGOTT ROAD PROPERTIES, LLC
DB 2537 PG 165
DB 2506 PG 180
MB 41 PG 3

END CONSTRUCTION
-L- PCC Sta. 31+81.87=
-EL- POC Sta. 31+82.06

PI Sta 22+30.89	PI Sta 30+28.06	PI Sta 33+74.16
Δ = 13° 01' 53.0" (LT)	Δ = 13° 06' 45.9" (RT)	Δ = 15° 17' 32.3" (RT)
D = 4° 15' 00.0"	D = 4° 14' 38.9"	D = 4° 00' 00.0"
L = 306.62'	L = 308.96'	L = 382.31'
T = 153.98'	T = 155.16'	T = 192.30'
**R = 1,348.14'	**R = 1,350.00'	**R = 1,432.39'
SE = 06	SE = 06	SE = 06
DS = 60	DS = 60	DS = 60

** DESIGN EXCEPTION - HORIZONTAL CURVE RADIUS

BEGIN APPROACH SLAB
-L- 23+96.00

BEGIN BRIDGE
-L- 24+20.00

END BRIDGE
-L- 27+21.06

END APPROACH SLAB
-L- 27+45.06

301.06'

TYPE III

-L-
N 23° 53' 14.3" W

7-8½"

SKETCH SHOWING RELATIONSHIP OF BRIDGE TO PAVEMENT AND SHOULDERS

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mcall

PROJECT REFERENCE NO.	SHEET NO.
B-4031	5

MULKEY ENGINEERS & CONSULTANTS

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

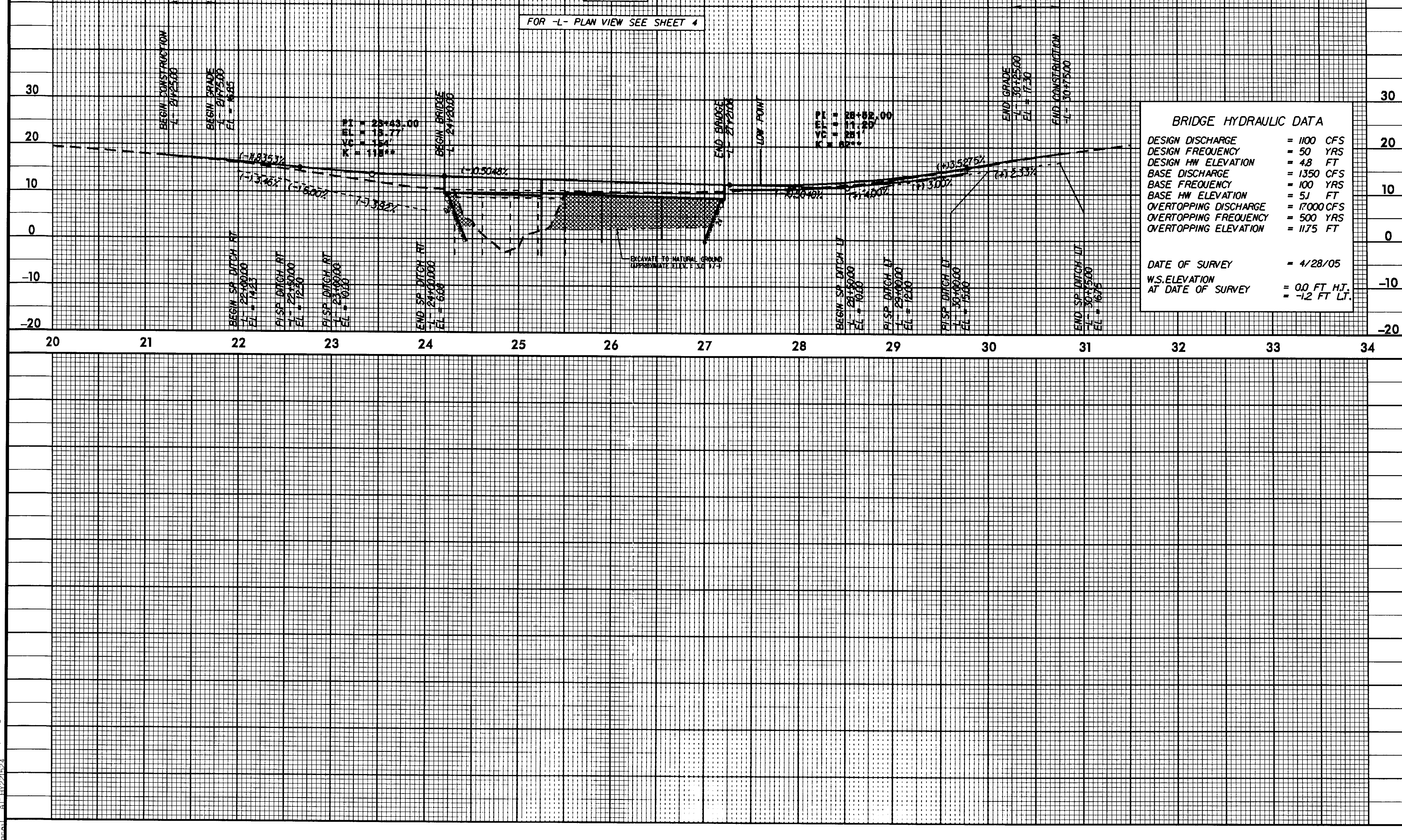
BM-#1
RAILROAD SPIKE IN 18" PINE TREE
-BL- STA 14+45.87 87' LEFT
EL = 16.09'

BM-#2
RAILROAD SPIKE IN 18" PINE TREE
-BL- STA 22+66.54 120' LEFT
EL = 24.51'

~ DESIGN EXCEPTION - SAG VERTICAL CURVE K

-L-

FOR -L- PLAN VIEW SEE SHEET 4



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1100 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 4.8 FT
BASE DISCHARGE	= 1350 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 5.1 FT
OVERTOPPING DISCHARGE	= 17000 CFS
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING ELEVATION	= 11.75 FT
DATE OF SURVEY	= 4/28/05
W.S. ELEVATION AT DATE OF SURVEY	= 0.0 FT H.T. = -1.2 FT LT.

5/28/99

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SEQUENCE OF CONSTRUCTION FOR INFILTRATION BASIN

1. RELOCATE UTILITY LINES.
2. PUT IN ALL EROSION CONTROL MEASURES (AS NEEDED THROUGH CONSTRUCTION STAGES).
3. EXCAVATE AND CONSTRUCT FOREBAY.
4. CONSTRUCT AND INSTALL BOXES. CREATE OPENINGS IN BOXES AND CONNECT PIPES WITH BOXES.
5. EXCAVATE FOR THE BASIN AND PREPARE THE BASIN FLOOR AT THE GIVEN GRADE.
6. CONSTRUCT BERM AROUND BASIN.
7. CONSTRUCT OVERFLOW CHANNEL AND EMERGENCY SPILLWAY.
8. SEE SHEET 2B FOR DETAILS OF SOIL LAYERING SEQUENCE SHOW BELOW FOR MAIN STORAGE BAY
   - LAY GEOFABRIC BELOW THE WASHED STONE LAYER.
   - PLACE 3" OF NO. 57 WASH STONE.
   - LAY GEOFABRIC ABOVE THE STONE LAYER.
   - PLACE AND GRADE 4" OF SAND.
9. LAY COIR FIBER MATTING IN FOREBAY AND GEOFABRIC BELOW THE RIP RAP BERM.
10. ADD GRATES ON ALL BOXES.

MULKEY
ENGINEERS & CONSULTANTS
PO Box 32137
Raleigh, N.C. 27636
(919) 851-1918
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

PROJECT REFERENCE NO.	SHEET NO.
B-4031	2-A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GENERAL NOTES FOR INFILTRATION BASIN

1. APPLY SEEDING OVER THE SIDE SLOPES OF BERM AND ANY EXPOSED SURFACE THAT NEEDS TO BE PROTECTED AGAINST IMMEDIATE POTENTIAL STORM EVENT.
2. THE SURVEYOR SHALL VERIFY THE INVERTS AND ELEVATIONS AT THE FOLLOWING POINTS AT THE END OF EACH PHASE OF CONSTRUCTION:
   - -INVERTS IN THE PIPE AND THE BOXES
   - -INVERTS AT THE HIGH AND LOW POINTS OF THE ENGINEERED SOILS
3. THE BERM SHALL BE CONSTRUCTED WITH SUITABLE FILL MATERIAL PER THE ENGINEER.
4. ANY FILL MATERIAL SHALL BE COMPACTED.
5. PROVIDE A 3" OF NO. 57 STONE AS TRANSITION LAYER UNDER SAND BED. (GEOFABRIC WILL SEPARATE THE TWO MATERIALS)

SAND SPECIFICATIONS

WASHED ASTM C33 OR AASHTO M-6 FINE AGGREGATE CONCRETE SAND.
IN ADDITION TO THESE SPECIFICATIONS, SAND MUST MEET ALL THE FOLLOWING CONDITIONS:

1. SAND MUST BE SILICA BASED ... NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
2. SAND MUST BE CLEAN. NATURAL UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES SHALL BE REJECTED.
3. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCES.

MULKEY
ENGINEERS & CONSULTANTS
PO Box 33130
Raleigh, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYENG.COM

PROJECT REFERENCE NO.	SHEET NO.
B-4031	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SCALE: 1" = 20

27+00

30+00

SPECIAL CUT DITCH
SEE DETAIL B

TBDI

15"

TBDI

15"

GRAU 350

15"

TBJB W/MH

GRAU 350

15"

8" PVC

2GI

15"

REM

42 LF
PIPE CLEANOUT

RETAIN

EXCAVATION

INFILTRATION BASIN

30 FT. MIN.
SETBACK FROM
WETLANDS

CAMA
WETLAND

EMERGENCY
SPILLWAY W/
CLASS 'B' RIP RAP
EST. 10 TONS
EST. 15 SY FF

CLASS 'B' RIP RAP
EST. 20 TONS
EST. 75 SY FF

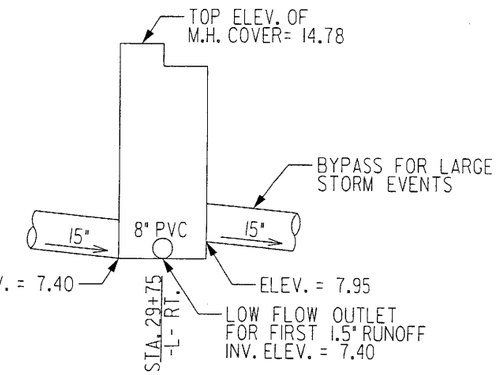
STANDARD 'V' DITCH
SEE DETAIL D
DDE = 85 CY

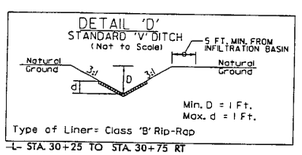
CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY FF

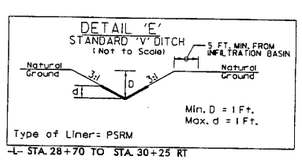
CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY FIL. FAB.

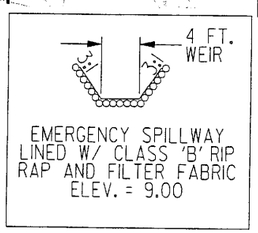
STANDARD 'V' DITCH
SEE DETAIL C
DDE = 55 CY
EST. 25 TONS RIP RAP
EST. 85 SY FIL. FAB.

EX. DEPTH JUNCTION BOX
W/ MANHOLE COVER
NOT TO SCALE

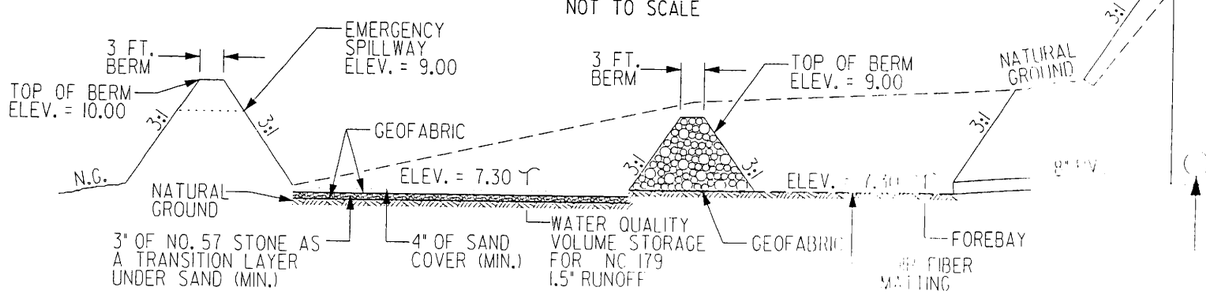


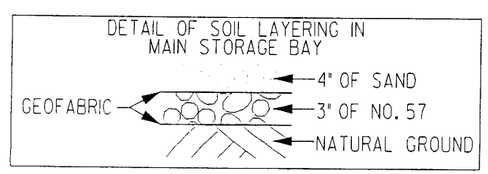






SYSTEM PROFILE
NOT TO SCALE





INFILTRATION BASIN

-BOTTOM ELEV. = 7.30
-EMERGENCY SPILLWAY ELEV. = 9.00
-BERM ELEV. = 10.00
-DESIGN STORM = FIRST 1.5" RUNOFF
-DESIGN VOLUME = 2396 FT³
-VOLUME PROVIDED = 2412 FT³

GENERAL NOTES:
-ALL SIDE SLOPES ARE TO BE 3:1 OR FLATTER AND STABILIZED WITH VEGETATED COVER
-BOTTOM OF POND IS TO BE COVERED WITH A LAYER OF CLEAN SAND TO AN AVERAGE DEPTH OF 4 INCHES
-FOREBAY MUST RECEIVE REGULAR MAINTENANCE TO REMAIN EFFFECTIVE

PROJ. REFERENCE NO.	SHEET NO.
B-4031	X-2

0 5 10

23+00.00

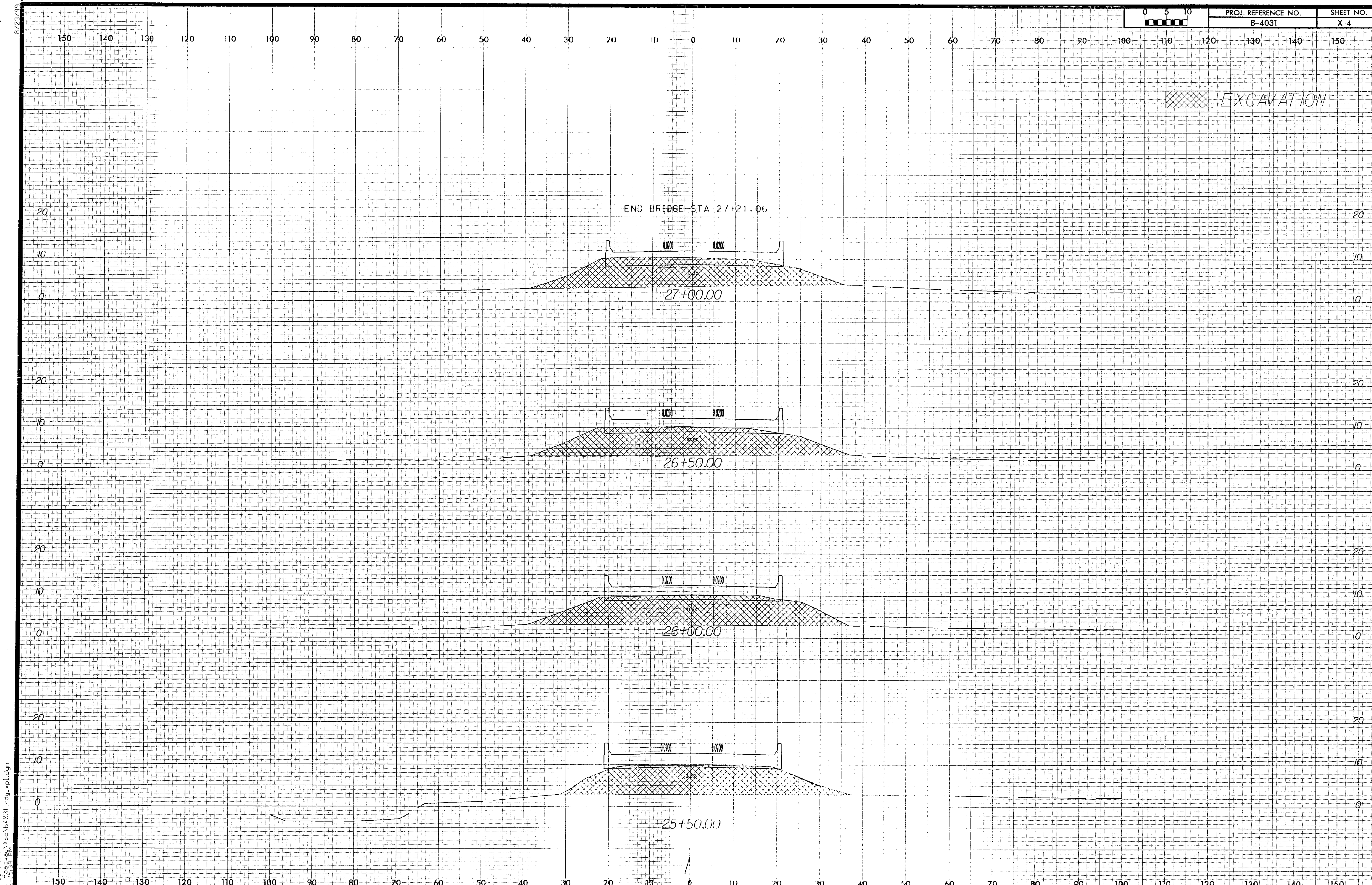
22+50.00

22+00.00

21+50.00

21+00.00

PROJ. REFERENCE NO.	SHEET NO.
B-4031	X-4



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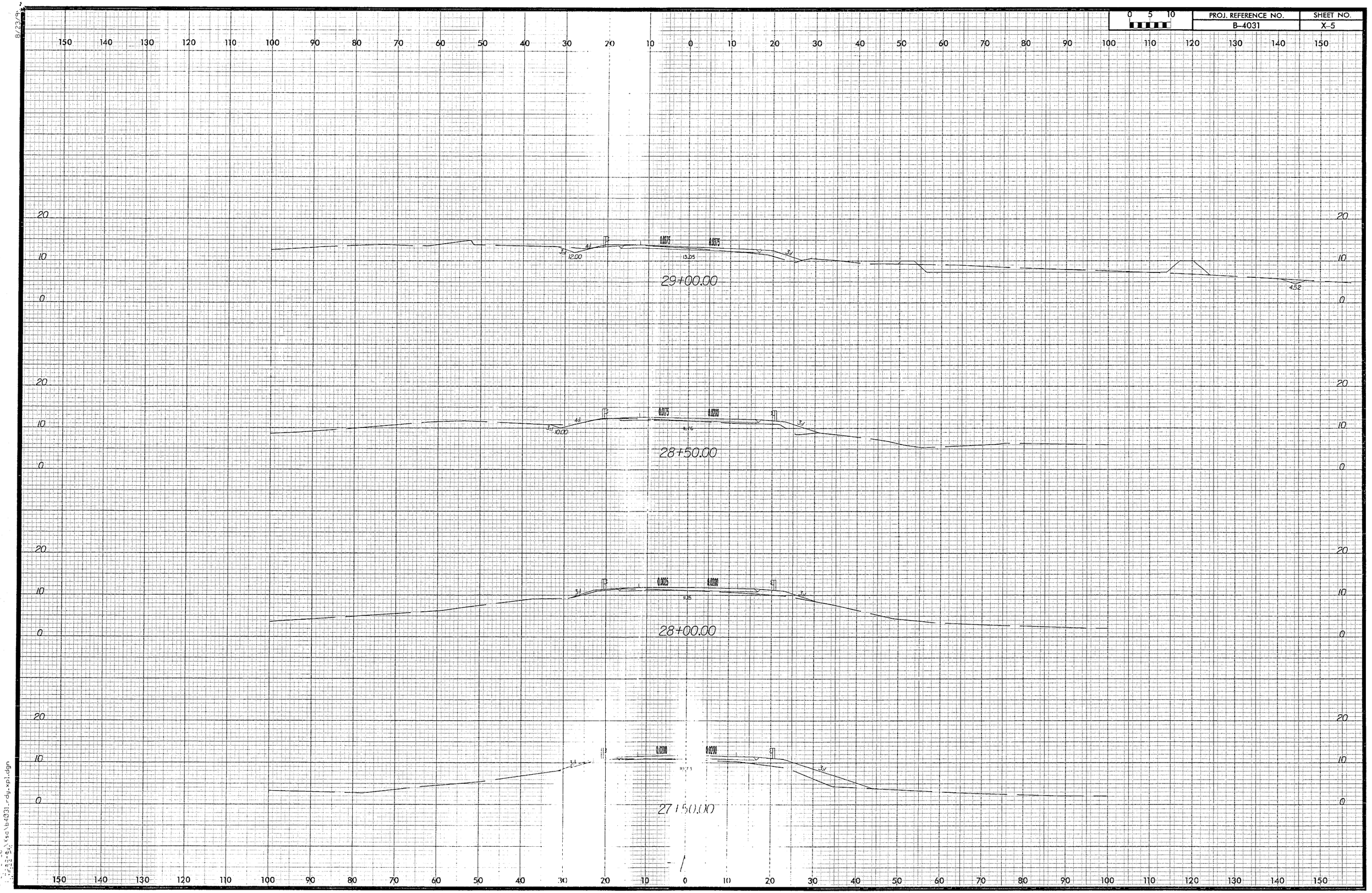
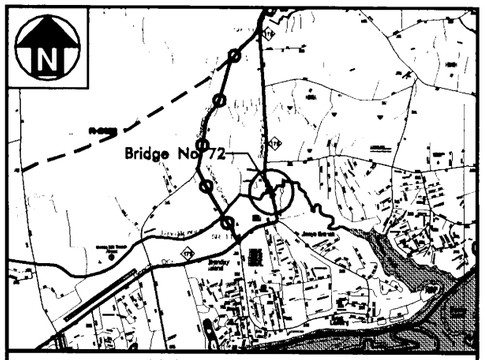
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4031	X-5





