



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

May 1, 2007

N.C. Division of Water Quality  
2321 Crabtree Boulevard  
Suite 250  
Raleigh, NC 27604

ATTENTION: Mr. Rob Ridings  
NCDOT Coordinator

Dear Sir:

Subject: **Neuse Riparian Buffer Authorization Request** for the Replacement of Bridge No. 79 over Bloomery Swamp on SR 1001; Wilson County; TIP Project B-4326; Federal Aid Project No. BRZ-1001 (27); State Project No.8.2342101; WBS 33663.1.1.

Please find enclosed the Preconstruction Notification (PCN), permit drawings, half-size plans, and the Categorical Exclusion (CE) for the above-mentioned project. The North Carolina Department of Transportation proposes to replace existing Bridge No. 79 over Bloomery Swamp on SR 1001 in Wilson County. The project involves replacement of the existing bridge and related approaches with a new bridge and new approaches. The new bridge will feature two 12-foot lanes with 4-foot nine-inch offsets for a total bridge width of 36 feet. The project schedule calls for November 20, 2007 let. There are no proposed permanent or temporary impacts to wetlands or surface waters associated with this project. The proposed impact due to hand clearing is 0.02 acre.

#### **Impacts to Waters of the United States**

General Description: Bloomery Swamp is located in the 03020201 USGS Cataloging Unit of the Neuse River Basin (Subbasin 030407). The Division of Water Quality (DWQ) has assigned Bloomery Swamp a Stream Index Number of 27-86-6-(3). DWQ has assigned a best usage classification of **WS-IV NSW**.

The Bloomery Swamp is not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River, nor is it listed as a 303(d) stream. No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), or Water Supply II (WS-II) waters occur within 1.0 miles of the project study area.

Permanent Impacts: As stated above, there are no proposed permanent impacts associated with this project.

Temporary Impacts: As stated above, there are no proposed temporary impacts associated with this project.

**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](http://WWW.NCDOT.ORG)

**LOCATION:**  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC

Hand Clearing: Although considered non-jurisdictional impacts under the Clean Water Act, we are advising the regulatory agencies of the 0.02 acres of hand clearing proposed for project construction.

Utility Impacts: There will be no jurisdictional impacts due to utilities associated with this project.

**Neuse Riparian Buffer Rules**

This project lies within the Neuse River Basin; therefore, the regulations pertaining to the Neuse River Buffer Rules will apply. There are 2,593 square feet of impacts to Zone 1 and 1,981 square feet of impacts to Zone 2. Of these impacts, 2,353 square feet are considered allowable due to bridge construction and 2,221 square feet are allowable with mitigation due to roadway construction.

**Bridge Demolition**

Bridge No. 79 consists of a reinforced concrete deck and railings on timber joists. The structure includes three spans totaling 53 feet in length. The bents are constructed of timber caps on timber piles. It is anticipated that all components can be removed without any appreciable debris falling into the water. All measures will be taken to avoid any temporary fill from entering Waters of the United States. Best Management Practices for Bridge Demolition and Removal will be implemented.

**Avoidance and Minimization**

To avoid impacts, NCDOT is replacing Bridge No. 79 in place and utilizing an off-site detour. NCDOT is also minimizing impacts to surface waters by utilizing longer spans with no bents in the water.

**Mitigation**

Compensatory mitigation is not proposed for this project. There will be no permanent or temporary impacts to wetlands or surface waters. Compensatory mitigation is not proposed for riparian buffer impacts because impacts due to bridges do not require mitigation and the mitigation threshold has not been exceeded for impacts that are allowable with mitigation.

**Federally Protected Species**

As of January 29, 2007, the US Fish and Wildlife Service (USFWS) lists four federally protected species for Wilson County. The following table lists these species.

**Table 1. Federally Protected Species for Wilson County.**

Common Name	Scientific Name	Status	Habitat	Conclusion
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	Y	No Effect
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	N	No Effect
Dwarf wedge mussel	<i>Alasmidonta heterodon</i>	E	N	No Effect
Michaux's sumac	<i>Rhus michauxii</i>	E	N	No Effect

Note: T – Threatened; E – Endangered.

The Biological Conclusion for the Bald eagle has changed from “May Affect, Not Likely to Adversely Affect” as listed in the CE to “No Effect” after further surveying, conducted on January 26, 2007, and discussion with Gary Jordan of the USFWS.

## Project Schedule

The project has a scheduled let of November 20, 2007 with a review date of October 2, 2007.

## Regulatory Approvals

Section 404 Permit: This project is being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). Approval to proceed under Nationwide Permit 23 was given on February 28, 2006 based on impacts detailed in the CE (Action ID# 200610543).

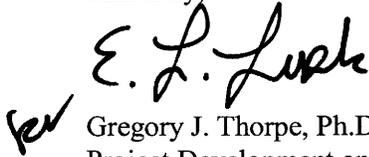
Section 401 Permit: A written 401 General Certification is not being requested.

Neuse River Basin Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse River Riparian Buffer Authorization.

A copy of this permit application will be posted on the NCDOT website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>.

If you have any questions or need additional information, please contact Veronica Barnes at (919) 715-7232.

Sincerely,



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

### W/attachment

Mr. John Hennessy, NCDWQ (5 Copies)  
Mr. Travis Wilson, NCWRC  
Mr. Gary Jordan, USFWS  
Mr. Ron Sechler, NMFS  
Mr. Michael Street, NCDMF  
Dr. David Chang, P.E., Hydraulics  
Mr. Greg Perfetti, P.E., Structure Design  
Mr. Victor Barbour, P.E., Project Services Unit  
Mr. Mark Staley, Roadside Environmental  
Mr. Richard E. Greene, P.E., Division 4 Engineer  
Mr. Jamie Shern, Division 4 Environmental Officer

### W/o attachment

Mr. Scott McLendon, USACE, Wilmington  
Mr. Jay Bennett, P.E., Roadway Design  
Mr. Majed Alghandour, P.E., Programming and TIP  
Mr. Art McMillan, P.E., Highway Design  
Mr. S. Wade Kirby, PDEA

**Office Use Only:**

Form Version March 05

**USACE Action ID No.** \_\_\_\_\_ **DWQ No.** \_\_\_\_\_

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

**I. Processing**

1. Check all of the approval(s) requested for this project:

- |  |  |
|--|--|
| <input type="checkbox"/> Section 404 Permit              | <input checked="" type="checkbox"/> Riparian or Watershed Buffer Rules |
| <input type="checkbox"/> Section 10 Permit               | <input type="checkbox"/> Isolated Wetland Permit from DWQ              |
| <input type="checkbox"/> 401 Water Quality Certification | <input type="checkbox"/> Express 401 Water Quality Certification       |

2. Nationwide, Regional or General Permit Number(s) Requested: \_\_\_\_\_

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:

4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

**II. Applicant Information**

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director  
Mailing Address: 1598 Mail Service Center

\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794

E-mail Address: \_\_\_\_\_

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: \_\_\_\_\_

Company Affiliation: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

### III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Replacement of Bridge 79 on SR 1001 over Bloomery Swamp
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4326
3. Property Identification Number (Tax PIN): N/A
4. Location  
County: Wilson Nearest Town: Wilson  
Subdivision name (include phase/lot number): N/A  
Directions to site (include road numbers/names, landmarks, etc.): Project is on SR 1001 in Wilson county, just north of the NC 210/NC264 Alternate intersection.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)  
Decimal Degrees (6 digits minimum): 35.7693 °N 78.0089 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Contentnea Creek
8. River Basin: Neuse River Basin  
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The project is located just inside the Wilson City limits and land use is mostly residential, though there is some forested area.

10. Describe the overall project in detail, including the type of equipment to be used: \_\_\_\_\_  
The bridge will be replaced in place with an off site detour.

11. Explain the purpose of the proposed work: To replace the current bridge, which is functionally obsolete and structurally deficient because it does not meet the NCDOT Bridge Policy Standards for clear deck width and has a sufficiency rating of 44.5 out of 100.

#### **IV. Prior Project History**

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. A Section 404 Nationwide 23 Permit Authorization was issued for this project by the USACE, based on the Categorical Exclusion, on February 28, 2006. The Action ID # is 200610543.

#### **V. Future Project Plans**

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.  
No

#### **VI. Proposed Impacts to Waters of the United States/Waters of the State**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: There will be no permanent or temporary impacts to wetlands or surface waters. Impacts resulting from hand clearing will total 0.02 acre.

2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
N/A					
Total Wetland Impact (acres)					0

3. List the total acreage (estimated) of all existing wetlands on the property: 2.4 acres

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
N/A						
Total Stream Impact (by length and acreage)					0	0

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
N/A				
Total Open Water Impact (acres)				0

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0
Wetland Impact (acres):	0
Open Water Impact (acres):	0
Total Impact to Waters of the U.S. (acres)	0
Total Stream Impact (linear feet):	0

7. Isolated Waters

Do any isolated waters exist on the property?  Yes  No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

N/A

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply):  uplands  stream  wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): N/A

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): N/A

Current land use in the vicinity of the pond: N/A

Size of watershed draining to pond: N/A Expected pond surface area: N/A

## VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. To avoid impacts, NCDOT is replacing Bridge No. 79 in place and utilizing an off site detour. NCDOT is also minimizing impacts to surface waters by utilizing longer spans with no bents in the water.

## VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ’s Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

N/A  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant’s responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): N/A  
Amount of buffer mitigation requested (square feet): N/A  
Amount of Riparian wetland mitigation requested (acres): N/A  
Amount of Non-riparian wetland mitigation requested (acres): N/A  
Amount of Coastal wetland mitigation requested (acres): N/A

**IX. Environmental Documentation (required by DWQ)**

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes  No
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?  
Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.  
Yes  No
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes  No

**X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)**

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify \_\_\_\_\_)? Yes  No
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	2593	3 (2 for Catawba)	0
2	1981	1.5	0
Total	4574		0

\* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. N/A

**XI. Stormwater (required by DWQ)**

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. N/A

**XII. Sewage Disposal (required by DWQ)**

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. N/A

**XIII. Violations (required by DWQ)**

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?  
Yes  No

Is this an after-the-fact permit application? Yes  No

**XIV. Cumulative Impacts (required by DWQ)**

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes  No

If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: The project is a relatively small bridge in a residential area. There will be no new road created and no additional lanes added, therefore it is unlikely to attract development.

**XV. Other Circumstances (Optional):**

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control). N/A

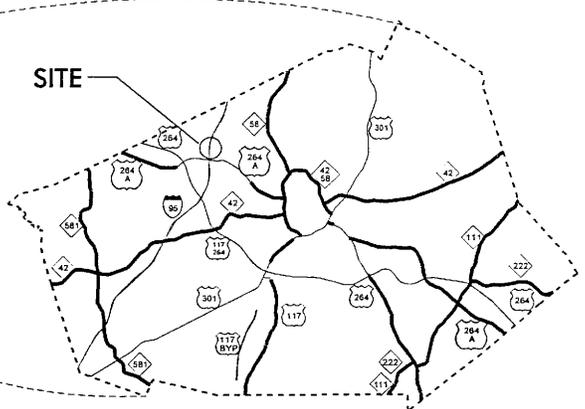
*E. L. Luke*

5.1.07

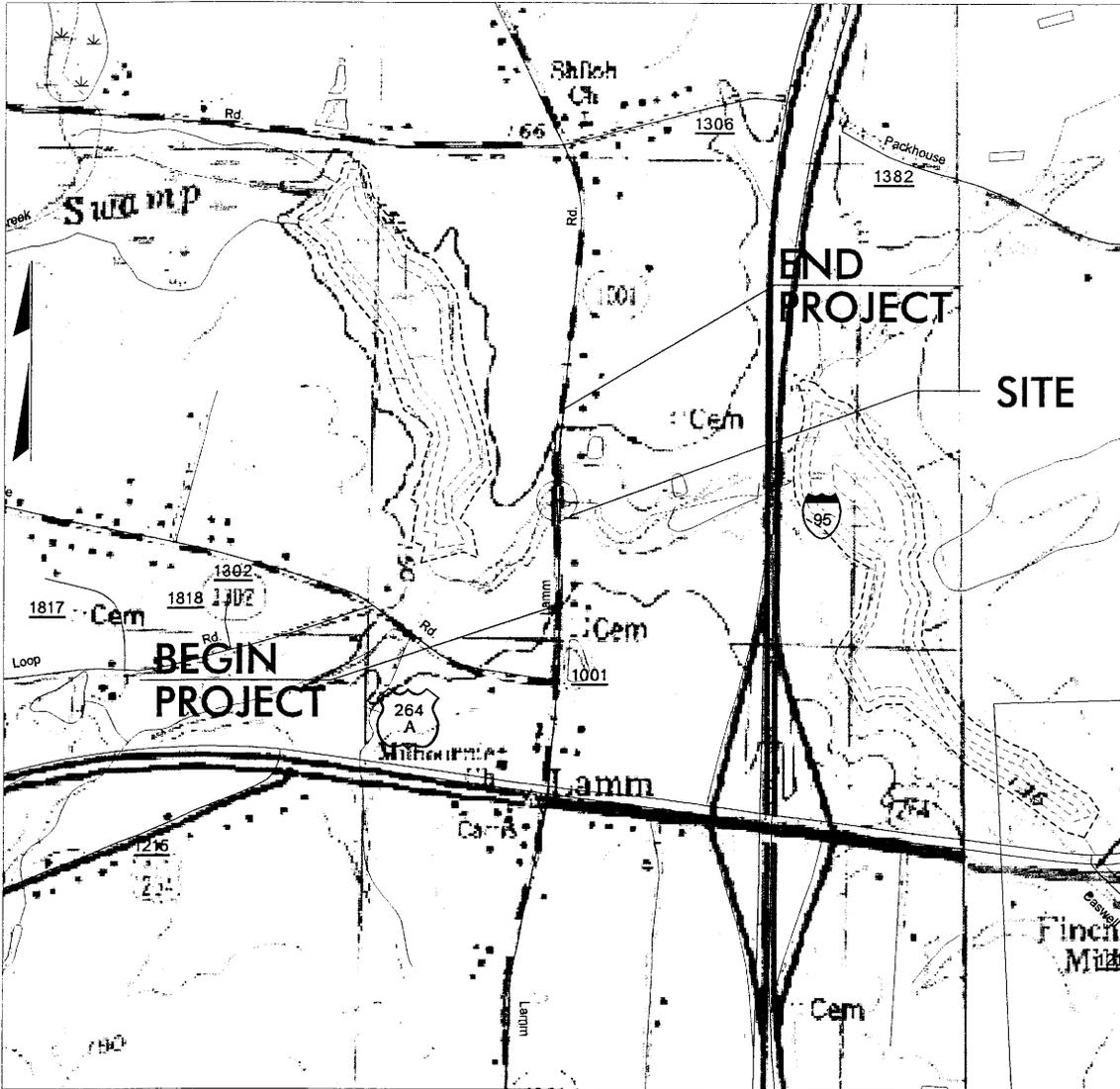
**Applicant/Agent's Signature**

**Date**

(Agent's signature is valid only if an authorization letter from the applicant is provided.)



WILSON COUNTY



### VICINITY MAP

*Wetland*

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
WILSON COUNTY  
33663.1.1 (B-4326)  
BRIDGE #79 OVER BLOOMERY  
SWAMP ON SR 1001  
(LAMM ROAD)  
SHEET 1 OF 5

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER 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)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)				
1	-L- Sta 17+05 +/-	Bridge					0.02									
TOTALS:																

No impacts anticipated due to proposed piers.

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

WILSON COUNTY  
WBS - 33663.1.1 (B-4926)

SHEET

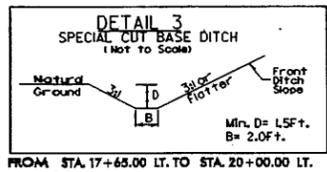
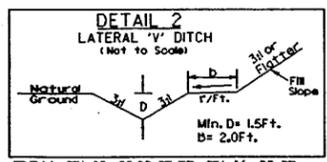
Apt-07

ATN Revised 3/31/05



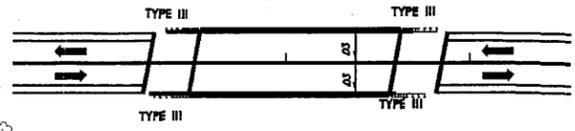
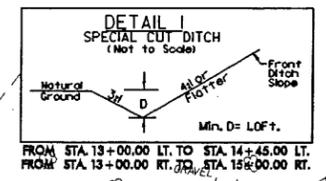


NAD 83

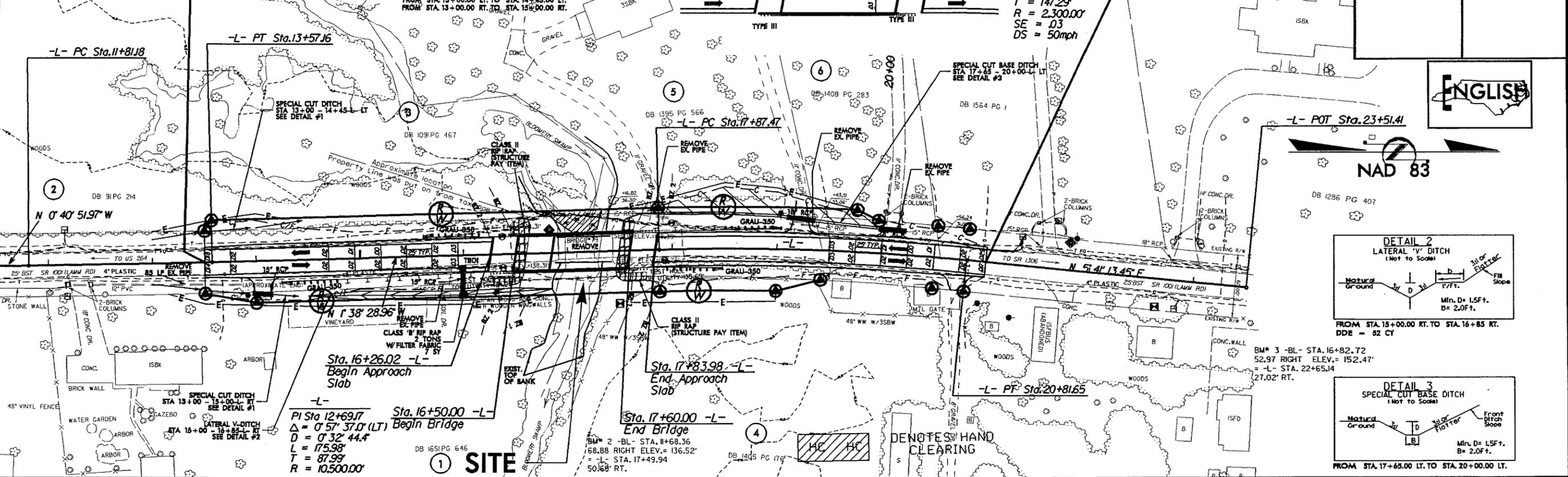


**BEGIN TIP PROJECT B-4326**  
**BEGIN CONSTRUCTION**  
POC Sta. 13+50.00 -L-

**END TIP PROJECT B-4326**  
**END CONSTRUCTION**  
POT Sta. 21+00.00 -L-

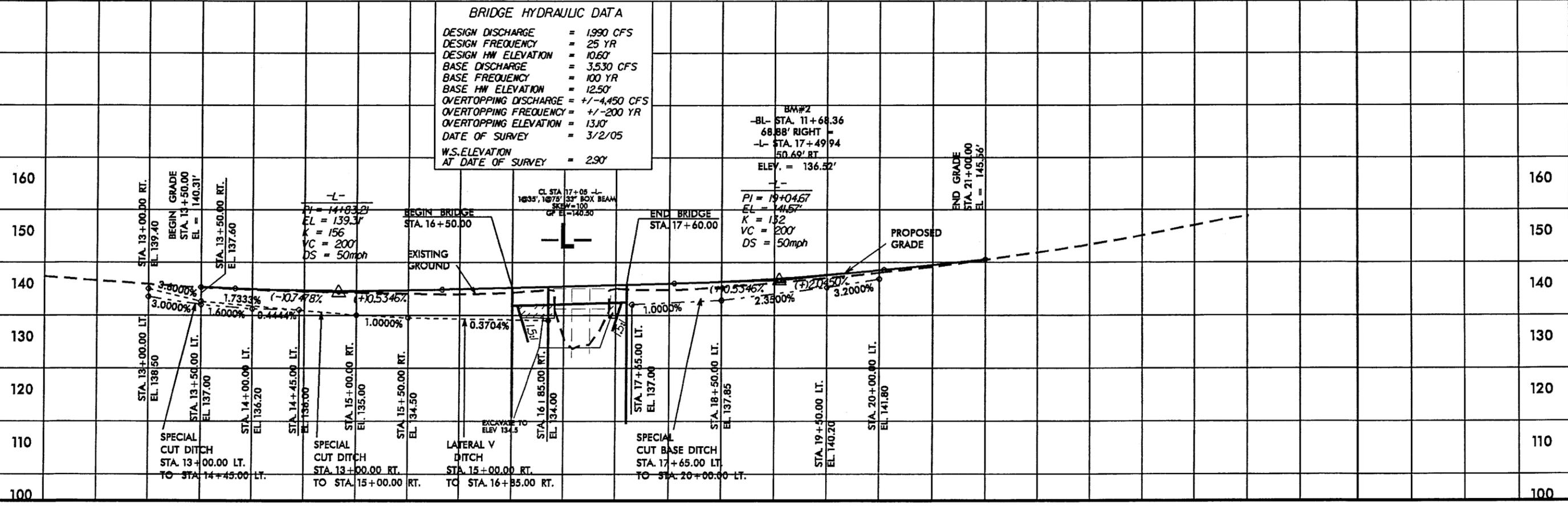


-L-  
PI Sta 19+34.76  
 $\Delta = 7' 19" 42.4" (RT)$   
 $D = 2' 29" 28.0"$   
 $L = 294.8'$   
 $T = 147.29'$   
 $R = 2,300.00'$   
 $SE = .03$   
 $DS = 50mph$



**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1,990 CFS
DESIGN FREQUENCY	= 25 YR
DESIGN HW ELEVATION	= 10.60'
BASE DISCHARGE	= 3,530 CFS
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 12.50'
OVERTOPPING DISCHARGE	= +/- 4,450 CFS
OVERTOPPING FREQUENCY	= +/- 200 YR
OVERTOPPING ELEVATION	= 13.10'
DATE OF SURVEY	= 3/2/05
W.S. ELEVATION AT DATE OF SURVEY	= 2.90'



