STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 19, 2007

U.S. Army Corps of Engineers
Regulatory Field Office
6508 Falls of Neuse Road
Suite 120
Raleigh, NC 27615

ATTENTION: Mr. Andrew Williams
NCDOT Coordinator

Dear Sir:

Subject: **Section 404 Nationwide Permit 23 and 33 Application** for replacement of Bridge No. 165 over Paw Paw Creek tributary on SR 1376 (Paw Paw Rd.) in Rockingham County, Division 7. State Project No. 8.2511301, Federal Aid Project No. BRZ-1376(1), TIP No. B-3900; WBS Element No. 33336.1.1.

References: NCDOT letter to USFWS, September 7, 2004.
USFWS letter to NCDOT, September 16, 2004.

Please see the enclosed Pre-Construction Notification (PCN), permit drawings, roadway design plans, Programmatic Categorical Exclusion (PCE) and the Natural Resources Technical Report (NRTR) for the subject project. The North Carolina Department of Transportation (NCDOT) plans to replace the 36-foot length bridge with a double 11 foot x 9 foot x 59.5 foot reinforced concrete box culvert (RCBC) using a diversion channel to maintain flow during construction. The new RCBC will be constructed approximately 20 feet east of the existing alignment. Traffic will be detoured offsite during construction. The roadway grade of the new structure will be approximately nine feet above the existing roadway at this location. Roadwork for the shifted alignment will begin approximately 300 feet to the south of the existing bridge and end approximately 320 feet north of the existing bridge. The existing roadway approaches will be widened to provide a maximum 22 foot roadway width with two 11 foot lanes (the actual width may be three feet wider to accommodate vehicular movement). Four-foot (seven foot where guardrail is required) grass shoulders will be provided on each side.

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

TELEPHONE: 919-715-1334
FAX: 919-715-5501
WEBSITE: WWW.NCDOT.ORG

LOCATION:
2728 CAPITAL BLVD.
SUITE 240
RALEIGH NC 27604

IMPACT TO WATERS OF THE UNITED STATES

General Description: The project is located in the Roanoke River basin (Sub-basin 03-02-02, Hydrologic Unit 03010103). The jurisdictional resource in the project area is a perennial stream that is an unnamed tributary (UT) to Paw Paw Creek. The Division of Water Quality stream index number for Paw Paw Creek is 22-30-6(2). The channel of the UT to Paw Paw Creek is approximately 8-10 feet wide and has an average depth of 3-4 feet. On the day of a site visit on August 2, 2006, the average stream flow was slow and measured approximately 5-7 feet wide and 4 inches to 1 foot deep. The substrate is composed of gravel, sand and silt. At this location, the UT to Paw Paw Creek has a best usage classification of WS-IV.

No Outstanding Resource Waters (ORW), High Quality Waters (HQW), WS-I, or WS-II Waters occur within 1.0 mile of the project study area. Paw Paw Creek is not listed on the 303(d) list for North Carolina impaired waters (NCDENR-DWQ, 2004).

Permanent Impacts: There will be 91 feet of permanent surface water impacts associated with this project. The permanent impacts are from construction of the new culvert (plus the wing-walls) on an alignment 20 feet east of the existing alignment. Please see discussion of the proposed culvert history in the Federally Protected Species section under James spinymussel. The project will not impact wetlands.

Temporary Impacts: There will be 0.04 acres (122 feet) of surface water impacts due to construction of a temporary diversion channel to maintain water flow during construction. No temporary wetland impacts are associated with this project.

Bridge Demolition: The existing two span bridge was constructed in 1956 and is composed entirely of a timber deck with asphalt wearing surface on timber girders. The substructure is composed of timber caps and timber piles. The existing deck has a thickness of 1.7 feet and is seven feet above the creek bed. The existing bridge is 36 feet long and 20 feet wide.