T.I.P. NO.	SHEET NO.
B-4031	PO-1

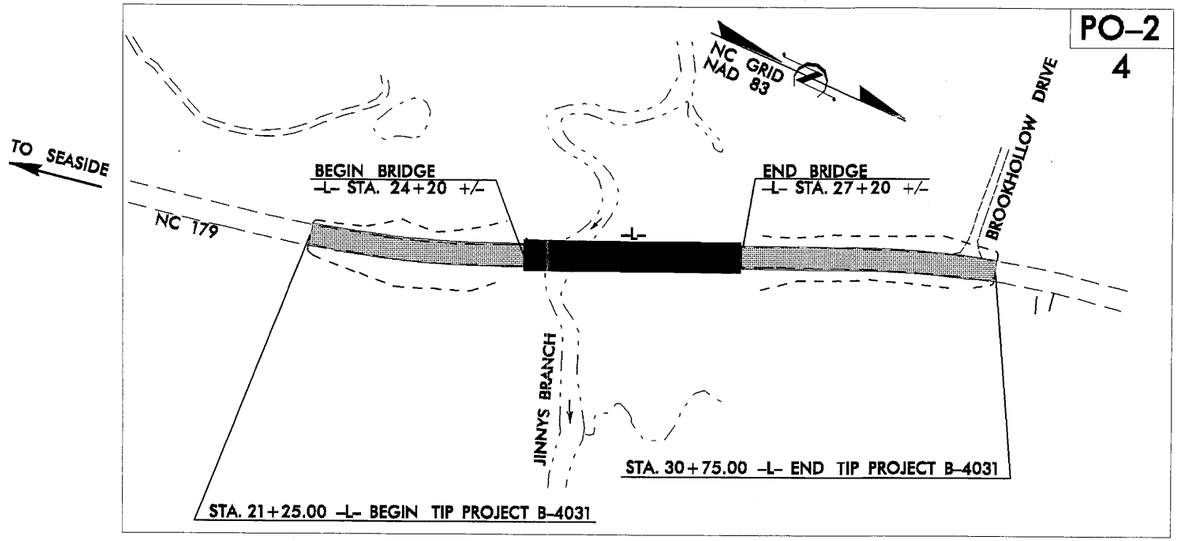
Sheet 1 of 2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY PERMIT DRAWING

LOCATION: BRIDGE NO. 72 OVER JINNYS BRANCH ON NC 179

TYPE OF WORK: UTILITIES



TIP B-4031

INDEX OF SHEETS

SHEET NO.	*DESCRIPTION*
PO-1	*TITLE SHEET*
PO-2	*PERMIT DRAWINGS*

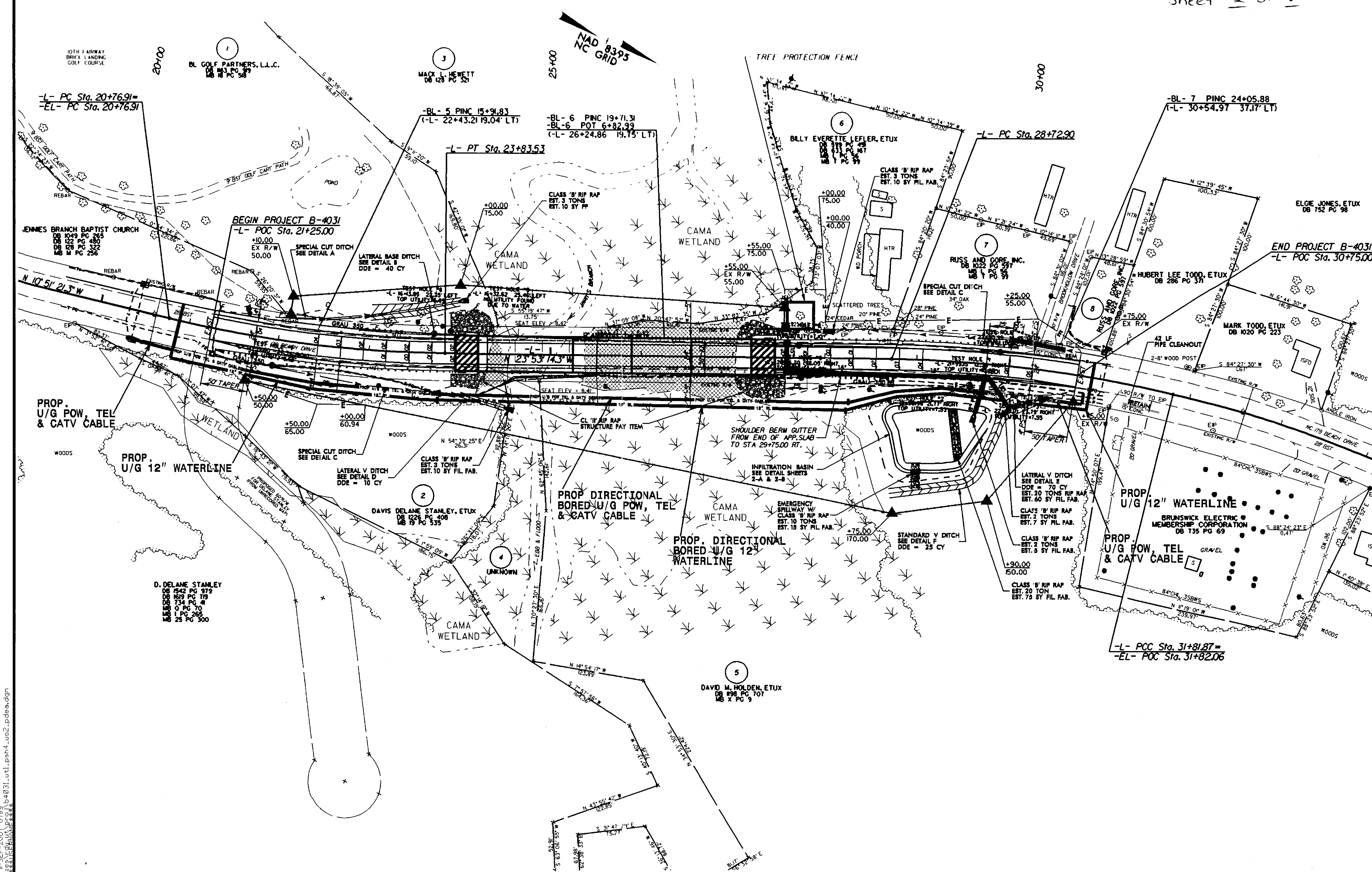
WATER AND SEWER OWNERS ON PROJECT

(1) ATLANTIC TELEPHONE MEMBERSHIP CORP.
(2) BRUNSWICK ELECTRIC MEMBERSHIP CORP.
(3) BRUNSWICK COUNTY PUBLIC UTILITIES (WATER)

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
PROJECT SERVICES
UTILITY SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. — *UTILITIES SECTION ENGINEER*
Steve Mckee, P.E. — *UTILITIES SQUAD LEADER PROJECT ENGINEER*
Alonza Yancey — *UTILITIES PROJECT DESIGNER*

PROJECT REFERENCE NO.	SHEET NO.
B-4031	PO-2



NC 179
Bridge No. 72 over Jinnys Branch
Brunswick County
Federal-Aid Project No. BRSTP-0179(2)
State Project No. 8.1231701
WBS Project No. 33398.1.1
T.I.P. No. B-4031

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

11.19.04
DATE

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

11/22/04
DATE

for John F. Sullivan III, P.E.
Division Administrator
Federal Highway Administration

NC 179
Bridge No. 72 over Jinnys Branch
Brunswick County
Federal-Aid Project No. BRSTP-0179(2)
State Project No. 8.1231701
WBS Project No. 33398.1.1
T.I.P. No. B-4031

CATEGORICAL EXCLUSION

November 2004

Document Prepared by:
Mulkey Engineers & Consultants
Cary, North Carolina

11/17/04
Date

J. A. Bissett, Jr., P.E.
Raleigh Branch Manager

NORTH CAROLINA PROFESSIONAL SEAL 14842 ENGINEER JAMES A. BISSETT, JR.

11/17/04
Date

Pamela R. Williams
Project Manager

For the North Carolina Department of Transportation

11/19/04
Date

Elmo Vance
Project Manager
Consultant Engineering Unit

PROJECT COMMITMENTS

NC 179
Bridge No. 72 over Jinnys Branch
Brunswick County
Federal-Aid Project No. BRSTP-0179(2)
State Project No. 8.1231701
WBS Project No. 33398.1.1
T.I.P. No. B-4031

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 the Protection of Surface Waters, Design Standards in Sensitive Watersheds, Erosion and Sediment Control Guidelines for Contract Construction, Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

Division 3 Engineer

Construction activities will adhere to guidelines in *Precautions for Construction in Areas Which May be Used by the West Indian Manatee in North Carolina.*

Construction staging will not be located within wetlands.

Disturbed areas will be replanted with native species and any temporary fill material within the floodplain will be removed at project completion.

A follow-up inquiry to the NC Division of Marine Fisheries will be conducted 1 to 2 years prior to project construction for anadromous fish, including the shortnose sturgeon.

A follow-up survey for the bald eagle and the wood stork will be conducted 1 to 2 years prior to project construction.

Road closure will be scheduled between from September to May.

Hydraulic Design

Stormwater will be designed to be carried across the bridge (no deck drain over the stream) or with a drainage system and infiltration system.

Structure Design Unit

No piers will be placed in Jinnys Branch.

Bicycle safe rails will be provided.

NC 179
Bridge No. 72 over Jinnys Branch
Brunswick County
Federal-Aid Project No. BRSTP-0179(2)
State Project No. 8.1231701
WBS Project No. 33398.1.1
T.I.P. No. B-4031

INTRODUCTION: The replacement of Bridge No. 72 is included in the North Carolina Department of Transportation (NCDOT) 2004-2010 Transportation Improvement Program (T.I.P.) and in the Federal-Aid Bridge Replacement Program. The location of the bridge is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion."

I. PURPOSE AND NEED

The NCDOT Bridge Maintenance Unit records indicate that Bridge No. 72 has a sufficiency rating of 7.0 out of a possible 100 for a new structure and is considered structurally deficient and functionally obsolete. The replacement of this inadequate structure will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

Bridge No. 72 is located on NC 179 over Jinnys Branch between the towns of Shallotte and Ocean Isle Beach (Figure 1). NC 179 in the vicinity of the bridge is classified as a rural major collector by the statewide functional classification system. NC 179 is designated as a Hurricane Evacuation Route.

Jinnys Branch is designated as High Quality Waters (HQW), primary nursery area, primary trust waters, tidal salt waters, coastal waters, and coastal shoreline within the project area. The existing land use within the project vicinity includes a mixture of residential areas and a golf course.

The 2004 estimated average daily traffic (ADT) volume is 8,000 vehicles per day (vpd). The projected ADT is 17,900 vpd by the design year 2030. The percentage of truck traffic is 3% dual tire vehicles (DUALS) and 1% truck-tractor semi trailer (TTST). The posted speed limit is 55 miles per hour (mph).

Bridge No. 72 was built in 1967 (Figure 3). The tangent 121-foot 4-span bridge has an out to out width of 31 feet and a clear roadway width of 29.6 feet. The bridge is located in a sag vertical curve. The superstructure is comprised of 12 prestressed concrete channels. The end bents and interior bents consist of prestressed concrete caps on timber piles. Clearance between the deck and the creek bed is approximately 11 feet. Load carrying capacities on Bridge No. 72 are posted at 20 tons for single vehicle and 23 tons for TTST.

The approach roadway consists of two 12-foot lanes with 6-foot shoulders including 2-foot paved shoulders. The south approach has a 1,400-foot radius curve that abuts to the end of the bridge. The north approach has a 1,400-foot radius curve approximately 300-feet north of the bridge. Approximately

1,200 feet south of Bridge No. 72 at the intersection of SR 1143 (Bricklanding Road), NC 179 has a horizontal curve with a radius of 115-feet and a design speed of 20 mph.

An overhead power line and a buried fiber optic cable are located on the east side of NC 179. A power substation is located approximately 600 feet north of the bridge on the east side of the road.

Approximately four school buses cross Bridge No. 72 twice daily.

No accidents were reported in the project area during the period from September 1, 2000 to August 31, 2003. At

This section of NC 179 is part of North Carolina Bicycling Highway, NC-3 Ports of Call. This is one of the most heavily traveled bicycle routes in the state.

III. ALTERNATIVES

A. Project Description

The recommended replacement structure will be approximately 300 feet in length. The added length will minimize wetland impacts, restore wetlands, allow additional wildlife passage along stream banks and marshlands, and reduce habitat fragmentation (Figure 2). The proposed grade will be raised approximately 4 feet for a vertical alignment design speed of 45 mph. The proposed bridge length may be either increased or decreased as necessary to accommodate peak flows as determined by a detailed hydrologic study during final design. The proposed structure will provide two 12-foot travel lanes with 6-foot shoulders (Figure 4) and bicycle safe rails.

The proposed approach roadway will consist of two 12-foot lanes with 8-foot shoulders, including 4-foot paved shoulders.

B. Build Alternative

The build alternative studied for this project is described below.

Alternative A (Preferred) replaces the bridge at the existing location (Figure 2). During construction, traffic will be maintained by an off-site detour approximately 2.1 miles in length. Traffic will be routed along SR 1154 (Swamp Road) and SR 1155 (Goose Creek Road) or an approved detour route as recommended by the Division (Figure1).

The elevation of the new structure will be raised approximately 1 to 3 feet. A minimum grade of 0.3 percent will be maintained across the proposed structure to facilitate drainage.

C. Alternatives Eliminated From Further Study

Alternative B replaces the bridge at the existing location. During construction, traffic will be maintained by an on-site detour located east of Bridge No. 72. The temporary structure will be approximately 360 feet in length. The detour bridge will consist of two 12-foot lanes with 2-foot shoulders. The approach roadway will provide two 12-foot lanes with 8-foot shoulders. After traffic is routed onto the new bridge, the temporary detour structure and approaches will be removed. The estimated construction cost is $2,533,000. Alternative B was eliminated from further study because of the additional environmental impacts associated with the temporary detour bridge, the longer construction time, and because it is less economical than Alternative A.

The "do-nothing" alternative will eventually necessitate closure of the bridge. This is not desirable because of the heavily used bicycle route and the traffic service provided by NC 179.

Investigation of the existing structure by the Bridge Maintenance Unit indicates that "rehabilitation" of this bridge is not feasible because of its age and deteriorated condition.

D. Preferred Alternative

Alternative A, replacing the bridge at the existing location using an off-site detour, is the preferred alternative. This alternative was chosen because it minimizes impacts to the high quality resources and minimizes impacts to the golf course and transmission lines.

The NCDOT Division Office concurs with Alternative A as the preferred alternative. Brunswick County Emergency Services stated that the road closure will create a delay in response for emergency agencies in the area, but this delay will be a minimal delay and will not affect the service level provided to citizens.

E. Design Exception

A statuary speed limit of 55 mph applies in the project area. However, approximately 1,200-feet south of Bridge No. 72 at the intersection of SR 1143, NC 179 has an existing horizontal curve with a radius of 115 feet and a design speed of 20 mph. The existing sag vertical alignment in the project limits has a design speed of 40 mph. No accidents were reported in the project area during a 3-year period from September 2000 to August 2003. This project is located in high quality resources, such as tidal salt marsh, public trust waters, primary nursery area, and high quality waters.

To provide a design speed of 55 mph within the project area will require raising the grade at the structure approximately 6 feet. Reducing the design speed to 45 mph will minimize raising the grade and provide a steeper slope on the structure to minimize the structures deck width for deck drainage. Raising the approach grade will increase impacts to the high quality resources and associated properties. The proposed design is compatible with the existing characteristics of NC 179. Because of the existing alignment conditions, environmental constraints, and no accidents in the project area within a 3-year period, a design exception for the design speed to 45 mph is recommended for the vertical alignment.

IV. ESTIMATED COST

The estimated costs based on current prices are as follows:

	Alternative A (Preferred)
Structure Removal (Existing)	$ 32,700
Structure Proposed	756,000
Roadway Approaches	127,800
Miscellaneous and Mobilization	176,500
Engineering Contingencies	157,000
ROW/Const. Easements/Utilities	41,000
TOTAL	**$ 1,291,000**

The estimated cost of the project as shown in the 2004-2010 Transportation Improvement Program is $860,000, including $75,000 for right-of-way, $625,000 for construction and $160,000 in prior years.

V. NATURAL RESOURCES

A. Methodology

Materials and research data in support of this investigation have been derived from a number of sources. The Shallotte, NC (1990) U.S. Geological Survey (USGS) 7.5-minute topographic map was consulted to determine physiographic relief and to assess landscape characteristics. U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) mapping was also consulted to determine what potential wetland types may be encountered in the field. The *Soil Survey of Brunswick County, North Carolina* (USDA 1986), and recent aerial photography (1 inch = 100 feet) furnished by the NCDOT were also used in the evaluation of the project study area.

The aerial photograph served as the basis for mapping plant communities and wetlands. Plant community patterns were identified from available mapping sources and then field verified. Plant community descriptions are based on a classification system utilized by the NC Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant names typically follow nomenclature found in Radford *et al.* (1968).

Jurisdictional areas were identified 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).

Water resource information for Jinnys Branch was derived from the most recent versions of the *Lumber River Basinwide Water Quality Plan* (DWQ 1999), *Basinwide Assessment Report-Lumber River Basin*

(DWQ 1998), and several NC Division of Water Quality (DWQ) internet resources. Quantitative sampling was not undertaken to support existing data.

The most current FWS list (February 5, 2003) of federal protected species with ranges extending into Brunswick County was reviewed prior to initiation of the field investigation. In addition, NHP records documenting occurrences of federal or state-listed species were consulted before commencing the field investigation. Direct observations of terrestrial and aquatic wildlife were documented, and expected population distributions were determined through observations of available habitat and review of supportive documentation found in Martof *et al.* (1980), Webster *et al.* (1985), Menhinick (1991), Hamel (1992), Rohde *et al.* (1994), and Palmer and Braswell (1995).

The project study area is located on NC 179 over Jinnys Branch, south of the Town of Shallotte in Brunswick County, North Carolina. The bridge is located approximately 0.2 mile north of the intersection of NC 17 and SR 1143.

The project vicinity describes an area extending 0.5 mile on all sides of the project study area.

B. Physiography and Soils

The project study area is located in the lower Coastal Plain physiographic province of North Carolina. The topography in the project study area is generally characterized as nearly level. Elevations in the project study area range from sea level to 25 feet above mean sea level (USGS 1990). The project study area consists of existing maintained right-of-way, urban disturbed areas, coastal fringe evergreen forest, pine/hardwood forest, and a tidal marsh.

The existing land use within the project vicinity includes a mixture of residential areas and a golf course. The project study area crosses four soil-mapping units (USDA 1986). These mapping units include Bohicket silty clay loam (Typic Sulfaquents), Blanton fine sand (Grossarenic Paleudults), Baymeade fine sand (Arenic Hapludults), and Pactolus fine sand (Aquic Quartzipsamments). Hydric soils mapped as occurring within the project study area include only the Bohicket series. Nonhydric soils that may contain hydric inclusions mapped as occurring within the project study area include the Blanton series, Baymeade series, and Pactolus series. The Blanton series is moderately well drained but may contain inclusions of the hydric Muckalee series in narrow drainageways. The Baymeade series is well drained but may contain inclusions of the hydric Leon series in narrow depressions. The Pactolus series is moderately well drained but may contain inclusions of the hydric Leon series in small depressions.

From a broader perspective, the project study area is located in one soil association, the Leon-Murville-Mandarin association (USDA 1986). This soil association contains nearly level, very poorly to somewhat poorly drained soils that have a weakly cemented, sandy subsoil located on uplands.

C. Water Resources

1. Waters Impacted

The project study area is located within sub-basin 030759 of the Lumber River Basin (DWQ 1998) and is part of USGS hydrologic unit 03040207 (USGS 1974). Jinnys Branch is the only water resource likely to be impacted by the proposed bridge replacement project. Jinnys Branch originates north of the Town of Ocean Isle in Brunswick County and flows east to its confluence with Saucepan Creek, approximately 1 mile southeast of the project study area. Jinnys Branch has been assigned Stream Index Number (SIN) 15-25-2-16-1-(1.5) by the DWQ from a point 0.5 mile upstream of SR 1154 downstream to SR 1143, and SIN 15-25-2-16-1-(2) from SR 1143 downstream to its confluence with Saucepan Creek (DWQ 2001). Available mapping indicates that Jinnys Branch is not crossed by SR 1143; NC 179, which joins SR 1143, does cross Jinnys Branch and has been confirmed as the break point for the two SINs (DENR 2001a).

2. Water Resource Characteristics

Jinnys Branch is a perennial tidal stream with moderate flow over substrate consisting of mud, sand and silt. A tidal salt marsh is present adjacent to both banks of the stream through the project study area. The channel ranges from approximately 15.0 to 45.0 feet wide and depths are estimated to range from 2.0 to 6.0 feet. Preliminary observations indicate that this particular section of Jinnys Branch may represent an "E" type channel pursuant to Rosgen (1996).

A Best Usage Classification is 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. Jinnys Branch has been assigned two best usage classifications in the project study area. Jinnys Branch has been assigned a best usage classification of C Sw HQW (DEM 1993, DWQ 2001) from a point 0.5 mile upstream of SR 1154 to NC 179. The C designation indicates waters designated for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. The Sw supplemental classification indicates swamp waters, which have low velocities and other natural characteristics, which are different from adjacent streams. The HWQ supplemental designation indicates waters that are rated as excellent based on biological and physical/chemical characteristics through division monitoring or special studies. Jinnys Branch has been assigned a Best Usage Classification of SA; HWQ from NC 179 to its confluence with Saucepan Creek. The SA designation indicates tidal salt waters suitable for shellfishing for market purposes as well as primary recreation, aquatic life propagation and survival, fishing, and wildlife.

The entire length of Jinnys Branch is considered "Coastal Waters." "Coastal Waters" include: the Atlantic Ocean; the various coastal waters; and estuarine waters up to the dividing line between coastal fishing waters and inland fishing waters agreed upon by the NC Marine Fisheries Commission (NCMFC), the North Carolina Wildlife Resources Commission (NCWRC), and Coastal Area Management Act (CAMA). Jinnys Branch is also considered a primary nursery area based on its tidal salt marsh characteristics. No shellfish beds were observed during the field investigation; however, the project study area does contain suitable habitat for the formation of shellfish beds such as those utilized by oysters (*Crassostrea virginica*).

Jinnys Branch is classified as HQW from a point 0.5 mile upstream of SR 1154 to NC 179. All of Jinnys Branch within the project study area is designated as HQW. No Outstanding Resource Waters (ORW), WS I, or WS-II Waters occur within 3 miles upstream or downstream of the project study area.

3. Water Quality Information

One method used by DWQ to monitor water quality is through long-term monitoring of macroinvertebrates. Another measure of water quality being used by the DWQ is the North Carolina Index of Biotic Integrity (NCIBI), which assesses biological integrity using the structure and health of fish communities. Between 1992 and 1996, monitoring stations in the 10 subbasins of the Lumber River Basin were sampled to determine overall water quality. No sampling stations are located on Jinnys Branch based on the most recent Basinwide Assessment Report (DWQ 1999).