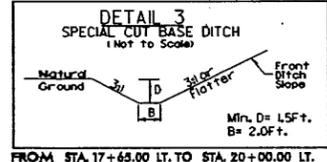
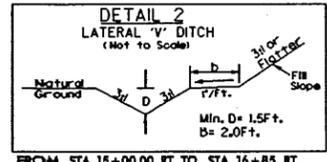
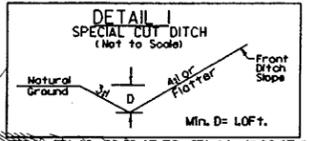
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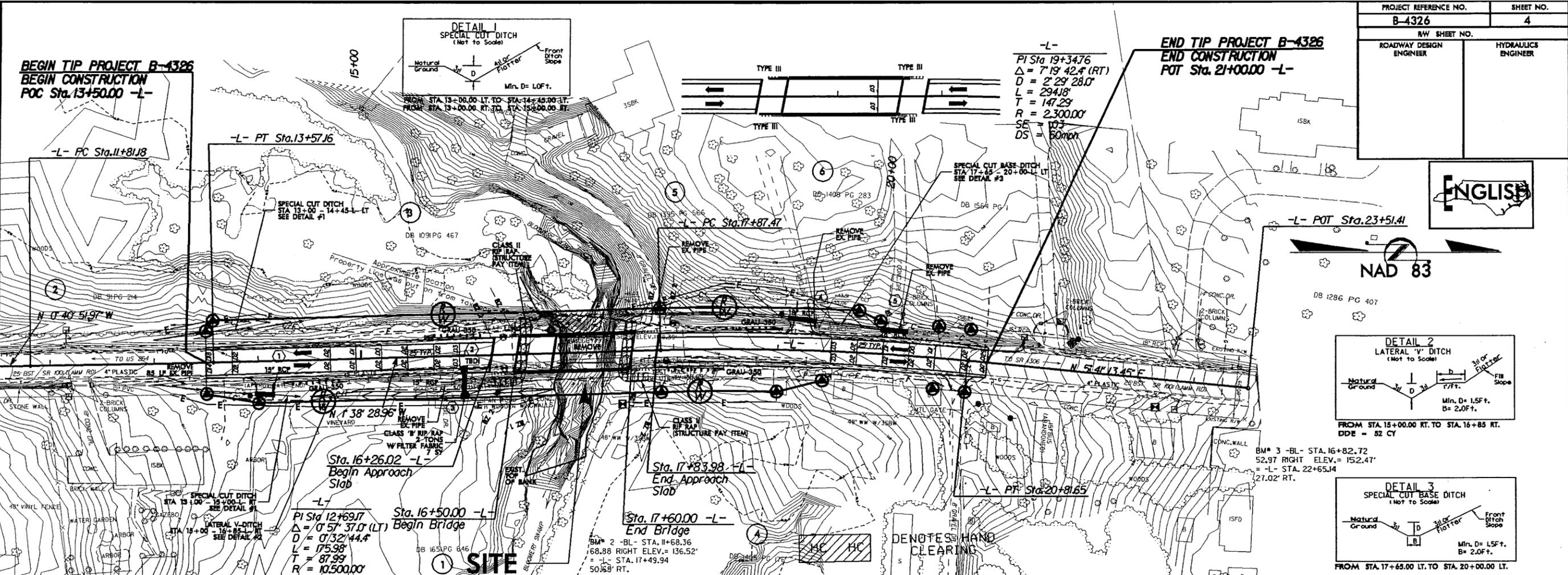
NAD 83

**BEGIN TIP PROJECT B-4326**  
**BEGIN CONSTRUCTION**  
**POC Sta. 13+50.00 -L-**

**END TIP PROJECT B-4326**  
**END CONSTRUCTION**  
**POT Sta. 21+00.00 -L-**

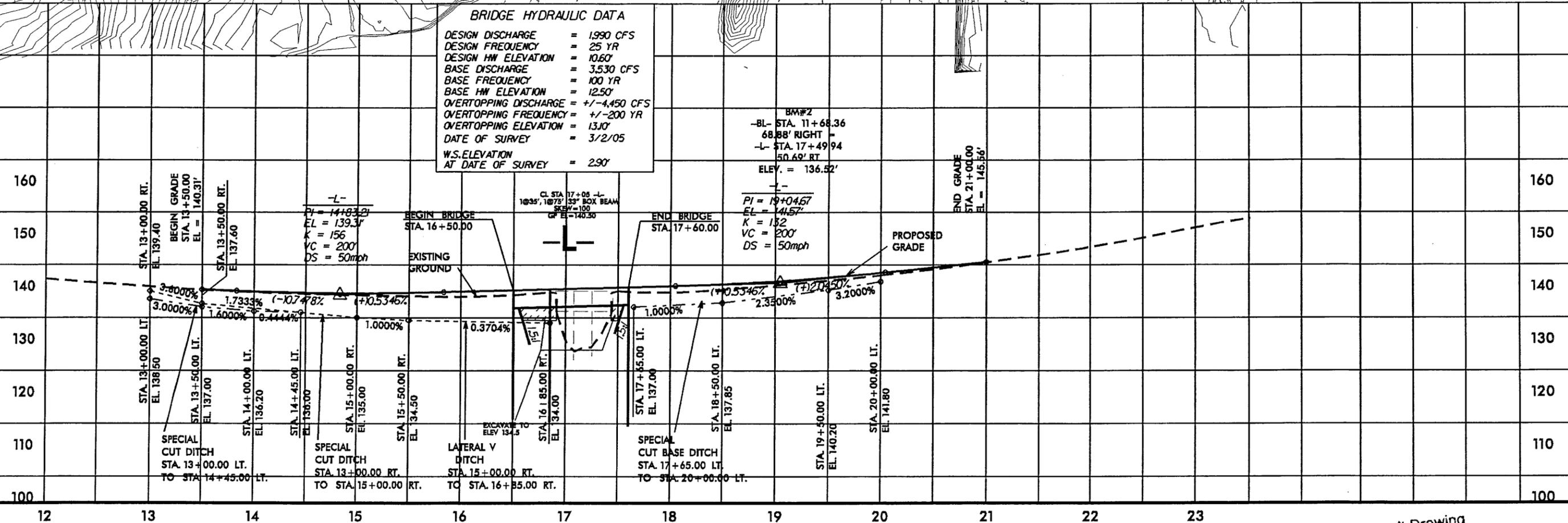


-L-  
 PI Sta 19+34.76  
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 $D = 2' 29" 28.0'$   
 $L = 294.8'$   
 $T = 147.29'$   
 $R = 2,300.00'$   
 $SE = 103'$   
 $DS = 50mph$



**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1990 CFS
DESIGN FREQUENCY	= 25 YR
DESIGN HW ELEVATION	= 10.60'
BASE DISCHARGE	= 3,530 CFS
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 12.50'
OVERTOPPING DISCHARGE	= +/- 4,450 CFS
OVERTOPPING FREQUENCY	= +/- 200 YR
OVERTOPPING ELEVATION	= 13.00'
DATE OF SURVEY	= 3/2/05
W.S. ELEVATION AT DATE OF SURVEY	= 2.90'



23-APR-2007 14:58 n:\drainage\B-4326\_hyd\_prm\_wet\_psh.dgn







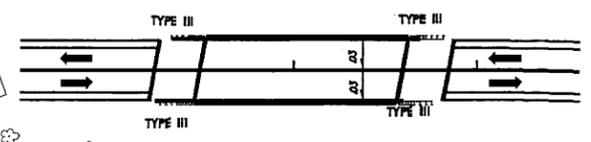
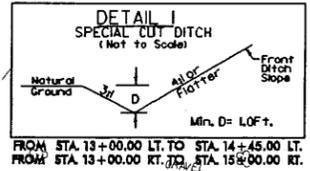
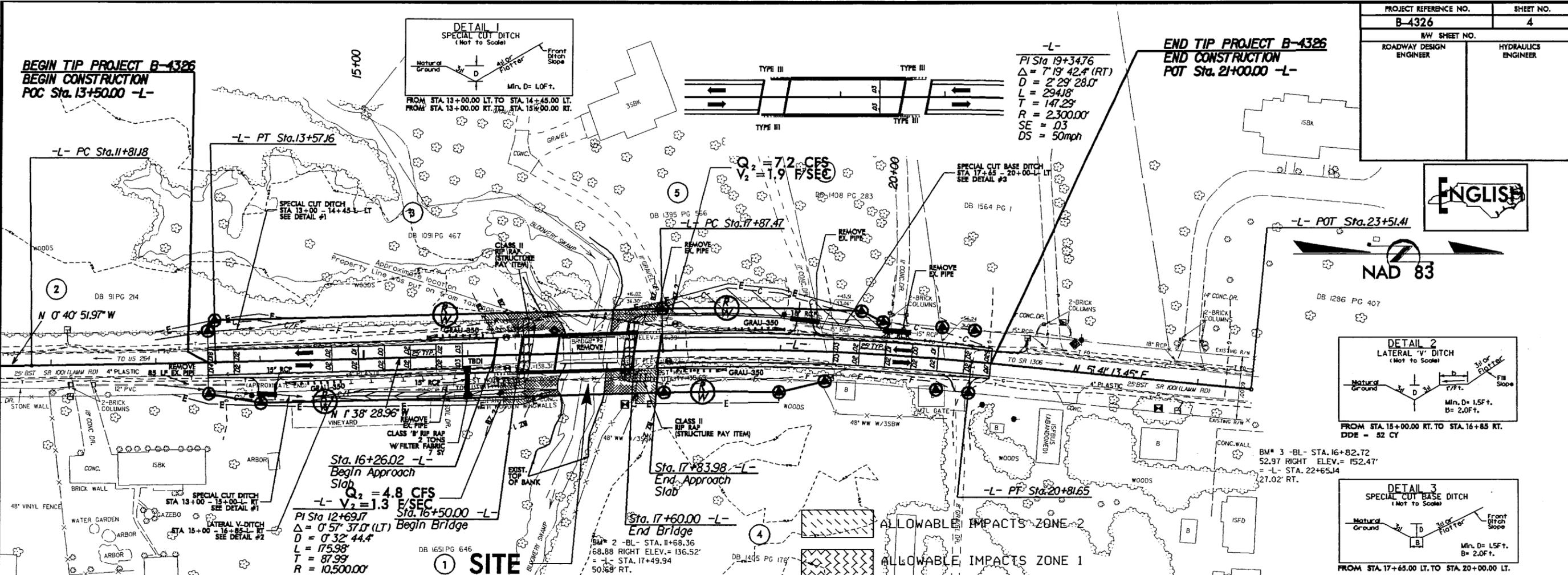
**PROPERTY OWNERS**  
NAMES AND ADDRESSES

<b>PARCEL NO.</b>	<b>NAMES</b>	<b>ADDRESSES</b>
3	BERNICE M. THOMPSON	P.O. BOX 148 SIMMS, NC 27880
5	ROBERT F. WHITEHEAD	5751 LAMM ROAD WILSON, NC 27896

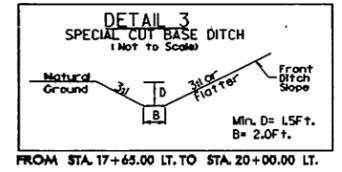
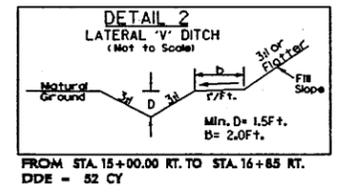
**NCDOT**  
DIVISION OF HIGHWAYS  
WILSON COUNTY  
PROJECT: 33663.11 (B-4326)  
REPLACE BRIDGE #79  
OVER BLOOMERY SWAMP  
ON SR 1001

**BEGIN TIP PROJECT B-4326**  
**BEGIN CONSTRUCTION**  
**POC Sta. 13+50.00 -L-**

**END TIP PROJECT B-4326**  
**END CONSTRUCTION**  
**POT Sta. 21+00.00 -L-**



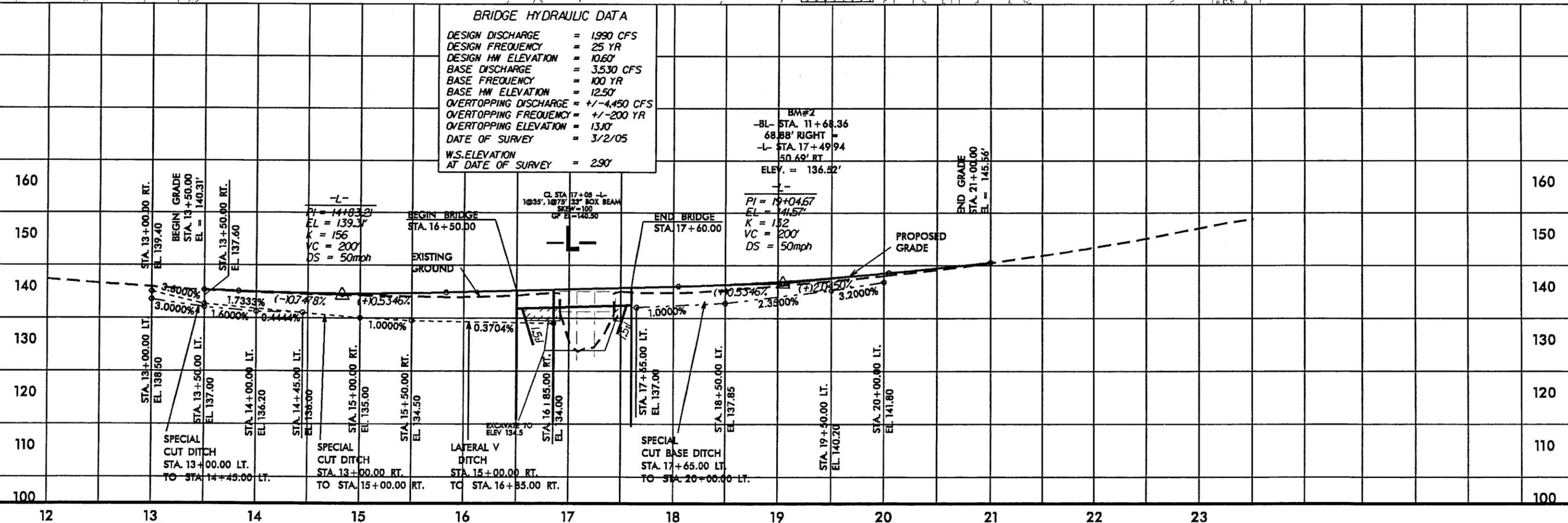
-L-  
 PI Sta 19+34.76  
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 $L = 294.18'$   
 $T = 147.29'$   
 $R = 2,300.00'$   
 $SE = 0.3$   
 $DS = 50\text{mph}$



**1 SITE**

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1990 CFS
DESIGN FREQUENCY	= 25 YR
DESIGN HW ELEVATION	= 106.0'
BASE DISCHARGE	= 3,530 CFS
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 125.0'
OVERTOPPING DISCHARGE	= +/- 4,450 CFS
OVERTOPPING FREQUENCY	= +/- 200 YR
OVERTOPPING ELEVATION	= 13.0'
DATE OF SURVEY	= 3/2/05
W.S. ELEVATION AT DATE OF SURVEY	= 290'

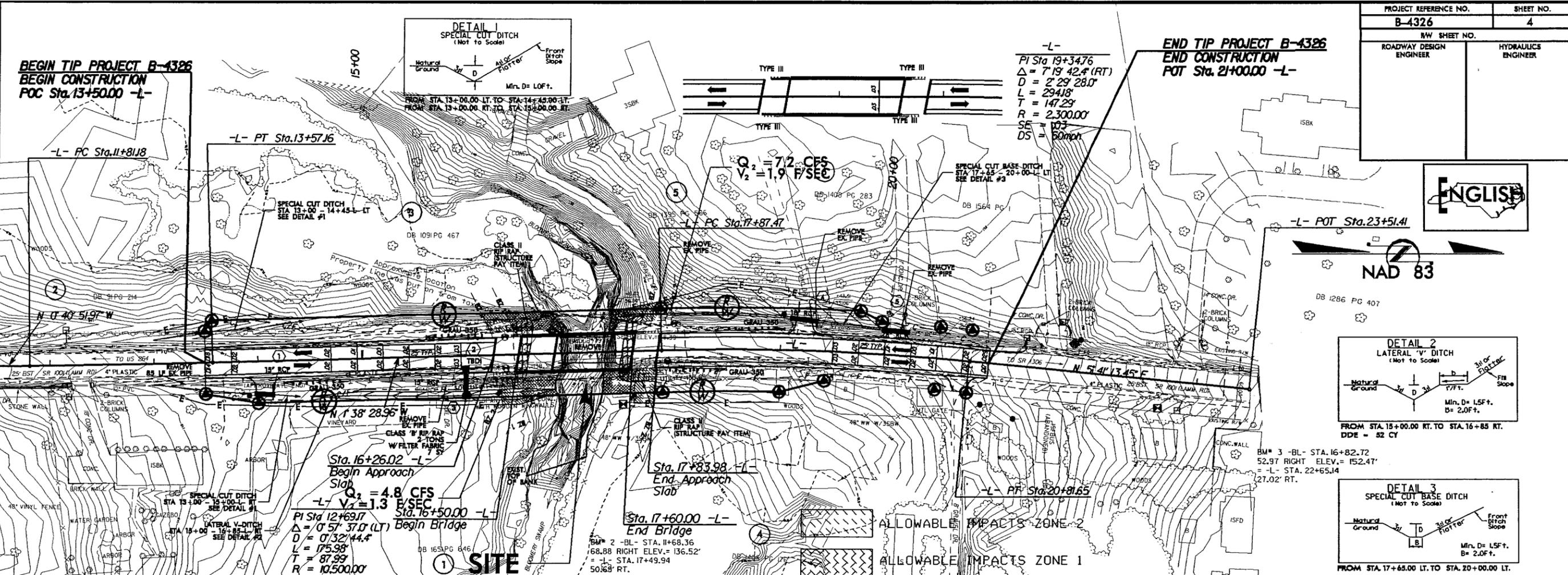
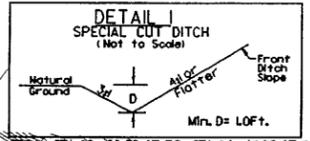
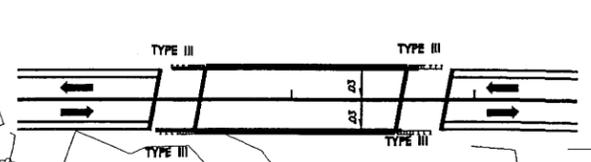
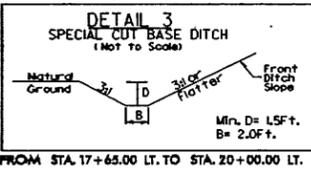
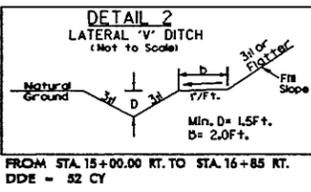


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**POC Sta. 13+50.00 -L-**

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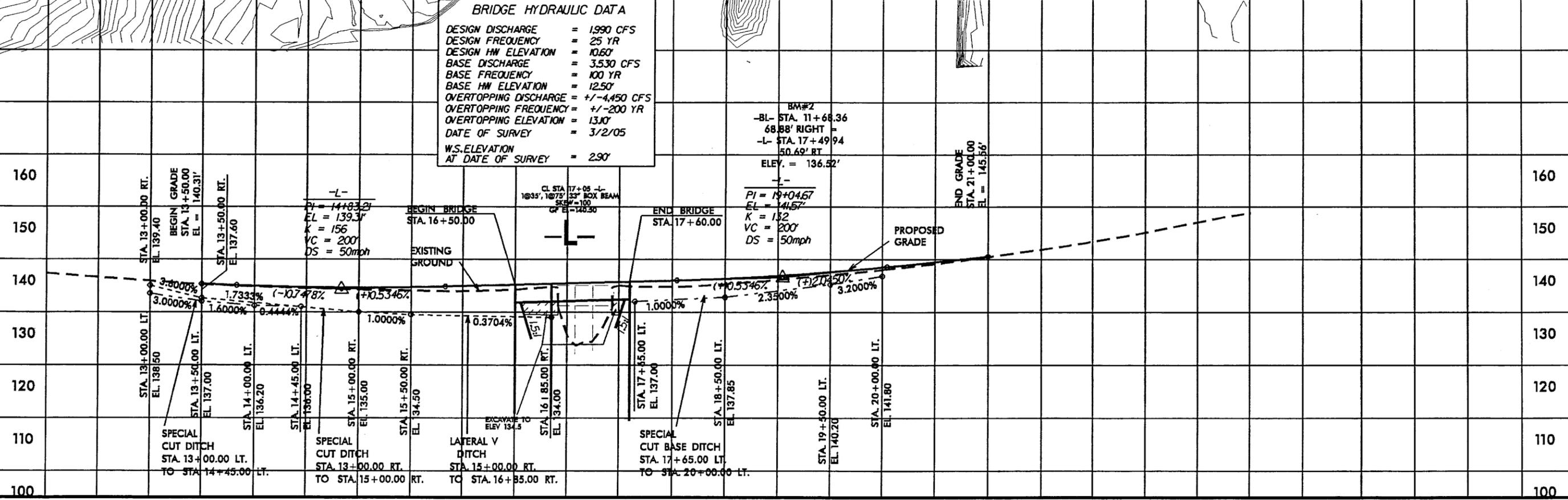
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NAD 83



**BRIDGE HYDRAULIC DATA**

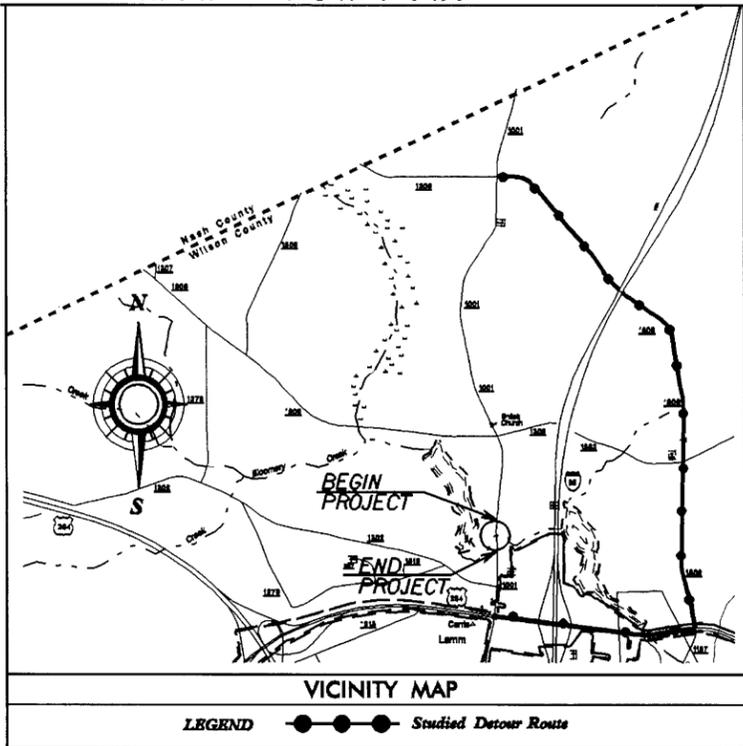
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BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 125.0'
OVERTOPPING DISCHARGE	= +/- 4,450 CFS
OVERTOPPING FREQUENCY	= +/- 200 YR
OVERTOPPING ELEVATION	= 13.0'
DATE OF SURVEY	= 3/2/05
W.S. ELEVATION AT DATE OF SURVEY	= 2.90'



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09/08/99

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

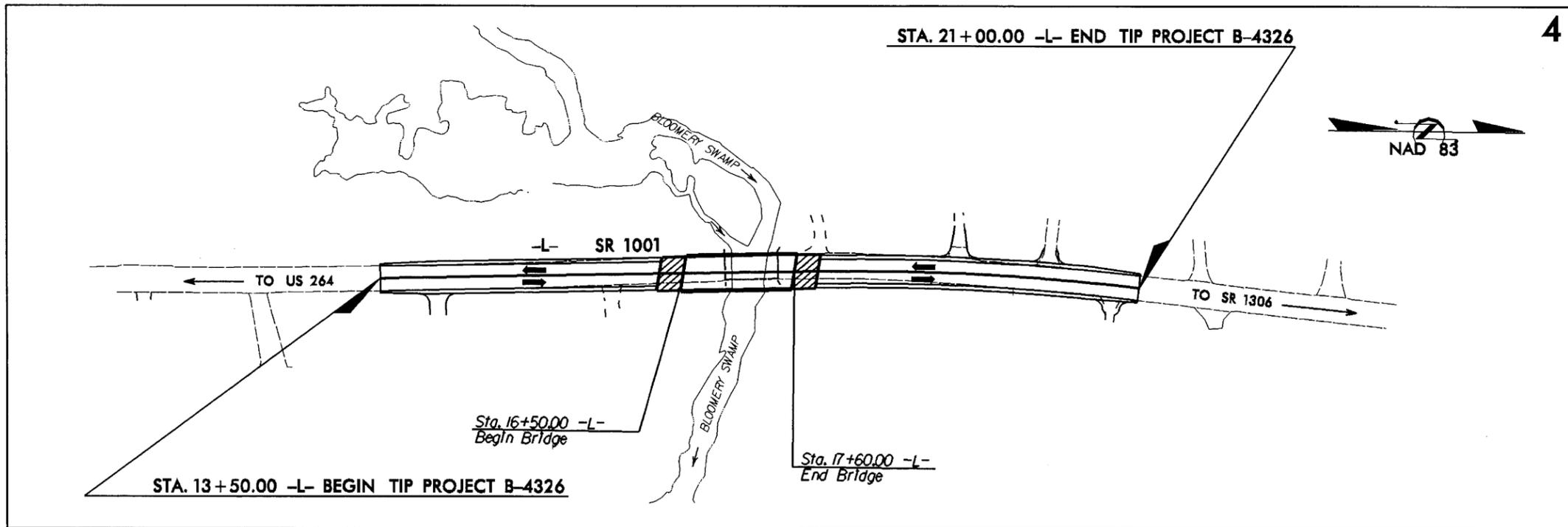
**WILSON COUNTY**

LOCATION: BRIDGE NO. 79 OVER BLOOMERY SWAMP ON SR 1001

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

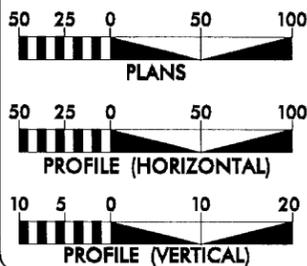
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4326	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33663.1.1	BRZ-1001(27)	P.E.	
33663.2.1	BRZ-1001(27)	R/W	

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



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

GRAPHIC SCALES



DESIGN DATA

ADT 2007 = 3100  
ADT 2030 = 5400  
DHV = 10 %  
D = 60 %  
T = 5 % \*  
V = 50 MPH  
FUNC. CLASS =  
RURAL MINOR COLLECTOR  
\* TTST 3 % DUAL 2 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4326 = 0.121 mi.  
LENGTH STRUCTURE TIP PROJECT B-4326 = 0.021 mi.  
TOTAL LENGTH TIP PROJECT B-4326 = 0.142 mi.