Bridge No. 165 will be removed without dropping components into Waters of the United States. All guidelines for bridge demolition and removal will be followed in addition to Best Management Practices for the Protection of Surface Waters. This project is classified as Case 3 in that there are no special restrictions other than those outlined in Best Management Practices for the Protection of Surface Waters and Bridge Demolition and Removal.

Utility Impacts: No jurisdictional impacts will occur from the utility pole relocation. Energy United EMC has an existing aerial single-phase line that crosses the bridge structure (left and right of the L line). This line will be relocated near the right of way line (left of the L line) prior to the date of availability. After the new line is put into service the existing line will be dismantled and removed. There are no other utilities located within the project limits.

FEDERALLY PROTECTED SPECIES

Plants and animals with a federal classification of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The US Fish and Wildlife Service (USFWS) lists 2 federally–protected species, as of December 11, 2006 for Rockingham

County. The Endangered and Threatened species in North Carolina web-site was checked on January 12, 2007 for any changes and the list remains the same. The species under federal protection are listed in Table 1.

Table 1. Federally Protected Species for Rockingham County

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion
James spinymussel	*Pleurobema collina*	Endangered	Yes	May Affect-Not likely to adversely affect
Smooth Coneflower	*Echinacea laevigata*	Endangered	Yes	No Effect

Pleurobema collina (James spinymussel)

Freshwater mussel surveys were conducted on March 27, 2003 by NCDOT biologists in areas that possessed any suitable habitat. Survey limits were an estimated 1300 feet downstream to 330 feet upstream of the existing bridge. A total of 1.5 person-hours were spent during the survey. No mussels of any kind were found. Given the survey results, it is probable that the James spinymussel does not occur in the project footprint. However, because this stream is a tributary of the Mayo River, in which the James spinymussel is known to occur (within a mile of the confluence), the biological conclusion of May Affect, Not likely to Adversely Affect" is most appropriate.

NCDOT requested concurrence for this project on October 29, 2003. A request from the USFWS (November 25, 2003) was made that NCDOT investigate an alternative culvert design of an open bottom culvert rather than the standard double barrel culvert. The NCDOT sent a letter to the USFWS on September 7, 2004 requesting concurrence to construct a 8 foot x 6 foot double barrel culvert after conducting the alternative analysis. The letter stated that the proposed 8 foot x 6 foot culvert would be constructed following all conservation methods and be buried as per construction requirements to provide fish passage and have a sill placed in one of the barrels to maintain normal flow conditions. Concurrence from the USFWS was requested for the proposed culvert.

In a letter dated September 16, 2004 (enclosed) the USFWS concurred with the May Affect, Not likely to Adversely Affect the James spiny mussel conclusion based on the proposed 8 foot x 6 foot culvert with a sill in one barrel.

The current permit drawings and roadway plans show an 11 foot x 9 foot double barrel culvert with a sill. The rise in the roadway grade eliminated the potential for weir flow necessitating the need for more conveyance (such as a larger culvert) through the transportation facility. The larger culvert size is to keep from raising the water surface in a 100 year storm more than one foot above the natural condition.

The USFWS was contacted by email (May 4, 2006) about the change in culvert size. Mr. Gary Jordan (USFWS) responded in an email (May 8, 2006) that the previous concurrence is still valid based on the new larger culvert size assuming that a sill is on one barrel.

Echinacea laevigata (Smooth Coneflower)

Suitable habitat for the smooth coneflower is present within the road shoulders of the project area. A plant by plant survey for smooth coneflower, within the road shoulders area, was conducted on May 17, 2001, July 13, 2004 and August 2, 2006 by NCDOT biologists. No smooth coneflower specimens were found during these surveys.

A review of the NC Natural Heritage Program database of rare species and unique habitats on January 12, 2007 revealed that no known populations of smooth coneflower occur within 1.0 mile of the project study area. No impacts to the smooth coneflower are anticipated. Therefore, the Biological Conclusion of No Effect remains valid from the NRTR document.