4. Essential Fish Habitat Assessment

Essential Fish Habitat (EFH) is defined by the National Marine Fisheries Service (NMFS) as "those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity" (NMFS 1999). For the purpose of interpreting the definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (NMFS 1999).

An EFH Assessment is an analysis of the effects of a proposed action on EFH. Pursuant to 50 CFR 600.920 (g), mandatory contents include: a description of the proposed action, an analysis of the effects of that action on EFH, the Federal action agency's views on those effects; and proposed mitigation, if applicable. An adverse effect includes any impact which reduces the quality and/or quantity of EFH. Pursuant to 50 CFR 600.810, adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, or reduction in a species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Any substantial stream or river in a county under the jurisdiction of the Coastal Area Management Act (CAMA) may be considered EFH unless otherwise documented by the NMFS.

An Essential Fish Habitat Assessment was completed in May 2003. No net change in EFH for the species shown in Table 1 below is anticipated because of construction of a new bridge. It is expected that any EFH impacts related to bridge construction will be minimal and temporary. The project will not create any obstructions to anadromous fish passage in Jinnys Branch.

Table 1. Anadromous and Federally Managed Fish Species Likely to Occur in Project Area, B-4031		
Common Name	**Scientific Name**	**Life Stages Known to Occur**
Shortnose sturgeon[2]	*Acipenser brevirostrum*	J, A
Atlantic sturgeon[2]	*Acipenser oxyrhynchus*	E, L, J, A
Thrasher shark[1]	*Alopias vulpinus*	J, A
Blueback herring[2]	*Alosa aestivalis*	E, L, J, A
Hickory shad[2]	*Alosa mediocris*	E, L, J, A
Alewife[2]	*Alosa pseudoharengus*	E, L, J, A
American shad[2]	*Alosa sapidissima*	E, L, J, A
American eel[2]	*Anguilla rostrata*	E, L, J, A
Blue crab[3]	*Callinectes sapidus*	J, A
Big nose shark[1]	*Carcharhinus altimus*	J, A
Silky shark[1]	*Carcharhinus falciformis*	J, A
Black tip shark[1]	*Carcharhinus limbatus*	J, A
Whitetip shark[1]	*Carcharhinus longimanus*	J, A
Dusky shark[1]	*Carcharhinus obscurus*	J, A
Sandbar shark[1]	*Carcharhinus plumbeus*	J, A
Night shark[1]	*Carcharhinus signatus*	J, A
Black sea bass[1]	*Centropristis striata*	L, J, A
Gag grouper (Red grouper)[1]	*Epinephelus morio*	J
Tiger shark[1]	*Galeocerdo cuvier*	J, A
Longfin mako shark[1]	*Isurus paucus*	J, A
Spot[3]	*Leiostomus xanthurus*	J, A
Gray snapper[1]	*Lutjanus griseus*	J
Atlantic croaker[3]	*Micropogonias undulatus*	J, A
Striped bass[2]	*Morone saxatalis*	E, L, J, A
Summer flounder[1]	*Paralichthys dentatus*	L, J, A
Southern flounder[2]	*Paralichthys lethostigma*	E, L, J, A
Brown shrimp[1]	*Penaeus aztecus*	E, L, J, A
Pink shrimp[1]	*Penaeus duorarum*	E, L, J, A
White shrimp[1]	*Penaeus setiferus*	E, L, J, A
Bluefish[1]	*Pomatomus saltatrix*	E, L, J, A
Cobia[1]	*Rachycentron canadum*	E, L, J, A
Atlantic sharpnose shark[1]	*Rhizoprionodon terraenovae*	J, A
Red drum[1]	*Sciaenops ocellatus*	E, L, J, A
King mackerel[1]	*Scomberomorus cavalla*	J, A
Spanish mackerel[1]	*Scomberomorus maculatus*	J, A
Scalloped hammerhead shark[1]	*Sphyrna lewini*	J, A
Spiny dogfish[1]	*Squalus acanthias*	J, A

E = Eggs, L = Larval, J = Juvenile, A = Adult

[1]Per NMFS List of Essential Fish Habitat Species, October 1999 for North East Cape Fear River (from mouth northward to US 117 near Wilmington, NC).

[2]Per NCDMF list of anadromous fish, dated April 2003.

[3]Per Ron Sechler, Habitat Conservation Division, NMFS, letter dated December 6, 2002.

5. Permitted Dischargers

Discharges that enter surface waters through a pipe, ditch or other well-defined point of discharge are broadly referred to as "point sources." Wastewater point source discharges include municipal (city and county) and industrial wastewater treatment plants and small domestic wastewater treatment systems serving schools, commercial offices, residential subdivisions, and individual homes (DWQ 1999). Stormwater point source discharges include stormwater collection systems for municipalities and stormwater discharges associated with certain industrial activities. Point source dischargers in North Carolina must apply for and obtain a National Pollutant Discharge Elimination System (NPDES) permit. Discharge permits are issued under the NPDES program and delegated to DWQ by the Environmental Protection Agency (EPA). Within subbasin 030759 there are three major NPDES dischargers. No NPDES dischargers are located on Jinnys Branch or on its receiving water, Saucepan Creek (DWQ 1999, DENR 2001b). The three NPDES dischargers in the subbasin are located on the Shallotte River or unnamed tributaries of the Shallotte River; these dischargers are not located upstream or downstream from the project study area. A golf course is adjacent to the southwest portion of the project study area. Runoff from this golf course may contribute non-point source discharge to Jinnys Branch.

6. Anticipated Impacts to Water Resources

a. General Impacts

Short-term impacts to water quality, such as sedimentation and turbidity, may result from construction-related activities. Best Management Practices (BMPs) can minimize impacts during construction, including implementation of stringent erosion and sedimentation control measures, and avoidance of using wetlands as staging areas. Development activities which require an Erosion and Sedimentation Control Plan in accordance with rules established by the NC Sedimentation Control Commission or local erosion and sedimentation control program approved in accordance with 15 NCAC 4B .0218, and which drain to and are within 1 mile of HQW shall be required to follow stormwater management rules as specified in 15A NCAC 2H .1000. Stormwater management requirements are described in 15A NCAC 2H .1006.

Other impacts to water quality, such as changes in water temperature as a result of increased exposure to sunlight because of the removal of stream-side vegetation or increased shade because of the construction of the bridge, and changes in stormwater flows because of changes in the amount of impervious surface adjacent to the stream channels, can be anticipated as a result of this project if roadway or bridge surface area increases. However, because of the limited amount of overall change anticipated in the surrounding areas, impacts are expected to be temporary in nature.

b. Impacts Related to Bridge Demolition and Removal

In order to protect the water quality and aquatic life in the area affected by this project, the NCDOT and all potential contractors will follow appropriate guidelines for bridge demolition and removal. These guidelines are presented in three NCDOT documents entitled "Pre-Construction Guidelines for Bridge Demolition and Removal," "Policy: Bridge Demolition and Removal in Waters of the United States," and "Best Management Practices for Bridge Demolition and Removal" (all documents dated 9/20/99). Guidelines followed for bridge demolition and removal are in addition to those implemented for *Best Management Practices for the Protection of Surface Waters.*

Bridge No. 72 has four spans totaling approximately 121 feet in length. The deck and railings of the superstructure are composed of prestressed concrete channels. The substructure is composed of reinforced concrete abutments and concrete caps on timber piles. The rails will be removed without dropping them into waters of the United States.

Dropping any portion of the structure into waters of the United States will be avoided unless there is no other practical method of removal. In the event that no other practical method is feasible, a worst-case scenario is assumed for calculations of fill entering waters of the United States. The maximum potential temporary fill associated with demolition procedures is estimated to be 178 cubic yards. Because of potential sedimentation concerns resulting from demolition of the bridge, where it is possible to do so, a turbidity curtain is recommended to contain and minimize sedimentation in the water. The resident engineer will coordinate with appropriate agencies prior to demolition and removal.

Under the guidelines presented in the documents noted in the first paragraph of this section, work done in the water for this project would fall under Case 2, which states that no work shall be performed in the water during moratorium periods associated with fish migration, spawning, and larval recruitment into nursery areas. Since no habitat is present no moratorium will be required. This conclusion is based upon the classification of the waters within the project area and vicinity, and agency comments received from the National Marine Fisheries Service the lead agency, and the North Carolina Division of Coastal Management and North Carolina Wildlife Resources Commission.

D. Biotic Resources

1. Plant Communities

Distribution and composition of plant communities throughout the project study area reflect landscape-level variations in topography, soils, hydrology, and past and present land use practices. When appropriate, the plant community names have been adopted and modified from the NHP classification system (Schafale and Weakley 1990) and the descriptions written to reflect local variations within the project study area. Three natural plant communities occur within the project study area and one community results from human activities.

a. Tidal Salt Marsh

Tidal salt marsh plant community is located on the east and west sides of the bridge adjacent to both sides of Jinnys Branch. Shrub species along the edge of the salt marsh consist of marsh elder (*Iva frutescens*) and wax myrtle (*Myrica cerifera*). The salt marsh is dominated by such species as saltmeadow grass (*Spartina patens*), saltmarsh cordgrass (*Spartina alterniflora*), sea lavender (*Limonium carolinianum*), and blackneedle rush (*Juncus roemerianus*). Both the tall and short form of *S. alterniflora* occur in the project study area.

b. Coastal Fringe Evergreen Forest

Coastal fringe evergreen forest plant community is located on the east side of NC 179 upslope from the salt marsh and is often found associated with the Pactolus series. Tree species consist of live oak (*Quercus virginiana*), post oak (*Quercus stellata*), and red maple (*Acer rubrum*). Midstory and shrub species consist of red cedar (*Juniperus virginiana*), sassafras (*Sassafras albidum*), hickory (*Carya sp.*), yaupon holly (*Ilex vomitoria*), and wax myrtle. Other species include muscadine grape (*Vitis rotundifolia*), Japanese honeysuckle (*Lonicera japonica*), Virginia creeper (*Parthenocissus quinquefolia*), and giant cane (*Arundinaria gigantea*).

c. Pine/Hardwood Forest

Pine/hardwood forest plant community is located on the east side of NC 179 south of the salt marsh and coastal fringe evergreen forest. Tree species consist of loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), and tulip poplar (*Liriodendron tulipifera*). Midstory and shrub species consist of American holly (*Ilex opaca*), red maple, yaupon holly, and red bay (*Persea borbonia*). Other species include muscadine grape, American beautyberry (*Callicarpa americana*), netted chain-fern (*Woodwardia areolata*), and Japanese honeysuckle.

d. Maintained/Disturbed Land

Maintained/disturbed areas can include roadways, parking lots, roadsides, maintained residential yards, powerline rights-of-way, the golf course, and areas where other human related activities dominate the landscape. Roadsides, lawns, and powerline rights-of-way are typically maintained by mowing and/or herbicides. Species observed within the road right-of-ways include winged sumac (*Rhus copallinum*), Chinese privet (*Ligustrum sinense*), Japanese honeysuckle, and blackberry (*Rubus argutus*).

2. Wildlife

The project study area was visually surveyed for signs of terrestrial wildlife. Very little terrestrial wildlife was observed within the project study area. The only mammal observed within the project study area was river otter (*Lutra canadensis*). Mammals expected to occur in and around the project study area include raccoon (*Procyon lotor*), marsh rabbit (*Sylvilagus palustris*), and Virginia opossum (*Didelphis virginiana*).

Very few terrestrial reptiles were observed within the project study area. Reptile species observed include rough greensnake (*Opheodrys aestivus*), ground skink (*Scincella lateralis*) and green anole (*Anolis carolinensis*). Other reptile species expected to occur in and around the project study area include black racer (*Coluber constrictor*), eastern box turtle (*Terrapene carolina*), and rat snake (*Elaphe obsoleta*).

No terrestrial or arboreal amphibians were observed within the project study area. Terrestrial or arboreal amphibians expected to occur in and around the project study area include such species as southern leopard frog (*Rana utricularia*), and spring peeper (*Pseudacris crucifer*).

Avian species observed within the project study area include great egret (*Ardea alba*), blue jay (*Cyanocitta cristata*), and American crow (*Corvus brachyrhynchos*). Other species expected to occur in and around the project study area include snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), and osprey (*Pandion haliaetus*).

Most of the terrestrial wildlife occurring in the project study area are typically adapted to life in or around a salt marsh and fragmented landscapes. Overall impacts will be minor. Because of the lack of, or limited infringement on natural communities, the proposed project will not result in substantial loss or displacement of known terrestrial animal populations. Wildlife movement corridors are not expected to be substantially impacted by the proposed project.

3. Aquatic Communities

The aquatic habitat located within the project study area includes Jinnys Branch and the adjacent littoral fringe, where regular flooding is evident.

Kick-netting, seining, dip-netting, and electroshocking were limited because of the unstable substrate. Visual observation of stream banks and channel within the project study area were conducted along Jinnys Branch to document the aquatic community. The unstable substrate and salinity of Jinnys Branch prevented the use of the back-mounted electro-shocker, thus limiting the results of the fisheries survey.

Aquatic Wildlife

Fish species documented in Jinnys Branch during the field investigation include striped killifish (*Fundulus majalis*) and mummichog (*Fundulus heteroclitus*). Menhinick (1991) documents striped bass, gizzard shad (*Dorosoma cepedianum*) and American shad (*Alosa sapidissima*) from the adjacent Shallotte River system. Menhinick (1991) does not document either the Atlantic sturgeon (*Acipenser oxyrhynchus*) or the shortnose sturgeon (*A. brevirostrum*) as occurring in this subbasin.

Additional aquatic wildlife directly observed in Jinnys Branch and the adjacent tidal salt marsh include fiddler crab (*Uca* spp.), marsh crab (*Sesarma* spp.), marsh periwinkle (*Littorina irrorata*), and ribbed mussel (*Geukensia demissa*).

Limited benthic macroinvertebrate sampling was conducted in Jinnys Branch. Several benthic samples were taken from an area under the existing bridge where the substrate was firm enough to support a

person's weight. Samples were collected pursuant to current DWQ methodology. The following provides a list of benthic organisms collected and identified to Order and Family when possible.

Benthic Macroinvertebrates Collected From Jinnys Branch.

Order	Family
Annelida	Oligochaeta
Decapoda	Palaemonidae

4. Anticipated Impacts to Biotic Communities

a. Terrestrial Communities

The replacement of Bridge No. 72 is expected to involve minor impacts to the terrestrial communities located within the project study area. The replacement of the existing structure along existing alignment will reduce permanent impacts to plant communities and limit community fragmentation. Impacts resulting from a bridge replacement are generally limited to narrow strips adjacent to the existing bridge structure and roadway approach segments. Because of the anticipated lack of, or limited infringement on natural communities, the proposed bridge replacement will not result in substantial loss or displacement of known terrestrial animal populations. Wildlife movement corridors will not be substantially impacted by the proposed project. Wildlife known to utilize the project study area are generally acclimated to fragmented landscapes, and the bridge replacement will not create any additional detrimental conditions within the project study area.

b. Aquatic Communities

The replacement of Bridge No. 72 may cause temporary impacts to the aquatic communities in and around the project study area. By bridging Jinnys Branch and maintaining regular flow and stream integrity, potential impacts to downstream aquatic habitat will be avoided. Support structures will be designed to avoid wetland or open water habitats whenever possible. In addition, temporary impacts to downstream habitat from increased sediment during construction will be reduced by limiting in-stream work to an absolute minimum, except for the removal of the portion of the sub-structure below the water. Waterborne sediment flowing downstream can be minimized by use of a floating silt curtain. Stockpiled material will be kept a minimum of 50 feet from the stream channel. Silt fences will also be erected around any stockpiled material to minimize the chance of erosion or run-off from affecting the stream channel. Bridge demolition and removal will follow current NCDOT Guidelines. Best Management Practices (BMPs) for the protection of surface waters will be strictly enforced to reduce impacts during all construction phases including the BMPs for HQWs.

Aquatic wildlife may be temporarily displaced during the bridge replacement project. No long-term impacts are expected to result from this project. No impacts are anticipated to anadromous fish runs or spawning habitat. Anadromous fish species have been documented by Menhinick (1991) as occurring in the subbasin and may occur in the project study area. NCDOT's *Stream Crossing Guidelines for Anadromous Fish* will be utilized to ensure that the replacement of the bridge will not impede anadromous fish.

E. Special Topics

1. Waters of the United States

Water bodies such as rivers, lakes, and streams are subject to jurisdictional consideration under the Section 404 program of the Clean Water Act (CWA). Additionally, wetlands are also considered "waters of the United States" and are also subject to jurisdictional consideration. Wetlands have been defined by EPA and COE as:

> Those areas that are inundated or saturated by groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas [33 CFR 328.3(b)(1986)].

Wetlands subject to review under Section 404 of the CWA (33 U.S.C. 1344) 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).

Three wetland types occur within the project study area. The surface waters within the channel of Jinnys Branch and the tidal salt marsh adjacent to Jinnys Branch exhibit characteristics of estuarine, intertidal, persistent emergent, regularly flooded wetlands (E2EM1N) pursuant to Cowardin *et al.* (1979). The wetland areas adjacent to the road fill exhibit characteristics of estuarine, intertidal, scrub/shrub, broad-leaved evergreen, regularly flooded wetlands (E2SS1N) pursuant to Cowardin *et al.* (1979). The wetland area south of Jinnys Branch exhibits characteristics of a palustrine, forested, broad-leaved deciduous, saturated wetland (PFO1B) pursuant to Cowardin *et al.* (1979). The jurisdictional extent of these wetland areas was delineated based on current COE methodology, and the areas were subsequently mapped with Trimble ™ Global Positioning System (GPS) units. Potential wetland impacts are presented in Table 2.

Table 2. Anticipated Impacts to Wetlands

	Tidal Salt Marsh (acres)	Coastal Fringe Evergreen Forest (acres)	Pine/Hardwood Forest (acres)	Tidal Salt Marsh Restoration (acres)
Alternative A	0.02	0.08	0.03	**0.35**

Approximately 36 linear feet or 0.04 acres of stream impacts are expected to occur to Jinnys Branch. These estimates were calculated based upon the length and width of the replacement structure over water. Actual impacts are expected be less.

2. Permits

This project will be processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. Nationwide Permit (NWP) No. 23 [33 CFR 330.5(a)(23)] has been issued by the COE for CEs because of expected minimal impact. DWQ has issued a General 401 Water Quality Certification for NWP No. 23. However, 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 Wilmington COE District. Notification to the Wilmington COE office is required if this general permit is utilized. NWP No. 33 may be required if temporary structures, work and discharges, including cofferdams are necessary for this project.

Brunswick County is a coastal county and is therefore under the additional jurisdiction of the CAMA as regulated by the Coastal Resources Commission (CRC) and the North Carolina Department of Coastal Management (NCDCM). Activities that impact certain coastal wetlands under the jurisdiction of CAMA or Areas of Environmental Concern (AEC) typically require CAMA approval through the NCDCM (NCDCM 2001). The project study area qualifies as an AEC because Jinnys Branch meeting the following four criteria defining CAMA's AECs: 1) public trust waters; 2) estuarine waters; 3) coastal shorelines; and 4) coastal wetlands. Public trust waters are the coastal waters and submerged lands that every North Carolinian has the right to use. These areas often overlap with estuarine waters, but also include many "inland" fishing waters (NCDCM 2001). Estuarine waters are the state's oceans, sounds, tidal rivers and their tributaries, which stretch across coastal North Carolina and link to the other parts of the estuarine system: public trust areas, coastal wetlands and coastal shorelines (NCDCM 2001). Coastal shorelines include all lands within 75 feet of the normal high water level of estuarine waters. Coastal wetlands include any marsh in the 20 coastal counties that regularly or occasionally flood by lunar or wind tides, and include one or more of the ten listed CAMA plant species. The replacement of Bridge No. 72 will require CAMA approval prior to construction.

The United States Coast Guard (USCG) is responsible for authorizing bridges pursuant to Section 9 of the Rivers and Harbors Act of 1899 and the General Bridge Act of 1946. The purpose of these Acts is to preserve the public right of navigation and to prevent interference with interstate and foreign commerce. Bridge construction or replacement over navigable waters may require USCG authorization pursuant to 33 CFR 114-115. According to a USCG letter dated December 3, 2002, Jinnys Branch meets the criteria for advance approval waterways outlined in Title 33, "Code of Federal Regulations," Section 115.70. An individual permit will not be required for this project.

Anticipated impacts to wetlands and open water areas will be limited to the actual right-of-way width and will be determined by NCDOT during the design phase of this project. Impacts to open water areas of Jinnys Branch are not expected because of the use of channel-spanning structures. During bridge removal procedures, NCDOT's BMP's will be utilized, including erosion control measures. Floating turbidity curtains are recommended to minimize the amount of turbid water flowing off-site.

Because of the extent of wetlands and surface waters within the project study area, complete avoidance of jurisdictional impacts may not be possible.

Minimization of jurisdictional impacts has been achieved by utilizing as much of the existing bridge corridor as possible. This results in a minimal amount of new impact from the final design of the new bridge. Spanning Jinnys Branch and increasing the bridge length by approximately 180 feet will serve to minimize direct impacts to the stream channel and will provide restoration of wetlands.

3. Mitigation

Compensatory mitigation could be required for this project. Utilization of BMPs will be used in an effort to minimize impacts, including not allowing staging areas within wetlands. Temporary impacts associated with the construction activities will be mitigated by replanting disturbed areas with native species and removal of any temporary fill material within the floodplain upon project completion.

Adjacent land use consists of a golf course and private residences. The removal of approximately 180 feet of causeway and approach to the existing bridge provides on-site wetland restoration and wetland enhancement.

4. Summary of Anticipated Impacts

Jurisdictional wetlands will be impacted by the proposed project. Efforts have been made to minimize the impacts by requesting a design exception for the vertical alignment to minimize fill height and by lengthening the bridge. On-site wetland restoration and wetland enhancement appears to be applicable by lengthening the bridge from 121 feet to 300 feet and removing 179 feet of causeway. No impacts to protected species are anticipated as a result of project construction.

F. Rare and Protected Species

1. Federally Protected Species

Species with the federal classification of Endangered (E) or Threatened (T), or officially proposed (P) for such listing, are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Federally protected species listed for Brunswick County (FWS list dated February 5, 2003, reviewed online 3/30/04) are presented in Table 3.

Table 3. Federally Protected Species Listed for Brunswick County, NC.