Prepared in the Office of:  
**WANG ENGINEERING COMPANY, INC.**  
CARY, N.C.

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
June 21, 2006

LETTING DATE:  
November 20, 2007

GREG S. PURVIS, P. E.  
PROJECT ENGINEER

SCOTT L. KENNEDY  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

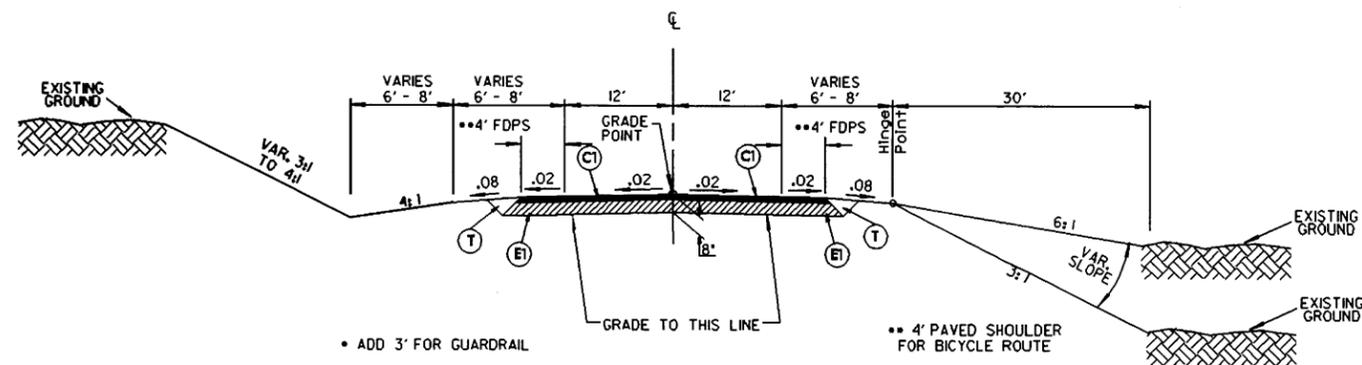
SIGNATURE: \_\_\_\_\_ P.E.  
STATE DESIGN ENGINEER  
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED  
DIVISION ADMINISTRATOR DATE

24-APR-2007 08:38  
F:\PROJECTS\NCE\4326-r.djv-tsh.dgn

CONTRACT: TIP PROJECT: B-4326

PROJECT REFERENCE NO. B-4326	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	
WANG ENGINEERING	



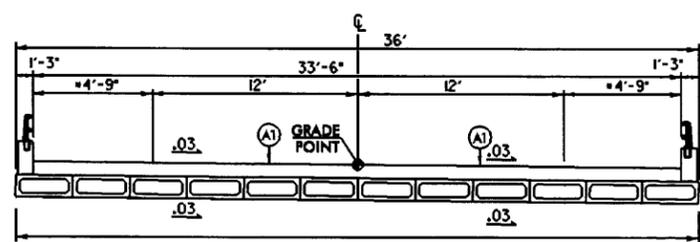
• ADD 3' FOR GUARDRAIL

•• 4' PAVED SHOULDER FOR BICYCLE ROUTE

**TYPICAL SECTION NO. 1**  
 USE TYPICAL SECTION NO. 1 AS FOLLOWS  
 -L- Sta. 13+50.00 to Sta. 16+50.00 (BEGIN BRIDGE)  
 -L- Sta. 17+60.00 (END BRIDGE) to Sta. 21+00.00

PAVEMENT SCHEDULE	
A1	PROP. PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE 88.0B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE 825.0B, AT AN AVERAGE RATE OF 570 LBS PER SQ. YD.
T	EARTH MATERIAL

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED

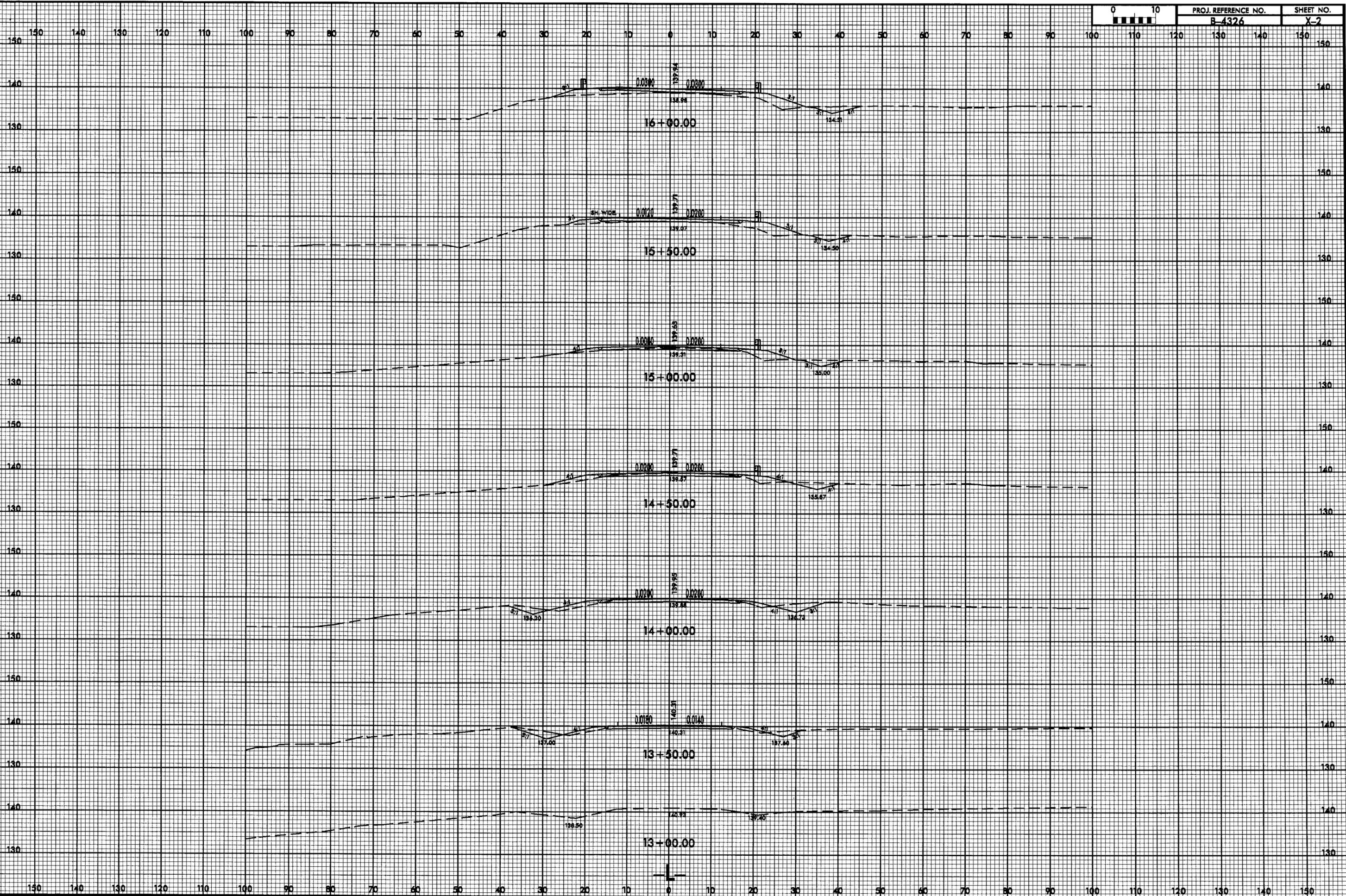


12 BOX BEAM UNITS = 36'  
**TYPICAL BRIDGE SECTION**  
 -L- Sta. 16+50.00 to Sta. 17+60.00

• ADDITIONAL WIDTH FOR BICYCLE ROUTE

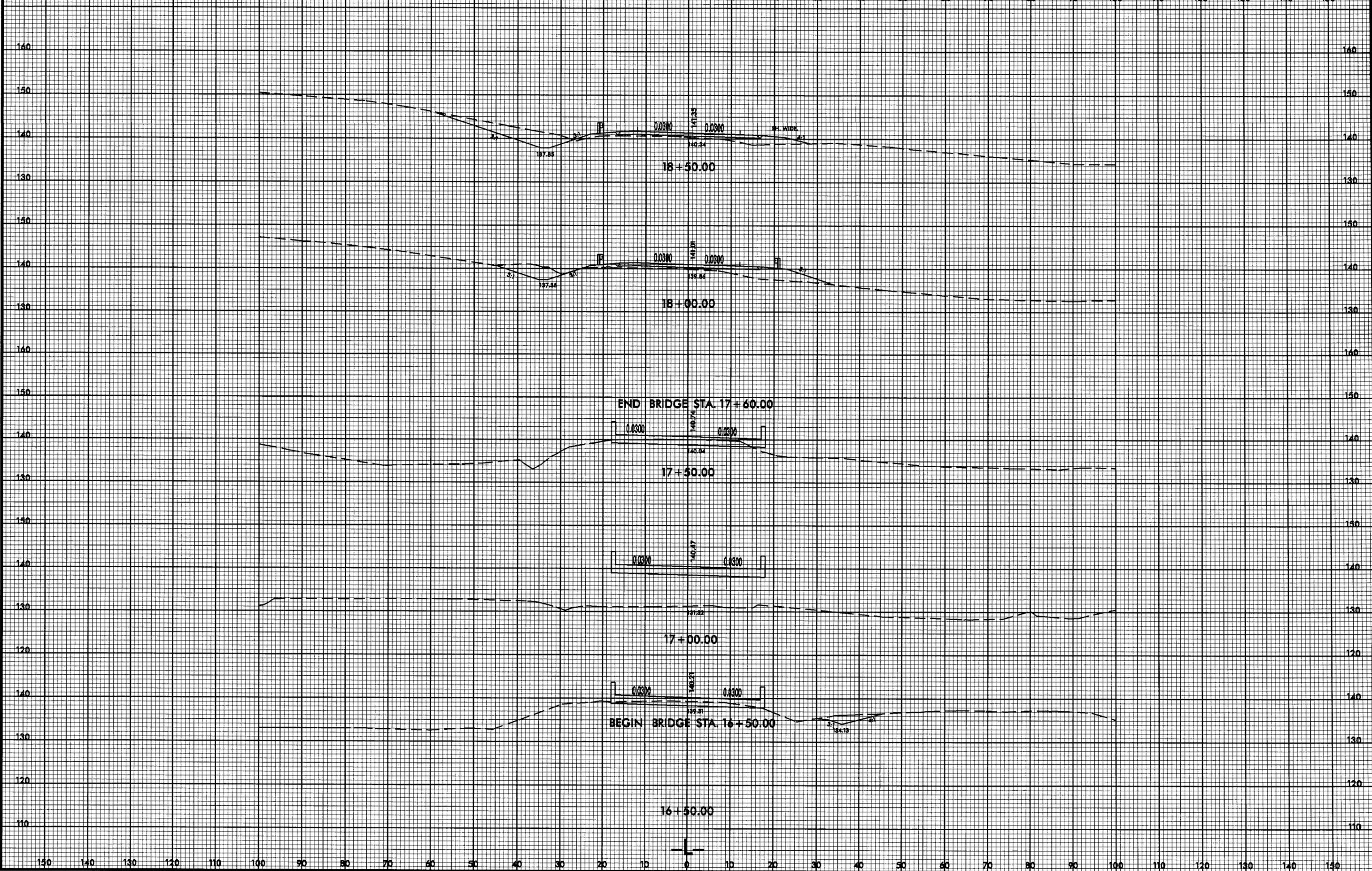


8/23/09



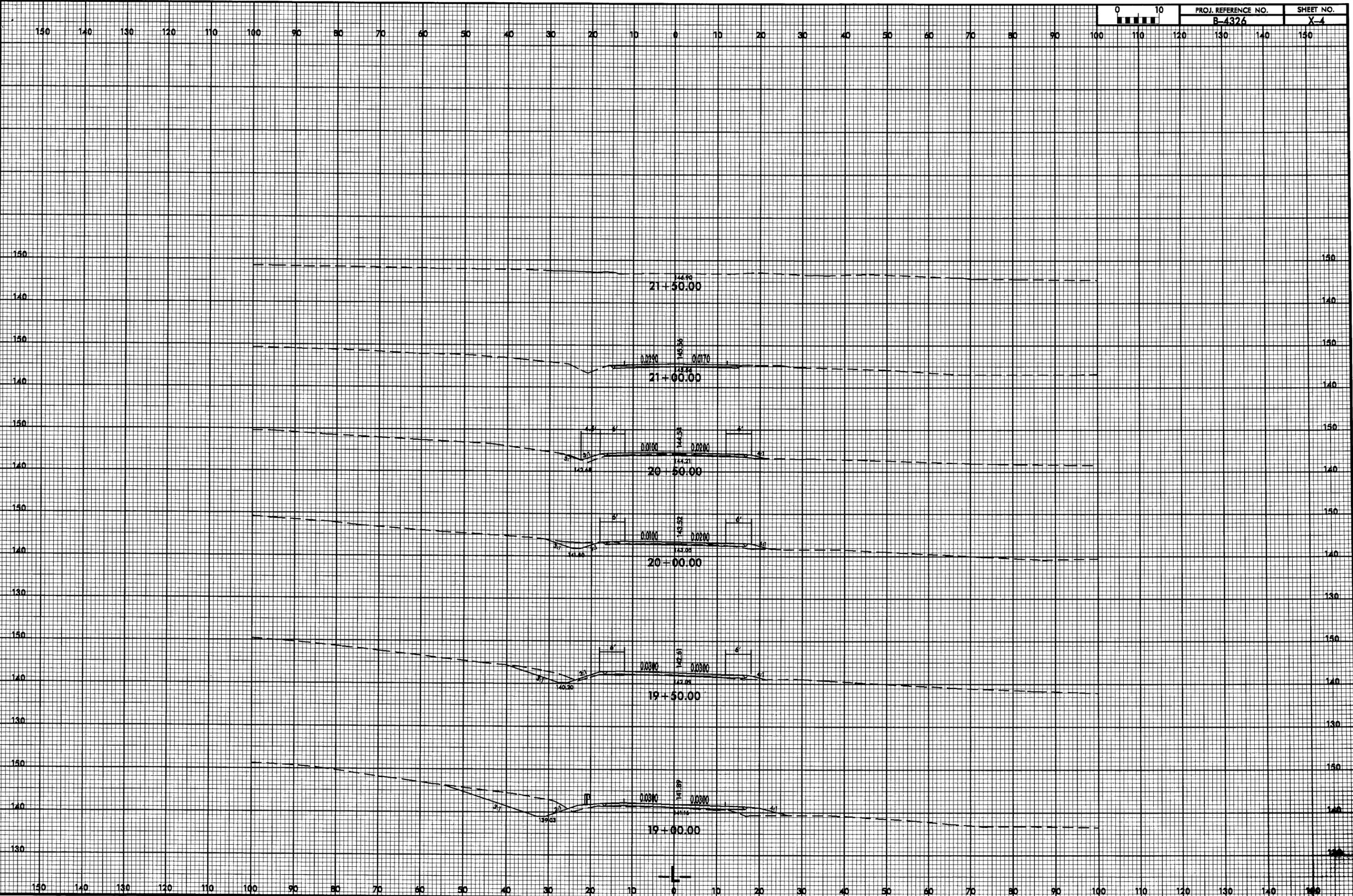
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8/23/09



24-APR-2007 08:40:32 B-4326-r.dwg

Wilson County  
Bridge No. 79 on SR 1001 Over Bloomery Swamp  
Federal-Aid Project No. BRZ-1001(27)  
State Project No. 33663.1.1  
T.I.P. Project No. B-4326

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

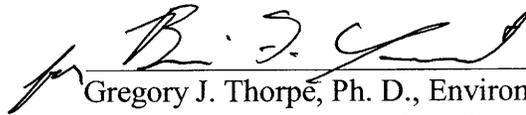
FEDERAL HIGHWAY ADMINISTRATION

AND

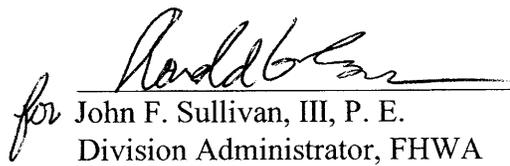
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

APPROVED:

1-4-06  
DATE

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

1-4-06  
DATE

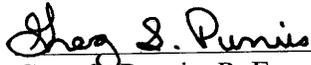
  
\_\_\_\_\_  
for John F. Sullivan, III, P. E.  
Division Administrator, FHWA

Wilson County  
Bridge No. 79 on SR 1001 Over Bloomery Swamp  
Federal-Aid Project No. BRZ-1001(27)  
State Project No. 33663.1.1  
T.I.P. Project No. B-4326

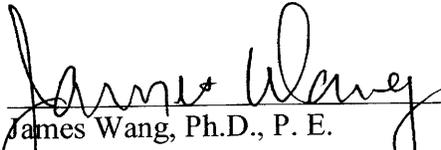
CATEGORICAL EXCLUSION

December 2005

Document Prepared by:  
Wang Engineering Company, Inc.



Greg S. Purvis, P. E.  
Project Manager

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



For the North Carolina Department of Transportation



Wade Kirby, P. E., P. G.  
Project Development Engineer  
Project Development and Environmental Analysis Branch

## PROJECT COMMITMENTS

**Wilson County**  
**Bridge No. 79 on SR 1001 Over Bloomery Swamp**  
**Federal-Aid Project No. BRZ-1001(27)**  
**State Project No. 33663.1.1**  
**T.I.P. Project No. B-4326**

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

### *Division Four*

Road closure will be coordinated with the Wilson County Schools and Wilson County Emergency Medical Services prior to construction.

### *Roadway Design*

The State Historic Preservation Office agreed to Alternative A with the following provision: The project limits will be reduced to avoid encroaching on the old store building located approximately 406 feet northeast of the existing bridge. A note will be added to the roadway design plans to this effect. There is also a possible UST involvement with the old store.

**Wilson County**  
**Bridge No. 79 on SR 1001 Over Bloomery Swamp**  
**Federal-Aid Project No. BRZ-1001(27)**  
**State Project No. 33663.1.1**  
**T.I.P. Project No. B-4326**

**INTRODUCTION:** The replacement of Bridge No. 79 is included in the 2006-2012 North Carolina Department of Transportation (NCDOT) Transportation Improvement Program (TIP) and the Federal-Aid Bridge Replacement Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion."

**I. PURPOSE AND NEED**

Bridge Maintenance Unit records indicated the bridge has a sufficiency rating of 44.5 out of a possible 100 for a new structure. The bridge is considered functionally obsolete and structurally deficient. The existing bridge does not meet the NCDOT Bridge Policy Standards for clear deck width. The replacement of an inadequate structure will result in safer and more efficient traffic operations.

**II. EXISTING CONDITIONS**

SR 1001 is classified as a rural minor collector. Land use in the project area is predominantly woodlands, light residential and farmland. Undeveloped woodlands are adjacent on the north and south sides of the study area. There is farmland to the north of the existing bridge.

Bridge No. 79 was constructed in 1951. The existing structure is 53 feet in length, consisting of three spans with the maximum span at approximately 18 feet. The clear roadway width is 24.0 feet, providing two ten-foot travel lanes with two-foot gutters. The superstructure consists of a reinforced concrete floor on timber joists. The substructure consists of timber caps on timber piles. The bed to crown height is 11.6 feet and the normal depth of flow is 3.6 feet. The posted weight limit is 19 tons for single vehicles (SV) and 28 tons for truck-tractors semi-trailers (TTST).

The existing bridge on SR 1001 is on a tangent. There is an approximate 1,767-foot radius curve located approximately nine feet north of the existing structure and an approximate 12,146-foot radius curve located approximately 227 feet south of the existing structure. SR 1001 consists of two ten-foot lanes with six-foot grass shoulders.

The estimated 2004 average daily traffic volume is 2,800 vehicles per day (vpd). The projected traffic volume is expected to increase to 5,400 vpd by the design year 2030. The volumes include three percent TTST and two percent dual tired vehicles.

The speed limit in the vicinity of the bridge is posted at 45 miles per hour (mph).

This section of SR 1001 is part of a designated NC Bicycling Highway, NC-7 Ocracoke Option.

There are aerial power and telephone lines on the east and west sides of the existing bridge. There is fiber optic cable on the west side of the existing bridge. There is a natural gas line on the west side of the existing bridge. Utility impacts are anticipated to be medium.

There was one accident reported for the three-year period of May 1, 2001 to April 30, 2004.

Five school buses cross this bridge daily.

### III. ALTERNATIVES

#### A. Project Description

The proposed structure will provide a 33-foot six-inch clear deck width providing two 12-foot travel lanes with four-foot nine-inches between the edge of travelway and the face of the bridge rail. The design speed will be 50 mph.

The proposed approach roadway will consist of a 24-foot travel way providing for two 12-foot travel lanes with eight-foot shoulders including four-foot paved shoulders. The proposed right-of-way width is 80 feet.

Based on a preliminary hydraulic analysis, Bridge No. 79 will be a bridge approximately 110 feet in length. The grade of the roadway will match the elevation of the existing roadway since lowering the grade would cause the road to be flooded by Bloomery Swamp. The minimum deck grade will be 0.3%. The length of the proposed bridge and the recommended roadway elevation may be adjusted (increased or decreased) to accommodate design floods as determined in the final hydrologic study and hydraulic design.

#### B. Build Alternatives

Two (2) build alternatives studied for replacing the existing bridge are described below.

**Alternate A (Preferred)** replaces the bridge at the existing location. During construction, traffic will be maintained by an off-site detour route along SR 1309 and US 264 Alternate approximately 4.7 miles in length. The length of approach work will be approximately 300 feet on the south side of the bridge and approximately 340 feet on the north side of the bridge. The right-of-way width is 80 feet.

**Alternate B** replaces the bridge on existing alignment. During construction, traffic will be maintained by an on-site temporary detour structure located east of the existing bridge. The length of approach work will be approximately 360 feet on the south side of the bridge and approximately 327 feet on the north side of the bridge. The right-of-way width is 80 feet. Alternate B was not chosen because it has comparatively higher natural environmental impacts and construction cost.

#### C. Alternatives Eliminated From Further Study

**The "Do-Nothing" Alternative** will eventually necessitate removal of the bridge and closing of the road. This is not desirable due to the traffic service provided by SR 1001.

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

#### D. Preferred Alternative

**Alternate A**, replacing the existing bridge at the existing location, while maintaining traffic by an off-site detour route is the preferred alternate. Alternate A was selected because of the comparatively lower construction cost, lower environmental impacts, and lesser construction time associated with it.

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

Alternate A is estimated to cost \$868,000. A breakdown of the estimated cost is shown in Item V (Table 1).

#### IV. DESIGN EXCEPTIONS ANTICIPATED

No design exceptions will be required.