RESTORATION PLAN

Following construction of the bridge, all material used in the construction of the structure will be removed. The impact area associated with the bridge is expected to recover naturally, since the natural streambed and plant material will not be removed. NCDOT does not propose any additional planting in this area. Class I riprap and filter fabric will be used for bank stabilization. Pre-project elevations will be restored. NCDOT will restore stream to its pre-project contours.

Schedule: The project calls for a letting of July 17, 2007 with a date of availability of August 28, 2007. It is expected that contractor will choose to start construction in August 2007.

Removal and Disposal Plan: The contractor will be required to submit a reclamation plan for the removal of and disposal of all material off-site at an upland location. The contractor will use excavation equipment for removal of any earthen material. Heavy–duty trucks, dozers, cranes and various other pieces of mechanical equipment necessary for construction of roadways and bridges will be used on site. All material placed in the stream will be removed from the stream at that time. The contractor will have the option of reusing any of the materials that the engineer deems suitable in the construction of project. After the erosion control devices are no longer needed, all temporary materials will become the property of the contractor.

AVOIDANCE, MINIMIZATION and MITIGATION

Avoidance and Minimization:
Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the US". The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts and to minimize impacts as part of the project design. Practical means to minimize impacts to surface waters temporarily impacted by the project include:

Project Specific Measures-

- During construction a road closure is planned and traffic will be diverted to an off-site detour
- The culvert is to be constructed with a sill in one barrel and buried per construction requirements to allow fish passage
- The existing bridge can be removed without any debris falling into the water.

Standard Measures-

- Best Management Practices will be followed for this project as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities"

Mitigation:
An acceptance letter dated February 13, 2007 from the Ecosystem Enhancement Program (EEP) is attached. NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. Unavoidable, permanent impacts to 91 feet of jurisdictional stream will be offset by compensatory mitigation provided by the EEP program. The project will not impact wetlands.

REGULATORY APPROVALS

Section 404 Permit: It is anticipated that impacts from construction of the new culvert and construction of a temporary diversion channel will be authorized under Section 404 Nationwide Permit 23 and 33. We are therefore requesting the issuance of Nationwide Permits 23 and 33 for the culvert construction and temporary diversion channel construction.

Section 401 Permit: We anticipate 401 General Certification number 3403 will be applicable to this project. All general conditions of the Water Quality Certification will be met. Therefore, in accordance with 15A NCAC 2H, Section .0500(a) and 15A NCAC 2B .0200 we are providing 2 copies of this application to the North Carolina Department of Environment and Natural Resources, Division of Water Quality for their notification.

Thank you for your time and assistance with this project. A copy of this permit application will be posted on the NCDOT website at http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html. Please contact Susan Thebert at (919) 715-1461 or sthebert@dot.state.nc.us if you have any questions or need any additional information.

Sincerely,

E. D. Lusk

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

w/attachment
- Mr. John Hennessy, NCDWQ (2 Copies)
- Mr. Travis Wilson, NCWRC
- Mr. Gary Jordan, USFWS
- Dr. David Chang, P.E., Hydraulics
- Mr. Greg Perfetti, P.E., Structure Design
- Mr. Mark Staley, Roadside Environmental
- Mr. J. M. Mills, P.E., Division 7 Engineer
- Mr. Jerry Parker , Division 7 Environmental Ofiicer

w/o attachment
- Mr. Jay Bennett, P.E., Roadway Design
- Mr. Majid Alghandour, Programming and TIP
- Mr. Art McMillan, P.E., Highway Design
- Mr. John Williams, PDEA Project Planning Engineer
- Mr. Scott McLendon, USACE, Wilmington

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:
   - ☒ Section 404 Permit
   - ☐ Section 10 Permit
   - ☐ 401 Water Quality Certification
   - ☐ Riparian or Watershed Buffer Rules
   - ☐ Isolated Wetland Permit from DWQ
   - ☐ Express 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: Nationwide 23 and 33