Common Name	Scientific Name	Status	Biological Conclusion
Shortnose sturgeon	*Acipenser brevirostrum*	E	No Effect
American alligator	*Alligator mississippiensis*	T(S/A)[1]	NA
Loggerhead sea turtle	*Caretta caretta*	T	No Effect
Green sea turtle	*Chelonia mydas*	T	No Effect
Leatherback sea turtle	*Dermochelys coriacea*	E	No Effect
Piping plover	*Charadrius melodus*	T	No Effect
Bald eagle	*Haliaeetus leucocephalus*	T[2]	No Effect
Wood stork	*Mycteria Americana*	E	No Effect
Red-cockaded woodpecker	*Picoides borealis*	E	No Effect
West Indian Manatee	*Trichechus manatus*	E	No Effect
Seabeach amaranth	*Amaranthus pumilus*	T	No Effect
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	E	No Effect
Cooley's meadowrue	*Thalictrum cooleyi*	E	No Effect
Eastern cougar	*Puma concolor couguar*	E	No Effect
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	No Effect

[1] T(S/A) = Threatened because of similar appearance
[2] Proposed for delisting

Shortnose sturgeon - The shortnose sturgeon is an anadromous fish whose usual habitat is estuaries and lower sections of larger rivers. It moves into fresh water only to spawn (Gilbert 1989). The shortnose sturgeon rarely reaches 3 feet in length, is dark above and light below, and has a wide mouth pointed downward beneath a short snout. Menhinick (1991) has not documented the shortnose sturgeon in the Lumber River Basin.

No Designated Critical Habitat or Proposed Critical Habitat for shortnose sturgeon is currently listed by the NMFS (NMFS 2001).

BIOLOGICAL CONCLUSION: No Effect

The project study area does not provide potential habitat for the shortnose sturgeon. NHP does not document any occurrences of this species within one mile of the project study area. On November 14, 2002, Mr. Fritz Rhode of the NC Division of Marine Fisheries stated that Jinnys Branch in the project area is not suitable habitat for anadromous fish, including the shortnose sturgeon. A follow-up inquiry will be conducted 1 to 2 years prior to project construction.

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 native to North Carolina. American alligators can be found in a wide variety of freshwater to estuarine habitats including swamp forests, bottomland hardwood forests, marshes, large streams, canals, ponds and lakes (Palmer and Braswell 1995). This habitat exists within the project study area, and the potential for alligators within the project study area does exist. No individuals or direct evidence of occurrence was observed during the field investigation conducted by qualified biologists. Construction activities may temporarily

displace any American alligators in the vicinity; however, no long-term impact to the American alligator is anticipated as a result of this project.

BIOLOGICAL CONCLUSION: Not Applicable

No biological conclusion is required for the American alligator since it is listed as T(S/A).

Sea turtles - Four marine turtles are listed for Brunswick County: loggerhead sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and green sea turtle.

The loggerhead sea turtle is the most common sea turtle on the coast of the North Carolina and is most numerous from late April to October. This species averages 31 to 47 inches in length and weighs from 170 to 500 pounds (lbs) (Martof *et al.* 1980). The loggerhead sea turtle is temperate or subtropical in nature, and is primarily oceanic, but it may also stray into freshwater bays, sounds, and large rivers. Nesting habitat for loggerhead sea turtles consists of ocean beaches.

The Kemp's ridley sea turtle is the smallest of the sea turtles with a 23- to 30-inch carapace, and weighing 79 to 110 lbs. It is generally considered the most endangered species of sea turtle in the world (Palmer and Braswell 1995). This species ranges from the Gulf of Mexico and the east coast, to Nova Scotia and Europe. In addition to its small size, this species is discernible by the heart shaped carapace and gray coloration. Kemp's ridley sea turtle prefers shallow coastal waters, including sounds and the lower portions of large rivers, where it feeds on crabs, shrimp, snails, clams, and some saltwater plants. Nearly all members of this species are believed to nest on a short strand of ocean beach in the state of Tamaulipas, Mexico. Only a single nesting record exists for North Carolina, on Long Beach in Brunswick County (1992).

Both the green sea turtle and leatherback sea turtle typically nest on sandy beaches in tropical areas. The green sea turtle is most commonly found in the Caribbean, where they breed. Individuals, usually immatures, are occasionally found along the North Carolina coast. Although primarily tropical in nature, the range of the leatherback sea turtle may extend to Nova Scotia and Newfoundland (Martof *et al.* 1980). The leatherback sea turtle sometimes moves into shallow bays, estuaries, and even river mouths. The green sea turtle reaches lengths of 30 to 60 inches and weights of 220 to 650 lbs., and has a smooth, heart-shaped shell (Martof *et al.* 1980). The leatherback sea turtle is distinguished by its larger size (46 to 70-inch carapace, 650 to 1,500 lbs. and a ridged shell of soft, leathery skin. Green sea turtles are omnivorous, primarily eating jellyfish and seaweeds. The leatherback sea turtle also feeds extensively on jellyfish, although its diet often includes other sea animals and seaweed.

BIOLOGICAL CONCLUSION: No Effect

These species are not expected to occur in the project study area because of lack of nesting habitat and minimal feeding opportunities. This project will not have an effect on sea turtles because of the lack of suitable nesting and foraging habitat for these species. Loggerhead and green sea turtles have been documented as close as Ocean Isle Beach, which is approximately 2 miles from the project study area. NHP records do not document any occurrences of this species

within one mile of the project study area as of December 20, 2001. Project construction will not have an effect on any of the sea turtle species.

Piping plover - Piping plovers are small shorebirds that 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 (FWS 1996a). Nests are typically found on open, wide sandy stretches of beach similar to those associated with inlets and capes. Critical habitat has been proposed for the piping plover in Brunswick County pursuant to the July 6, 2000 *Federal Register* 65: 41782-41812. This critical habitat designation will not affect the project study area since primary habitat is along beaches.

BIOLOGICAL CONCLUSION: No Effect

There is no suitable habitat in the project study area for this species. The proposed project will not affect proposed critical habitat for this species. The piping plover has been documented by NHP along Ocean Isle Beach, which is approximately 2 miles from the project study area. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001.

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 1800's 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 7 to 9 feet total length with females averaging 30 to 40 percent smaller (Handley 1991). Adult mountain lion tracks measure approximately 3.5 inches (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 would require large tracts of relatively undisturbed habitat that support large populations of white-tailed deer (Webster *et al.* 1985).

BIOLOGICAL CONCLUSION: No Effect

No tangible evidence has been produced documenting the existence of this subspecies in Brunswick County. Because of the lack of wilderness area within the project study area, no suitable habitat for this subspecies is believed to be present. No cat tracks of sufficient size for eastern cougar were identified during field investigations. NHP records do not document any occurrences of this species within three miles of the project study area as of December 20, 2001. The proposed project will not affect this species.

Bald eagle - The bald eagle is a large raptor with a wingspan greater than 6 feet. Adult bald eagles are dark brown with a white head and tail. Immature eagles are brown with whitish mottling on their tail, belly, and wing linings. Bald eagles typically feed on fish but may also take birds and small mammals. In the Carolinas, nesting season extends from December through May (Potter *et al.* 1980).

Bald eagles typically nest in tall, living trees in a conspicuous location near water and forage over large bodies of water with adjacent trees available for perching (Hamel 1992). Preventing disturbance activities within a primary zone extending 750 to 1500 feet outward from a nest tree is considered critical for maintaining acceptable conditions for eagles (FWS 1987). FWS recommends avoiding any disturbance activities, including construction and tree-cutting, within this primary zone. Within a secondary zone extending from the primary zone boundary out to a distance of one mile from a nest tree, construction and land-clearing activities will be restricted to the non-nesting period. FWS also recommends avoiding alteration of natural shorelines where bald eagles forage, and avoiding significant land-clearing activities within 1500 feet of roosting sites.

BIOLOGICAL CONCLUSION: No Effect

Nesting habitat for bald eagles does not exist within the project study area; however, Jinnys Branch may provide potential foraging habitat for this species. No nest trees were located within the project study area, nor were any bald eagles directly observed. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001. A follow-up survey will be conducted 1 to 2 years prior to project construction.

Wood stork - Wood storks do not breed in North Carolina, but a few disperse to southeastern North Carolina following breeding season. During recent years, a small flock has been regularly present in Brunswick County in mid- to late-summer (NHP files). The tidal salt marsh within the project study area provides suitable foraging habitat for this species (Hamel 1992). Suitable foraging opportunities may be temporarily disrupted during construction.

BIOLOGICAL CONCLUSION: No Effect

The golf course and salt marsh adjacent to Jinnys Branch may provide suitable foraging habitat for the wood stork. No individuals or direct evidence of occurrence was observed during the field investigation. Construction activities may temporarily displace any wood storks in the project vicinity; however, no long-term impact to the wood stork is anticipated as a result of this project. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001. A follow-up survey will be conducted 1 to 2 years prior to project construction.

Red-cockaded woodpecker (RCW) - This small woodpecker is 7 to 8.5 inches 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, longleaf (*Pinus palustris*), slash (*P. elliotii*), and pond (*P. serotina*) pines. Nest cavities are constructed in the heartwood of living pines generally older than 60 years that have been infected with red-heart disease. Nest cavity trees typically occur in clusters which are referred to as colonies. The woodpecker drills holes into the bark around the cavity entrance, which results in a shiny, resinous buildup around the entrance. This allows for easy detection of active nest trees because of the high visibility of the resin deposit at the cavity entrance. Pine flatwoods or pine savannas that are fire maintained serve as ideal nesting and foraging sites for this species. Development of a thick understory within a given area

usually deters nesting and foraging. Potential nest sites for RCW's include pine and pine/hardwood stands greater than 60 years of age. Hardwood/pine stands (<50% pine) greater than 60 years of age may also be considered potential nesting habitat if adjacent to potential foraging habitat (Henry 1989). Foraging habitat is typically comprised of open pine/mixed hardwood stands over 30 years of age (Henry 1989). Pines must comprise at least 60 percent of the canopy in order to provide suitable foraging for RCW's. Somewhat younger pine stands may be utilized if the trees have an average diameter at breast height (DBH) greater than or equal to 9 inches. Foraging stands must be connected to other foraging areas or nesting areas in order to be deemed a viable foraging site. Open spaces or unsuitable habitat wider than approximately 330 feet are considered a barrier to RCW foraging.

BIOLOGICAL CONCLUSION: No Effect

No suitable habitat that would support nesting or foraging populations of the red-cockaded woodpecker was identified within the project study area nor directly adjacent to the project study area. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001. Project construction will not affect this species.

West Indian Manatee - The manatee is a large gray or brown aquatic mammal. Adults average about 10 feet in length and weight up to 1000 pounds. Manatees inhabit both salt and fresh water of a sufficient depth 5.0 to 20.0 feet. They may be encountered in canals, rivers, estuarine habitats, saltwater bays, and in nearshore waters. Manatees prefer water temperatures warmer than approximately 34° Fahrenheit, however, they have been observed in waters of a lower temperature (Webster *et al.* 1985). They may be encountered in North Carolina waters during the warmer summer months; however, they are much more common in Georgia and Florida waters.

BIOLOGICIAL CONCLUSION: No Effect

It may be possible that the manatee could occur in the project area. The species has been known to occur in waters as shallow as 3 feet. Ideal habitat does not appear to be present; however, in order to protect the manatee in the event that it may on occasion utilize the project area, the FWS requests that standard precautions for general construction in areas which may be used by manatees be incorporated into the project. NHP records do not document any occurrences of this species within one mile of the project study area as of May 9, 2003; however, there is a documented occurrence of this species approximately two miles from the project area near Ocean Isle Beach in the Intracoastal Waterway. Construction activities will adhere to guidelines in *Precautions for Construction in Areas Which May be Used by the West Indian Manatee in North Carolina.*

Seabeach amaranth - This species is an annual herb that grows on barrier island beaches. It is a succulent annual that is sprawling or trailing and may reach 2 feet or more in length. Inconspicuous flowers and fruits are produced in the leaf axils, typically beginning in July and continuing until frost. Primary habitat for seabeach amaranth consists of bare sand, especially on over wash flats at accreting ends of islands, and lower foredunes and upper strands of non-eroding beaches. The only remaining large populations are in coastal North Carolina (FWS 1996b).

BIOLOGICAL CONCLUSION: No Effect

This project will not affect seabeach amaranth because there is no suitable habitat (barrier beaches) within the project study area. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001.

Rough-leaved loosestrife - The rough-leaved loosestrife is a rhizomatous perennial that flowers from late May to June, with seeds forming by August and capsules dehiscing in October. This species can grow up to 2.0 feet tall and has yellow flowers that typically bloom in late May through June. 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 herb layer (*i.e.*, pocosins). This species is endemic to the Coastal Plain and Sandhills region of North Carolina. It is fire maintained, and suppression of naturally occurring fires has contributed to the loss of habitat in North Carolina (FWS 1994a).

BIOLOGICAL CONCLUSION: No Effect

No habitat that would support rough-leaved loosestrife occurs in the project study area. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001.

Cooley's meadowrue - Cooley's meadowrue is a rare perennial herb endemic to the Southeastern Coastal Plain. The species grows in circumneutral soil in moist wet savannas and savanna-like areas kept open by fire or other disturbance. In North Carolina, Cooley's meadowrue has been documented as growing in the following soil series: Foreston, Grifton, Muckalee, Torhunta, and Woodington. All of these series have sandy loam textures. Tulip-poplar and cypress (*Taxodium* sp.) growing together, bordering a savanna-like area, has been the best indicator of Cooley's meadowrue sites (FWS 1994b).

BIOLOGICAL CONCLUSION: No Effect

No habitat that would support Cooley's meadowrue is located within the project study area. NHP records do not document any occurrences of this species within one mile of the project study area as of December 20, 2001.

2. Federal Species of Concern

The February 5, 2003 FWS list also includes a category of species designated as "Federal Species of Concern" (FSC). The FSC designation provides no federal protection under the ESA for the species listed. The presence of potential suitable habitat within the project study area has been evaluated for FSC listed for Brunswick County (Table 4). State status for the species was taken from the NHP web site list last updated January 2004, reviewed online 3/30/04.

No FSC were observed during the field investigation and NHP files do not document any occurrences of FSC within one mile of the project study area as of December 20, 2001.

Table 4. Federal Species of Concern (FSC) Listed for Brunswick County, NC.

Common Name	Scientific Name	State Status	Habitat
Bachman's sparrow	*Aimophila aestivalis*	SC	N
Henslow's sparrow	*Ammodramus henslowii*	SR	N
Carolina pygmy sunfish	*Elassoma boehlkei*	T	N
Southern hognose snake	*Heterodon simus*	SR(PSC)	Y
Mimic glass lizard	*Ophisaurus mimicus*	SC(PT)	Y
Eastern painted bunting	*Passerina ciris ciris*	SR	Y
Northern pine snake	*Pituophis melanoleucus melanoleucus*	SC	Y
Carolina gopher frog	*Rana capito capito*	T	N
Buchholz's dart moth	*Agrotis buchholzi*	SR	N
Arogos skipper	*Atrytone arogos arogos*	SR	N
Waccamaw spike	*Elliptio waccamawensis*	T	N
Greenfield ramshorn	*Helisoma eucosmium*	E	N
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subphrphyrea*	SR	N
Magnificent ramshorn	*Planorbella magnifica*	E	N
Rare skipper	*Problema bulenta*	SR	N
Cape Fear threetooth	*Triodopsis soelneri*	T	N
Savanna indigo-bush	*Amorpha georgiana* var. *confusa*	T	N
Honeycomb head	*Balduina atropurpurea*	SR-T	N
Chapman's sedge	*Carex chapmanii*	NL	N
Venus flytrap	*Dionaea muscipula*	SR-L, SCN	N
Dwarf burhead	*Echinodorus parvulus*	SR-T	N
Harper's fimbry	*Fimbristylis perpusilla*	T	N
Pondspice	*Litsea aestivalis*	SR-T	N
Carolina bogmint	*Macbridea caroliniana*	T	N
Loose watermilfoil	*Myriophyllum laxum*	T	N
Savanna cowbane	*Oxypolis ternata*	NL	N
Carolina grass-of-parnassus	*Parnassia caroliniana*	E	N
Pineland plantain	*Plantago sparsiflora*	E	N
Awned meadowbeauty	*Rhexia aristosa*	T	N
Swamp forest beaksedge	*Rhynchospora decurrens*	SR-P	N
Thorne's beaksedge	*Rhynchospora thornei*	E	N
Carolina goldenrod	*Solidago pulchra*	E	N
Spring-flowered goldenrod	*Solidago verna*	SR-L	N
Wireleaf dropseed	*Sporobolus teretifolius sensus stricto*	T	N
Carolina asphodel	*Tofieldia glabra*	NL	N
Dune bluecurls	*Trichostema* sp.*1*	SR-L	N
Savanna campylopus	*Campylopus carolinae*	SR-T	N
Rafinesque's big-eared bat	*Corynorhinus (= Plecotus) rafinesquii*	T	N
Carter's noctuid moth	*Spartiniphaga carterae*	SR	N
A quillwort	*Isoetes microvela*	SR-L	N
Carolina atamasco lily	*Zephyranthes* sp. 1	SR-L	N
Carolina bishopweed	*Ptilimnium* sp. 1	SR-L	N
Chapman's three-awn	*Aristida simpliciflora*	SR-T	N
Coastal goldenrod	*Solidago villosicarpa*	SR-L	N
Coastal beaksedge	*Rhynchospora pleiantha*	SR-T	N
Long beach seed box	*Ludwigia brevipes*	NL	N
Savanna onion	*Allium* sp. 1	SR-L	N
Tough bumelia	*Sideroxylon tenax*	SR-P	N

* E-Endangered, T-Threatened, SC- Special Concern, P – Proposed, SR – Significantly Rare, NL-Not Listed at NCNHP, -T - Throughout, - L – Limited.

VI. Cultural Resources

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance Section 106, codified at 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings.

B. Historic Architecture

In a memorandum dated December 20, 2002 the State Historic Preservation Officer (SHPO) stated, "We recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years of age within the project area, and report the finding to us."

A field survey of the Area of Potential Effects (APE) was conducted on May 2, 2002. All structures over 50 years of age within the APE were photographed, and later reviewed by the North Carolina State Historic Preservation Office (HPO). In a concurrence form dated October 1, 2002 the SHPO concurred that there are no historic architectural resources either listed on or eligible for listing in the National Register of Historic Places within the APE. A copy of the concurrence form and memorandum is included in the Appendix.

C. Archaeology

The SHPO, in a memorandum dated December 20, 2002 stated, "There are no known archaeological sites within the proposed project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project." 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 the structurally deficient and functionally obsolete bridge will result in safer traffic operations.

The project is a Federal "Categorical Exclusion" because of its limited scope and lack of substantial 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 substantial 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 relocations of residents or businesses are expected with implementation of the proposed alternative.

In compliance with Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) a review was conducted to determine whether minority or low-income populations were receiving disproportionately high and adverse human health or environmental impacts as a result of this project. The investigation determined the project would not disproportionately impact any minority or low-income populations.

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.

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 the proposed bridge will be replaced at the existing location the Farmland Protection Policy does not apply.

The project is located in Brunswick County, which has been determined to be in compliance with the National Ambient Air Quality Standards., The proposed project is located in an attainment area, therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina State Implementation Program for air quality in compliance with 15 NCAC 2D.0520.

The traffic volumes will not increase or decrease because of this project. There are no receptors located in the immediate project area. The project's impact on noise and air quality will not be substantial.

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

Noise levels could increase during construction but will be temporary. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA). 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 Division of Solid Waste Management revealed no hazardous waste sites in the project area. A field reconnaissance survey was performed. No underground storage tank (UST) facilities are expected to be impacted. No regulated or

unregulated landfills or dumpsites occur within the project area, and no superfund sites were identified. If any unregulated USTs or any other potential source of contaminations are discovered during initial contacts with property owners in the impacted right-of-way, then an assessment will be conducted to determine the extent of any contamination at that time.

Brunswick County is currently participating in the National Flood Insurance Program. This crossing of Jinnys Branch is located within an approximate flood hazard zone (Figure 5). It is not anticipated that a floodway modification will be required since the bridge will be an "in kind" replacement. It is not anticipated that this project will have any substantial impact on the existing floodplain or floodway. A copy of the Flood Insurance Rate Map (Figure 5) is attached. The map shows the approximate limits of the 100-year flood plain in the vicinity of the project.

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

VIII. Public Involvement

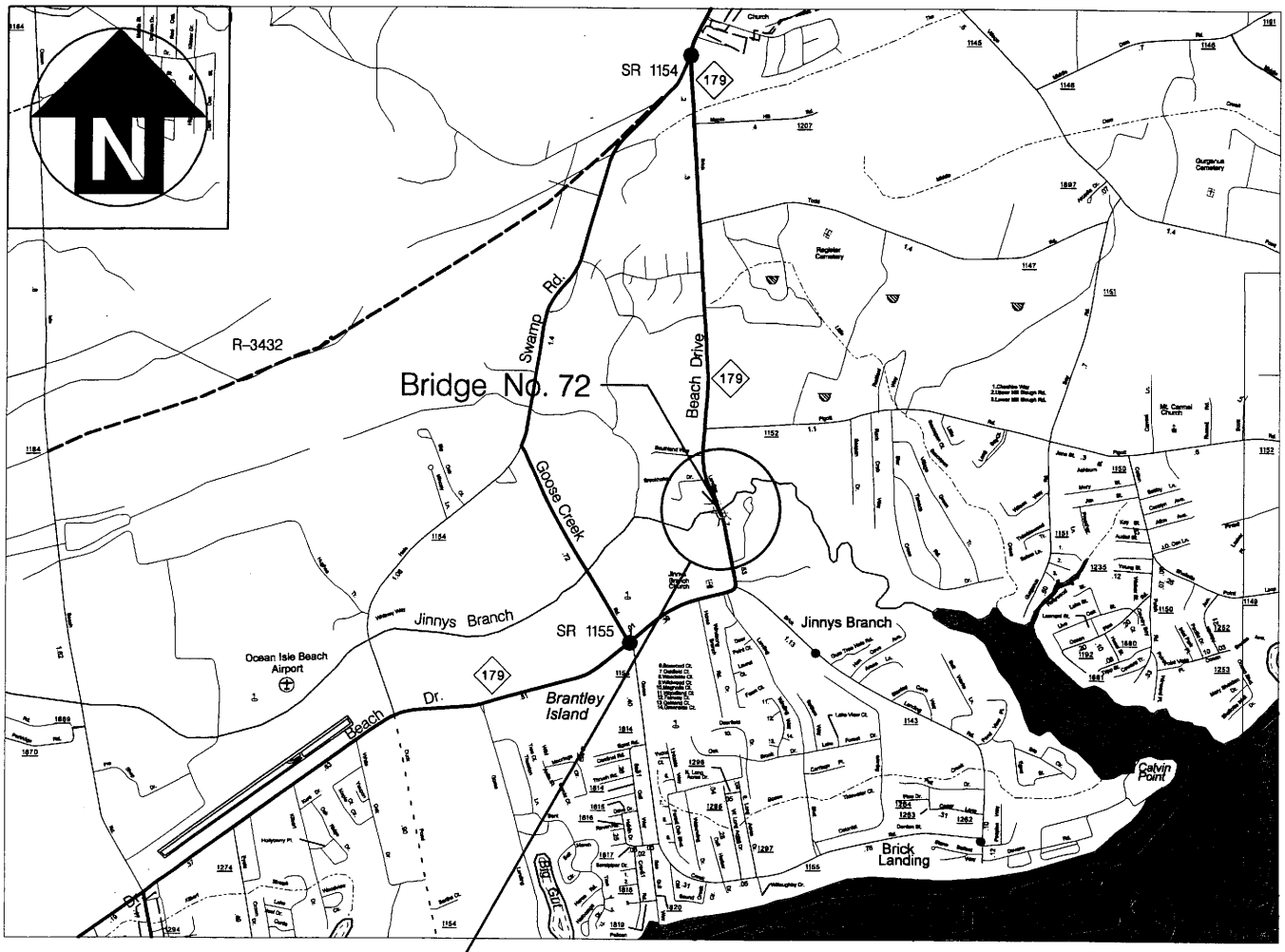
Efforts were undertaken early in the planning process to contact local officials to involve them in the project development with scoping letters. Scoping letters were also sent to various agencies.