#### V. ESTIMATED COSTS

The estimated costs, based on current 2005 prices, are as follows:

**Table 1. – Estimated Costs**

	<b>Alternate A (Preferred)</b>	<b>Alternate B</b>
Structure Removal (existing)	\$ 13,500	\$ 13,500
Structure (proposed)	376,200	376,200
Detour Structure and Approaches	0	103,400
Roadway Approaches	161,300	161,300
Miscellaneous and Mobilization	132,000	158,600
Engineering and Contingencies	117,000	137,000
ROW/Const. Easements/Utilities:	68,000	160,000
	-----	-----
<b>TOTAL</b>	<b>\$ 868,000</b>	<b>\$ 1,110,000</b>

The estimated cost of the project, as shown in the 2006-2012 Transportation Improvement Program, is \$1,045,000 including \$70,000 for right-of-way, \$825,000 for construction, and \$150,000 for prior year costs.

#### VI. NATURAL RESOURCES

##### A. Methodology

Materials and research data in support of this investigation have been derived from a number of sources including applicable U.S. Geological Survey (USGS) topographic mapping (Bailey, NC [1988] 7.5-minute quadrangle), U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping (USFWS 1994), and recent aerial photography (1998). Water quality information for area streams and tributaries was derived from the North Carolina Division of Water Quality (DWQ) sources (DWQ 2004a-c, 2003, 2002a, 2002b, 2001). Quantitative sampling was not undertaken to support existing data.

Natural community descriptions are based on a classification system utilized by the N.C. Natural Heritage Program (NHP) (Schafale and Weakley 1990). When appropriate, community classifications were modified to better reflect field observations. Vascular plant names generally follow nomenclature found in Radford *et al.* (1968), with adjustments made to reflect more current nomenclature (Kartesz 1998). Habitat used by terrestrial wildlife and aquatic organisms, as well as expected population distributions, were determined through field observations, evaluation of available habitat, and supportive documentation (Webster *et al.* 1985, Potter *et al.* 1980, Martof *et al.* 1980, Rohde *et al.* 1994, Menhinick 1991, Hamel 1992, Palmer and Braswell 1995, Conant and Collins 1998).

Jurisdictional areas were evaluated using the three-parameter approach following U.S. Army Corps of Engineers (USACE) delineation guidelines (Environmental Laboratory 1987). Wetland jurisdictional areas were characterized according to a classification scheme established by Cowardin *et al.* (1979) and *A Field Guide To North Carolina Wetlands* (DEM 1996).

Information regarding federally protected species within the project study area was obtained from the USFWS list of federally protected species (February 25, 2003) and federal species of concern (FSC). Supporting documents and databases documenting the presence of rare species and rare natural communities were consulted before commencing field investigations (Amoroso 2002, LeGrand and Hall 2001).

Bridge No. 79 was visited on April 22 and 26, 2004. The project study area was walked and visually surveyed for significant physical and biological features. For purposes of field surveys, the project study area has been delineated by Wang Engineering (Figure 6). Special concerns evaluated in the field include 1) potential habitat for protected species and 2) wetlands and water quality protection in Bloomery Swamp.

## **B. Physiography and Soils**

The project study area occurs within the Rolling Coastal Plain ecoregion of the Southeastern Plains physiographic province of North Carolina (Griffith *et al.* 2002). The project study area is situated within the terrace deposits and upland sediment and is underlain by gravel, clayey sand, and sand (NCGS 1985). Elevations in the project study area range from approximately 130 to 170 feet National Geodetic Vertical Datum (NGVD) (USGS Bailey, NC [1988] 7.5-minute quadrangle).

Soils within the project study area consist of three series: Altavista, Bibb, and Wagram. Altavista fine sandy loams are nearly level, moderately well drained soils found along terraces of major streams. Permeability is moderate and water capacity is medium. Altavista soils are rarely flooded and the seasonal high water table is approximately 1.5 to 2.5 feet below the soil surface. Altavista soils are located in the northeast quadrant of the project study area and are the least abundant soil series within the project study area. Altavista soils are not listed as hydric in Wilson County (NRCS 1997).

Bibb loams are nearly level, poorly drained soils on floodplains in Bloomery Swamp. Permeability is moderate. Bibb soils are subject to frequent flooding and the seasonal high water table is approximately 6 to 18 inches. Bibb loam is the most abundant soils series in the project study area and is considered hydric in Wilson County (NRCS 1997).

Wagram loamy sands are well-drained soils on slightly convex upland ridges in the coastal plain. Permeability is moderate and the available water capacity is low. Wagram soils are very susceptible to wind erosion. The majority of upland soils within the project study area are Wagram soils. Wagram soils are not considered hydric in Wilson County (NRCS 1997).

## C. Water Resources

### 1. Waters Impacted

The project study area is located in sub-basin 03-04-07 of the Neuse River Basin (DWQ 2002a). The project study area is part of USGS hydrologic unit 03020203 of the South Atlantic-Gulf Coast Region (Seaber *et al.* 1987). The North Carolina Ecosystem Enhancement Program (EEP), formerly known as the North Carolina Wetland Restoration Program (WRP), does not list this hydrological unit as a Targeted Local Watershed for restoration, enhancement, and preservation of water and riparian resources (DWQ 2002b). This section of Bloomery Swamp, from 0.8 mile upstream of SR 1001 (Bridge No. 79) to 0.3 mile upstream of Contentnea Creek has been assigned **Stream Index Number 27-86-6-(3)** by the DWQ (DWQ 2001, DWQ 2004a).

Within the project study area, Bloomery Swamp is a third-order perennial stream exhibiting strong sinuosity, slow to moderate velocity, with a moderately developed riffle-pool sequence. The average width of the stream is approximately 25 feet. During the field survey, water clarity was good. The substrate is primarily composed of sand and silt with some gravel.

### 2. Stream Characteristics

Classifications are assigned to waters of the State of North Carolina based on the existing or contemplated best usage of various streams, or segments of streams, in the basin. A Best Usage Classification of **WS-IV NSW** has been assigned to Bloomery Swamp in the project study area. These waters are protected for Class **WS-IV** uses which include waters used as sources of potable water where a **WS-I, II** or **III** classification is not feasible. **WS-IV** waters are generally in moderately to highly developed watersheds or Protected Areas, and involve no categorical restrictions on discharges. These waters are also protected for Class **C** uses. Class **C** uses include aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Secondary recreation refers to human body contact with waters on an infrequent or incidental basis. The supplemental classification **NSW**, Nutrient Sensitive Waters, is intended for waters needing additional nutrient management due to vulnerability to excessive growth of microscopic or macroscopic vegetation. In general, management strategies for point and non-point source pollution control require no increase in nutrients over background levels. Bloomery Swamp is “not rated” based on its classification and appears to be poorly monitored (DWQ 2002a).

No watershed Critical Area (CA) occurs within 1 mile of the project study area. No designated High Quality Waters (**HQW**), Outstanding Resource Waters (**ORW**), Water Supply I (**WS-I**), or Water Supply II (**WS-II**) waters occur within 1 mile of the project study area (DWQ 2002a).

The DWQ conducts a whole-basin approach to water quality management for the 17 river basins within the state. To accomplish this goal, the DWQ collects biological, chemical, and physical data that can be used in basinwide assessment and planning. All basins are reassessed every five years. No ambient water quality monitoring station (AMS) exists on Bloomery Swamp (DWQ 2002a). The nearest AMS (A-7) is located approximately 7 miles downstream of the project study area on Contentnea Creek. Water quality parameters do not exceed North Carolina standards at this station. A benthic macroinvertebrate sampling station (SB-2) is located approximately 4.2 miles downstream from the project study area at the NC 42 crossing (DWQ 2002a). Bloomery Swamp received a “poor” bioclassification rating in 1996 and 2000 (DWQ 2002a). Further monitoring has apparently not been conducted.

The Neuse River subbasin 03-04-07 supports 21 permitted dischargers with a total permitted flow of 21.2 million gallons per day. The largest dischargers are the Wilson Waste Water Treatment Plant (WWTP), Contentnea Sewage District WWTP, Farmville WWTP, and Little Creek WWTP with permitted discharges of 12, 2.8, 3.5, and 1.8 million gallons per day, respectively (DWQ 2004c).

Nonpoint source (NPS) pollution refers to runoff that enters surface waters through stormwater or snow melt. Sediments and nutrients are the major pollution sources associated with NPS pollution. Other pollutants include any substance that may be washed off the ground or removed from the atmosphere and carried into surface waters. Unlike point source pollution, NPS pollution is diffuse in nature and occurs at random intervals depending on rainfall events. Major non-point sources of pollution within the project study area subbasin (03-04-07) include agriculture, forageland, and animal operations (DWQ 2001).

The DWQ has assembled a list of impaired waterbodies according to the Clean Water Act Section 303(d) and 40 CFR 130.7. The list is a comprehensive public accounting of all impaired waterbodies. An impaired waterbody is one that does not meet water quality standards including designated uses, numeric and narrative criteria, and anti-degradation requirements defined in 40 CFR 131. The standards violation may be due to an individual pollutant, multiple pollutants, or an unknown cause of impairment. The source of impairment could be from point sources, nonpoint sources, and/or atmospheric deposition. Some sources of impairment exist across state lines. North Carolina's methodology is strongly based on the aquatic life use support guidelines available in the Section 305(b) guidelines (EPA-841-B-97-002A and -002B). Bloomery Swamp is not listed on the NC 2002 or 2004 Section 303(d) list of impaired streams in the Neuse River Basin (DWQ 2003 and 2004b).

The WRC has developed a Significant Aquatic Endangered Species Habitat database to enhance planning and impact analysis in areas proposed by WRC as being critical due to the presence of Endangered or Threatened aquatic species. No Significant Aquatic Endangered Species Habitat occurs within the project study area watershed (USGS Hydrologic Unit 03020203020010). The nearest Significant Aquatic Endangered Species Habitat within the Neuse River Basin occurs approximately 7 miles northwest of the project study area in Nash County (WRC 1998).

To minimize fishing and non-fishing activities that adversely affect marine fisheries, areas of Essential Fish Habitat afford limited protection under the Magnuson-Stevens Act of 1996 (16 U.S.C. 1801 *et seq.*). Essential Fish Habitat has been broadly defined by congress as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Fishing and non-fishing related activities that can adversely affect fisheries include fishing gear, dredging, filling, agricultural and urban runoff, and point-source pollution discharge. Anadromous fish spawning habitat does not occur within Bloomery Swamp. Therefore, Essential Fish Habitat does not exist within the project study area, and consultation with the National Marine Fisheries Service (NMFS) is not required.

### **3. Anticipated Impacts**

#### **a) Impacts Related to Water Resources**

Temporary construction impacts due to erosion and sedimentation will be minimized through implementation of a stringent erosion control schedule and the use of Best Management Practices (BMPs). The contractor will follow contract specifications pertaining to erosion control measures as outlined in 23 CFR 650 Subpart B and Article 107-13 entitled *Control of Erosion, Siltation, and Pollution* (NCDOT, Specifications for Roads and Structures). These

measures include the use of dikes, berms, silt basins, and other containment measures to control runoff; elimination of construction staging areas in floodplains and adjacent to waterways; re-seeding of herbaceous cover on disturbed sites; management of chemicals (herbicides, pesticides, de-icing compounds) with potential negative impacts on water quality; and avoidance of direct discharges into streams by catch basins and roadside vegetation. In addition, tall fescue is not suitable for erosion control along stream banks.

The proposed bridge replacement will allow for continuation of pre-project stream flows in Bloomery Swamp, thereby protecting the integrity of this waterway. Long-term impacts resulting from construction are expected to be negligible. In order to minimize impacts to water resources, NCDOT BMPs for the Protection of Surface Waters will be strictly enforced during the entire life of the project.

#### **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.

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. There is potential for components of the bridge to be dropped into waters of the United States. The resulting temporary fill associated with the concrete deck is expected to be approximately 14 cubic yards. NCDOT’s Best Management Practices for Bridge Demolition and Removal (BMP-BDR) will be applied for the removal of this bridge.

No Outstanding Resource Waters (ORW) or anadromous species are anticipated to be impacted by this project. Under the guidelines presented in the documents noted in the first paragraph of this section, work done in the water for this project will fall under Case 3, where there are no special restrictions beyond those outlined in NCDOT’s *Best Management Practices for Protection of Surface Waters*.

### **D. Biotic Resources**

#### **1. Plant Communities**

Five distinct plant communities were identified within the project study area: disturbed/maintained land, Mesic Mixed Hardwood Forest (Coastal Plain Subtype), Coastal Plain Bottomland Hardwoods (Blackwater Subtype), Coastal Plain Levee Forest (Blackwater Subtype), and Coastal Plain Semipermanent Impoundment (Figure 6). These plant communities are described below.

##### **a) Disturbed/Maintained Land**

Disturbed/maintained land is the dominant land use type in the project study area and encompasses diverse vegetation types. Approximately 11.9 acres occur as maintained

residential areas and road right-of-ways. The maintained roadside area is approximately 20 feet wide and consists of mowed herbaceous vegetation. Plant species on the roadside margins include clover (*Trifolium* spp.), chickweed (*Stellaria media*), Japanese honeysuckle (*Lonicera japonica*), and fescue (*Festuca* spp.). Plant species in residential areas range from mowed fescue (southeast quadrant of the project study area) to mixed pine-hardwood trees, such as loblolly pine (*Pinus taeda*), white oak (*Quercus alba*), willow oak (*Q. phellos*), water oak (*Q. nigra*), and red maple (*Acer rubrum*) with a landscaped understory of herbs, shrubs, and/or small trees (northern half of the project study area). Disturbed/maintained land is variable in plant and wildlife diversity depending upon the individual landowner. Lawns have the least diversity of wildlife relative to forested yards. Wildlife species that utilize lawns include American robins (*Turdus migratorius*), white-tailed deer (*Odocoileus virginianus*), northern mockingbirds (*Mimus polyglottos*), and eastern cottontail (*Sylvilagus floridanus*). American robins and northern mockingbirds forage for soil and fescue associated invertebrates. White-tailed deer and rabbits consume many of the herbaceous species. Mixed pine-hardwood yards provide habitat for pine warblers (*Dendroica pinus*), summer tanagers (*Piranga rubra*), red-eyed vireos (*Vireo olivaceus*), yellow-throated vireos (*Vireo flavifrons*), northern cardinals (*Cardinalis cardinalis*), great crested flycatchers (*Myiarchus crinitus*), blue gray gnatcatchers (*Poliophtila caerulea*), Carolina wrens (*Thryothorus ludovicianus*), Carolina chickadees (*Poecile carolinensis*), tufted titmice (*Baeolophus bicolor*), eastern gray squirrels (*Sciurus carolinensis*), black rat snakes (*Elaphe obsoleta*), and white-tailed deer.

#### **b) Mesic Mixed Hardwood Forest (Coastal Plain Subtype)**

This forest type occupies a total of 2.1 acres within the project study area and is the adjacent upland plant community to the Coastal Plain Bottomland Hardwood Forest. Canopy species include white oak, water oak, sweetgum (*Liquidambar styraciflua*), red maple, black cherry (*Prunus serotina*), tulip poplar (*Liriodendron tulipifera*), and sourwood (*Oxydendron arboreum*). The shrub layer consists of blueberry (*Vaccinium arboreum*), Chinese privet (*Ligustrum sinense*), and various canopy species saplings. Vines present include greenbrier (*Smilax rotundifolia*) and muscadine grape (*Vitis rotundifolia*). The herbaceous layer is sparse and mainly consists of Christmas fern (*Polystichum acrosticoides*). Wood thrush (*Hylocichla mustelina*), blue-gray gnatcatchers, great crested flycatchers, and northern cardinals were observed during the field visit. Wildlife species that utilize the resources of this plant community include wood thrush, red-eyed vireos, yellow-throated vireos, Carolina chickadees, tufted titmice, northern black racer (*Coluber constrictor*), and southeastern shrew (*Sorex longirostris*). Wood thrushes nest in shrubs and saplings and forage for invertebrates on the forest floor. These same invertebrates are also eaten by southeastern shrews, which in turn are eaten by the northern black racer. Northern black racers also eat bird eggs and nestlings.

#### **c) Coastal Plain Bottomland Hardwoods (Blackwater Subtype)**

Coastal Plain Bottomland Hardwood Forests cover approximately 2.3 acres. The mature canopy is mainly composed of black gum (*Nyssa biflora*), red maple, river birch (*Betula nigra*), green ash (*Fraxinus pennsylvanica*), water oak, and willow oak. Tulip poplar also occupies the canopy. Shrubs present include fetter-bush (*Leucothoe racemosa*), sweet pepperbush (*Clethra alnifolia*), tag alder (*Alnus serrulata*), giant cane (*Arundinaria gigantea*), and saplings of canopy species (mainly red maple). Vines present include greenbrier (*Smilax laurifolia*), muscadine grape, poison ivy (*Toxicodendron radicans*) and Virginia creeper (*Parthenocissus quinquefolia*). The herb layer consists of sedges (*Carex* spp.), rushes (*Juncus* spp.), arrow arum (*Peltandra virginica*), Asian spiderwort (*Murdania*

*keisak*), lizard's tail (*Saururus cernuus*), and touch-me-not (*Impatiens capensis*). Wildlife species observed during the field visit include downy woodpecker (*Picoides pubescens*), southern leopard frog (*Rana utricularia*), Kentucky warbler (*Oporornis formosus*), Louisiana waterthrush (*Seiurus motacilla*), and broadhead skink (*Eumeces laticeps*). Wildlife species that utilize Coastal Plain Bottomland Hardwood Forests include prothonotary warblers (*Protonotaria citrea*), Kentucky warblers, hooded warblers (*Wilsonia citrina*), Louisiana waterthrush, broadhead skinks, red-bellied watersnakes (*Nerodia erythrogaster*), and barred owls (*Strix varia*). Prothonotary warblers nest in small cavities in small trees or standing dead wood over water. Hooded warblers and wood thrushes nest in patches of small shrubs and saplings. Kentucky warblers nest on or near the ground in areas with fallen woody debris. These Neotropical migrant songbirds are exclusively insectivorous during the breeding season and thrive on the abundant insects within the Bottomland Hardwood Forest. Barred owls nest in large cavities and utilize the abundant reptiles (e.g. broadhead skink), amphibians (e.g. southern leopard frogs), and small mammals (shrews and mice) that live in Bottomland Hardwood Forests. All areas of this plant community within the project study area are subject to consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR Section 328.3).

#### **d) Coastal Plain Levee Forest (Blackwater Subtype)**

Coastal Plain Levee Forest makes up approximately 1.6 acres of the project study area. This plant community is described by Schafale and Weakley (1990) as natural levee deposits along channels of blackwater rivers that are seasonally to intermittently flooded, with variable flow regimes. The water tends to be very acidic, low in mineral sediments and nutrients, and colored by tannins. Coastal Plain Levee Forest occurs in upland areas adjacent to the non-maintained banks on the floodplain sides of Bloomery Swamp throughout the project study area (Figure 6). The mature canopy is dominated by river birch, red maple, sweetgum, black cherry, and tulip poplar. The mid-story and shrub layers are well developed and contain sweet pepperbush, giant cane, and Chinese privet (*Ligustrum sinense*). These shrubs are intertwined and made almost impenetrable by vine species such as muscadine grape, greenbrier, Japanese honeysuckle (*Lonicera japonica*), poison ivy, and Virginia creeper. The herb layer is sparse due to the well developed shrub and vine layers but includes the exotic and invasive microstegium (*Microstegium vimineum*). Wildlife species that utilize Mesic Mixed Hardwood Forests also exploit Coastal Plain Levee Forests, especially when these forests are narrow as they are on small streams such as Bloomery Swamp.

#### **e) Coastal Plain Semipermanent Impoundment**

Coastal Plain Semipermanent Impoundment is the least abundant plant community in the project study area (approximately 0.06 acre). This community is located near an abandoned hog pen that has a concrete drain that once emptied into the wetland. This impoundment was probably excavated in the floodplain of Bloomery Swamp decades ago. Spoil around the impoundment is evident. Natural Semipermanent Impoundments are typically beaver ponds throughout the state, but man-made examples are numerous (e.g. millponds; Schafale and Weakley 1990). The hydrology of Semipermanent impoundments consists of permanent inundation, and the plant composition consists of few submerged species. This particular Semipermanent Impoundment contains coontails (*Ceratophyllum* spp.) and duckweed (*Lemna* spp.). Eastern mud turtles (*Kinosternon subrubrum*) and bullfrogs (*Rana catesbeiana*) readily utilize this habitat for feeding and reproducing. All areas of this plant community within the project study area are subject to consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR Section 328.3).

## **2. Aquatic Communities**

Southern leopard frogs, bullfrogs, an eastern mud turtle and a cottonmouth (*Agkistrodon piscivorous*) were the only aquatic amphibians and reptiles observed during the site visit. Typical amphibian species for these habitat types include spring peepers (*Pseudacris crucifer*), southern cricket frogs (*Acris gryllus*), and green frogs (*Rana clamitans*). Bloomery Swamp and the associated wetlands provide suitable habitat for aquatic and semi-aquatic reptiles including eastern mud turtle, common musk turtle (*Sternotherus odoratus*), snapping turtle (*Chelydra serpentina*), red-bellied watersnake (*Nerodia erythrogaster*), and cottonmouth. No benthic invertebrates were observed during the field visit.

No sampling was undertaken in Bloomery Swamp to determine fishery potential. No identifiable fish were noted during the field visit. Species which may be present within Bloomery Swamp include dusky shiner (*Notropis cummingsae*), creek chubsucker (*Erimyson oblongus*), yellow bullhead (*Ictalurus natalis*), margined madtom (*Noturus insignis*), tadpole madtom (*Noturus gyrinus*), pirate perch (*Aphredoderus sayanus*), eastern mosquitofish (*Gambusia holbrooki*), bluespotted sunfish (*Enneacanthus gloriosus*), redbreast sunfish (*Lepomis auritis*), warmouth (*Lepomis gulosus*), sawcheek darter (*Etheostoma serriferum*), and swamp darter (*E. fusiforme*). No anadromous fish utilize Bloomery Swamp.

## **3. Anticipated Impacts to Biotic Communities**

Alternate B permanent Plant Community impacts are only slightly larger than Alternate A permanent impacts. Permanent plant community impacts are negligible for both alternatives (approximately 1 acre, Table 2). The majority of impacts will occur in the most disturbed areas (disturbed/maintained). Temporary impacts (Alternate B detour bridge) are also small. A total of only 0.2 acres will be temporarily affected by the on-site detour associated with Alternate B.

No significant habitat fragmentation will be expected as a result of project activities if potential improvements are restricted to adjoining roadside margins. Construction noise and associated disturbances will have short-term impacts on avifauna and migratory wildlife movement patterns.

Potential downstream impacts to aquatic habitat are to be avoided by bridging the stream system to maintain regular flow and stream integrity. Short-term impacts associated with turbidity and suspended sediments and pollutants may affect benthic populations. Benthic invertebrates form the basis of the food chain in stream and estuarine systems. Impacts to downstream habitats associated with turbidity and suspended sediments will be minimized through the use of silt curtains and the implementation of stringent erosion control measures.

**Table 2. Project Study Area Plant Community Impacts.**

<b>Plant Community</b>	<b>Total Area</b>	<b>Alternate A (Preferred) Permanent Impacts</b>	<b>Alternate B Permanent Impacts</b>	<b>Alternate B Temporary Impacts</b>	<b>Alternate B (Total Impacts)</b>
Bottomland Hardwood Forest	2.3	-	-	-	-
Disturbed/Maintained	11.9	0.7	0.9	0.13	1.1
Mesic Mixed Hardwood Forest	2.1	0.1	0.1	0.1	0.2
Coastal Plain Semipermanent Imp.	0.1	-	-	-	-
<b>Total</b>	<b>16.4</b>	<b>0.8</b>	<b>1.0</b>	<b>0.2</b>	<b>1.3</b>

Areas are given in acres (hectares).

No Outstanding Resource Waters (ORW) or anadromous species are anticipated to be impacted by this project. Under the guidelines presented in the documents noted in the first paragraph of this section, work done in the water for this project will fall under Case 3, where there are no special restrictions beyond those outlined in NCDOT's *Best Management Practices for Protection of Surface Waters*.