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 No. 165 over Paw Paw Creek tributary on SR 1376 (Paw Paw Road)

2. T.I.P. Project Number or State Project Number (NCDOT Only): B-3900

3. Property Identification Number (Tax PIN): N/A

4. Location
   County: Rockingham Nearest Town: Stoneville
   Subdivision name (include phase/lot number): N/A
   Directions to site (include road numbers/names, landmarks, etc.): US 220 north , exit on SR 1360 proceed west, first right on SR 1376, proceed to bridge No. 165.

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): _____ °N _____ °W

6. Property size (acres): N/A

7. Name of nearest receiving body of water: Paw Paw Creek

8. River Basin: Roanoke
   (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: SR 1376 is gravel road in a rural setting. Land use is forested in the study area.

10. Describe the overall project in detail, including the type of equipment to be used: The bridge will be replaced by a 11 ft. x 9 ft. x 59.5 ft, double reinforced concrete box culvert (RCBC) using a diversion channel to maintain flow during construction. The new RCBC will be constructed approximately 20 ft. east of the existing alignment. Traffic will be detoured off-site during construction. The roadway grade of the new structure will be approximately 9 ft. above the existing roadway. The alignment will be shifted beginning 300 ft. to the south and 320 ft. to the north of the existing bridge. The roadway approaches will be widened to a maximum of 22 ft. and 4 ft. (7 ft. with guardrail) grass shoulders are proposed.

11. Explain the purpose of the proposed work: The existing bridge is functionally obsolete. Bridge replacement with a culvert will result in safer traffic operations.

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.

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.

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: Permanent surface water impacts of 91 ft. due to culvert construction. Temporary surface water impacts of (122 ft.) 0.04 acres are due to construction of the temporary diversion channel.

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)
Total Wetland Impact (acres)					

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

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)
culvert	UT to Paw Paw Cr.	culvert placement	perennial	10-20 ft.	91	0.03
diversion channel	UT to Paw Paw Cr.	temp div. channel	perennial	10-20 ft.	122	0.04
Total Stream Impact (by length and acreage)					213	0.07

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)
Total Open Water Impact (acres)				

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

Stream Impact (acres):	0.07
Wetland Impact (acres):	
Open Water Impact (acres):	
Total Impact to Waters of the U.S. (acres)	0.07
Total Stream Impact (linear feet):	213

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.

_____

_____

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.):_____
Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.):_____
Current land use in the vicinity of the pond:_____
Size of watershed draining to pond:_____ Expected pond surface area:_____

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.Culvert to be constructed with one sill to maintain normal flow. Culvert to be buried per construction requirements to allow for fish passage. Road closure and an off-site detoured are proposed. The existing bridge can be removed without any debris falling 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.

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): 91
   Amount of buffer mitigation requested (square feet): _____
   Amount of Riparian wetland mitigation requested (acres): _____
   Amount of Non-riparian wetland mitigation requested (acres): _____
   Amount of Coastal wetland mitigation requested (acres): _____

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		3 (2 for Catawba)	
2		1.5	
Total			

* 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. _____

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._____

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:_____

_____

_____

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).

_____

_____

E. L. Fuhrk for Gregory Thorpe 2-20-07

Applicant/Agent's Signature **Date**

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

Ecosystem Enhancement PROGRAM

February 13, 2007

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-3900, Replace Bridge Number 165 over Paw Paw Creek on SR 1376 (Paw Paw Road), Rockingham County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you in a letter dated February 8, 2007, the impacts are located in CU 03010103 of the Roanoke River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Stream: 91 feet

During the review of this request, it was noted that the 2006 Impact Projection Database listed no wetland or stream impacts for this project; however, EEP will provide the requested stream mitigation. If additional stream mitigation in this cataloging unit is required due to this previously unreported mitigation need, EEP will include it in the 2007-2008 biennial budget. EEP commits to implementing sufficient compensatory wetland mitigation to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, signed on July 22, 2003. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