A Citizens Informational Workshop was held on March 22, 2004 at the Shallotte Middle School. This workshop was an open-house format where citizens dropped in to ask questions and voice their concerns. A display of Alternative A and other project related handouts were available for viewing. Nine citizens attended and two comment sheets were received. Concerns included saving the big oak tree at the north end of Bridge No.72 and not closing the bridge during peak tourist season.

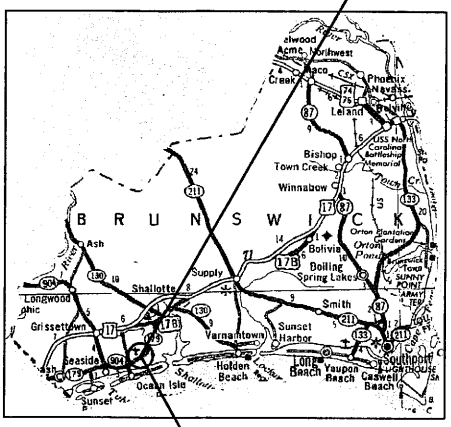
IX. AGENCY COMMENTS

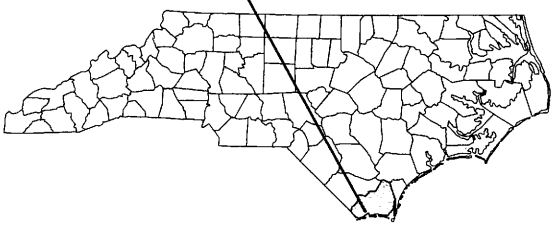
All agency comments have been addressed within the document. A meeting was held on November 19, 2003 with representatives from COE, NCDCM, and NCDWQ. They concurred with the preferred Alternative A and a determination that this project as proposed does not warrant the Merger 01 Process.

Figures



PROPOSED DETOUR ROUTE

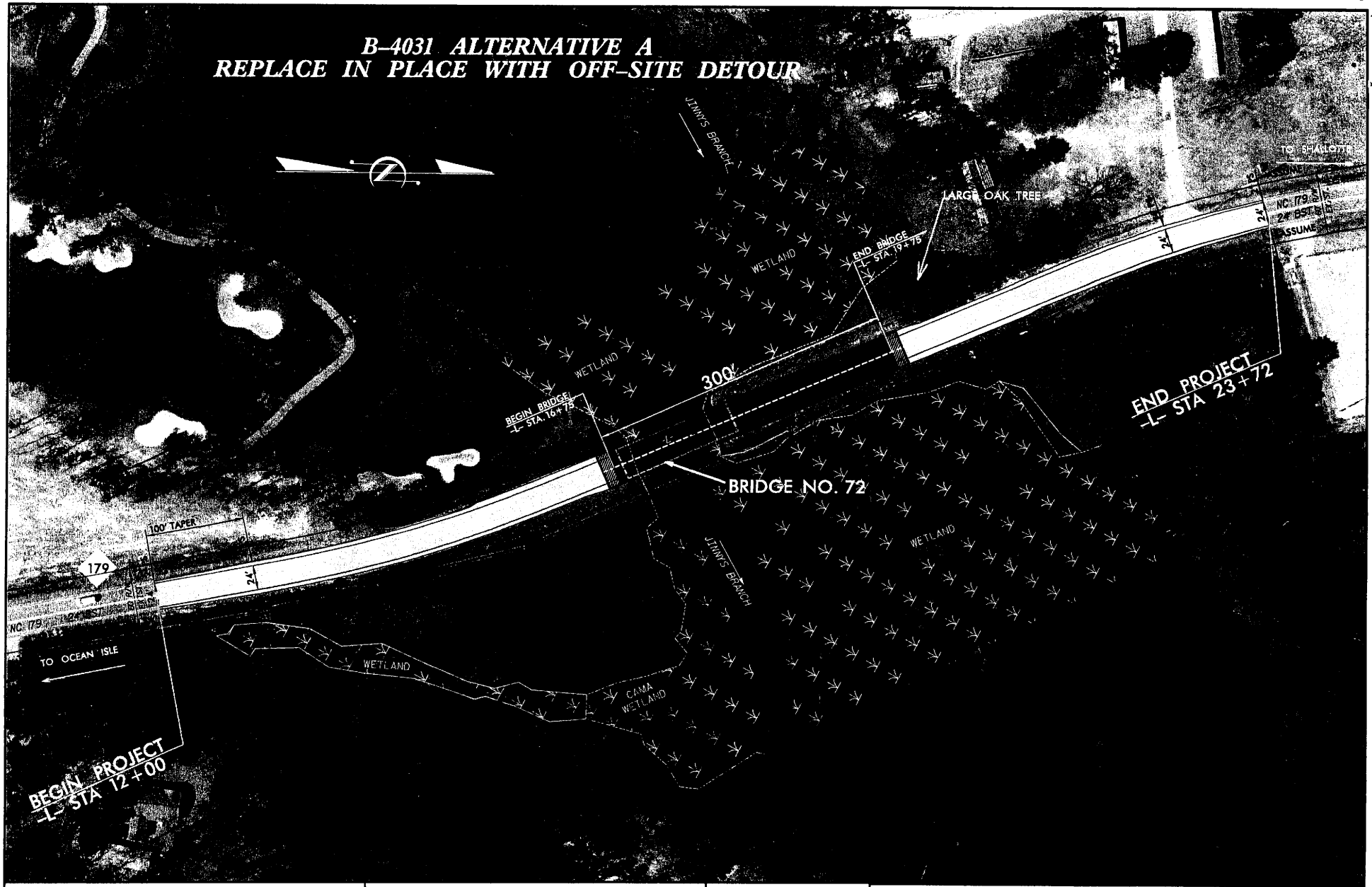




North Carolina Department of Transportation
Project Development & Environmental Analysis

BRUNSWICK COUNTY
BRIDGE NO. 72
OVER JINNYS BRANCH A TRIBUTARY OF
SAUCEPAN CREEK
on NC 179 (BEACH DRIVE)
B-4031

FIGURE 1



LEGEND

- PROPOSED ROADWAY
- PROPOSED STRUCTURE
- WETLANDS
- GUARDRAIL

TRAFFIC DATA

ADT 2006 8,300
ADT 2030 17,900
DUAL 3%
TTST 1%
FUNCTIONAL CLASSIFICATION:
MAJOR COLLECTOR – RURAL

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

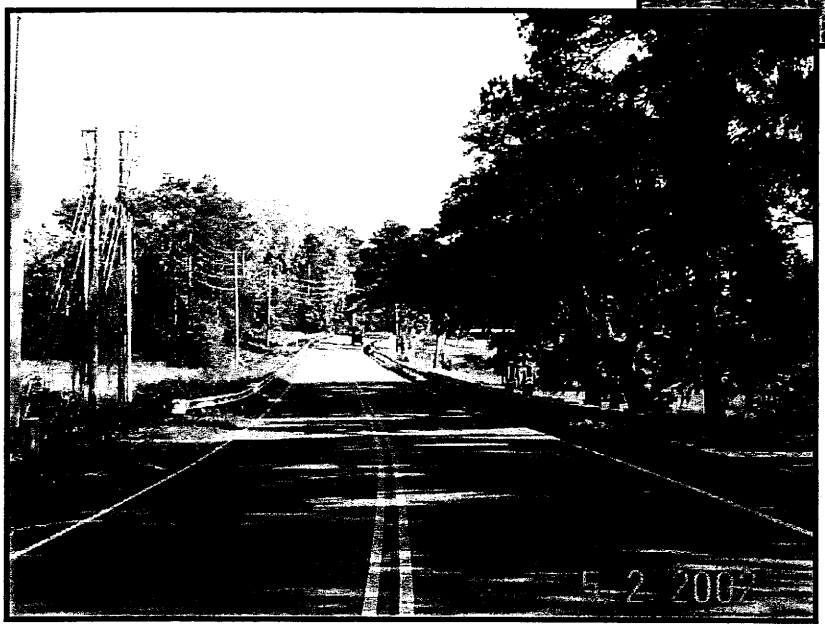
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

50' 0 100'

FIGURE 2

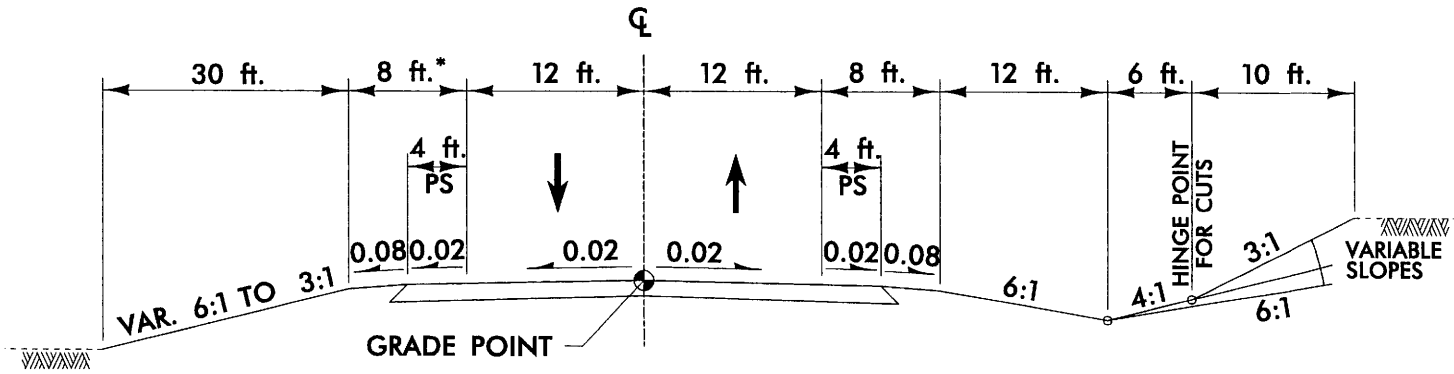
View of south approach.

Side view of Bridge No. 72.



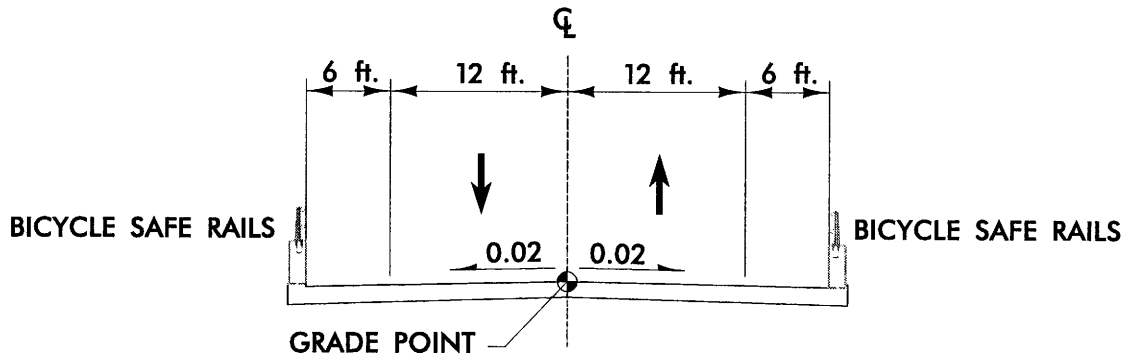
View of north approach.

FIGURE 3



TYPICAL APPROACH SECTION
(PROPOSED)

* 11 ft. (3.3m) WHEN GUARDRAIL IS WARRANTED



TYPICAL BRIDGE SECTION
(PROPOSED)

PROPOSED LENGTH = 300'
NC 179 IS A BICYCLE ROUTE

TRAFFIC DATA

(EXISTING YR.) 2004 ADT = 8,000 LOS D
(CONST. YR.) 2005 ADT = 8,350 LOS D
(DESIGN YR.) 2025 ADT = 16,000 LOS E
DUAL 3%
TTST 1%

FUNCTIONAL CLASSIFICATION :
MAJOR COLLECTOR – RURAL

North Carolina Department Of Transportation
Project Development & Environmental Analysis

BRUNSWICK COUNTY
BRIDGE NO. 72 ON NC 179
OVER JINNYS BRANCH,
TRIBUTARY OF SAUCE PAN CREEK
TIP NO: B-4031

FIGURE 4

5/16/03

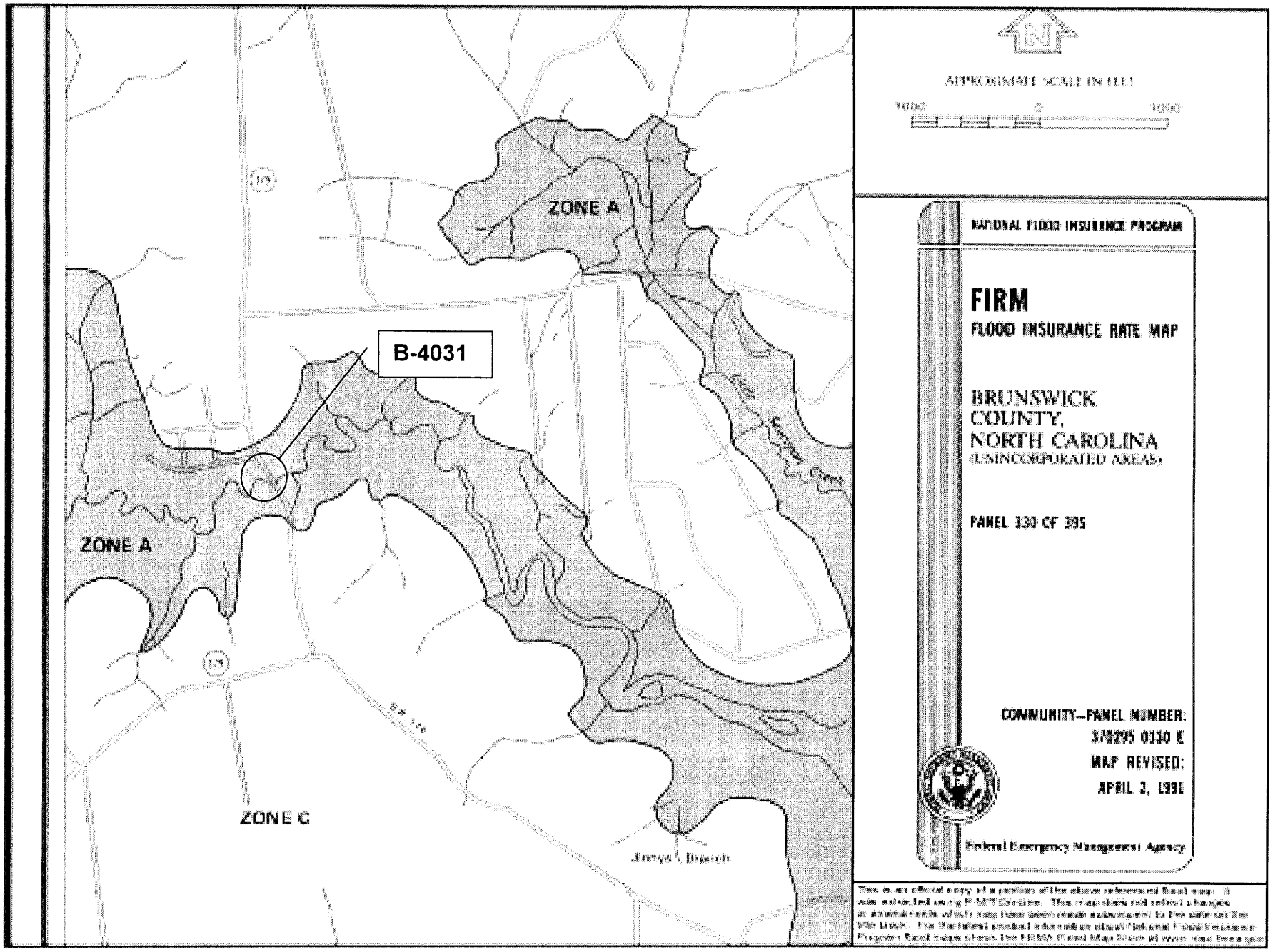

ZONE A
B-4031
ZONE A
ZONE C
Jones Branch
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
BRUNSWICK
COUNTY,
NORTH CAROLINA
(UNINCORPORATED AREAS)
PANEL 330 OF 395
COMMUNITY—PANEL NUMBER:
MAP REVISED:
APRIL 2, 1991
Federal Emergency Management Agency

FIGURE 5

Appendix

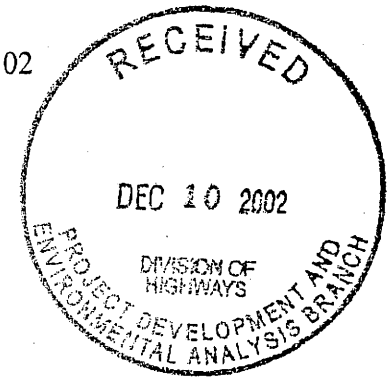
U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: (Aowb)
Phone: (757)398-6587

B-4031

16590
03 DEC 02



Mr. Gregory J. Thorpe, Ph. D.
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Thorpe:

This is in response to your letter dated October 24, 2002 requesting the Coast Guard to review the proposed projects to replace the following nine bridges: Black River Over Flow, Black River, Jenny's Branch, Beaver Dam Creek, New River, Stone Creek, N.E. Cape Fear River, Withrow Creek and Pinch Gut Creek all located throughout North Carolina.

The Coast Guard Authorization Act of 1982 exempts bridge projects from Coast Guard bridge permits when the bridge project crosses nontidal 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. Such conditions for some of these waterways were confirmed in a telephone conversation on November 27, 2002. Due to this, the bridge projects on Beaver Dam, Withrow, and Pinch Gut Creeks and Black River Over Flow are exempt, and will not require Coast Guard Bridge Permits.

Black River, Jenny's Branch, and Stone Creek are subject to tidal influence and thus considered legally navigable for Bridge Administration purposes. But these waterways also meet the criteria for advance approval waterways outlined in Title 33, Code of Federal Regulations, Section 115.70. Advance approval waterways are those that are navigable in law, but not actually navigated by other than small boats. The Commandant of the Coast Guard has given his advance approval to the construction of bridges across such waterways; therefore, an individual permit will not be required for these projects either.

Further information is required to assess the bridge replacement projects over the New River and the North East Cape Fear River. Such information as, is the waterway affected by lunar tides? Is there any commercial navigation? What types and sizes of boats operate on the waterway? Bridge Permits may be required based on the answers to these questions. If a permit is required, a higher level of environmental review will also be required.

The fact that Coast Guard permits are not required for some of these projects does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or

Extra Copy

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

Habitat Conservation Division
101 Pivers Island Road
Beaufort, North Carolina 28516-9722

June 7, 2002

William T. Goodwin, Jr., PE, Unit Head
Bridge Replacement Unit
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Goodwin:

The National Marine Fisheries Service (NMFS) has reviewed the Natural Systems Technical Reports (NSTR) - Group 2, for 22 bridge replacement projects identified in your March 1, 2002, letter. These projects are scheduled for construction in fiscal year 2005.

By letter dated May 9, 2002 (copy enclosed), the Wilmington District, U.S. Army Corps of Engineers identified the following issues and concerns as being relevant to the proposed bridge replacement projects:

- Replacing bridges with culverts
- Permanent and temporary wetland losses
- Offsite versus onsite detours
- Time of year restrictions on instream work
- Treatment of wetland restoration areas
- Existing bridge demolition and removal
- Lengthening existing bridges as a wetland restoration measure

The NMFS agrees that these issues should be fully addressed with regard to impacts and mitigation. We also agree with the Corps' determination that identifying projects involving these activities as Green Light Projects is misleading and should not be used. Therefore, the following Group 2 projects should be identified as either Yellow or Red Light Projects.

Section I - Yellow Light Projects (YLPs)

The bridge replacement projects listed below are located in areas that do not support NMFS trust fishery resources. Otherwise, they have normal environmental concerns and, therefore, are identified as YLPs.

Bridge Number	Project Number	Location
Bridge No.136	B - 4025	Beaufort County
Bridge No. 108	B - 4154	Hyde County
Bridge No. 118	B - 4235	Pitt County
Bridge No. 191	B - 4272	Sampson County

Section II - Yellow Light Projects (YLPs)

The bridge replacement projects listed below are located in the Roanoke River, Neuse River, Tar River, Chowan River, Trent River, Cape Fear River basins which are likely to support NMFS trust anadromous fishery resources and are, therefore, classified as YLPs.

Bridge Number	Project Number	Location
Bridge No. 45	B - 4026	Bertie County
Bridge No. 29	B - 4314	Washington County
Bridge No. 10	B - 4086	Craven County
Bridge No. 46	B - 4125	Greene County
Bridge No. 49	B - 4126	Greene and Lenoir Counties
Bridge No. 43	B - 4127	Green County
Bridge No. 67	B - 4150	Hertford County
Bridge No. 7	B - 4169	Jones County
Bridge No. 5	B - 4187	Martin County
Bridge No. 21	B - 4223	Pender County
Bridge No. 69	B - 4227	Perquimans County
Bridge No. 98	B - 4234	Pitt County

Spawning and nursery habitat for anadromous fishes may be adversely impacted by these projects unless measures to avoid and minimize impacts to waters and wetlands are included in the project plans. Accordingly, the NMFS may recommend against Department of the Army authorization of these projects under Nationwide Permit 23,unless the following recommendations are incorporated:

1. Following impact avoidance and minimization, unavoidable wetland losses shall be offset through implementation of a compensatory mitigation plan that has been approved by the Corps of Engineers and in consultation with the NMFS.