## **E. Special Topics**

### **1. Waters of the United States**

Surface waters within and adjacent to the embankments of Bloomery Swamp are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR Section 328.3). The Bloomery Swamp channel and immediate floodplain, upstream of bridge No. 79 have been characterized on NWI mapping (NWI Bailey, NC [1988] 7.5-minute quadrangle) as palustrine, forested with broad-leaved deciduous trees, and temporarily flooded (PFO1A). Downstream from Bridge No. 79, NWI mapping classifies Bloomery Swamp channel and floodplain as palustrine, forested with broad-leaved deciduous trees and are semipermanently flooded and impounded (PFO1Fh). During the field visit, the channel of Bloomery Swamp was determined to be riverine, lower perennial with an unconsolidated bottom that is permanently flooded (R2UBH). The project study area contains a total of approximately 808 linear feet of perennial streams (Table 3).

Vegetated wetlands are subject to jurisdictional consideration under Section 404 of the Clean Water Act as "waters of the United States" (33 CFR Section 328.3). These areas are defined by the presence of three primary criteria: hydric soils, hydrophytic vegetation, and evidence of hydrology at or near the surface for a minimum of 12.5 percent of the growing season (Environmental Laboratory 1987). During the field visit, two wetland types found within the floodplains of Bloomery Swamp generally agreed with the NWI classifications on floodplains upstream and downstream of Bridge No. 79 (see above paragraph). However, the NWI impoundment status of the downstream floodplain seems to have reverted, or is in the process of reverting, to temporary flooding (PFO1A) except for a small area near an old hog pen. Reasons for impoundment and subsequent reversion are unidentified, and due to factors (beaver activity, man-made dams, etc.) downstream of the project study area. A total of 2.4 acres of wetlands occurs within the project study area.

Replacement of Bridge No. 79 will be constructed with one of two alternatives: A) replacement in place with an off-site detour of approximately 4 miles or B) replacement in place with an on-site detour via a temporary bridge on the east side of the existing structure. Both alternatives employ similar designs for the replacement structure. Alternative A will result in no permanent or temporary impacts to waters of the United States beyond bridge demolition. The temporary detour bridge proposed in Alternate B will result in no permanent impacts to waters of the United States and less than 0.1 acre, if any, temporary impacts to Bottomland Hardwood Forest wetland (Table 3). A request for a “no practical alternatives” determination will have to be made to the DWQ if Alternate B is chosen. Final determination rests with the DWQ.

**Table 3. Jurisdictional Areas and Impacts within the Project Study Area**

<b>Cowardin Classification</b>	<b>Linear Distance (feet)</b>	<b>Total Area (acres)</b>	<b>Permanent Impacts (A and B)</b>	<b>Temporary Impacts (acres)</b>	<b>DWQ Rating</b>
R2UBH (Bloomery Swamp)	808.0	N/A	-	-	N/A
PFO1A (Bottomland Hardwood Forest)	N/A	2.3	-	<0.1	78
PFO1Fh (Semipermanent Impoundment)	N/A	0.05	-	-	78
<b>Total</b>	<b>808.0</b>	<b>2.4</b>	<b>-</b>	<b>&lt;0.1</b>	<b>N/A</b>

## 2. Permits

### a). Section 404 of the Clean Water Act

This project may be processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. The USACE has made available Nationwide Permit (NWP) No. 23 (67 FR 2082; January 15, 2002) for CEs due to expected minimal impact. Activities under this permit are categorically excluded from environmental documentation because they are included within a category of activities that neither individually nor cumulatively have a significant effect on the human and natural environment. Activities authorized under nationwide permits must satisfy all terms and conditions of the particular permit.

### b). Section 401 Water Quality Certification

DWQ has made available a General 401 Water Quality Certification for NWP No. 23 (GC 3403). If temporary structures are necessary for construction activities, access fills, or dewatering of the site, then a NWP 33 (67 FR 2020, 2087; January 15, 2002) permit and associated General 401 Water Quality Certification (GC 3366) will be required. Impacts to vegetated wetlands may be authorized under NWP 3 (67 FR 2020, 2078) and the associated General 401 Water Quality Certification (GC 3376). In the event that NWPs 23, 33, and 3 will not suffice, impacts attributed to bridge replacement and associated approach improvements may qualify under General Bridge Permit (GP) 031 issued by the Wilmington

USACE District. DWQ has made available a General 401 Water Quality Certification for GP 031 (GC 3404). Notification to the Wilmington USACE District office is required if this general permit is utilized. Alternative B proposes to undertake uses designated as Allowable under the Neuse River Basin Rule. A request for a “no practical alternatives” determination will have to be made to DWQ if Alternative B is chosen.

### **c). Bridge Demolition and Removal**

If no practical alternative exists to remove the current bridge other than to drop it into the water, prior to removal of debris off-site, fill related to demolition procedures will need to be considered during the permitting process. A worst-case scenario will be assumed with the understanding that if there is any other practical method available, the bridge will not be dropped into the water. The worst-case scenario associated with the bridge removal is expected to be 14 cubic yards of temporary fill. Permitting will be coordinated such that any permit needed for bridge construction will also address issues related to bridge demolition.

## **3. Riparian Buffer Protection Rules for the Neuse River Basin**

The Nutrient Sensitive Waters Management Strategy for the Protection and Maintenance of Riparian Buffers for the Neuse River Basin (15A NCAC 02B .0233) provides a designation for uses that cause impacts to riparian buffers within the Neuse River Basin. The Neuse River Basin Buffer Rule applies to 50-foot wide riparian buffers (measured perpendicular to the stream) directly adjacent to surface waters in the Neuse River Basin. Designated surface waters are indicated on USGS 7.5-minute topographic maps and county soil surveys. Within the project study area, Bloomery Swamp is the only feature subject to the riparian buffer rule.

Changes in land use within the buffer area are considered to be buffer impacts. Land use changes within the riparian buffer are defined as being Exempt, Allowable, Allowable with Mitigation, or Prohibited (15A NCAC 2B .0233 (7)). The Exempt designation refers to uses allowed within the buffer. The Allowable designation refers to uses that may proceed within the riparian buffer provided there are no practical alternatives, and that written authorization from the DWQ is obtained prior to project development. The Allowable with Mitigation designation refers to uses that are allowed, given there are no practical alternatives, and appropriate mitigation plans have been approved. The Prohibited designation refers to uses that are prohibited without a variance. Exemptions to the riparian buffer rule include the footprint of existing uses that are present and ongoing (15A NCAC 2B .0233 (3)(b)).

Both alternatives for the replacement of Bridge No. 79 permanently impact less than 40 linear feet of riparian buffer, and are therefore Exempt under the Neuse River Basin Buffer Rule. Temporary impacts from the on-site detour of Alternate B are approximately 3,485 square feet. Impacts from temporary roads used for bridge construction or replacement are Allowable, providing that restoration activities, such as soil stabilization and revegetation, are conducted immediately after construction (15A NCAC 2B .0233 (6)). In addition, any changes to stormwater discharges due to the project should be converted to diffuse flow prior to entering the buffers.

## **4. Mitigation**

The USACE has adopted through the Council on Environmental Quality (CEQ) a wetland mitigation policy that embraces the concept of “no net loss of wetlands” and sequencing. The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of waters of the United States, and specifically wetlands. Mitigation of wetland impacts has been

defined by the CEQ to include: avoiding impacts (to wetlands), minimizing impacts, rectifying impacts, reducing impacts over time and compensating for impacts (40 CFR 1508.20). Each of these three aspects (avoidance, minimization, and compensatory mitigation) must be considered sequentially.

**Avoidance** mitigation examines all appropriate and practicable possibilities of averting impacts to waters of the United States. According to a 1990 Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the USACE, in determining “appropriate and practicable” measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology and logistics in light of overall project purposes. Impacts to streams are expected due to the nature of the project. Not all sediment can be prevented from entering waters of the United States.

**Minimization** includes the examination of appropriate and practicable steps to reduce the adverse impacts to waters of the United States. Implementation of these steps will be required through project modifications and permit conditions. Minimization typically focuses on decreasing the footprint of the proposed project through the reduction to median widths, right-of-way widths, fill slopes, and/or road shoulder widths. All efforts will be made to decrease impacts to surface waters. The existing bridge is being replaced in the existing location with an offsite detour to minimize natural environment impacts and 3:1 fill slopes will be utilized in wetland areas to minimize impacts.

**Compensatory** mitigation is not normally considered until anticipated impacts to waters of the United States have been avoided and minimized to the maximum extent possible. It is recognized that “no net loss of wetlands” functions and values may not be achieved in each and every permit action. In accordance with 15A NCAC 2H .0506(h), the DWQ may require compensatory mitigation for projects with greater than or equal to 0.1 acre of impacts to jurisdictional wetlands or greater than or equal to 150 linear feet of total perennial stream impacts. Furthermore, in accordance with 67 FR 2020, 2092; January 15, 2002, the USACE requires compensatory mitigation when necessary to ensure that adverse effects to the aquatic environment are minimal. The size and type of the proposed project impact and the function and value of the impacted aquatic resource are factors considered in determining acceptability of appropriate and practicable compensatory mitigation. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts, which remain after all; appropriate and practicable minimization has been required. Compensatory actions often include restoration, preservation and enhancement, and creation of waters of the United States. Such actions should be undertaken first in areas adjacent to or contiguous to the discharge site.

Compensatory mitigation for Section 404 jurisdictional area impacts may not need to be proposed for this project due to the potentially limited nature of the project impacts. However, utilization of BMPs is recommended in an effort to minimize impacts. Temporary impacts to floodplains associated with construction activities could be mitigated by replanting disturbed areas with native riparian species and removal of temporary fill material upon project completion. Fill or alteration of more than 150 linear feet of stream may require compensatory mitigation in accordance with 15 NCAC 2H .0506(h). A final determination regarding mitigation rests with the USACE and the DWQ.

Opportunities for compensatory mitigation are available within the project study area. The proposed replacement structure includes extending the distance between abutments and will allow for less concentrated flow under Bridge No. 79. This will reduce flooding immediately upstream and improve aquatic habitat under the bridge and downstream.

## F. Protected Species

### 1. Federally Protected Species

Species with the federal classification of Endangered (E), Threatened (T), Threatened due to Similarity of Appearance (T [S/A]), 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.*). The term “Endangered Species” is defined as “any species which is in danger of extinction throughout all or a significant portion of its range,” and the term “Threatened Species” is defined as “any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range” (16 U.S.C. 1532). The term “Threatened due to Similarity of Appearance” is defined as a species which is not “Endangered” or “Threatened,” but “closely resembles an Endangered or Threatened species” (16 U.S.C. 1532).

Three federally protected species are listed as occurring in Wilson County (February 25, 2003 USFWS list). Another endangered species, bald eagle (*Haliaeetus leucocephalus*), was last seen in this county in 2001 approximately 10 miles southwest of the project study area. Although not included in the USFWS County List, this species is included in the following biological conclusions. A summary of Biological Conclusions for the replacement of Bridge No. 79 is represented in Table 4.

**Table 4. Federally Protected Species**

Common Name	Scientific Name	Biological Conclusion	Federal Status
Dwarf wedge mussel	<i>Alasmidonta heterodon</i>	No Effect	E
Bald Eagle	<i>Haliaeetus leucocephalus</i>	May Affect, Not Likely to Adversely Affect	T
Red-cockaded woodpecker	<i>Picoides borealis</i>	No Effect	E
Michaux's sumac	<i>Rhus michauxii</i>	No Effect	E

T- Threatened, E- Endangered, Exp- Experimental

*Alasmidonta heterodon* (Dwarf wedge mussel)

**Endangered**

Family: Unionidae

Date Listed: March 14, 1990

The dwarf wedge mussel is relatively small, averaging 1.0 to 1.5 inches long. The shells are olive-green to dark brown in color and are subrhomboidally shaped. The shells of females are swollen posteriorly, while males are generally flattened (TSCFTM 1990). This mussel species typically inhabits streams with moderate flow velocities and substrates varying in texture from gravel and coarse sand to mud with little silt deposition (USFWS 1992). The preferred habitats are streams with moderate flow velocities and bottoms varying in texture from gravel and coarse sand to mud, especially just downstream of debris and on banks of accreting sediment. Several intensive mussel surveys were conducted in Contentnea Creek and its tributaries from 1991-1993 in association with environmental documentation for the proposed Buckhorn Reservoir expansion. This species has been well documented in Turkey and Moccasin Creeks upstream from Buckhorn Reservoir, but has not been documented within Contentnea Creek or tributaries downstream from Buckhorn Reservoir. This species was previously known only from a few, disjunct populations in the Neuse River basin (Johnston Co.) and Tar River basin (Granville Co.).

State-wide surveys conducted since 1992 have expanded this species' range in North Carolina (WRC 2004).

**BIOLOGICAL CONCLUSION:**

**NO EFFECT**

Previous surveys of this swamp have only resulted in finding the mussel *Elliptio sp.* Also, the relatively low pH (around 6.5 su) in the watershed suggests that it would not support the Dwarf wedge mussel. Due to these factors we have determined that another survey for *Alasmidonta heterodon* is not necessary. Staff from the WRC concur with this opinion. Furthermore, a review of the NHP database of rare species and unique habitats revealed no records of Dwarf wedge mussel within Bloomery Swamp.

*Haliaeetus leucocephalus* (Bald eagle)

**Threatened** (proposed for delisting)

Family: Accipitridae

Date Listed: March 11, 1967

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 bald eagles are brown with white mottling on the tail, belly, and wing linings. Bald eagles typically feed on fish; however, they may also take birds and small mammals. In the Carolinas, the nesting season extends from December through May (Potter *et al.* 1980). Bald eagles typically nest in tall, living trees in conspicuous locations near open water. Eagles forage over large bodies of water and utilize adjacent trees for perching (Hamel 1992). Disturbance activities within a primary zone extending 750 to 1,500 feet from a nest tree are considered to result in unacceptable conditions for eagles (USFWS 1987). USFWS recommends avoiding disturbances, including construction and tree-cutting, within this primary zone. A secondary zone extends from the primary zone boundary out to a distance of 1 mile from a nest tree. Construction and land-clearing activities should be restricted within the secondary zone to the non-nesting period. The USFWS also recommends avoiding the alteration of natural shorelines where bald eagles forage and avoiding significant land-clearing activities within 1,500 feet of known roosting sites.

**BIOLOGICAL CONCLUSION:**

**MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT**

NHP records document the nearest occurrence of the bald eagle in Wilson County as approximately 1.5 miles west of the project study area. The project study area has breeding and foraging habitat for bald eagles. In April 2004, a survey was conducted along the Bloomery Swamp shoreline for a distance of 1,500 feet upstream and downstream of Bridge No. 79. No bald eagles or eagle nests were observed during this survey.

*Picoides borealis* (Red-cockaded woodpecker)

**Endangered**

Family: Picidae

Date Listed: October 13, 1970

This small woodpecker (7 to 8.5 inches long) has a black head, prominent white cheek patches, and a black-and-white barred back. Males often have red markings (cockades) behind the eye; however, 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 (*Pinus taeda*), long-leaf (*P. palustris*), slash (*P. Elliottii*), and pond pines (*P. serotina*) (Thompson and Baker 1971). Nest cavities are constructed in the heartwood of living pines, generally older than 70 years that have been infected with red-heart disease. Nest cavity trees tend to occur in clusters,

which are referred to as colonies (USFWS 1985). The woodpecker drills holes in the bark around the cavity entrance, resulting in a shiny, resinous buildup around the entrance that allows for easy detection of active nest trees. Foraging habitat is comprised of open pine or pine/mixed hardwood stands 30 years of age or older (Henry 1989). Pine flatwoods or pine-dominated savannas, which have been maintained by frequent natural fires serve as ideal nesting and foraging sites for this woodpecker. Development of a thick understory may result in abandonment of cavity trees.

**BIOLOGICAL CONCLUSION:**

**NO EFFECT**

NHP has no records of red-cockaded woodpeckers (RCWs) within 5 miles of the project study area, and no evidence of RCWs was observed during the site visit. Although the disturbed maintained community contains individuals of loblolly pine in the northeast quadrant of the project study area, the understory beneath the loblolly pines is thicker than that preferred by the RCW. In addition, the pines in this portion of the project study area will not be impacted by either construction alternative. This project is not expected to adversely affect RCWs.

*Rhus michauxii* (Michaux's sumac)

**Endangered**

Family: Anacardiaceae

Date Listed: September 28, 1989

Michaux's sumac is a dioecious, densely pubescent rhizomatous shrub, generally 2 to 3 feet in height, which produces fruits (drupes) and seeds in late summer. The alternate, compound leaves consist of 9 to 13 hairy, round-based, toothed leaflets borne on a hairy rachis that may be slightly winged (Radford *et al.* 1968). Most populations appear to be monoclonal, consisting exclusively of male or female plants that propagate vegetatively by way of rhizomes. Michaux's sumac tends to grow in disturbed areas where competition is reduced by periodic fire or other disturbances, and may grow along roadside margins or utility right-of-ways. In the Piedmont, Michaux's sumac appears to prefer clay soil derived from mafic rocks or sandy soil derived from granite; in the Sandhills, it prefers loamy swales (Weakley 1993).

**BIOLOGICAL CONCLUSION:**

**NO EFFECT**

A review of the NHP database of rare species and unique habitats revealed no records of existing populations of Michaux's sumac within 5 miles of the project study area. There is little suitable habitat within the project study area because most maintained areas are frequently mowed. However, some of the disturbed areas within the project study area could harbor this species, particularly along roadside edges and around abandoned buildings. A systematic survey of suitable habitat areas within the project study area was conducted on June 24, 2004, and no individuals were found. Therefore, the presence of this species in the project study area is discounted, and this project will not adversely affect Michaux's sumac.

**2. Federal Species of Concern**

The January 30, 2003 USFWS list also includes a category of species designated as "Federal species of concern" (FSC) in Wilson County (Table 5). A species with this designation is one that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).

**Table 5. Federal Species of Concern**

Common Name	Scientific Name	Potential Habitat	State Status**
Eastern Henslow's sparrow	<i>Ammodramus henslowii susurrans</i>	No	SR
"Neuse" madtom	<i>Noturus furiosus</i>	No	SC
Pinewoods Shiner	<i>Lythrurus matutinus</i>	No	SR
Atlantic pigtoe	<i>Fusconaia masoni</i>	No	T
Carolina asphodel *	<i>Tofieldia glabra</i> *	No	W-1

\* Historic record – this species was last observed in Wilson County more than 50 years ago

\*\*State Status Codes - SC: Special Concern; T: Threatened; SR-L: Significantly rare and the range of the species is limited to North Carolina and adjacent states; W-1: rare, but relatively secure (Amoroso 2002, LeGrand and Hall 2001)

The FSC designation provides no federal protection under the ESA for species listed. NHP records indicate no occurrences of FSC species are located within 5 miles of the project study area.

## VII. 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 with Section 106, codified as 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted projects) on properties listed 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

A field survey of the Area of Potential Effects (APE) was conducted on July 30, 2003. All structures within the APE were photographed, and later an NCDOT staff architectural historian reviewed these photographs. Bridge No. 79 was determined not eligible for the National Register of Historic Places and was shown to the State Historic Preservation Office (HPO) in a meeting on June 14, 2004. At that meeting HPO staff concurred that Bridge No. 79 was not eligible and a form was signed to this effect. However, both NCDOT architectural historians and HPO staff concurred that a small country store in the APE may be eligible for the National Register. Nevertheless, since the project limits do not encroach upon the country store and the plans, dated June 9, 2004, clearly state that the store is to be avoided both HPO and NCDOT concurred that there are "no historical properties affected" by the proposed project. This is documented in the form dated June 14, 2004. Copies of all correspondence and the concurrence form are included in Appendix A.

### C. Archaeology

The State Historic Preservation Office (SHPO) reviewed the subject project. There are no known archaeological sites within the proposed project area, and no archaeological investigation needed to be conducted (see letter dated May 6, 2005 in Appendix A).

## VIII. ENVIRONMENTAL EFFECTS

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

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

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

The project is not in conflict with any plan, existing land use, or zoning regulation. No 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 relocatees are expected with implementation of the proposed alternative.

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

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

The proposed project will not require right-of-way acquisition or easement from any land protected under section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303).

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

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

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

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

The traffic volumes will not increase or decrease because of this project. Therefore, the project’s impact on noise and air quality will not be substantial.

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

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no hazardous waste sites in the project area. There is one Underground Storage Tanks (UST) site located in the project vicinity. The site is a former country store/gas station located on the east side of SR 1001 approximately 420 feet north of Bridge No. 79. The tanks appear to be near the southwest corner of the building, approximately 35 feet from the centerline of SR 1001. The project will terminate before the old store and it does not appear it will affect the tanks.

Wilson County is a participant in the Federal Flood Insurance Program. The bridge is located within a Detailed Study area. The new structure should be designed to match or lower the existing 100-year storm elevation upstream of the roadway. Since the proposed replacement for Bridge No.79 would be a structure similar in waterway opening size, it is not anticipated that it will have any significant adverse impact on the existing floodplain and floodway. The proposed alternatives will not modify flow characteristics and will have a minimal impact on floodplains due to roadway encroachment. The existing drainage patterns and groundwater will not be affected.

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

## **IX. PUBLIC INVOLVEMENT**

A mailing list was developed based upon property owners located near the bridge. Approximately thirty eight names are included on the list. Newsletters were mailed early in the planning process to the nearby property owners and local officials. A copy of the newsletter is attached in Appendix D. A workshop was held on January 24, 2005 at the James Hunt High School Media Center. Attendance at the Workshop included two local citizens. No written comment sheets were received.

## **X. UNRESOLVED ISSUES AND AREAS OF CONTROVERSY**

No unresolved issues or areas of controversy have been identified during the planning process and none are anticipated.

## **XI. AGENCY COMMENTS**

Scoping letters were sent to the following agencies listed below. Agencies that responded are marked with an asterisk (\*). Comment letters are included in Appendix A.

### Federal Agencies

- US Fish and Wildlife Service – Raleigh\*
- US Army Corps of Engineers – Washington
- US Army Corps of Engineers – Wilmington
- Environmental Protection Agency – Raleigh
- National Marine Fisheries – Beaufort
- US Geological Survey - Raleigh

## State Agencies

NC Wildlife Resources Commission\*  
NC Department of Environment and Natural Resources  
NC Division of Water Quality  
NC Department of Cultural Resources\*  
NC Division of Marine Fisheries

## Regional and Local Agencies

Wilson County Schools\*  
Wilson County Schools –Transportation Department\*  
Wilson County  
Wilson County EMS\*  
Upper Coastal Plain Council of Governments

The following are comments received during the scoping process:

### 1. United States Department of the Interior - Fish and Wildlife Service

**Comment:** “Wetland, forest and designated riparian buffer impacts should be avoided and minimized to the maximum extent practical.”

**Response:** The preferred alternate, Alternative A, replaces the existing bridge in the existing location and minimizes natural environment impacts.

**Comment:** “Off-site detours should be used rather than construction of temporary, on-site bridges.”

**Response:** An off-site detour will be utilized for this project.

**Comment:** “Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons. ....The general moratorium period for anadromous fish is February 15- June 30.”

**Response:** No Outstanding Resource Waters (ORW) or anadromous species are anticipated to be impacted by this project.

**Comment:** “The bridge design should not alter the natural stream and stream-bank morphology or impede fish passage.”

**Response:** The bridge will be replaced in the existing location and the final bridge length will be determined during final design.

**Comment:** “Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain.”

**Response:** The bridge will be replaced in the existing location and the final bridge length will be determined during final design.

2. North Carolina Wildlife Resources Commission

**Comment:** “We recommend replacing this bridge with a bridge.”

**Response:** The preferred alternate, Alternative A, replaces the existing bridge in the existing location and minimizes natural environment impacts.