William D. Gilmore, P.E.
EEP Director

cc: Mr. Andy Williams, USACE – Raleigh
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-3900

Ecosystem Enhancement PROGRAM

February 13, 2007

Mr. Andy Williams
U. S. Army Corps of Engineers
Raleigh Regulatory Field Office
6508 Falls of the Neuse Road, Suite 120
Raleigh, North Carolina 27615

Dear Mr. Williams:

Subject: EEP Mitigation Acceptance Letter:

B-3900, Replace Bridge Number 165 over Paw Paw Creek on SR 1376 (Paw Paw Road), Rockingham County; Roanoke River Basin (Cataloging Unit 03010103); Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request letter dated February 8, 2007, compensatory stream mitigation from EEP is required for approximately 91 feet of stream impacts.

Compensatory stream mitigation associated with this project will be provided in accordance with Section X of the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers signed on July 22, 2003 (Tri-Party MOA). EEP commits to implement sufficient compensatory stream mitigation up to 182 stream credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

William D. Gilmore, P.E.
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. John Hennessy, Division of Water Quality, Wetlands/401 Unit
File: B-3900

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

September 7, 2004

Mr. Gary Jordan
US Fish and Wildlife Service
Post Office Box 33726
Raleigh, North Carolina 27636

Dear Mr. Jordan:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 165 on SR 1376 over an unnamed tributary to Pawpaw Creek which flows to the Mayo River in Rockingham County; (TIP No. B-3900). Attached, please find a memorandum dated May 7, 2003, discussing the biological conclusion for the federally endangered James spinymussel (*Pleurobema collina*). The biological conclusion of "May Affect – Not Likely to Adversely Affect" is considered appropriate for this species at this location.

A request was made that NCDOT pursue the alternative analysis of an open bottom culvert rather than the standard double barrel culvert. Cost examination indicates that the standard culvert is approximately half of the bottomless and has a fifty- percent longer life span. In addition, the length of time required for construction will be lessened by a third with the standard double barrel culvert.

This 8 foot X 6 foot double barrel culvert will be constructed following all conservation methods, will be buried as per construction requirements to provide fish passage, and have a sill placed in one of the barrels to maintain normal flow conditions. Concurrence of the US Fish and Wildlife Service is requested for this conclusion.

If additional information is required to respond to this request, please contact Steve Mitchell at 715-1549. Thank you for your assistance.

Sincerely,

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

Attachment

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

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

WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Reviewer

United States Department of the Interior

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

September 16, 2004

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

This letter is in response to your letter of September 7, 2004 which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 165 on SR 1376 over an unnamed tributary to Paw Paw Creek, Rockingham County (TIP No. B-3900) may affect, but is not likely to adversely affect the federally endangered James spinymussel (*Pleurobema collina*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

NCDOT previously requested concurrence for this project with a letter dated October 29, 2003. The Service responded with a letter dated November 25, 2003 which stated our intention to defer our concurrence decision until after NCDOT investigated an alternative culvert design which may reduce the likelihood of potential effects to the James spinymussel. Subsequently, Mr. Steve Mitchell (NCDOT) and Mr. Gary Jordan (Service biologist) discussed the results of that investigation during a telephone conversation on September 7, 2004. Your current letter summarizes that discussion.