2. All construction related activities in waters and associated wetlands shall utilize techniques that avoid and minimize adverse impacts to those systems and their associated flora and fauna.

3. In order to protect anadromous fishery resources that may utilize the project areas as spawning or nursery habitat, work in the waters of the creek shall be restricted to the period October 1 and March 1 of any year unless prior approval is granted by the Corps of Engineers following consultation with the NMFS.

Section III - Red Light Projects (RLPs)

Red Light Projects are those that include extraordinary resources or concerns that will require close coordination to complete successfully. These projects involve high quality wetlands, extremely valuable or rare endangered species habitats, or other limited or unusual resources.

The bridge replacement projects listed below may effect estuarine waters, intertidal salt marshes, and tidal freshwater marshes and may be located in areas designated as primary nurseries by the North Carolina Division of Marine Fisheries or the North Carolina Wildlife Resources Commission. In view of the fact that work in these locations could adversely effect NMFS trust fishery resources, they are classified as RLPs. In addition, some of these project areas include Essential Fish Habitat (EFH) for species managed under authority of the Magnuson Stevens Fisheries Conservation and Management Act(P.L. 104-297) and other statutory and regulatory provisions. If these projects are processed under Nationwide 23, they will be carefully reviewed for incorporation of the recommendations listed above and we may elect to provide additional comments and recommendations that are intended to avoid, minimize, and offset impacts to living marine resources. Our recommendations, if any, will be sent to the Wilmington District, U. S. Army Corps of Engineers, and a copy will be forwarded to you.

Bridge Number	**Project Number**	**Location**
Bridge No. 77	B - 3611	Beaufort County
Bridge No. 72	B - 4031	Brunswick County
Bridge No. 19	B - 4215	Onslow County
Bridge No. 24	B - 4214	Onslow County
Bridge No. 65	B - 4219	Pamlico County
Bridge No. 4	B - 4221	Pamlico County

Finally, the shortnose sturgeon, a Federally protected species under the purview of the NMFS is found in the Cape Fear and Roanoke Rivers. These comments do not satisfy Federal agency consultation responsibilities under Section 7 of the Endangered Species Act of 1973, as amended. If any activity "may effect" listed species and habitats under NMFS purview, consultation should be initiated with our Protected Resources Division at 9721 Executive Center Drive North, St. Petersburg, Florida 33702.

We appreciate the opportunity for early participation in the review of these bridge replacement projects. If I can be of further assistance, please contact me at the letterhead address or at 252-728-5090.

Sincerely,

Ron Sechler

Ron Sechler
Fishery Biologist

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
101 Pivers Island Road
Beaufort, North Carolina 28516-9722

December 6, 2002

Gregory J. Thorpe, Ph. D.
Environmental Management Director
Project Development and
Environmental Analysis Branch
NC Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Attention: John Wadsworth, P.E.

Dear Dr. Thorpe:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed your October 24, 2002, letter requesting comments on eight bridge replacement projects included in the North Carolina Department of Transportation 2002-2008 Transportation Improvement Plan. We understand that the NCDOT is preparing the planning and environmental studies necessary to process these projects as Categorical Exclusions and offers the following comments for your consideration.

The environmental documents for these projects should address measures designed to avoid and minimize loss of open water and wetlands that support fishery resources. In addition, we support findings contained in the May 9, 2002, letter from the Wilmington District, U.S. Army Corps of Engineers, which identified the following issues and concerns as being relevant to the proposed bridge replacement projects:

- Replacing bridges with culverts
- Permanent and temporary wetland losses
- Offsite versus onsite detours
- Time of year restrictions on instream work
- Treatment of wetland restoration areas
- Existing bridge demolition and removal
- Lengthening existing bridges as a wetland restoration measure

Group I - The following projects will have no impact on resources for which NOAA Fisheries has stewardship responsibility; therefore, we have no comments:

Bridge Number	Project Number	County
No. 416	B - 4103	Davidson County
No. 28	B - 4255	Rowan County
No. 54	B - 4282	Stokes County

Group II - These projects have the potential to affect fishery resources and their associated habitat for which NOAA Fisheries has stewardship responsibility:

Bridge Number	Project Number	County
No. 12	B - 1382	Sampson County
No. 26	B - 1382	Sampson County
No. 72	B - 4031	Brunswick County
No. 24	B - 4214	Onslow County
No. 21	B - 4223	Pender County

Bridges 12, 26, 21 and 24 are located in the Cape Fear and New River basins and in areas which provide habitat for anadromous fishery resources including American shad and river herring. Bridges 72 and 24 are located in areas with brackish to saline waters that also support estuarine dependent fishery resources such as spot, Atlantic croaker, and blue crab. In addition, these projects may affect **Essential Fish Habitat** for Federally managed species such as red drum and shrimp which are managed by the South Atlantic Fishery Management Council, and summer flounder which is managed by the Mid-Atlantic Fishery Management Council. Accordingly, we recommend that an Essential Fish Habitat Assessment be included in any environmental document for these projects.

Spawning and nursery habitat for anadromous and estuarine fishes may be adversely impacted by these projects unless measures to avoid and minimize impacts to waters and wetlands are included in the project plans. Therefore, NOAA Fisheries may recommend against Department of the Army authorization of these projects under Nationwide Permit 23 unless the following recommendations are incorporated.

1. Following impact avoidance and minimization, unavoidable wetland losses shall be offset through implementation of a compensatory mitigation plan that has been approved by the Corps of Engineers and in consultation with NOAA Fisheries.

2. All construction activities in waters and associated wetlands shall utilize techniques that avoid and minimize adverse impacts to those systems and their associated flora and fauna

Although the stated purpose of the project is to improve timber production, no information is provided regarding any ongoing silviculture operation. Furthermore, there is no indication of existence of a forest management plan for the site which might indicate that the existing excavation and filling of wetlands is in compliance with the Clean Water Act (CWA), Section 404 (f)(1)(A) exemptions for silviculture.

NOAA Fisheries concludes that the loss of wetlands at this site is highly detrimental to commercially, recreationally, and ecologically important fishery resources that utilize the Newport River. Therefore, we recommend that Department of the Army authorization not be granted in this case. We further recommend that if authorization is denied, the applicant should be required to restore pre-project elevations and contours and restore, through planting and other measures, all impacted wetlands.

Thank you for the opportunity to provide these comments. Related questions or comments should be directed to the attention of Mr. Ronald S. Sechler at our Beaufort Office, 101 Pivers Island Road, Beaufort, North Carolina, or at (252) 728-5090.

Sincerely,

Ron Sechler

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

United States Department of the Interior

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

June 12, 2002

Mr. William T. Goodwin, Jr.
North Carolina Department of Transportation
Project Development and Environmental Analysis
Unit Head, Bridge Replacement Planning
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Goodwin:

This responds to your letters of March 1 and March 18, 2002, providing the U. S. Fish and Wildlife Service (Service) with Natural Resources Technical Reports (NRTR) on 26 bridges proposed for replacement in Construction Fiscal Year (CFY) 2005. Your letters requested the Service to review these reports and determine the level of concerns we might have for trust resources under our jurisdiction. This report provides scoping information 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 bridges scheduled for replacement are:

1. B-3611, Bridge No. 77 on NC 99 over Pantego Creek, Beaufort County;
2. B-4024, Bridge No. 136 on SR 1626 over Pantego Creek [Canal?], Beaufort County
3. B-4026, Bridge 45 on SR 1110 over Choowatic Creek, Bertie County;
4. B-4028, Bridges Nos. 12 and 18 over the Cape Fear River, Bladen County;
5. B-4031, Bridge No. 72 on NC 179 over Jinnys Branch, Brunswick County;
6. B-4077, Bridge No. 25 on NC 130 over Waccamaw River outflow, Columbus County
7. B-4082, Bridge 280 on SR 1843 over Dan's Creek, Columbus County;
8. B-4086, Bridge No. 10 on SR 1111 over Brices Creek, Craven County;
9. B-4090 - Bridge No. 125 on NC 24 over Cross Creek, Cumberland County;
10. B-4125, Bridge No. 46 on SR 1091 over Wheat Swamp Creek, Greene County;
11. B-4126, Bridge No. 49 on SR 1434 over Wheat Swamp Creek, Greene and Lenoir Counties;
12. B-4127, Bridge No. 43 on SR 1438 over Rainbow Creek, Green County;
13. B-4150, Bridge No. 67 on SR 1118 over Ahoskie Creek, Herford County;
14. B-4154, Bridge No. 108 on SR 1340 over Old State Canal, Hyde County;
15. B-4169, Bridge No. 7 on SR 1129 (Free Bridge Road) over Big Chinquapin Branch Jones County;

16. B-4187, Bridge No. 5 on SR 1417 over Conoho Creek, Martin County;
17. B-4214, Bridge No. 24 on US 17 over the New River, Onslow County;
18. B-4215, Bridge No. 19 on NC 210 over Stones Creek, Onslow County;
19. B-4219, Bridge No. 65 on SR 1304 over an unnamed tributary to the Neuse River, Pamlico County;
20. B- 4221 , Bridge No. 4 on SR 1344 over South Prong Bay River, Pamlico County;
21. B- 4223, Bridge No. 21 on NC 210 over the Northeast Cape Fear River, Pender County;
22. B-4227, Bridge No. 69 on SR 1222 over Unnamed tributary to Mill Creek, Perquimans County;
23. B-4234, Bridge No. 98 on SR 1407 over Conetoe Creek, Pitt County;
24. B-4235, Bridge No. 118 on SR 1538 over Grindel Creek, Pitt County;
25. B-4248, Bridge No. 170 on SR 1101 over Shoe Heel Creek (Gaddy Mill Road), Robeson County;
26. B-4272, Bridge No. 191 on SR 1845 over Great Coharie Creek, Sampson County; and,

General Scoping Comments

Some NRTRs contained only maps of the immediate project site and a verbal description of the project location. In reviewing our records of known locations for Federally listed species, it would be beneficial to the Service to have a map showing the location of the project. Each location map should include at least one municipality or sizable community to facilitate locating the project area.

The title page for B-4024 (Beaufort County) states that Bridge No. 136 on SR 1626 is over "Canal." The body of the report states that this bridge crosses Pantego Creek which appears to be the correct designation. Title pages should reflect the correct location of the project.

General Fish and Wildlife Habitat and Wetlands

For each project, we recommend the following conservation measures to avoid or minimize adverse environmental impacts to fish and wildlife resources:

1. Wetland impacts should be avoided and minimized to the maximum extent practical as outlined in Section 404 (b)(1) of the Clean Water Act Amendments of 1977. Areas exhibiting high biodiversity or ecological value important to the watershed and region should be avoided. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons.

2. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along or adjacent to existing, roadways, utility corridors, or previously developed areas in order to minimize habitat fragmentation and encroachment. At the completion of construction, the entire detour area, including any previous detour from past construction

activities, should be entirely removed and the impacted areas should be planted with appropriate, endemic vegetation, including trees if necessary;

3. If unavoidable wetland impacts are proposed, every effort should 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;

4. In waterways that may serve as travel corridors for fish, in-water work should be avoided during moratorium periods associated with migration, spawning, and sensitive pre-adult life stages. The general moratorium period for anadromous fish is February 15 - June 15;

5. Best Management Practices (BMP) for Protection of Surface Waters should be implemented; and,

6. Activities within designated riparian buffers should be avoided or minimized.

Federal Species of Concern and State Listed Species

Federal Species of Concern (FSC) 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 FSCs 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.

Federally Protected Species

Several NRTRs make determinations that a project will not affect a particular species, primarily plants based on surveys in the recent past. The Service believes such determinations are premature and that additional surveys will be required prior to construction in approximately 2004-2005. It would be more appropriate to note that the species was not found during preliminary surveys and that results provide early indications that the project is not likely to adversely affect the species.

Effect determinations for plants based on surveys within the project area may require work at a particular time of year for accurate identification. The biological conclusions of the NCDOT for plants should include the time of year that a survey was conducted, the person hours of surveying, and the approximate size of the area surveyed. Surveys should be done within two or three years of actual construction for those species inhabiting stable and/or climax communities. Plant species that utilize disturbed communities, e.g., Michaux sumac (*Rhus michauxii*) and Cooley's meadowrue (*Thalictrum cooleyi*), should be done within two years of actual

construction if vegetation disturbing activities, e.g., regular mowing or timber harvesting, occur at the project site.

The NCDOT should carefully consider potential impacts to the West Indian manatee (*Trichechus manatus*) of bridge replacement projects in coastal counties. Several NRTRs, e.g., B-4235 (Pitt County), state that manatees require at least five feet of water. Manatees are able to use shallow channels that may not seem suited for such a large mammal. O'Shea and Ludlow (1992) wrote that the primary habitat requirements for the species are access to vascular aquatic plants, freshwater source, and proximity to channel 1-2 meters deep (3.3 -6.6 feet). Therefore, the NCDOT should only consider reaching a "no effect" determination for the manatee when water depths at the project site do not rise above one meter. Manatees may become entangled in erosion control and siltation fences placed in shallow water. Measures to prevent these devices from harming manatees are addressed in our 1996 guidelines to NCDOT (USFWS 1996). The biological conclusion of the NCDOT on impacts to manatees cannot be based on negative visual surveys of the project area. These mobile animals may not inhabit a given area for extended periods, and manatees may move into a given project site where the species has never been reported previously. The best procedure for ensuring the safety of these endangered mammals is to follow the Service's precautions if the area is suitable manatee habitat.

Surveys for mussels should extend 100 meters (328 feet) upstream and 300 meters (984 feet) downstream from the project site. 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.

If surveys for a Federally protected species should determine that a given project would adversely affect the species, a biological assessment (BA) may be prepared to fulfill the section 7(a)(2) requirement and in determining whether formal consultation with the Service is necessary. Please notify this office with the results of the surveys for the listed species that may occur in the project area. Please include survey methodologies and an analysis of the effects of the action, including consideration of direct, indirect, and cumulative effects.

Project Specific Comments

In addition to the general comments applicable to all bridge replacement project, we offer the following project-specific comments:

B-3611, Bridge No. 77 on NC 99 over Pantego Creek, Beaufort County - The NRTR states (p. 16) that habitat for the manatee exists in the project area, but that no manatees were seen during natural resources investigations. The report concludes that the project would have "no effect" on the manatee. The Service does not concur with this determination. Manatees are seasonal transients in North Carolina from (primarily June through October). As noted, potential impacts on this species cannot be based on limited field inspections. The Service recommends that future project documentation include

commitments to follow procedures given in "Precautions for General Construction in Areas Which May Be Used by the West Indian Manatee in North Carolina" that the Service provided the NCDOT in 1996. A copy is provided with this letter.

Intertidal zones and marsh edges preferred by Federally threatened sensitive jointvetch (*Aeschynomene virginica*) are present in the project area, but the species was not observed during natural resources investigation. The NRTR provided a biological conclusion of "no effect." The Service will require additional surveys closer to the time of actual construction and greater details of survey methodology, including time of year and the intensity of the survey, before we can concur that the project will have no effect on the species.

The NRTR states that "marginal habitat exists for rough-leaved loosestrife [*Lysimachia asperulaefolia*] in the form of shallow organic soils adjacent to a forest community" in the project area. While the NRTR states that no plants were seen, the Service requires greater details of survey methodology before we can concur with the determination that the project will have no effect on rough-leaved loosestrife.

B-4024, Bridge No. 136 on SR 1626 over Pantego Creek, Beaufort County - The NRTR states (p. 3) that the average depth of Pantego Creek is 4.5 feet, but concludes (p. 14) that the necessary water depth for the manatee is not present. The Service disagrees and recommends that project plans should incorporates measures given in "Precautions for General Construction in Areas Which May Be Used by the West Indian Manatee in North Carolina" that the Service provided the NCDOT in 1996. Suitable habitat for sensitive jointvetch exists in the project area (p. 17), but the NRTR concludes that the project would have "no effect" on the species based, in part, on the fact that no plant were "found in the project area." The Service cannot concur with this determination. The Service will require additional surveys closer to the time of actual construction and greater details of survey methodology, including time of year and the intensity of the survey, before we can concur that the project will have no effect on the sensitive jointvetch.

B-4031, Bridge No. 72 on NC 179 over Jinnys Branch, Brunswick County - The NRTR states (p. 4) that water depths range from two to six feet, and concludes (p. 21) that "vagrant manatees visiting the lower Lumber river system would not be expected within the project area." The Service does concur with the biological conclusion of "no effect" on the manatee and requests that the project utilize the standard precautions for general construction in areas which may be used by manatees. The NRTR states that the biological conclusions for the bald eagle (*Haliaeetus leucocephalus*) and Federally endangered wood stork (*Mycteria americana*) are "unresolved." Wood storks may undertake post-breeding season dispersals from June through early autumn in search of food in swamps, marshes, and mudflats. The NCDOT should seek to determine whether the project area is used, if even on a temporary basis, by these species. If wood storks do feed in the project area during a limited portion of the year, the Service would recommend that this project be scheduled outside this particular period.

B-4086, Bridge No. 10 on SR 1111 over Brices Creek, Craven County - With an average depth of three feet, Brices Creek is not likely to used by manatees. The Service cannot concur with the determination that the project would have "no effect" on the sensitive jointvetch based the lack of observation during site survey in 2001 and an absence of historical occurrence in the project area. The NRTR notes that suitable habitat for this species is present in the project area. The Service will require additional surveys closer to the time of actual construction and greater details of survey methodology, including time of year and the intensity of the survey, before we can concur that the project will have no effect on the sensitive jointvetch..

B-4154, Bridge No. 108 on SR 1340 over Old State Canal, Hyde County - The NRTR notes that habitat for the sensitive jointvetch is present in the project area, but concludes that the project will have no impacts on the species, based in part, on a failure to find the species during surveys. The Service will require additional surveys closer to the time of actual construction and greater details of survey methodology, including time of year and the intensity of the survey, before we can concur that the project will have no effect on the sensitive jointvetch..

B-4219, Bridge No. 65 on SR 1304 over an unnamed tributary to the Neuse River, Pamlico County - The tributary to be crossed has an average depth of approximately four feet and the NRTR notes (p. 15) that "marginal" habitat for the manatee exists in the project area. The Service does not concur with the biological conclusion of "no effect" for the manatee and recommends that future project documentation include commitments to follow procedures given in "Precautions for General Construction in Areas Which May Be Used by the West Indian Manatee in North Carolina."

B- 4221 , Bridge No. 4 on SR 1344 over South Prong Bay River, Pamlico County - The NRTR (p. 3) notes that the average depth of the water to be bridged is approximately 3.5 feet and later concludes (p. 15) that the waterway is not deep enough or contain sufficient vegetation to provide habitat for the manatee. The Service cannot concur with the stated conclusion that "no impact to the West Indian manatee will result from project construction." We recommend that future project documentation include commitments to follow procedures given in "Precautions for General Construction in Areas Which May Be Used by the West Indian Manatee in North Carolina."

B- 4223, Bridge No. 21 on NC 210 over the Northeast Cape Fear River, Pender County - The NRTR notes (p. 20) that manatees could occur in the project area and states that impacts to the species are "unresolved." The NRTR also recommends that a "follow-up survey" be conducted. A one time survey will not determine the presence of this species at a particular construction site. The species moves through North Carolina coastal waters on a seasonal basis. If there is any chance that the species could occur at a construction site, the Service's guidelines (USFWS 1996) should be incorporated into project plans.

B-4234, Bridge No. 98 on SR 1407 over Conetoe Creek, Pitt County - As noted in the NRTR, surveys should be conducted for the Tar River spinymussel (*Elliptio steinstansana*). The area surveyed should extend from 100 meters (328 feet) upstream to 300 meters (984 feet) downstream.

B-4235, Bridge No. 118 on SR 1538 over Grindel Creek, Pitt County - Survey for the Tar River spinymussel will be required from 100 meters (328 feet) upstream to 300 meters (984 feet) downstream.

B-4272, Bridge No. 191 on SR 1845 over Great Coharie Creek, Sampson County - The NRTR concludes that the project would have "no effect" on pondberry (*Lindera melissifolia*) due to a lack of habitat in the project area. The two habitats mentioned are shallow ponds with sandy substrate and Carolina bays. This species is associated with wetland habitats such as bottomland and hardwoods in the interior areas, and the margins of sinks, ponds and other depressions in the more coastal sites. The plants generally grow in shaded areas but may also be found in full sun. Since the project area includes 0.5 acre of coastal plain bottomland hardwood forest, the Service requests that this area be survey for pondberry.

The Service appreciates the opportunity to comment on these project. Please continue to advise us of 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 Howard Hall at 919-856-4520, ext. 27.

Sincerely,

John E. Ellis

for Dr. Garland B. Pardue
Ecological Services Super-visor

Attachment

Literature cited

O'Shea, T. J. and M. E. Ludlow. 1992. Florida manatee. pp. 190-200. In S. R. Humphrey (ed.). Rare and Endangered Biota of Florida, Volume I. Mammals. University of Florida Press. Gainesville. 392 pp.

U. S. Fish and Wildlife Service. 1996. Communication to the North Carolina Department of Transportation. USFWS, Raleigh Field Office. Raleigh, NC. 4 pp.

cc:
Ted Bisterfeld, U. S. Environmental Protection Agency, Atlanta, GA
Ron Sechler, NMFS, Beaufort, NC
Michael Bell. U. S. Army Corps of Engineers, Washington Regulatory Field Office, Washington, NC
Eric Alsmeyer, U. S. Army Corps of Engineers, Raleigh Regulatory Field Office, Raleigh NC
David Timpy, U. S. Army Corps of Engineers, Wilmington Regulatory Field Office, Wilmington NC
John Hennessy, NC Division of Water Quality, Raleigh, NC
David Cox, NC Wildlife Resources Commission, Northside, NC

United States Department of the Interior

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

November 14, 2002

Dr. Gregory J. Thorpe
Environmental Management Director
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental impacts of the proposed replacement of several bridges in multiple counties of North Carolina. Please note that the projects listed for Davidson, Rowan and Stokes Counties in your October 24, 2002 letter were forwarded to the Service's Asheville Ecological Services Office for review. The following projects were reviewed by the Raleigh Ecological Services Office:

- B-1382, Sampson County, Replace Bridge No. 26 over the Black River Overflow and Bridge No. 12 over the Black River on NC 41;
- B-4031, Brunswick County, Replace Bridge No. 72 over Jinnys Branch (tributary to Saucepan Creek) on NC 179 (Beach Drive);
- B-4214, Onslow County, Replace Bridge No. 24 over the New River on US 17 (Marine Boulevard);
- B-4215, Onslow County, Replace Bridge No. 19 over Stone Creek on NC 210; and,
- B-4223, Pender County, Replace Bridge No. 21 over the North East Cape Fear River on NC 210.

These comments provide scoping information in accordance with provisions of the Fish and Wildlife Coordination Act (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).