3. Wilson County Schools

**Comment:** “...No problem finding an alternate detour route.”

**Response:** An off-site detour will be utilized for this project.

4. Wilson County Emergency Medical Services

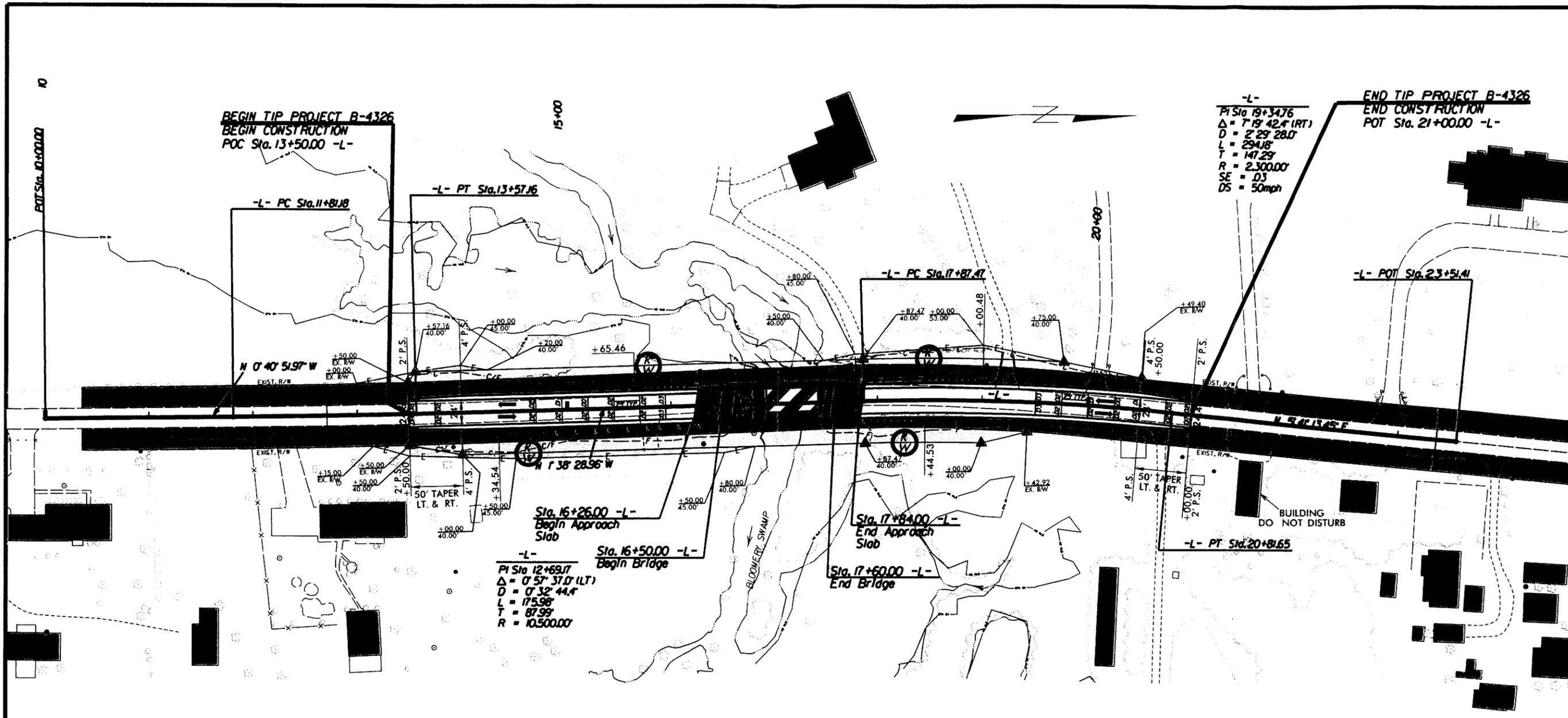
**Comment:** “We respectfully request that just prior to closing this road your office notify the Emergency Communications Center here in Wilson.”

**Response:** The project commitments include notifying Wilson County Emergency Medical Services prior to construction.

# FIGURES

- Figure 1 - Vicinity Map**
- Figure 2A - Alternate A (Preferred)**
- Figure 2B- Alternate B**
- Figure 3 - Photographs of Bridge No. 79**
- Figure 4 - Typical Roadway Section**
- Figure 5 - FEMA Floodplain Map**
- Figure 6 - Natural Communities Map**



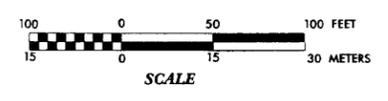


-L-  
 PI Sta 19+347.6  
 $\Delta = 71^{\circ} 42' 4" (RT)$   
 $D = 229' 28.0"$   
 $L = 294.8'$   
 $T = 147.29'$   
 $R = 2,300.00'$   
 $SE = 03$   
 $DS = 50mph$

-L-  
 PI Sta 12+69.7  
 $\Delta = 0^{\circ} 57' 37.0" (LT)$   
 $D = 0' 32' 44.4"$   
 $L = 175.98'$   
 $T = 87.99'$   
 $R = 10,500.00'$

**LEGEND**

-  BUILDINGS
  -  EXISTING RIGHT OF WAY
  -  PROPOSED RIGHT OF WAY
  -  ALL EASEMENTS
  -  EXISTING ROADWAY
  -  EXISTING ROADWAY TO BE RESURFACED
  -  PROPOSED ROADWAY
  -  PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER
  -  EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
  -  LAKES, RIVER, STREAMS, AND PONDS
  -  TEMPORARY DETOUR
  -  TEMPORARY DETOUR STRUCTURE
- 100 PRESENT ADT (2001)  
 200 FUTURE ADT (2025)



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

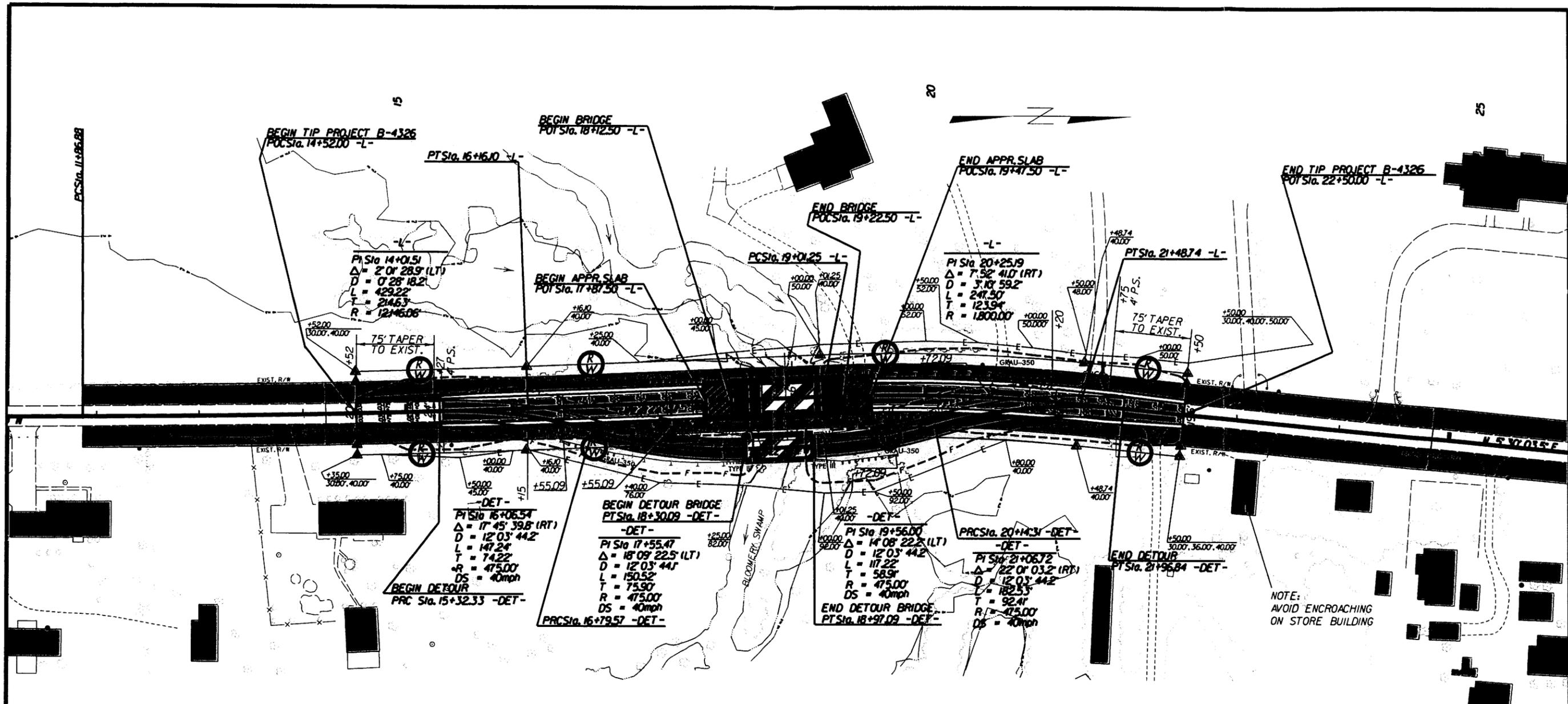


NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 PROJECT DEVELOPMENT &  
 ENVIRONMENTAL ANALYSIS BRANCH

WILSON COUNTY  
 BRIDGE NO. 79 ON SR 1001  
 OVER BLOOMERY SWAMP  
 TIP NO. B-4326

1" = 50'  
 1 cm = 6 m

ALTERNATE A  
 (PREFERRED)  
 FIGURE 2A

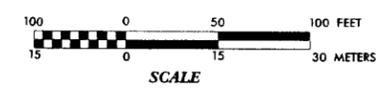


NOTE:  
AVOID ENCROACHING  
ON STORE BUILDING

**LEGEND**

- BUILDINGS
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- ALL EASEMENTS
- EXISTING ROADWAY
- EXISTING ROADWAY TO BE RESURFACED
- PROPOSED ROADWAY
- PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER
- EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
- LAKES, RIVER, STREAMS, AND PONDS
- TEMPORARY DETOUR
- TEMPORARY DETOUR STRUCTURE

100 PRESENT ADT (2001)  
200 FUTURE ADT (2025)



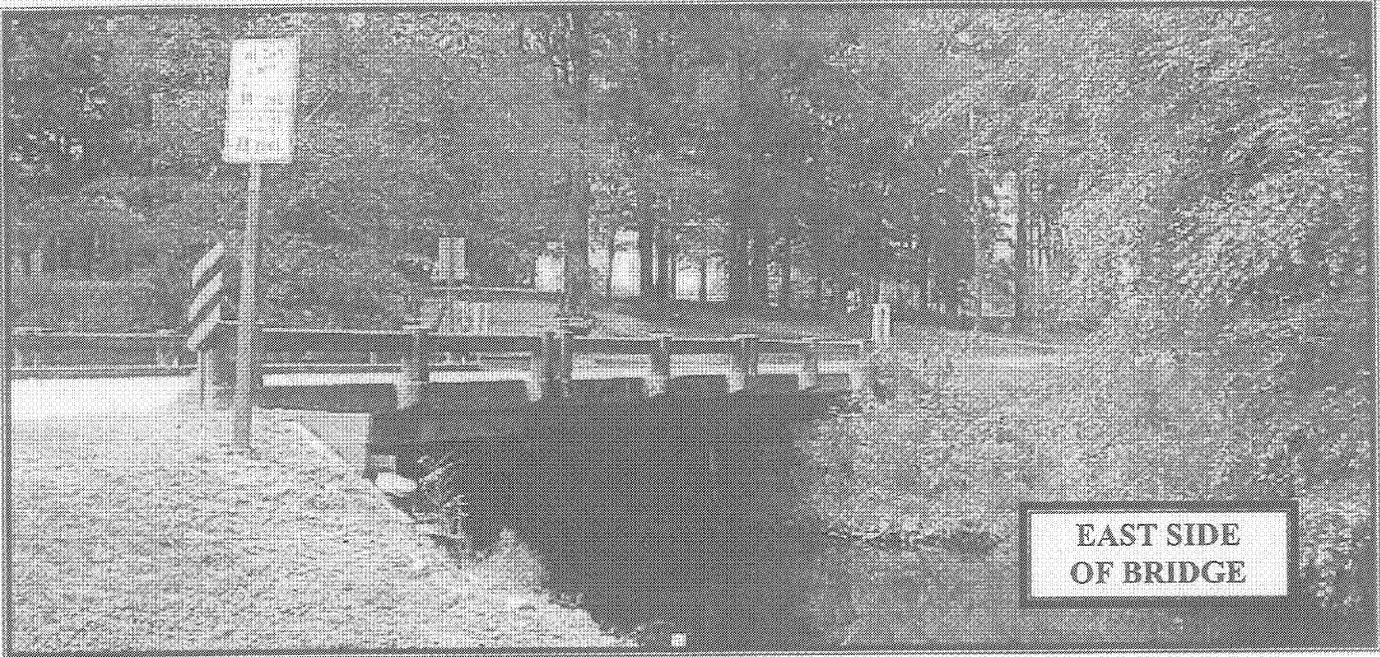
PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION  
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS BRANCH

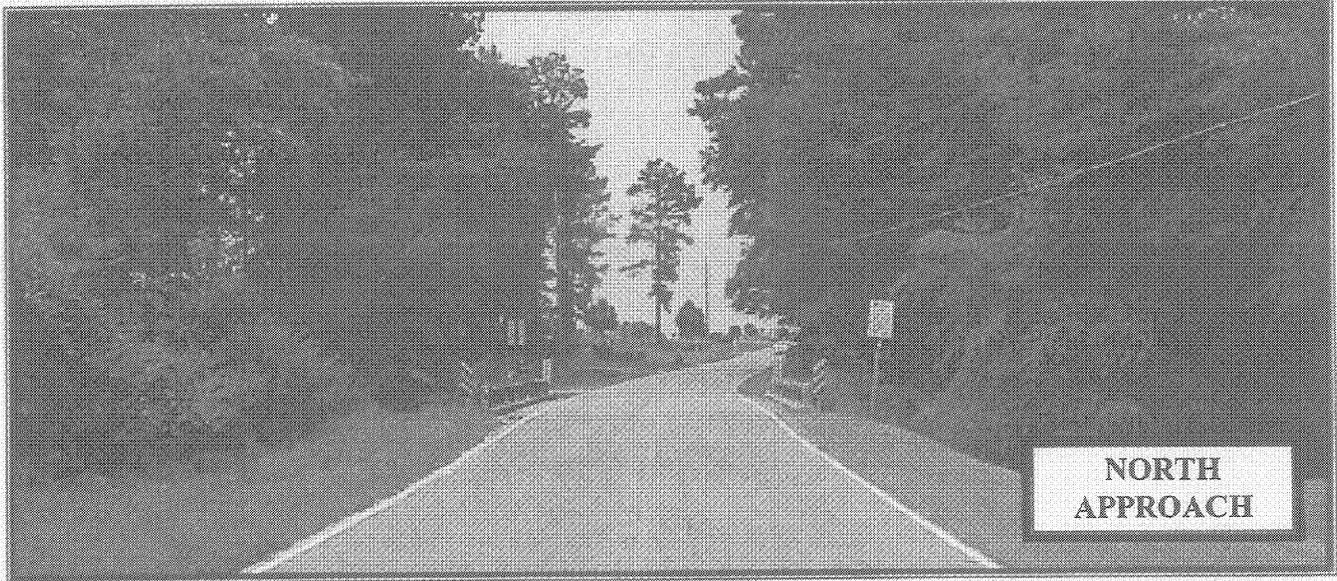
WILSON COUNTY  
BRIDGE NO. 79 ON SR 100  
OVER BLOOMERY SWAMP  
TIP NO. B-4326

1" = 50'  
1 cm = 6 m

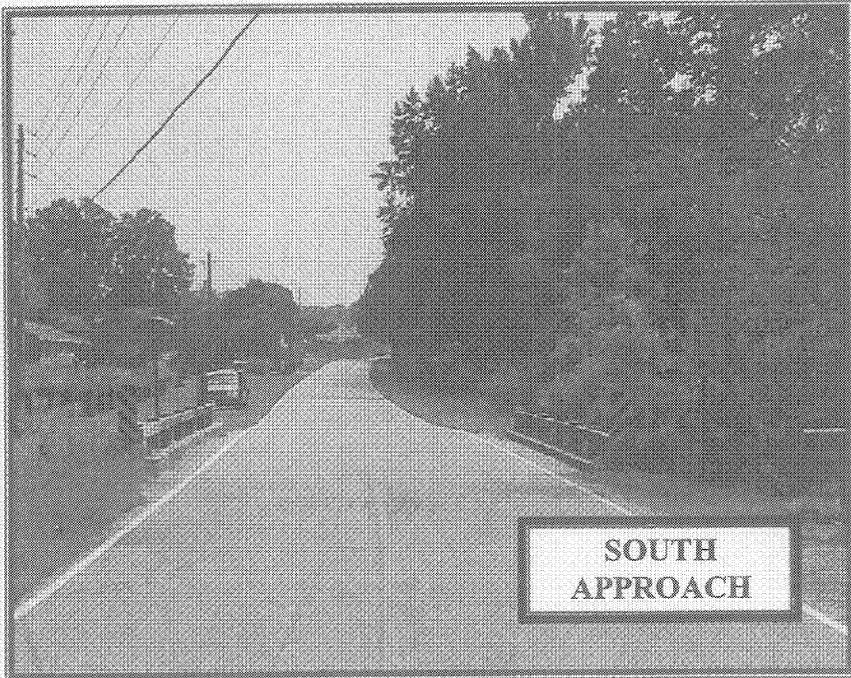
ALTERNATE B  
FIGURE 2B



**EAST SIDE  
OF BRIDGE**



**NORTH  
APPROACH**

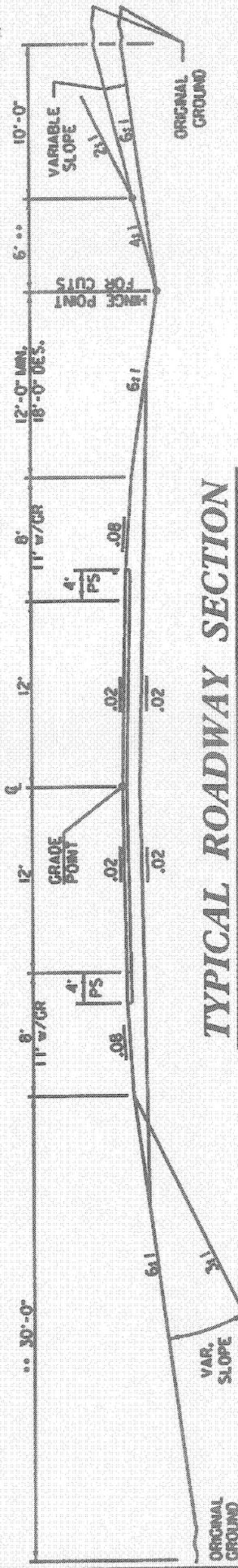


**SOUTH  
APPROACH**

**B-4326  
Replacement of Bridge  
No. 79 on SR 1001  
Over Bloomery Swamp  
Wilson County**

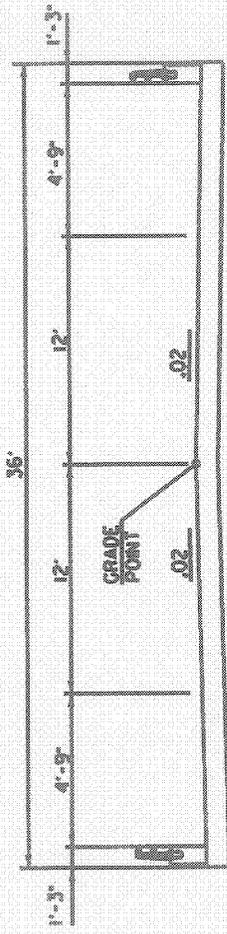


**FIGURE 3**



**TYPICAL ROADWAY SECTION**

.. WHEN THESE DISTANCES INDICATE SLOPES OUTSIDE THE LIMITS 6:1 TO 3:1, THE DISTANCE BECOMES VARIABLE AND THE MAX. OR MIN. SLOPE MAINTAINED.



**TYPICAL BRIDGE SECTION**  
EXISTING BRIDGE LENGTH IS 53 FT.

• - BICYCLE ROUTE

**TRAFFIC DATA**

ADT 2002	2,600	LOS A
ADT 2004	2,800	LOS A
ADT 2030	5,400	LOS B
DUAL		2%
TTST		3%

**FUNCTIONAL CLASSIFICATION:  
RURAL MINOR COLLECTOR**



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS BRANCH

WILSON COUNTY

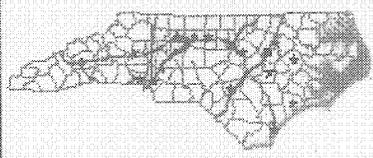
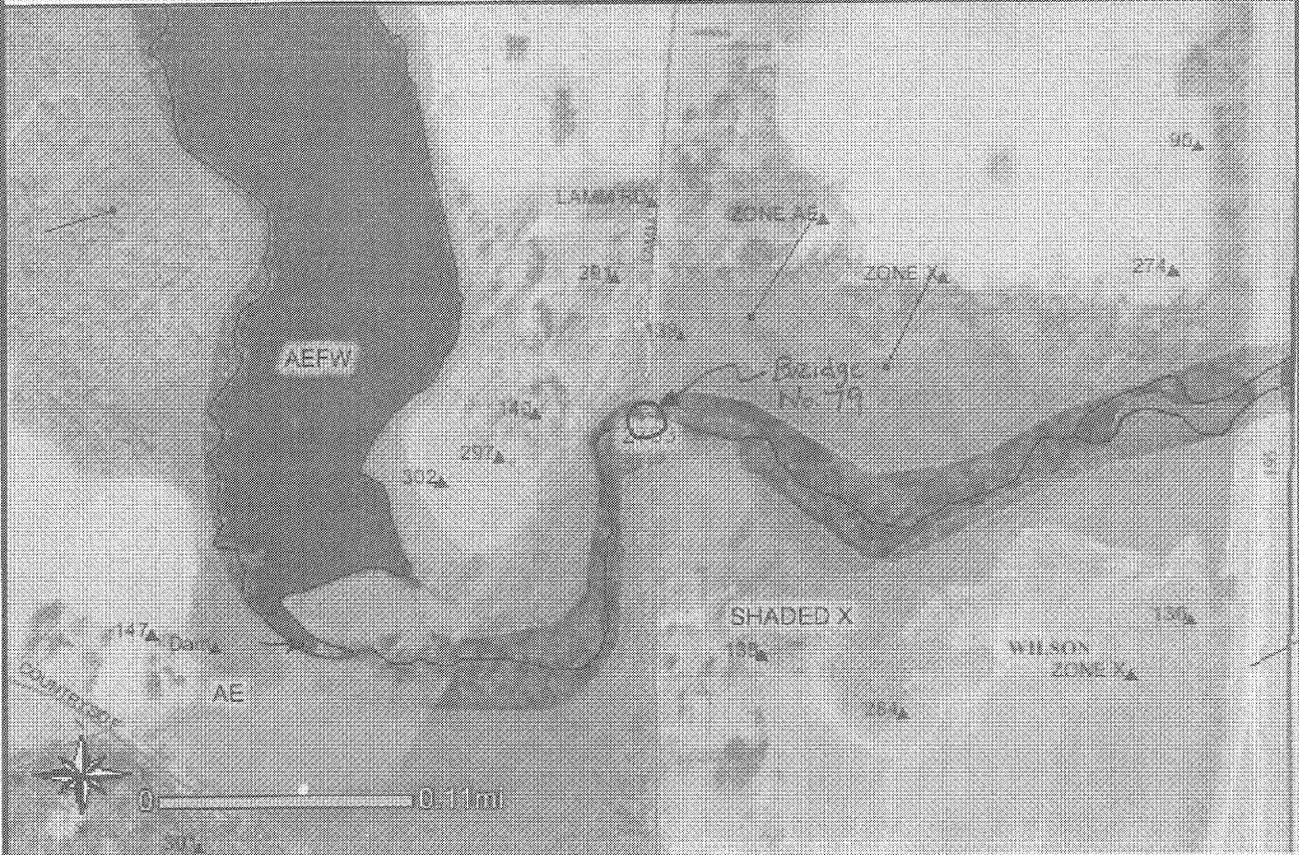
BRIDGE NO. 79 ON SR 1001  
OVER BLOOMERY SWAMP

B-4326

FIGURE 4

# B-4326 WILSON COUNTY

Mon Jul 19 13:13:28 EDT 2004



- DFIRM GRID
- DFIRM Available
- Elevation Data Grid
- Annotation Points
- DFIRM Label Leader Lines
- NH Streamlines
- NC Secondary Roads
- Railroads
- Roads
- Rivers and Streams
- Flood Hazard (cont)

### Legend

- 100yr Flooding - No BFE's (A)
- 100yr Flood - Velocity Zone (V or VE)
- 100yr Shallow Flooding (AD or AH)
- 500yr Flooding (X or Shaded X)
- 100yr Flooding - Has BFE's (AE)
- 100yr Flood/Way (AEFW)
- Municipal Boundary
- Coastal Sounds
- Water
- County Boundaries
- Aerial Photography

**North Carolina**  
 Cooperating Technical State  
 FEMA'S COOPERATING TECHNICAL PARTNER  
**N.C. Floodplain Mapping Information System**  
 On-Line Mapping Application Provided by the  
 North Carolina Floodplain Mapping Program  
 Disclaimer: This is not a legally binding (FIRM) Flood  
 Insurance Rate Map and should not be used as such.