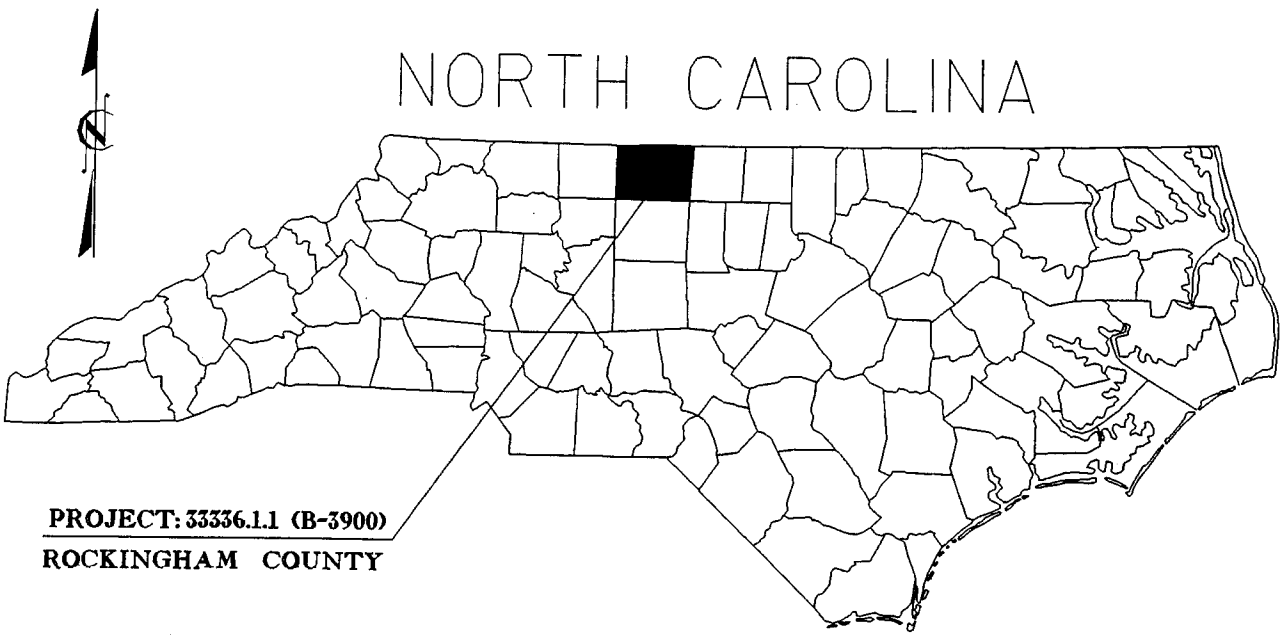
Based on previously submitted mussel survey results and other information provided, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the James spinymussel. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