For bridge replacement projects, the Service recommends the following general conservation measures to avoid or minimize environmental impacts to fish and wildlife resources:

1. Wetland, forest and designated riparian buffer impacts should be avoided and minimized to the maximum extent practical;

2. If unavoidable wetland impacts are proposed, every effort should 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 via conservation easements, land trusts or by other means should be explored at the outset;

3. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be planted with appropriate vegetation, including trees if necessary;

4. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons. In waterways that may serve as travel corridors for fish, in-water work should be avoided during moratorium periods associated with migration, spawning and sensitive pre-adult life stages. The general moratorium period for anadromous fish is February 15 - June 30;

5. New bridges should be long enough to allow for sufficient wildlife passage along stream corridors;

6. Best Management Practices (BMP) for Protection of Surface Waters should be implemented;

7. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;

8. The bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. To the extent possible, piers and bents should be placed outside the bank-full width of the stream;

9. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or floodplain. If spanning the floodplain is not feasible, culverts should be installed in the floodplain portion of the approach to restore some of the hydrological functions of the floodplain and reduce high velocities of floodwaters within the affected area.

Enclosed are lists of species from Sampson, Brunswick, Onslow and Pender Counties that are on the *Federal List of Endangered and Threatened Wildlife and Plants*, as well as federal species of concern. Federal species of concern are not legally protected under the ESA and are not subject to any of its provisions, including section 7, unless they are formally proposed or listed as

endangered or threatened. We are including these species in our response to give you advance notification and to request your assistance in protecting them if any are found in the vicinity of your project. Information about the habitats in which these endangered and threatened species are often found is provided on our web site, **http://endangered.fws.gov.** If suitable habitat for any of the listed species exists in the project areas, biological surveys for the listed species should be conducted. All survey documentation must include survey methodologies and results.

We reserve the right to review any federal permits that may be required for these projects, at the public notice stage. Therefore, it is important that resource agency coordination occur early in the planning process in order to resolve any conflicts that may arise and minimize delays in project implementation. In addition to the above guidance, we recommend that the environmental documentation for these projects include the following in sufficient detail to facilitate a thorough review of the action:

1. A clearly defined and detailed purpose and need for the proposed project;

2. A description of the proposed action with an analysis of all alternatives being considered, including the "no action" alternative;

3. A description of the fish and wildlife resources, and their habitats, within the project impact area that may be directly or indirectly affected;

4. 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 (NWI). Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers;

5. The anticipated environmental impacts, both temporary and permanent, that would be likely to occur as a direct result of the proposed project. The assessment should also include the extent to which the proposed project would result in secondary impacts to natural resources, and how this and similar projects contribute to cumulative adverse effects;

6. Design features and construction techniques which would be employed to avoid or minimize the fragmentation or direct loss of wildlife habitat and waters of the US;

7. If unavoidable wetland impacts are proposed, project planning should include a detailed compensatory mitigation plan for offsetting unavoidable wetland impacts.

The Service appreciates the opportunity to comment on these projects. Please continue to advise us during the progression of the planning processes, including your official determination of the impacts of this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

For Garland B. Pardue, Ph.D.
Ecological Services Supervisor

Enclosure

cc: Dave Timpy, USACE, Wilmington, NC
John Hennessy, NCDWQ, Raleigh, NC
David Cox, NCWRC, Northside, NC
Chris Militscher, USEPA, Raleigh, NC

May 9, 2002

Regulatory Division

Action ID No. 200101169, 200101170, 200101171, 200101172, 200101174, 200101175, and 200200726.

Mr. William D. Gilmore, P.E., Manager
Project Development & Environmental Analysis
1548 Mail Service Center
Raleigh, N.C. 27699-1548

Dear Mr. Gilmore:

Reference your letters February 18, 2002, March 1, 2002, March 18, 2002, and April 24, 2002 regarding our scoping comments on the following proposed bridge replacement projects:

1. TIP Project No. B-4268, Bridge No. 150 on SR 1006 over Little Coharie Creek, Sampson County, Action ID 200101169.
2. TIP Project No. B-4272, Bridge No. 191 on SR 1845 over Great Coharie Creek, Sampson County, Action ID 200101170.
3. TIP Project No. B-4031, Bridge No. 72 on NC 179 over Jinnys Branch, Brunswick County, Action ID 200101171.
4. TIP Project No. B-4223, Bridge No. 21 on NC 210 over NE Cape Fear River, Pender County, Action ID 200101172.
5. TIP Project No. B-4214, Bridge No. 24 on US 17 over New River, Onslow County, Action ID 200101174.
6. TIP Project No. B- 4215, Bridge No. 19 on NC 210 over Stones Creek, Onslow County, Action ID 200101175.
7. TIP Project No. B-1382, Action ID 200200726, no information provided.

Based on the information provided for each project in the referenced letter (except TIP Project No. B-1382) and jurisdictional delineations conducted on October 9, 2001, 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. All activities, including temporary construction, access, and dewatering activities, should be included in the project planning report. 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 by the proposed project.

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 that demonstrates that alternatives with lower wetland impacts are not practicable. On-site detours, unless constructed on a spanning structure or on a previous detour that was used in a past construction activity, 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. Please note that an onsite detour constructed on a spanning structure can potentially avoid permanent wetland impacts and should be considered whenever an on-site detour is the recommended action. For projects where a spanning structure is not feasible, the NCDOT should investigate the existence of previous onsite detours at the site that were used in previous construction activities. These areas should be utilized for onsite detours whenever possible to minimize wetland impacts.

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

In view of our concerns related to onsite detours constructed in wetlands, a cursory determination was made on the potential for sediment consolidation due to an onsite

detour at each of the proposed project sites. 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 each project site to estimate the magnitude of sediment consolidation that can occur due to an on-site detour and the amount of undercutting that may be necessary. The results of this evaluation should be provided in the project planning report. Based on our field inspections, we strongly recommend that geotechnical evaluations be conducted at each of referenced proposed project sites. The following projects are considered as "red " projects as described in your letter of February 18, 2002.

1. TIP Project No. B-4268, Bridge No. 150 on SR 1006 over Little Coharie Creek, Sampson County, Action ID 200101169.
2. TIP Project No. B-4031, Bridge No. 72 on NC 179 over Jinnys Branch, Brunswick County, Action ID 200101171.

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 on an upland site and later used to restore the site.

d. All restored areas should be planted with endemic vegetation including trees, if appropriate. For projects proposing a temporary onsite detour in wetlands, the entire detour area, including any previous detour from past construction activities, should be removed in its entirety.

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. The work must also not alter the stream hydraulics and create flooding of adjacent properties or result in unstable stream banks. 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.

h. Lengthening existing bridges can often benefit the ecological and hydrological functions of the associated wetlands and streams. Most bridge approaches are connected to earthen causeways that were built over wetlands and streams. Replacing these causeways with longer bridges would allow previously impacted wetlands to be restored. In an effort to encourage this type of work, mitigation credit for wetland restoration activities can be provided to offset the added costs of lengthening an existing bridge. Of the referenced project sites, TIP Project No. 4031 connects to a 170 foot long causeway through coastal wetlands. It is recommended that this causeway be replaced with a bridge and associated wetland areas be restored.

i. Based on the information provided and the recent field investigations of the referenced project sites, the apparent level of wetland impacts and scope of the following projects warrant coordination pursuant to the integrated NEPA/Section 404-merger agreement:

1. TIP Project No. B-4268, Bridge No. 150 on SR 1006 over Little Coharie Creek, Sampson County, Action ID 200101169.
2. TIP Project No. B-4031, Bridge No. 72 on NC 179 over Jinnys Branch, Brunswick County, Action ID 200101171.

j. You have requested that the referenced projects be given a designation of "Red", "Green" or "Yellow" as explained in your letters. Projects designated as "Red" by our office are specified above. The remaining projects will be considered "yellow" projects. We believe that the "green" designation is misleading and should not be used.

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

Sincerely,

E. David Franklin
NCDOT Team Leader ger

Mr. Ron Sechler
National Marine Fisheries Service
Pivers Island

Beaufort, North Carolina 28516

Mr. John Dorney
NCDENR-DWQ
Wetlands Section
1621 Mail Service Center
Raleigh, NC 27699-1621

Mr. Doug Huggett
North Carolina Division of
Coastal Management
1638 Mail Service Center
Raleigh, North Carolina 27699-1638

Mr. David Cox
Highway Coordinator
North Carolina Wildlife Resources Commission
1141 I-85 Service Road
Creedmoor, North Carolina 27522

Mr. Howard Hall
United States Fish & Wildlife Service
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. Allen Pope, PE
North Carolina Department of Transportation
Division 3
124 Division Drive
Wilmington, North Carolina 28401

Ms. Kathy Matthews
Wetlands Regulatory Section
USEPA/EAB
980 College Station Road
Athens, GA 30605

U.S. ARMY CORPS OF ENGINEERS
Wilmington District

Action ID: 200101171 **County:** Brunswick

Notification of Jurisdictional Determination

Property Owner:
Mr. William D. Gilmore, P.E., Manager
Project Development & Environmental Analysis
1548 Mail Service Center
Raleigh, N.C. 27699-1548

Authorized Agent:
Jeff Harbour, PWS
Environmental Services, INC
524 New Hope Road
Raleigh, North Carolina 27610

Size and Location of Property (waterbody, Highway name/number, town, etc.): TIP Project No. B-4031, existing bridge on SR 1143 over Jinny's Branch, Brunswick County, North Carolina.

Basis for Determination: Onsite field inspection of selected wetland sites.

Indicate Which of the Following apply:

- ☐ There are wetlands on the above described property which we strongly suggest should be delineated and surveyed. The surveyed wetland lines must be verified by our staff before the Corps will make a final jurisdictional determination on your property.
  On **October 9 2001**, the undersigned inspected the Section 404 jurisdictional line as determined by the NCDOT and/or its representatives for the subject NCDOT project. A select number of wetland sites were inspected for the proposed project and all were found to accurately reflect the limits of Corps jurisdiction. The Corps believes that this jurisdictional delineation can be relied on for planning purposes and impact assessment.
- ☐ The wetlands on your lot have been delineated and the limits of the Corps jurisdiction have been explained to you. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are no wetlands present on the above described property which are subject to the permit requirements of section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ The project is located in one of the 20 Coastal Counties. You should contact the nearest State Office of Coastal Management to determine their requirements.

Placement of dredged or fill material in wetlands on this property without a Department of the Army permit is in most cases a violation of Section 301 of the Clean Water Act (33 USC 1311). A permit is not required for work on the property restricted entirely to existing high ground. If you have any questions regarding the Corps of Engineers regulatory program, please contact Mr. Dave Timpy at 910-251-4634.

Project Manager Signature _____

Date January 2, 2002 **Expiration Date** January 2, 2007

SURVEY PLAT OR FIELD SKETCH OF DESCRIBED PROPERTY AND THE WETLAND DELINEATION FORM MUST BE ATTACHED TO THIS FORM.

37
3-4031

CAMA

Subject: Bridge Replacement Projects CFY 2005
Date: Tue, 28 May 2002 13:05:27 -0400
From: Bill Arrington <Bill.Arrington@ncmail.net>
Organization: NC DENR DCM
To: "William T. Goodwin" <bgoodwin@dot.state.nc.us>
CC: Cathy Brittingham <Cathy.Brittingham@ncmail.net>

Mr. Goodwin,

I have visited each of the 14 bridge replacement sites included in your March 1, 2002 letter, located in the 20 Coastal counties under the jurisdiction of the Division of Coastal Management.

General comments regarding bridge replacement projects would include:

1. Existing access to coastal waters and land adjacent to coastal waters should be preserved. This would include trails, driveways, roads, boat ramps, clear channels, vertical clearance under bridges, parking spaces, etc.

2. The design of storm water diversion should add treatment prior to discharging. No storm water should be discharged to the waters and wetlands in coastal areas. Deck drains discharging to waters or wetlands should be eliminated from bridge replacements. Storm water collected from bridges and approaches should be disposed of by infiltration as far from the waters and wetlands as possible. The planning and design of these replacements is crucial to protecting the surrounding water quality. Bridges within one half mile of SA waters or ORW waters will need special attention dedicated to storm water collection, treatment and disposal.

3. Without specific proposals including accurate details of the proposed bridge replacement structures and associated impacts, comments included herein are general in nature and give no assurance of the ability to permit any bridge replacement proposal in these locations. Specific comments below are based on the assumption that the bridge replacements would be of the same general width, length and on the current alignment with no on site detour. Bridge replacements that vary from this would usually cause greater environmental impacts and require additional coordination with the resource agencies.

4. Any structure required to be built in wetlands or over the water to facilitate the construction of the bridge replacement or a detour around construction should be a temporary bridge.

Specific comments on the above referenced projects would include:

1. B-3611 in Beaufort County - RED LIGHT PROJECT - AEC's in the project area include CW, CS, PTW, and PTS. The potential for significant environmental impacts exists. Any project in this area will require a high level of coordination with all resource agencies. The existing bridge and causeway impacted the AEC's significantly and the potential for mitigation involving restoration and enhancement credits is great. (including the abandoned roadbed to the west of the existing road)

2. B-4024 in Beaufort County - GREEN LIGHT PROJECT - AEC's in the project area include PTW and PTS. This project has the potential for minimal impacts.

3. B-4026 in Bertie County - DCM has no jurisdiction

[redacted]n Brunswick County - RED LIGHT PROJECT - AEC's in the

project area include CW, CS and PTW. Construction of the existing bridge has significantly impacted the AEC's. Restoration and enhancement mitigation potential is as great as the potential to adversely effect the AEC's.

5. B-4086 in Craven County - GREEN LIGHT PROJECT - AEC's in the project area include PTW and PTS. Parking area as in the northwest corner should be maintained.

6. B-4150 in Hertford County - YELLOW LIGHT PROJECT - AEC's in the project area include PTW and PTS. Parking and access to the road along the creek should be preserved.

7. B-4154 in Hyde County - DCM has no jurisdiction.

8. B-4214 in Onslow County - YELLOW LIGHT PROJECT - AEC's in the project area include PTW, PTS, CW, ES, EW. Wetlands surrounding this bridge should be protected as much as possible. Tidal wetlands in the northeast quadrant and wetlands in the Coastal Shoreline Buffer have the greatest significance. There exists a moderate potential for mitigation.

9. B-4215 in Onslow County - GREEN LIGHT PROJECT - AEC's in the project area include PTW and PTS. A moderate potential for mitigation may be possible with the lengthening of the bridge.

10. B-4219 in Pamlico County - RED LIGHT PROJECT - AEC's in project area include CW, CS, PTW, PTS and EW. The existing bridge has impacted the surrounding waters and wetlands. The inlet for this creek has closed in and only has water exchange at high tide. The bridge needs to be extended and the fill causeway removed. Great mitigation potential. Should preserve parking spaces for public access.

11. B-4221 in Pamlico County - GREEN LIGHT PROJECT - AEC's in project area include PTS and PTW. Access to farm roads in NW and SE quadrants should be preserved. A moderate potential for mitigation may exist with lengthening the bridge and removing causeway.

12. B-4223 in Pender County - YELLOW LIGHT PROJECT - AEC's in the project area include PTW and PTS. Any realignment or expansion of fill slopes should move to the south to avoid impacts to the access and business and residence on the north side of the bridge.

13. B-4227 in Perquimans County - GREEN LIGHT PROJECT - AEC's in the project area include PTW and PTS. Access adjacent to the bridge should be maintained.

14. B-4314 in Washington County- GREEN LIGHT PROJECT - AEC's in project area include PTW and PTS.

Thank you for providing DCM with the opportunity to comment on these projects in advance of their planning. Advance notification of environmental concerns should allow the design and permitting process to work more smoothly.

Thank you,

Bill

B-4031

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Division of Historical Resources
David J. Olson, Director

December 20, 2002

MEMORANDUM

TO: Greg Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook David Brook

SUBJECT: Replacement of Bridge No. 72 over Jinnys Branch, a tributary of Saucepan Creek on NC 179 (Beach Drive), ~~B-4103~~ B-4031, Brunswick County, ER02-8605

Thank you for your letter of October 24, 2002, concerning the above project.

We have conducted a search of our maps and files and located the following structure of historical or architectural importance within the general area of this project:

Bridge No. 72

We recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years of age within the project area, and report the findings to us.

There are no known archaeological sites within the proposed project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for conclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

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. In all future communication concerning this project, please cite the above-referenced tracking number.

DB:doc
cc: Mary Pope Furr
Matt Wilkerson

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 •733-8653
Restoration	515 N. Blount St, Raleigh , NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 •715-4801
Survey & Planning	515 N. Blount St, Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 •715-4801

Federal Aid # BRSTP-0179(2) *TIP* # B-4031 *County*: Brunswick

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

Project Description: Replace Bridge No. 72 on NC 179 over Sauce Pan Creek

On 10/01/2002, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [x] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project at

- [ ] Scoping meeting
- [x] Historic architectural resources 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 effects.
- [x] There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- [ ] There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the property identified as _____ is considered not eligible for the National Register and no further evaluation of it is necessary.
- [x] There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- [x] All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- [ ] There are no historic properties affected by this project. (*Attach any notes or documents as needed*)

Signed:

Mary Pope Furr — 10·01·2002
Representative, NCDOT — Date

FHWA — 10/1/02
FHWA, for the Division Administrator, or other Federal Agency — Date

Lenette Davis for KEG — 10-01-2002
Representative, HPO — Date

David Brook BJS — 10/1/02
State Historic Preservation Officer — Date

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

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David J. Olson, Director

March 22, 2002

MEMORANDUM

MAR 28 2002

TO: William D. Gilmore, Manager
Project Development and Environmental Analysis Branch
Division of Highways
Department of Transportation

FROM: David Brook RSG for David Brook

SUBJECT: Replace Bridge No. 72 and NC 179 over Sauce Pan Creek, B-4031
Brunswick County, ER 02-8605

Thank you for your memorandum of September 25, 2001, concerning the above project.

There are no known archaeological sites within the project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for conclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

Because the Department of Transportation is in the process of surveying and evaluating the National Register eligibility of all of its concrete bridges, we are unable to comment on the National Register eligibility of the subject bridge. Please contact Mary Pope Furr, in the Architectural History Section, to determine if further study of the bridge is needed.

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 296 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 919/72929-47629. In all future communication concerning this project, please cite the above-referenced tracking number.

DB:kgc

B-4031

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: William T. Goodwin, Jr., PE, Unit Head
Bridge Replacement & Environmental Analysis Branch

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: May 22, 2002

SUBJECT: NCDOT Bridge Replacements:
Beaufort County – Bridge No. 77, NC 99, Pantego Creek, B-3611
Beaufort County – Bridge No. 136, SR 1626, Canal, B-4024
Bertie County – Bridge No. 45, SR 1110, Choowatic Creek, B-4026
Brunswick County – Bridge No. 72, NC 179, Jinnys Branch, B-4031
Chatham County – Bridge No. 142, SR 2170, Meadow Creek, B-4065
Craven County – Bridge No. 10, SR 1111, Brices Creek, B-4086
Cumberland County – Bridge No. 85, I-95 Business, Cape Fear River, B-4091
Durham County – Bridge No. 5, SR 1616, Mountain Creek, B-4110
Edgecombe County – Bridge No. 19, SR 1135, Cokey Swamp, B-4111
Franklin County – Bridge No. 15, SR 1106, Little River, B-4113
Granville County – Bridge No. 84, SR 1141, Tar River, B-4124
Greene County – Bridge No. 46, SR 1091, Wheat Swamp Creek, B-4125
Greene/Lenoir Cos. – Bridge No. 49, SR 1434, Wheat Swamp Creek, B-4126
Greene County – Bridge No. 43, SR 1438, Rainbow Creek, B-4127
Halifax County – Bridge No. 11, SR 1001, Jacket Swamp, B-4133
Harnett County – Bridge No. 35, NC 42, Norfolk and Southern Railway, B-4137
Hertford County – Bridge No. 67, SR 1118, Ahoskie Creek, B-4150
Hyde County – Bridge No. 108, SR 1340, Old State Canal, B-4154
Jones County – Bridge No. 7, SR 1129, Big Chinquapin Branch, B-4169
Lee County – Bridge No. 4, SR 1423, Gum Fork, B-4171
Martin County – Bridge No. 5, SR 1417, Conoho Creek, B-4187
Nash County – Bridge No. 56, SR 1544, Tar River, B-4211
Onslow County – Bridge No. 24, US 17, New River, B-4214
Onslow County – Bridge No. 19, NC 210, Stones Creek, B-4215
Pamlico County – Bridge No. 65, SR 1304, UT to Neuse River, B-4219
Pamlico County – Bridge No. 4, SR 1344, South Prong Bay River, B-4221
Perquimans County – Bridge No. 69, SR 1222, Mill Creek, B-4227
Pitt County – Bridge No. 98, SR 1407, Conetoe Creek, B-4234
Pitt County – Bridge No. 118, SR 1538, Grindle Creek, B-4235
Randolph County – Bridge No. 34, SR 1304, Second Creek, B-4242

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

Randolph County – Bridge No. 257, SR 2824, Vestal Creek, B-4245
Richmond County – Bridge No. 129, SR 1321, Big Mountain Creek, B-4247
Sampson County – Bridge No. 150, SR 1006, Little Coharie Creek, B-4268
Sampson County – Bridge No. 191, SR 1845, Great Coharie Creek, B-4272
Vance County – Bridge No. 3, SR 1107, Ruin Creek, B-4298
Wake County – Bridge No. 189, SR 2333, Little River, B-4305
Washington County – Bridge No. 29, SR 1163, Maul Creek, B-4314
Wilson County – Bridge No. 52, SR 1131, Turkey Creek, B-4327
Wilson County – Bridge No. 3, SR 1634, Great Swamp, B- 4328

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).

Our standard recommendations for bridge replacement projects of this scope 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 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 aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel(s) should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream and downstream ends to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel(s) during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.

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 along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

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 reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be utilized as mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. Beaufort County – Bridge No. 77, NC 99, Pantego Creek, B-3611
YELLOW LIGHT. Biologists indicate that a bridge is preferred. There is potential for wetland impacts at this location due to the width of stream and site elevation. Due to th potential for anadromous fish at this location, NCDOT should closely follow the "Stre Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15.

2. Beaufort County – Bridge No. 136, SR 1626, Canal, B-4024
GREEN LIGHT. No concerns indicated by biologists. Standard conditions should be appropriate.

3. Beaufort County – Bridge No. 136, SR 1626, Canal, B-4024
GREEN LIGHT. No concerns indicated by biologists. Standard conditions should be appropriate.

4. Bertie County – Bridge No. 45, SR 1110, Choowatic Creek, B-4026
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15.

5. Brunswick County – Bridge No. 72, NC 179, Jinnys Branch, B-4031
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. There is also the potential for impacts to high quality coastal wetlands at this location. NCDOT should employ all measures necessary to avoid impacts to these resources.