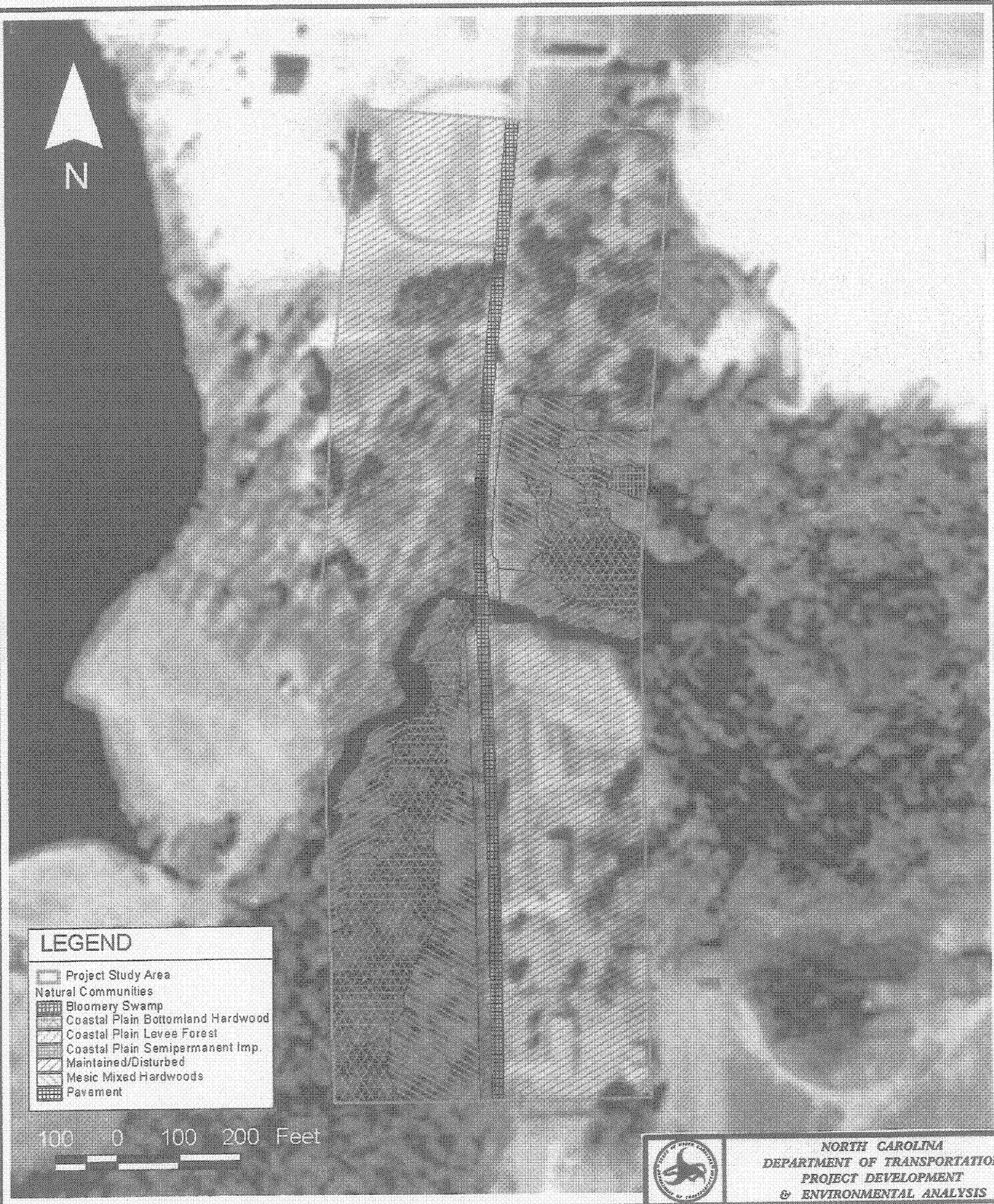


NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 PROJECT DEVELOPMENT  
 & ENVIRONMENTAL ANALYSIS

WILSON COUNTY  
 BRIDGE NO. 79 ON SR 1001  
 OVER BLOOMERY SWAMP

TIP NO. B-4326

FEMA FLOODPLAIN MAP  
 FIGURE 5



**LEGEND**

-  Project Study Area
- Natural Communities
-  Bloomy Swamp
-  Coastal Plain Bottomland Hardwood
-  Coastal Plain Levee Forest
-  Coastal Plain Semipermanent Imp. Maintained/Disturbed
-  Mesic Mixed Hardwoods
-  Pavement



**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT  
& ENVIRONMENTAL ANALYSIS**

**WILSON COUNTY  
BRIDGE NO. 79 ON SR 1001  
OVER BLOOMERY SWAMP  
TIP NO. B-4326**

**NATURAL COMMUNITIES MAP  
FIGURE 6**

# **APPENDIX A**

**Comments received from Federal, State, and Local Agencies**

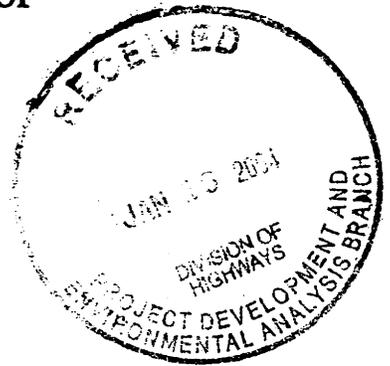


# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Raleigh Field Office  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

January 13, 2004



Gregory J. Thorpe, Ph.D.  
North Carolina Department of Transportation  
Project Development and Environmental Analysis  
1548 Mail Service Center  
Raleigh, NC 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 the following nine bridges:

- B-4018, Beaufort County, Bridge No. 104 on NC 32 over Broad Creek
- B-4019, Beaufort County, Bridge No. 103 on NC 32 over Runyon Creek
- B-4020, Beaufort/Pitt County, Bridge No. 8 on SR 1403 over Tranters Creek
- B-4055, Carteret County, Bridge No. 22 on SR 1124 over Branch of Newport River
- B-4132, Halifax County, Bridge No. 97 on NC 561 over Looking Glass Swamp
- B-4172, Lenoir County, Bridge No. 9 on NC 55 over Jericho Run
- B-4212, Northampton County, Bridge No. 77 on NC 35 over Kirby's Creek
- B-4321, Wayne County, Bridge No. 17 on SR 1918 over Carraway Creek
- B-4326, Wilson County, Bridge No. 79 on SR 1001 over Bloomery Swamp

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

B-4020, Beaufort/Pitt County - There is a past occurrence of the West Indian manatee (*Trichechus manatus*) less than one mile south of the project area. The Service's **Guidelines For Avoiding Impacts To The West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters** should be implemented to minimize impacts to this species. These guidelines can be found at <http://nc-es.fws.gov/es/publications.html>.

B-4055, Carteret County - There are known occurrences of red-cockaded woodpeckers (*Picoides borealis*) and rough-leaved loosestrife (*Lysimachia asperulaefolia*) within two and three miles, respectively, of the project area. If habitat for these or any other listed species occurs at the site, appropriate surveys should be conducted. In addition, this site occurs within the Croatan Game Lands area. Impacts to this protected area should be minimized to the maximum extent practical.

We reserve the right to review any federal permits that may be required for this project, 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 this project 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;

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 flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area.

A list of federally protected species for each county in North Carolina can be found at <http://nc-es.fws.gov/es/countyfr.html> . Additional information about the habitats in which each species is often found can also be found at <http://endangered.fws.gov> . Please note, the use of the North Carolina Natural Heritage Program data should not be substituted for actual field surveys if suitable habitat occurs near the project site. If suitable habitat exists in the project area, we recommend that biological surveys for the listed species be conducted and submitted to us for review. All survey documentation must include survey methodologies and results.

We do not have any specific comments for the individual projects, with the exception of the following two:

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

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

Sincerely,



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

cc: Mike Bell, USACE, Washington, NC  
Bill Biddlecome, USACE, Washington, NC  
John Hennessy, NCDWQ, Raleigh, NC  
Travis Wilson, NCWRC, Creedmoor, NC  
Chris Militscher, USEPA, Raleigh, NC

Federal Aid # BRZ-1001(27)

TIP# B-4326

County: Wilson

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

Project Description: Replace Bridge No. 79 on SR 1001 over Bloomery Swamp

On June 14, 2004 representatives of the

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

Reviewed the subject project at

- Scoping meeting
- Historic architectural resources photograph review session/consultation
- Other

All parties present agreed

- There are no properties over fifty years old within the project's area of potential effects.
- 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 properties identified as BRZ 79 are considered not eligible for the National Register and no further evaluation of them is necessary. (built 1951)
- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- 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 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:

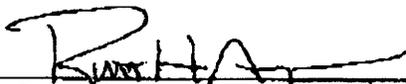
*See attached notes*



Representative, NCDOT

14 June 2004

Date



FHWA, for the Division Administrator, or other Federal Agency

6/14/04

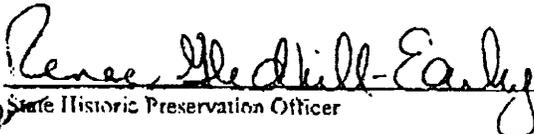
Date



Representative, HPO

6/14/04

Date



State Historic Preservation Officer

6-14-04

Date

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

14 June 2004

**Project: Replace Bride No. 79 on SR 1001**  
**Attachment**

TIP: B-4326; County: Wilson

Fieldwork has been conducted for the project. The bridge itself is recommended not eligible based on the NCDOT Historic Bridge Inventory.

A country store was identified in the Area of Potential Effects. Country stores located close to the road have become a building type of historical interest:

A finding of "No Historic Properties Affected" has been determined, based on the following change to the project:

- The project limits have been reduced to avoid encroaching upon the country store building.
- See attached original project limits dated 04/20/04 and revised project limits dated 06/09/2004 showing the note "avoid encroaching on store building."



CITIZENS PARTICIPATION  
RECEIVED

MAY 12 2005

**North Carolina Department of Cultural Resources**  
**State Historic Preservation Office**

Peter B. Sandbeck, Administrator

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

Office of Archives and History  
Division of Historical Resources  
David Brook, Director

May 6, 2005

**MEMORANDUM**

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

**FROM:** Peter Sandbeck *PBS for Peter Sandbeck*

**SUBJECT:** Federal Categorical Exclusion, Bridge 79 on SR 1001 over Bloomery Swamp, TIP B-4326,  
Wilson County, ER 04-0109

Thank you for your letter of March 22, 2005, transmitting the Categorical Exclusion (CE) for the above project. We believe the CE adequately addresses our concerns for historic resources.

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.

**cc:** John F. Sullivan  
NCDOT, Federal Highway Administration

**ADMINISTRATION**  
**RESTORATION**  
**SURVEY & PLANNING**

**Location**  
507 N. Blount Street, Raleigh NC  
515 N. Blount Street, Raleigh NC  
515 N. Blount Street, Raleigh, NC

**Mailing Address**  
4617 Mail Service Center, Raleigh NC 27699-4617  
4617 Mail Service Center, Raleigh NC 27699-4617  
4617 Mail Service Center, Raleigh NC 27699-4617

**Telephone/Fax**  
(919)733-4763/733-8653  
(919)733-6547/715-4801  
(919)733-6545/715-4801



North Carolina Department of Cultural Resources  
State Historic Preservation Office

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

Division of Historical Resources  
David L. S. Brook, Director

February 18, 2004

MEMORANDUM

TO: Stacey Baldwin  
Project Development and Environmental Analysis  
NCDOT Division of Highways

FROM: David Brook *David Brook*

SUBJECT: Request for Comments for Group 50 Bridge Replacements:  
Bridge No. 104 on NC 32 over Broad Creek, B-4018, Beaufort County, ER04-0102  
Bridge No. 103 on NC 32 over Runyon Creek, B-4019, Beaufort County, ER04-0103  
Bridge No. 8 on SR 1403 over Tranters Creek, B-4020, Beaufort/Pitt Counties, ER04-0104  
Bridge No. 22 on SR 1124 over Branch of Newport River, B-4055, Carteret County, ER04-0105  
Bridge No. 97 on NC 561 over Looking Glass Swamp, B-4132, Halifax County, ER04-0106  
Bridge No. 9 on NC 55 over Jericho Run, B-4172, Lenoir County, ER04-0107  
Bridge No. 77 on NC 35 over Kirby's Creek, B-4212, Northampton County, ER04-0078  
Bridge No. 17 on SR 1918 over Creek, B-4321, Wayne County, ER04-0108  
Bridge No. 79 on SR 1001 over Bloomery Swamp, B-4326, Wilson County, ER04-0109

Thank you for your letters of January 8, 2004, concerning the above projects.

We are unable to comment on the potential effect of these projects on cultural historic resources until we receive further information.

Please forward a labeled 7.5 minute USGS quadrangle map for each of the above projects clearly indicating the project vicinity, location, and termini. In addition, please include the name of the quadrangle map.

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.

Two copies of the resulting archaeological survey report, as well as one copy of the appropriate site forms, should be forwarded to us for review and comment as soon as they are available and well in advance of any construction activities.

[www.hpo.dcr.state.nc.us](http://www.hpo.dcr.state.nc.us)

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh, NC 27699-4617	(919) 733-4763 • 733-8653
RESTORATION	515 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh, NC 27699-4617	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh, NC 27699-4617	(919) 733-4763 • 715-4801

February 18, 2004

Page 2

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.

cc: Mary Pope Furr, NCDOT  
Matt Wilkerson, NCDOT



## North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

### MEMORANDUM

TO: Elmo Vance  
Project Development and Environmental Analysis Branch, NCDOT

FROM: Travis Wilson, Highway Project Coordinator *T. Wilson*  
Habitat Conservation Program

DATE: February 5, 2004

SUBJECT: NCDOT Bridge Replacements in Beaufort, Carteret, Halifax, Lenoir, Northampton, Wayne, and Wilson counties. TIP Nos. B-4018, B-4019, B-4020, B-4055, B-4132, B-4172, B-4212, B-4321, and B-4326.

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 stream 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. Hal Bain~~ <sup>No longer with DOT</sup> 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. B-4018, Beaufort County, Bridge No. 104 over Broad Creek on NC 32. We recommend replacing this bridge with a bridge. Adult and juvenile anadromous species are found in this portion of Broad Creek, including striped bass, American shad, river herring, and hickory shad. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Standard recommendations apply.

2. B-4019, Beaufort County, Bridge No. 103 over Runyon Creek on NC 32. We recommend replacing this bridge with a bridge. Adult and juvenile anadromous species are found in this portion of Runyon Creek, including striped bass, American shad, river herring, and hickory shad. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Standard recommendations apply.
3. B-4020, Beaufort County, Bridge No. 8 over Tranter's Creek on SR 1403. We recommend replacing this bridge with a bridge. Adult and juvenile anadromous species are found in this portion of Tranter's Creek, including striped bass, American shad, river herring, and hickory shad. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Standard recommendations apply.
4. B-4055, Carteret County, Bridge No. 22 over Branch of Newport River on SR 1124. We recommend replacing this bridge with a bridge. Adult and juvenile anadromous species are found in this area, including striped bass, American shad, blueback herring, and hickory shad. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Standard recommendations apply.
5. B-4132, Halifax County, Bridge No. 97 over Looking Glass Swamp on NC 561. We recommend replacing this bridge with a bridge. Anadromous species are found in this portion of Looking Glass Swamp, including alewife and blueback herring. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. Standard recommendations apply.
6. B-4172, Lenoir County, Bridge No. 9 over Jericho Run on NC 55. We recommend replacing this bridge with a bridge. Standard recommendations apply.
7. B-4212, Northampton County, Bridge No. 77 over Kirby's Creek on NC 35. We recommend replacing this bridge with a bridge. Anadromous species are found in this portion of Kirby's Creek, including alewife and blueback herring. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. Standard recommendations apply.
8. B-4321, Wayne County, Bridge No. 17 over Caraway Creek on SR 1918. We recommend replacing this bridge with a bridge. Anadromous species are found in this portion of Caraway Creek, including alewife and blueback herring. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. Standard recommendations apply.
9. B-4326, Wilson County, Bridge No. 79 over Bloomery Swamp on SR 1001. We recommend replacing this bridge with a bridge. 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.

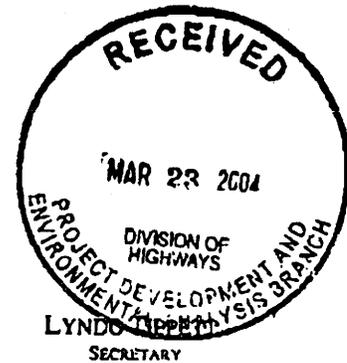
If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on these projects.

Cc: Gary Jordan, U.S. Fish and Wildlife Service, Raleigh



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR



March 18, 2004

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

FROM: David P. Bender, AICP  
Program Manager *[Signature]*

SUBJECT: Scoping Review Bridge Replacement Projects **B-4018, B-4019, B-4020, B-4055, B-4132, B-4172, B-4212, B-4321 and B-4326.**

In response to your January 8, 2004 memorandum, you requested our input regarding the proposed improvements to the subject projects.

These sections of roadway SR 1918 (**B-4321**), NC 35 (**B-4212**), NC 55 (**B-4172**), NC 561 (**B-4132**) and SR 1124 (**B-4055**) do not correspond to a current bicycle TIP request, nor are they a designated bicycle route. At the present we have no indication that there is an unusual number of bicyclists using these roads.

The section of SR 1001 (**B-4326**) is part of a designated NC Bicycling Highway, NC-7 Ocracoke Option. We recommend ASSHTO standard bicycle-safe bridge railing height of 54 in. and 4 foot paved shoulders in both directions for shoulder sections or 14 foot wide lanes in curb and gutter sections continued for at least 100 ft. on either side of the improvements depending on the preferred cross section.

The section of SR 1403 (**B-4020**), NC 32 (**B-4019**) and NC 32 (**B-4018**) are part of a designated NC Bicycling Highway, NC-2 Mountains-to-Sea. We recommend ASSHTO standard bicycle-safe bridge railing height of 54 in. and 4 foot paved shoulders in both directions for shoulder sections or 14 foot wide lanes in curb and gutter sections continued for at least 100 ft. on either side of the improvements depending on the preferred cross section.

We appreciate the opportunity to comment on this project. If there is a need for further information, please do not hesitate to contact me at 715-2340.

cc: Tom Norman, Director

MAILING ADDRESS:  
NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF BICYCLE & PEDESTRIAN TRANSPORTATION  
1552 MAIL SERVICE CENTER  
RALEIGH NC 27689-1552

TELEPHONE: 919-715-2340  
FAX: 919-715-4422

WEBSITE: [WWW.DOT.STATE.NC.US/TRANSIT/BICYCLE/](http://WWW.DOT.STATE.NC.US/TRANSIT/BICYCLE/)  
EMAIL: [DBENDER@DOT.STATE.NC.US](mailto:DBENDER@DOT.STATE.NC.US)

LOCATION:  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
ROOM 304  
RALEIGH NC

**Greg Purvis**

---

**From:** Tammy Williford [twilliford@wilson-co.com]  
**Sent:** Thursday, March 31, 2005 4:12 PM  
**To:** Greg Purvis  
**Subject:** Wilson County

1817 Glendale Dr.  
Wilson, NC 27893

Phone: 252-265-5560  
Fax: 252-399-7510

**Wilson County  
Emergency Medical  
Services**

# Fax

<b>To:</b> Greg Purvis, P.E.	<b>From:</b> Tammy Williford
<b>Fax:</b> 919-677-9744	<b>Date:</b> March 31, 2005
<b>Phone:</b> 919-677-9544	<b>Pages:</b> 1
<b>Re:</b> Bridge No. 79 in Wilson County	<b>CC:</b>

**Urgent**      **x For Review**      **Please Comment**      **Please Reply**      **Please Recycle**

---

**•Comments:** Mr. Purvis,

I have reviewed your information regarding the replacement of Bridge No. 79 on SR 1001 over Bloomery Swamp in Wilson County. We respectfully request that just prior to closing this road your office notify the Emergency Communications Center here in Wilson. Their number is 252-237-8300, ext. 2. This will allow them to re-route our ambulances as needed to have a quicker response time to those who require emergency care. Thank you for sharing this information with us and allowing us to comment. If you have questions, please call me.

Thank you,

Tammy Williford



# WILSON COUNTY SCHOOLS

Administrative Services, Transportation

**MEMORANDUM**

**TO: Elmo Vance**  
**Project Development & Environmental Analysis Branch**

**FROM: Phillip Williamson** *(Signature)* **Director of Transportation**

**RE: Buses on SR 1001, Wilson County**

**DATE: 29-Jan-04**

I received the information on the plan to replace bridge No. 79 on SR 1001 over Bloomery Swamp. According to our records we have five (5) buses crossing that bridge daily. Three of the buses are transporting elementary, middle and high school students. Two of the buses are transporting special needs students. If you have further questions, please contact me at my office at (252) 399-7835

Post-it® Fax Note	7671	Date	# of pages ▶
To	GRB FURVIS	From	Elmo Vance
Co./Dept	TRANS	Co.	NC DOT - PDEA
Phone #		Phone #	733-7844 EXT 43
Fax #	677-9544	Fax #	



# WILSON COUNTY SCHOOLS

Administrative Services, Transportation

## MEMORANDUM

TO: *William T. Goodwin, Jr. PE*  
*Project Development & Environmental Analysis Branch*

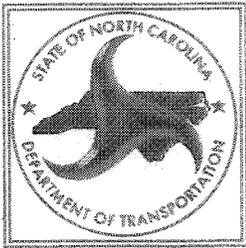
FROM: *Phillip D. Williamson, Director of Transportation*

SUBJECT: **Replacement of Bridge 79 on SR 1001 over Bloomery  
Swamp, Wilson County**

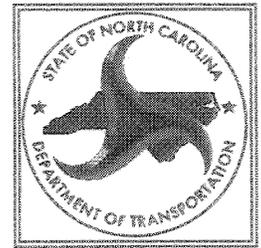
DATE: *October 23, 2002*

Mr. Goodwin, We have 6 buses using SR 1001 daily but would have no problem finding an alternate route. I believe we should be able to re-route the buses down Countryside Road or Bloomery Road to get them where they need to go.

If you have questions or concerns, please contact me at (252)399-7835.



# NEWSLETTER

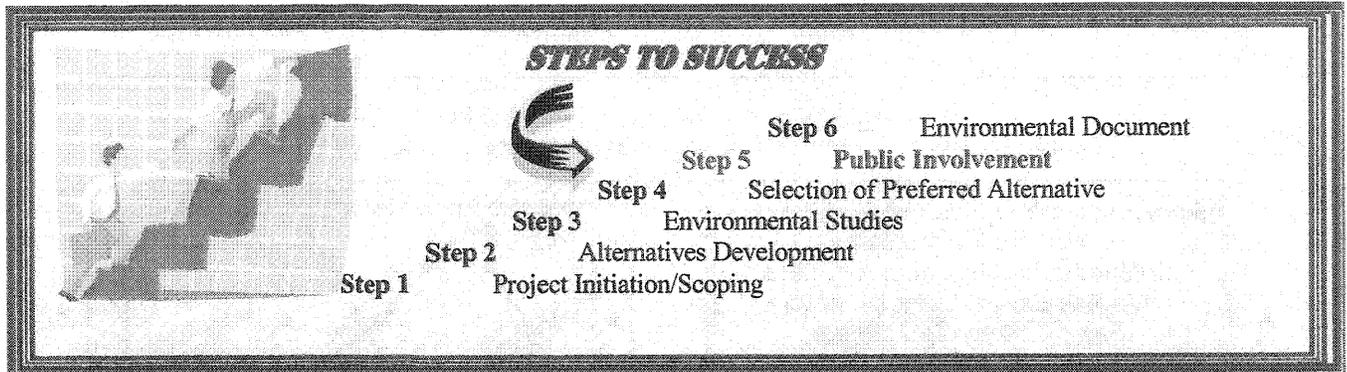


Wilson County  
For Replacement of Bridge No. 79  
Over Bloomery Swamp On SR 1001  
TIP Project No. B-4326

*Citizens Informational Workshop*

*Monday January 24, 2005 from 4:30 PM to 7:30 PM at James Hunt High School in Wilson*

This newsletter is published by the North Carolina Department of Transportation (NCDOT) to inform concerned citizens of an *Informational Workshop* concerning the proposed replacement and road closure of Bridge No. 79 on SR 1001 over Bloomery Swamp (TIP Project No. B-4326). This newsletter gives an overview of the steps in the project development process and presents the bridge replacement alternatives evaluated.



***THE PROJECT DEVELOPMENT PROCESS***

During **Step 1** of the project development process, information was collected on the existing human and natural environments. This information was used to identify preliminary alternatives for replacing Bridge No. 79. In **Step 2**, the preliminary alternatives were evaluated and two “build” alternatives were selected for detailed environmental studies. **Steps 3 and 4** involved conducting the detailed environmental studies for the “build” alternatives and selecting a preferred alternative. The build alternatives were:

**Alternate A**, replacing the existing bridge at the existing location, while maintaining traffic by an off-site detour route is the preferred alternate. The off-site detour is along SR 1309 and US 264 Alternate approximately 4.7 miles in length. Alternate A was selected because of the comparatively lower construction cost, lower environmental impacts, and lesser construction time associated with it.

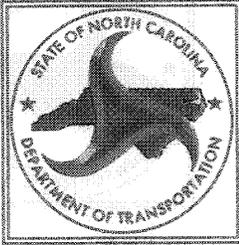
**Alternate B** replaces the bridge on existing alignment. During construction, traffic will be

maintained by an on-site temporary detour structure located east of the existing bridge. Alternate B was not chosen because it has comparatively higher natural environment impacts and construction cost.

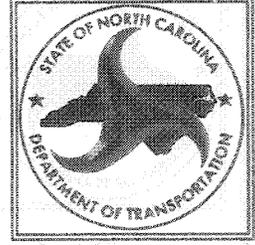
The NCDOT is aware that citizens living in the proposed project area want to know the potential effects of the project on their homes and businesses. However, exact information is not available at this stage in the planning process. Additional design work will be performed before the actual right-of-way limits can be established. This newsletter is to inform the public of the replacement of Bridge No. 79 and solicit your input on the project.

Planning and environmental studies for this project are in progress. The Federal Categorical Exclusion (CE) is scheduled for approval in February 2005. The CE will address the potential impacts of the proposed bridge replacement on the human and natural environments and will include recommended design criteria for the project. Input received from the public will be included in the decision making process.

A Citizens Informational Workshop will be held **Monday, January 24, 2005 at James Hunt High School, 4559 Lamm Road in Wilson**. The preferred alternate will be displayed at the Citizens Informational Workshop for *your* review and comments. Following the informational workshop and evaluation of the comments, an environmental document will be published.



# NEWSLETTER



Public involvement is an important part of the project planning process. The North Carolina Department of Transportation is committed to ensuring all issues of concern to the public are addressed and considered. We encourage you to attend the Citizens Informational Workshop and discuss your views with the Project study team. If you are unable to attend, you may send your comments to one of the addresses listed below. **Your comments are important to us!**



Ms. Karen B. Taylor, P.E.  
NCDOT - PD&EA Branch  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548  
(919) 733-7844, ext. 223  
*email:kbtaylor@dot.state.nc.us*

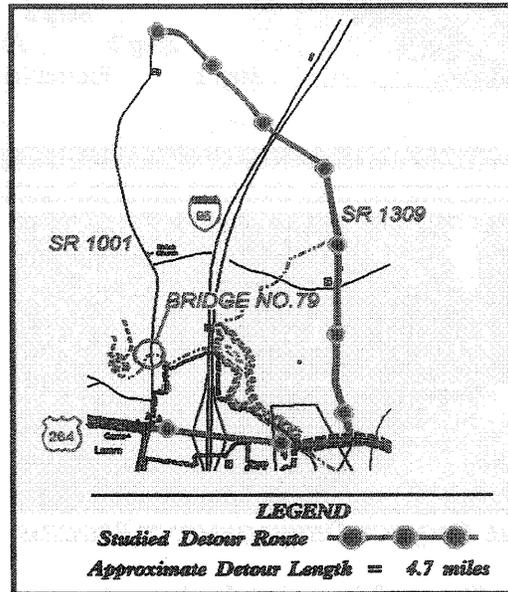
or Mr. Greg Purvis, P.E.  
Wang Engineering  
15200 Weston Parkway, Suite 101  
Cary, North Carolina 27513  
(919) 677-9544  
*email:gpurvis@wang-engineering.com*



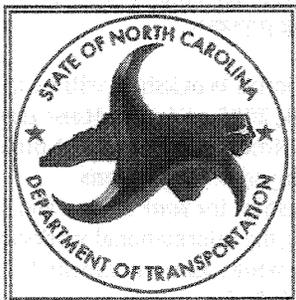
**If you have transportation questions on other projects,  
call the NCDOT Customer Service Office toll-free at 1-877-DOT-4YOU.**

**You are invited to a  
Citizens Informational Workshop  
On Monday January 24, 2005  
From 4:30 pm to 7:30 pm  
At  
James Hunt High School  
4559 Lamm Road  
in  
Wilson**

**WILSON COUNTY  
Replacement of Bridge No. 79  
Over Bloemery Swamp  
On SR 1001  
TIP PROJECT NO. B-4326**



**North Carolina Department of Transportation  
Project Development and Environmental Analysis  
1548 Mail Service Center  
Raleigh NC 27699-1548**



NOTICE OF A CITIZENS INFORMATIONAL WORKSHOP  
FOR THE PROPOSED REPLACEMENT OF BRIDGE NO. 79 ON  
SR 1001 OVER BLOOMERY SWAMP IN WILSON, NC

WBS No. 33663.1.1

TIP Project No. B-4326

Wilson County

The North Carolina Department of Transportation (NCDOT) will hold the above Citizens Informational Workshop on Monday, January 24, 2005 between the hours of 4:30 p.m. and 7:30 p.m. at James Hunt High School's Media Center located on 4559 Lamm Rd. in Wilson, NC.

The purpose of this workshop is for NCDOT representatives to provide information, answer questions, and accept written comments regarding this project. NCDOT proposes to replace Bridge No. 79 on SR 1001 over Bloomery Swamp. During construction, traffic will be maintained by an off-site detour route along SR 1309 and US 264 Alternate approximately 4.7 miles in length.

Anyone desiring additional information may contact Karen B. Taylor, P.E., NCDOT Project Development Engineer, at 1548 Mail Service Center, Raleigh, NC 27699-1548, by phone at (919) 733-7844 ext. 223, fax at (919) 733-9794, or E-mail at [kbtaylor@dot.state.nc.us](mailto:kbtaylor@dot.state.nc.us) .

NCDOT will provide auxiliary aids and services for disabled persons who wish to participate in this workshop, to comply with the Americans with Disabilities Act. To request special assistance, please contact Ms. Taylor as early as possible so that arrangements can be made.

# PUBLIC INVOLVEMENT AND THE PROJECT PLANNING PROCESS

## ESTIMATED TRAFFIC VOLUMES

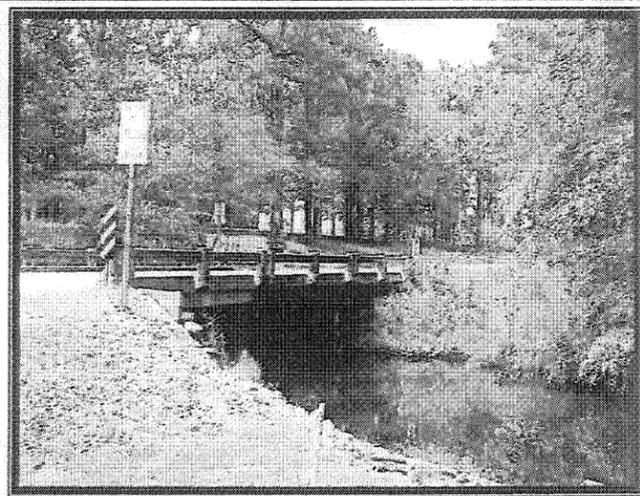
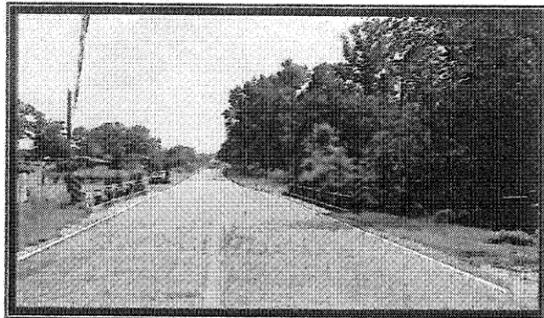
The estimated 2004 average daily traffic volume is 2,800 vehicles per day (vpd). The projected traffic volume is expected to increase to 5,400 vpd by the design year 2030.

## PROJECT PLANNING

The planning and environmental studies for this highway project will comply with the National Environmental Policy Act (NEPA). The type of document published for this project will be a Federal Categorical Exclusion (CE). This document will fully discuss the purpose and need for the proposed improvements, evaluate alternatives, and analyze the project's impacts on both the human and natural environment.

Some topics that the document will address include:

- Neighborhood and community impacts
- Efficiency and safety of travel
- Relocation of homes and businesses
- Economy of project area
- Historic properties and sites
- Wetlands
- Endangered species
- Wildlife and plant communities
- Water quality
- Floodplains
- Farmland and land use plans of project area
- Hazardous materials involvement
- Traffic noise and air quality



## CURRENT STATUS

Planning and environmental studies for this project are in progress. The Federal Categorical Exclusion (CE) is scheduled for approval in February 2005. The CE will address the potential impacts of the proposed bridge replacement on the human and natural environments and will include recommended design criteria for the project. Input received from the public will be included in the decision making process.

## PUBLIC INVOLVEMENT IN PROJECT PLANNING

Public involvement is an integral part of NCDOT's project planning process. The concerns of citizens and interest groups are always considered during project planning studies. Often, additional project alternatives are studied, or existing alternatives changed, based on comments received from the public.

If you have comments concerning the NCDOT or questions regarding other projects, you may call the NCDOT Customer Service Department toll-free at 1-877-DOT-4YOU.

If additional information is needed or you would like to submit comments after the workshop, please address your requests and comments to:

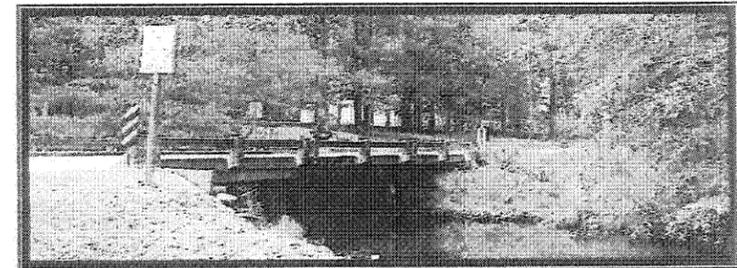
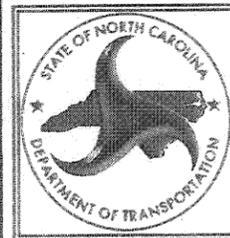
Ms. Karen B. Taylor, P.E.  
Project Development & Environmental Analysis Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548  
EMAIL: [kbtaylor@dot.state.nc.us](mailto:kbtaylor@dot.state.nc.us)  
TELEPHONE: (919)733-7844, ext. 223

Mr. Greg Purvis, P.E.  
Wang Engineering  
15200 Weston Parkway Suite 101  
Cary, NC 27513  
EMAIL: [gpurvis@wang-engineering.com](mailto:gpurvis@wang-engineering.com)  
TELEPHONE: (919)677-9544



Monday January 24, 2005, from 4:30 PM to 7:30 PM, at James Hunt High School

# Citizens Informational Workshop



Wilson County  
For Replacement of Bridge No. 79  
Over Bloomery Swamp On SR 1001  
**TIP Project No. B-4326**

The North Carolina Department of Transportation (NCDOT) has begun the engineering and environmental studies for the replacement of Bridge No. 79 on SR 1001 Bloomery Swamp. The studies consist of alternative evaluations, preliminary engineering, environmental analysis, and the preparation of an environmental document.

The purpose of this workshop is to review the reasonable and feasible alternates with interested citizens and to receive comments concerning the proposed project. Representatives of the NCDOT are available to answer your questions and discuss the project with you. If you have comments or suggestions about the proposed improvements described in this handout, please inform a representative of the North Carolina Department of Transportation.

The NCDOT is aware that citizens living in the proposed project area want to know the potential effects of the project on their homes and businesses. However, exact information is not available at this stage in the planning process. Additional design work will be performed before the actual right-of-way limits can be established. This workshop is to inform the public of the replacement of Bridge No. 79 and solicit your input on the project.

You are encouraged to view the project maps and displays. Please ask questions if you have any and complete the enclosed comment sheet. We will keep a record of your comments and consider your suggestions concerning the proposed replacement of Bridge No. 79.

## PROJECT PURPOSE AND DESCRIPTION

NCDOT's 2004-2010 Transportation Improvement Program (TIP) proposes to replace Bridge No. 79 on SR 1001 over Bloomery Creek (see vicinity map). Due to the deteriorated state of the existing structure, improvements are needed for Bridge No. 79 to meet the current NCDOT standards.

Two alternates evaluated for detailed environmental studies are described below.

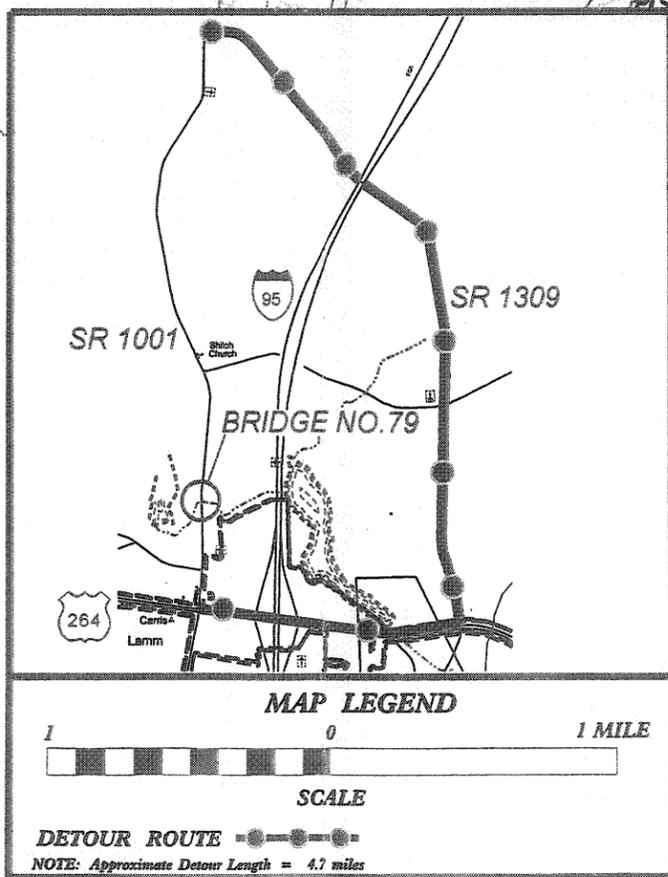
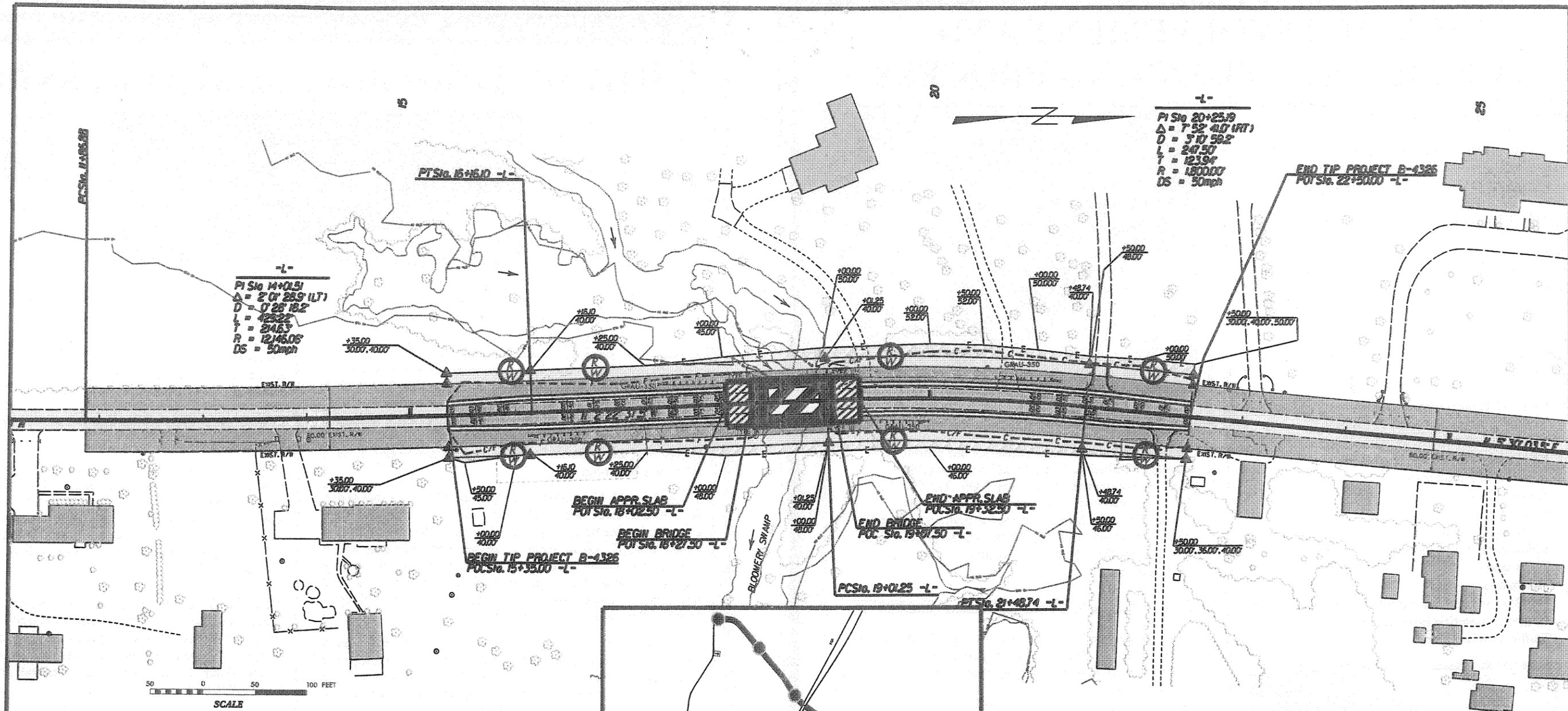
**Alternate A (Preferred)** replaces the bridge at the existing location. During construction, traffic will be maintained by an off-site detour route along SR 1309 and US 264 Alternate approximately 4.7 miles in length. Alternate A was selected because of the comparatively lower construction cost, lower environmental impacts, and lesser construction time associated with it.

**Alternate B** replaces the bridge on existing alignment. During construction, traffic will be maintained by an on-site temporary detour structure located east of the existing bridge. Alternate B was not chosen because it has comparatively higher natural environment impacts and construction cost.

## PROJECT SCHEDULE AND COST ESTIMATE

TIP Schedule		Estimated Cost	
		Alternate A	Alternate B
Right of Way	February 2006	\$ 68,000	\$ 160,000
Construction	February 2007	\$ 675,000	\$ 825,000
Total Estimated Cost		\$ 743,000	\$ 985,000

NOTE: The schedule and cost estimates are preliminary and subject to change.



LEGEND	
[Symbol]	BUILDINGS
[Symbol]	EXISTING RIGHT OF WAY
[Symbol]	PROPOSED RIGHT OF WAY
[Symbol]	ALL EASEMENTS
[Symbol]	EXISTING ROADWAY
[Symbol]	EXISTING ROADWAY TO BE RESURFACED
[Symbol]	PROPOSED ROADWAY
[Symbol]	PROPOSED STRUCTURES, ISLAND, CURB AND GUTTER
[Symbol]	EXISTING STRUCTURES, ISLAND, CURB AND GUTTER TO BE REMOVED
[Symbol]	LAKES, RIVER, STREAMS, AND PONDS
[Symbol]	TEMPORARY DETOUR
[Symbol]	TEMPORARY DETOUR STRUCTURE
100	PRESENT ADT (2001)
200	FUTURE ADT (2025)

**ALTERNATE A  
ESTIMATED  
TOTAL COST**

**\$743,000**

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

	<b>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT DEVELOPMENT &amp; ENVIRONMENTAL ANALYSIS BRANCH</b>
	<b>WILSON COUNTY BRIDGE NO. 79 ON SR 1001 OVER BLOOMEY SWAMP TIP NO. B-4326</b>
1" = 50'	<b>ALTERNATE A (PREFERRED) FIGURE 2</b>

**APPENDIX C**  
**Routine Wetland Determination Data Forms**

UP KF59

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

Project/Site: <u>TIP B-4326</u>	Date: <u>April 22, 2004</u>
Applicant/Owner: <u>NCDOT</u>	County: <u>Wilson</u>
Investigator: <u>EcoScience</u>	State: <u>NC</u>
Do Normal Circumstances exist on the site? <span style="float:right">Yes No</span>	Community ID: <u>UP</u> Transect ID: <u>KF</u> Plot ID: <u>KF59</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float:right">Yes No</span>	
Is the area a potential Problem Area? <span style="float:right">Yes No</span> (If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Rubus argutus</u>	<u>S</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Liriodendron</u>	<u>C</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Acer rubrum</u>	<u>C</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Vitis rotundifolia</u>	<u>V</u>	<u>FAC</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 100

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>+12</u> (in.) Depth to Saturated Soil: <u>+12</u> (in.)	
Remarks:	



WET KF59

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

Project/Site: <u>TP B-4326</u>	Date: <u>April 22, 2004</u>
Applicant/Owner: <u>NCDOT</u>	County: <u>Wilson</u>
Investigator: <u>Ecoscience</u>	State: <u>NC</u>
Do Normal Circumstances exist on the site? Yes No	Community ID: <u>WET</u> Transect ID: <u>KE</u> Plot ID: <u>KE59</u>
Is the site significantly disturbed (Atypical Situation)? Yes No	
Is the area a potential Problem Area? Yes No (If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Nyssa sylvatica</u>		<u>FAC</u>	9.		
2. <u>Peltandra virginica</u>		<u>OBL</u>	10.		
3. <u>Nyrdanica Keisak</u>		<u>OBL</u>	11.		
4. <u>Saururus cernuus</u>		<u>OBL</u>	12.		
5. <u>Carex</u>			13.		
6. <u>Impatiens capensis</u>		<u>FACW</u>	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 100%

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>3</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks:	

**SOILS**

Map Unit Name (Series and Phase): Bibb loam Drainage Class: Poor  
 Taxonomy (Subgroup): Typic fluvaquent's Field Observations Confirm Mapped Type:  Yes  No

**Profile Description:**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR/3/1	N/A	—	Sandy loam
10+		10YR/4/1	N/A	—	loamy sand

**Hydric Soil Indicators:**

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input checked="" type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input checked="" type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks:	

Approved by HQUSACE 2/92