6. Chatham County – Bridge No. 142, SR 2170, Meadow Creek, B-4065
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to the Cape Fear Shiner, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Standard recommendations apply.

7. Craven County – Bridge No. 10, SR 1111, Brices Creek, B-4086
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. Biologists indicate that a bridge is preferred. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard recommendations apply.

8. Cumberland County – Bridge No. 85, I-95 Business, Cape Fear River, B-4091
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. Other standard recommendations apply.

9. Durham County – Bridge No. 5, SR 1616, Mountain Creek, B-4110
YELLOW LIGHT. Due to the DWQ water quality classification, we recommend High Quality Sedimentation and Erosion Control Measures be used. Other standard recommendations apply.

10. Edgecombe County – Bridge No. 19, SR 1135, Cokey Swamp, B-4111
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Standard recommendations apply.

11. Franklin County – Bridge No. 15, SR 1106, Little River, B-4113
RED LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. There are records of state and federally listed mussels in the project vicinity. Therefore, due to the potential for impacts to listed species we request that NCDOT perform a mussel survey prior to the construction of this bridge. An on-site meeting should be held with NCWRC and USFWS biologists, prior to the '404' permit application, to discuss bridge design and construction. We request NCDOT incorporate High Quality Sedimentation and Erosion Control Measures into the design of this project. Other standard recommendations apply.

12. Granville County – Bridge No. 84, SR 1141, Tar River, B-4124
RED LIGHT. The Tar River supports a good fishery for sunfish, therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. There are records of state and federally listed mussels in the project vicinity. Therefore, due to the potential for impacts to listed species we request that NCDOT perform a mussel survey prior to the construction of this bridge. An on-site meeting should be held with NCWRC and USFWS biologists, prior to the '404' permit application, to discuss bridge design and construction. We request NCDOT incorporate High Quality Sedimentation and Erosion Control Measures into the design of this project. Other standard recommendations apply.

13. Greene County – Bridge No. 46, SR 1091, Wheat Swamp Creek, B-4125
YELLOW LIGHT. There is the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Standard recommendations apply.

14. Greene/Lenoir Cos. – Bridge No. 49, SR 1434, Wheat Swamp Creek, B-4126
YELLOW LIGHT. There is the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Standard recommendations apply.

15. Greene County – Bridge No. 43, SR 1438, Rainbow Creek, B-4127
YELLOW LIGHT. There is the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Standard recommendations apply.

16. Halifax County – Bridge No. 11, SR 1001, Jacket Swamp, B-4133
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Standard recommendations apply.

17. Harnett County – Bridge No. 35, NC 42, Norfolk and Southern Railway, B-4137
GREEN LIGHT. No comment.

18. Hertford County – Bridge No. 67, SR 1118, Ahoskie Creek, B-4150
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. Other standard comments apply.

19. Hyde County – Bridge No. 108, SR 1340, Old State Canal, B-4154
GREEN LIGHT. Standard comments apply.

20. Jones County – Bridge No. 7, SR 1129, Big Chinquapin Branch, B-4169
YELLOW LIGHT. Big Chinquapin Branch supports a good fishery for sunfish; therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard recommendations apply.

21. Lee County – Bridge No. 4, SR 1423, Gum Fork, B-4171
GREEN LIGHT. Standard comments apply.

22. Martin County – Bridge No. 5, SR 1417, Conoho Creek, B-4187
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. Biologists indicate that a bridge is preferred. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

23. Nash County – Bridge No. 56, SR 1544, Tar River, B-4211

YELLOW LIGHT. The Tar River supports a good fishery for sunfish; therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Other standard recommendations apply.

24. Onslow County – Bridge No. 24, US 17, New River, B-4214
YELLOW LIGHT. The New River is designated as a Primary Nursery Area on the downstream side of the existing US 17 bridge. Due to the potential for adult and larval stages of anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to September 30. Other standard recommendations apply.

25. Onslow County – Bridge No. 19, NC 210, Stones Creek, B-4215
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. Biologists indicate that a bridge is preferred. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

26. Pamlico County – Bridge No. 65, SR 1304, UT to Neuse River, B-4219
YELLOW LIGHT. There is the potential for impacts to high quality coastal wetlands at this location. NCDOT should employ all measures necessary to avoid impacts to these resources. Other standard comments apply.

27. Pamlico County – Bridge No. 4, SR 1344, South Prong Bay River, B-4221
YELLOW LIGHT. There is the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

28. Pender County – Bridge No. 21, NC 210, NE Cape Fear River, B-4223
RED LIGHT. There are records of the federally listed Shortnose sturgeon in the NE Cape Fear in the project area. Due to the potential for anadromous fish and Shortnose sturgeon at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 1 to June 15. Biologists indicate that a bridge is preferred. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

29. Perquimans County – Bridge No. 69, SR 1222, UT to Mill Creek, B-4227
YELLOW LIGHT. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes a moratorium on work within jurisdictional waters from February 15 to June 15. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

30. Pitt County – Bridge No. 98, SR 1407, Conetoe Creek, B-4234
GREEN LIGHT. Standard comments apply.

31. Pitt County – Bridge No. 118, SR 1538, Grindle Creek, B-4235

YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

32. Randolph County – Bridge No. 34, SR 1304, Second Creek, B-4242
GREEN LIGHT. Standard comments apply.

33. Randolph County – Bridge No. 257, SR 2824, Vestal Creek, B-4245
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Other standard comments apply.

34. Richmond County – Bridge No. 129, SR 1321, Big Mountain Creek, B-4247
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Other standard comments apply.

35. Sampson County – Bridge No. 150, SR 1006, Little Coharie Creek, B-4268
YELLOW LIGHT. Little Coharie Creek supports a good fishery for sunfish; therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

36. Sampson County – Bridge No. 191, SR 1845, Great Coharie Creek, B-4272
YELLOW LIGHT. Great Coharie Creek supports a good fishery for sunfish; therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. Biologists indicate that a bridge is preferred. There is also the potential for impacts to high quality wetlands at this site. NCDOT should avoid or minimize impacts to these wetlands. Other standard comments apply.

37. Vance County – Bridge No. 3, SR 1107, Ruin Creek, B-4298
RED LIGHT. There are records of state and federally listed mussels in the project vicinity. Therefore, due to the potential for impacts to listed species we request that NCDOT perform a mussel survey prior to the construction of this bridge. An on-site meeting should be held with NCWRC and USFWS biologists, prior to the '404' permit application, to discuss bridge design and construction. We request NCDOT incorporate High Quality Sedimentation and Erosion Control Measures into the design of this project. Other standard recommendations apply.

38. Wake County – Bridge No. 189, SR 2333, Little River, B-4305
RED LIGHT. The Little River supports a good fishery for sunfish, therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. There are records of state and federally listed mussels in the project vicinity. Therefore, due to the potential for impacts to listed species we request that NCDOT perform a mussel survey prior to the construction of this bridge. An on-site meeting should be held with NCWRC and USFWS biologists, prior to the '404' permit application, to discuss bridge design and construction. We request NCDOT incorporate High Quality Sedimentation and Erosion Control Measures into the design of this project. Other standard recommendations apply.

39. Washington County – Bridge No. 29, SR 1163, Maul Creek, B-4314
GREEN LIGHT. Standard comments apply.

40. Wilson County – Bridge No. 52, SR 1131, Turkey Creek, B-4327
RED LIGHT. Turkey Creek supports a good fishery for sunfish, therefore, we recommend a moratorium on work within jurisdictional waters from April 1 to June 15. There are records of state and federally listed mussels in the project vicinity. Therefore, due to the potential for impacts to listed species we request that NCDOT perform a mussel survey prior to the construction of this bridge. An on-site meeting should be held with NCWRC and USFWS biologists, prior to the '404' permit application, to discuss bridge design and construction. We request NCDOT incorporate High Quality Sedimentation and Erosion Control Measures into the design of this project. Other standard recommendations apply.

41. Wilson County – Bridge No. 3, SR 1634, Great Swamp, B- 4328
YELLOW LIGHT. If aquatic surveys indicate the potential for impacts to listed mussels, NCDOT should contact USFWS and NCWRC biologists for an on-site meeting to discuss special measures to reduce potential adverse effects. Other standard recommendations apply.

NCDOT should routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. Restoring previously disturbed floodplain benches should narrow and deepen streams previously widened and shallowed during initial bridge installation. 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 and reduce habitat fragmentation.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (336) 769-9453. Thank you for the opportunity to review and comment on these projects.

cc: USFWS, Raleigh

William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

September 6, 2002

Memorandum

To: Mike Penney, NCDOT, Project Development & Environmental Analysis

From: John Hennessy JH

Subject: Scoping comments on the proposed bridge replacement of Bridge Number 72 on NC 179 over Jinnys Branch in Brunswick County, TIP B-4031.

Reference your correspondence dated May 10, 2002 in which you requested comments for TIP project ~~B-4214.~~ B-4031 Preliminary analysis of the project reveals the potential for impacts to an unnamed tributary to Jinnys ~~Branch~~ (DWQ Index No. 03-07-59, C SW HQW) and potential associated wetlands. Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality (DWQ) requests that NCDOT consider the following environmental issues for the proposed project:

A. The project may have sufficient impacts to necessitate issuance of an Individual Permit and corresponding Individual Certification from the Corps of Engineers and the NCDWQ, respectively. In addition, the NCDWQ recommends that the project be placed in the 404/NEPA Merger Process.

B. DWQ would prefer the new bridge design to minimize the number of bridge deck drains that discharge directly into surface waters. Please consider a stormwater collection that drains all stormwater to a stormwater treatment device. If such a design is not practical, then a design that minimizes direct discharge to surface waters through collection of some of the stormwater and discharging into a stormwater treatment device is preferred.

C. If the old bridge is removed, no discharge of bridge material into surface waters is preferred. Strict adherence the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

D. The number of bridge bents placed in surface waters should be minimized.

E. Use of jetting to install bridge bents is not preferred. Use of jetting for installation will need to be authorized in the 401 Water Quality Certification.

F. The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.

G. The NCDOT will need to adhere to all appropriate in-water work moratoriums (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission, the US Fish and Wildlife Service, and National Marine Fisheries Service.

H. Any onsite detour will need to be constructed with a temporary bridge that spans all wetlands and surface waters. No fill into the adjacent surface waters or wetlands is preferred for the referenced project. Issuance of the 401 Water Quality Certification will likely be contingent on that condition being met.

I. The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.

J. The project may require a State Stormwater permit issued by the NC Division of Water Quality. Please contact the appropriate regional office to ascertain its potential applicability.

K. The document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping.

L. There should be a discussion on mitigation plans for unavoidable impacts. If mitigation is required, it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. While the NCDWQ realizes that this may not always be practical, it should be noted that for projects requiring mitigation, appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

M. Review of the project reveals that no hazardous spill catch basins will likely be required for this project.

N. Wetland and stream impacts should be avoided (including sediment and erosion control structures/measures) to the maximum extent practical. If this is not possible, alternatives that minimize wetland impacts should be chosen. Mitigation for unavoidable impacts will be required by DWQ for impacts to wetlands in excess of one acre and/or to streams in excess of 150 linear feet.

O. Borrow/waste areas should not be located in wetlands. It is likely that compensatory mitigation will be required if wetlands are impacted by waste or borrow.

P. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.

Q. In accordance with the NCDWQ Wetlands Rules {15A NCAC 2H.0506(b)(6)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation becomes required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the NCDWQ Wetlands Rules {15A NCAC 2H.0506 (h)(3)}, the Wetland Restoration Program may be available for use as stream mitigation.

R. Sediment and erosion control measures should not be placed in wetlands.

S. While the use of National Wetland Inventory (NWI) maps, soil surveys, and other landscape scale analysis techniques are useful office tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact John Hennessy at (919) 733-5694.

cc: US Army Corps of Engineers Wilmington Field Office
Howard Hall, USFWS
David Cox, NCWRC
Cathy Brittingham, NC Division of Coastal Management
Personal Files
File Copy

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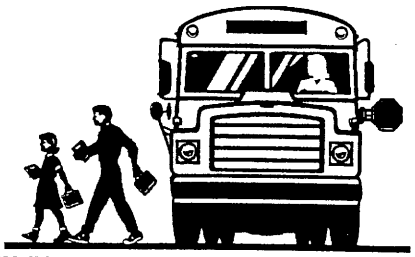

DON MCCURLEY, TRANSPORTATION DIRECTOR
FELICIA S. STANLEY, DATA MANAGER/AA
SHARON ELWOOD, TIMS COORDINATOR
TERESA FIKE, TIMS OPERATOR
JOYCE COX, SAFETY COORDINATOR
TIM PHELPS, PARTS MANAGER

1 November, 2001

NC Department of Transportation
Project Development & Environmental Analysis
Attn: Mr. Davis Moore
1548 Mail Service Center
Raleigh, NC 27699-1548

RE: Bridge No. 72 on Highway NC 179, over Sauce Pan Creek, Brunswick County
Project No. B-4031

Dear Mr. Davis:

I have received a request for information from you concerning the project mentioned above.

The current number of buses crossing over Sauce Pan Creek are 3. By the year 2005, we expect to be running 4 buses.

After reviewing the current homes/developments in the area, it would cause a concern for the routes in additional time and mileage; however, the buses can be re-routed. We may need to ask DOT to assist us in creating a turn around, but that can be determined in 2005.

If I can be of any further assistance, please contact me at 910-253-2883 or selwood@co.brunswick.k12.nc.us.

Sincerely,

Sharon Elwood

Sharon Elwood, TIMS Coordinator
BCS Transportation Department

BRUNSWICK COUNTY SCHOOLS – TRANSPORTATION DEPARTMENT
"DRIVING OUR FUTURE"
199 SESSIONS DRIVE - 35 REFERENDUM DRIVE
BOLIVIA, NORTH CAROLINA 28422
Telephone – 910-253-2880 — FAX – 910-253-8676

B-4031

CAPE FEAR
COUNCIL OF GOVERNMENTS

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MEMORANDUM

DT: December 13, 2002

TO: John Wadsworth, PE

FR: Don Eggert, Rural Transportation Planner

RE: **Comments on Bridge Replacement Projects B-4031 & B-4223**

Thank you for the opportunity to comment on the two above referenced projects. I solicited comments from the relevant local governments. The Pender County comments on project B-4223 are in the attached letter. Below are comments on project B-4031 from Brunswick County Planning Director Leslie Bell:

- Brantly Island is a 30-lot PUD located on Devane Rd off of Bricklanding Rd. Potential interruption of heavy wheel equip. during bridge repair as PUD project is relatively new project approved since last planning session re bridge replacement.
- Several high to medium density developments off of SR 1152 may be affected for south turns onto Bricklanding Rd.
- The bridge is located on the NC DOT Ports of Call route and is currently being considered as part of the East Coast Greenway Project. Accommodations for bridge width to allow pedestrian/bicycle traffic may need to be considered.
- Bridge replacement during peak tourist season for the Towns of Sunset Beach and Ocean Isle Beach may result in heavier traffic delays.

One behalf of the local governments and the RPO I appreciate the opportunity to comment on the projects.

PROGRESS THROUGH COOPERATION

1480 Harbour Drive, Wilmington, NC 28401 • (910) 395-4553 • (910) 395-2684 Fax
www.capefearcog.org

B-4031

Brunswick County

EMERGENCY SERVICES

(910) 253-4376
(910) 253-5383
PHONE

(910) 253-4451
FAX

August 23, 2002

Mr. John Wadsworth, PE
NC DOT, Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Wadsworth:

Upon review of the letter from Mr. Gregory Thorpe, Ph. D., dated October 24, 2002 and concerning the bridge work over Jinny's Creek, we have determined that we have only minor concerns about this work. While there will be a delay in response for emergency agencies in the county, we feel that this delay will be minimal and will not affect the service level provided to citizens. We are interested in knowing the timeline of the project, and if the bridge will be completely closed for the duration of the project.

Other than the information requested above, we have no major concerns with the proposed project. We would like to thank you and your agency for soliciting our input into this project, and we look forward to working with you in the future. Should you have any comments or questions, please do not hesitate to contact me at 910-253-4376.

Sincerely,

Randy Thompson
Director, Brunswick County Emergency Services

P.O. BOX 249 / BOLIVIA, NC 28422
3325 OLD OCEAN HIGHWAY
BUILDING C

Brunswick County

EMERGENCY MANAGEMENT AGENCY

ANDY W. THOMPSON
DIRECTOR

PHONE (910) 253-4376
NC WATTS 800-522-2366
FAX 910-253-4451

July 16, 2001

COPY

Mr. Bill Gilmore
Manager of Project Development and
Environment Analyst Branch
1548 Mail Service Center
Raleigh, NC 27699-2548

Dear Mr. Gilmore:

We would like to take this opportunity to express our pleasure with the Department of Transportation's decision to make needed improvements to the transportation system in Brunswick County. We are even more pleased with the approach taken to solicit our involvement in the planning process by allowing us to express any concerns we may have about the road closure stage of the planned project.

B-3116

The projects we are concerned with include the replacement of Bridge #56 over Allen Creek (Project ~~B-3115~~), the replacement of Bridge #61 over Town Creek (Project B-~~3116~~) and the replacement of Bridge #72 (Project B-4031). On July 9, 2001, Brunswick County hosted a planning session with representatives from DOT and various other agencies directly affected by the closure of highways NC 133 and NC 179 for bridge replacements. A very positive dialogue and exchange of ideas and thoughts took place during the planning session. A number of issues concerning the projects were expressed by the group. The DOT representatives requested that we respond to you with our written comments expressing our concerns associated with the planned road closures.

B-3115 ←

The group was especially concerned with the impact of the planned closure of NC 133 from July through January. We would respectfully request that DOT consider changing the time frame of the road closure to coincide with the end of Labor Day weekend in September and run through March for the following reasons:

1. During the months of June, July and August, the population in the Southport, Oak Island and Boiling Spring Lakes areas escalates to more than six times the normal level.
2. The planned closure is during hurricane season, and NC 133 is one of the main evacuation routes leading out of the southern area of the county.
3. Tourism is one of the main industries in the Southport and Oak Island areas. The peak earning season of the year begins in June and extends through Labor

P.O. BOX 9 / BOLIVIA, NC 28422
3325 OLD OCEAN HIGHWAY

Day in September. Restricting direct access could possibly hinder the tourism season and directly effect the area economy.

It is our understanding that the Department of Transportation will have a process to educate the public about bridge replacement, road closures and detour routes. We are also aware that the condition of the planned alternate routes may need upgrading to support the increased traffic volume. The group was especially concerned with the traffic management devices (traffic lights) that may need to be installed along the route.

Thank you for your consideration of our request. Again, we are very pleased to have been included in the planning process. We would appreciate hearing from you on this matter.

Sincerely,

Randy W. Thompson
Director of Emergency Management

RWT/dcm

cc: Task Force Members

B-4031

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 13, 2002

TO: John Wadsworth, P.E.

FROM: Elizabeth Lusk, Office of Natural Environment

SUBJECT: Updated protected species information for TIPs B-4031, B-4215, and B-4223

This memo serves to update Unresolved protected species issues for the abovementioned project NRTRs.

~~B-4031~~

Brunswick County

Shortnose Sturgeon **BIOLOGICAL CONCLUSION: ~~Unresolved~~ No Effect**

The project study area does appear to represent potential habitat for shortnose sturgeon based upon descriptions in available literature about the species; however, an accurate determination of its presence or use of the project study area is not possible at this time. NHP does not document any occurrences of this species within 1.0 mile (1.6 km) of the project study area. On November 14, 2002, Mr. Fritz Rhode of the NC Division of Marine Fisheries stated that Jinny's Branch in the project area is not suitable habitat for anadromous fish, including the shortnose sturgeon. However, a follow-up inquiry should be conducted 1 to 2 years prior to project construction.

Bald Eagle **BIOLOGICAL CONCLUSION: ~~Unresolved~~ No Effect**

Nesting habitat for bald eagles does not exist within the project study area; however, Jinnys Branch may provide potential foraging habitat for this species. No nest trees were located within the project study area nor were any bald eagles directly observed. NHP records do not document any occurrences of this species within 1.0 mile (1.6 km) of the project study area as of December 20, 2001. A follow-up survey should be conducted 1 to 2 years prior to project construction.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794
WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

~~Manatee~~ Wood Stork **BIOLOGICAL CONCLUSION: ~~Unresolved~~ No Effect**

The golf course and salt marsh adjacent to Jinnys Branch may provide suitable foraging habitat for the wood stork. No individuals or direct evidence of occurrence was observed during the field investigation. Construction activities may temporarily displace any wood storks in the project vicinity; however, no long-term impact to the wood stork is anticipated as a result of this project. NHP records do not document any occurrences of this species within 1.0 mile (1.6 km) of the project study area as of December 20, 2001. A follow-up survey should be conducted 1 to 2 years prior to project construction.

B-4215

Onslow County

Bald Eagle **BIOLOGICAL CONCLUSION: ~~Unresolved~~ No Effect**

No bald eagle nests were observed within the project study area. Stones Creek may provide potential foraging habitat; however, development and human disturbances reduce the likelihood for bald eagles to utilize the project study area. NHP does not document any occurrences of this species within 1.0 mile (1.6 km) of the project study area as of December 20, 2001. A follow up survey should be conducted 1 to 2 years prior to project construction.

B-4223

Pender County

Shortnose Sturgeon

BIOLOGICAL CONCLUSION: ~~Unresolved~~ Not Likely to Adversely Effect

The project study area does represent potential habitat for shortnose sturgeon based upon descriptions in available literature about the species; however, an accurate determination of its presence or use of the project study area is not possible at this time. NHP does not document any occurrences of this species within the project study area as of December 20, 2001. However, on November 14, 2002, Mr. Fritz Rhode of NC Division of Marine Fisheries stated that anadromous fish, including the shortnose sturgeon, utilize the Northeast Cape Fear River for spawning. However, the NC DMF is uncertain how far upstream the fish travel. Therefore, there will be an instream moratorium required for the shortnose sturgeon between February 1 and June 30, inclusive.

Manatee **BIOLOGICAL CONCLUSION: ~~Unresolved~~ No Effect**

Although downstream portions the NE Cape Fear River may provide suitable habitat for occasional manatees, it is unlikely that they would occur as far inland is this site is located. It is unlikely that manatees would be impacted by the proposed project due to their scarcity in North Carolina and highly migratory nature. However, it can not be concluded that manatees will not occur in the project study area. NHP does not document any occurrences of this species within 3.0

miles (4.8 km) of the project study area as of December 20, 2001. A follow-up survey should be conducted 1 to 2 years prior to project construction.

Cc: Rachelle Beauregard (B-4223)
Matt Haney (B-4215)

Project Files