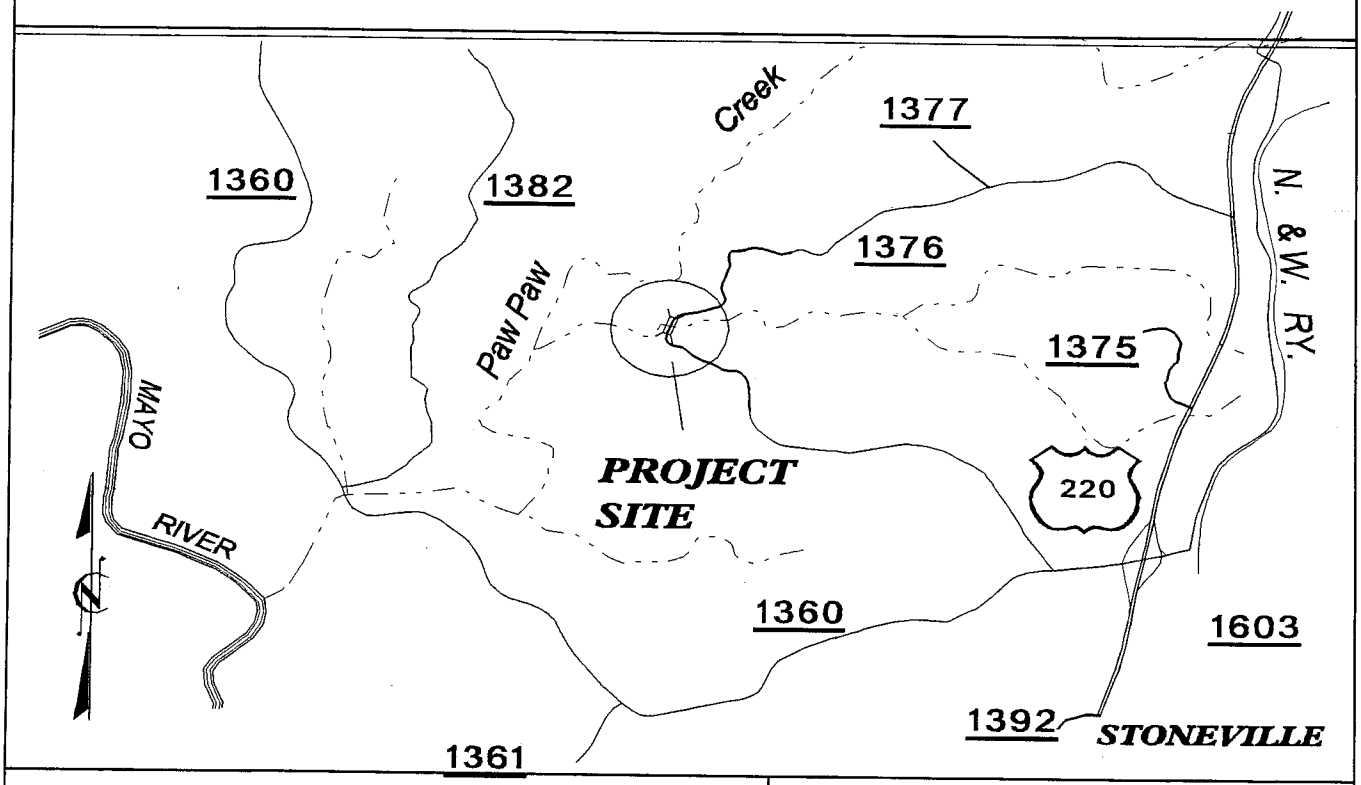
The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

John Hammond
Acting Ecological Services Supervisor

cc: John Thomas, USACE, Raleigh, NC
Beth Barnes, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC





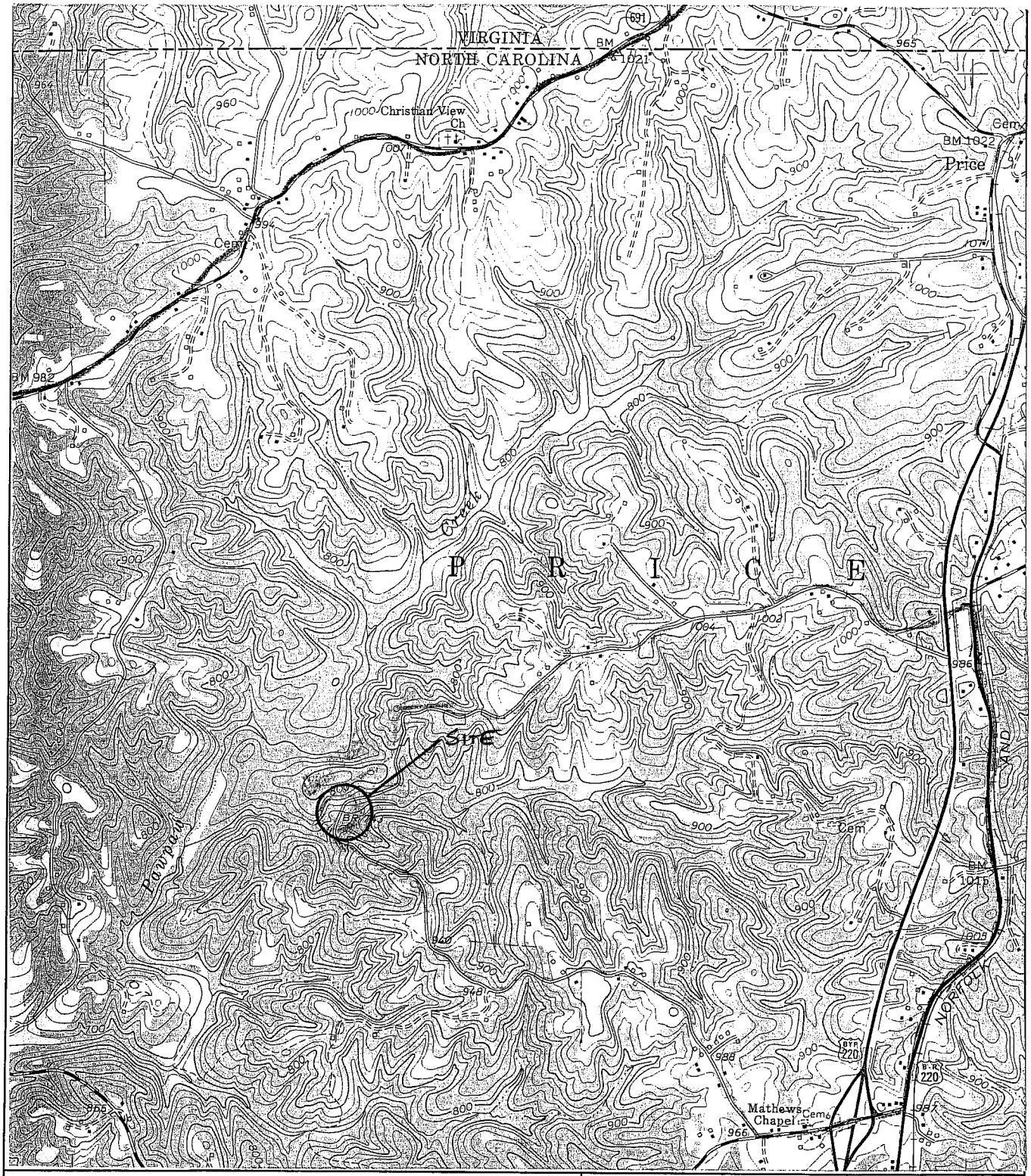
VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 33336.1.1 (B-3900)

REPLACE BRG #165 OVER TRIB.
TO PAW PAW CREEK ON SR 1376

SHEET 1 OF 7



LOCATION MAPS

NCDOT

DIVISION OF HIGHWAYS
ROCKINGHAM COUNTY
PROJECT: 33336.1.1 (B-3900)

REPLACE BRG #165 OVER TRIB. TO PAW PAW CREEK ON SR 1376

SHEET 2 **OF** 7

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	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	17+15 -L-	2@11'x9'	0.000	0.000	0.000	0.000	0.000	0.03	0.04	91	122	
		RCBC										
TOTALS:								0.03	0.04	91	122	

REMARKS: PER STRUCTURES; THE EXISTING BRIDGE IS COMPOSED ENTIRELY OF

TIMBER COMPONENTS WITH A.W.S. . WE ANTICIPATE THE EXISTING BRIDGE CAN BE REMOVED WITHOUT ANY DEBRIS FALLING IN THE WATER. THE PROPOSED REPLACEMENT CULVERT HAS BEEN DESIGNED AS A DOUBLE 11' X 9' X 59.5' RCBC USING A DIVERSION CHANNEL TO MAINTAIN FLOW DURING CONSTRUCTION.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY
WBS - 33336.1.1 (B-3900)

SHEET 30 7 2/19/2007

ATN Revised 3/31/05

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
3	ARTHUR W. COBB	901 PAW PAW RD. STONEVILLE, N.C. 27048
2	RAY TWETEN	1311 GRENOBLE COURT FREEHOLD, N.J. 07728

NCDOT

DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

PROJECT: 33336.1.1 (B-3900)

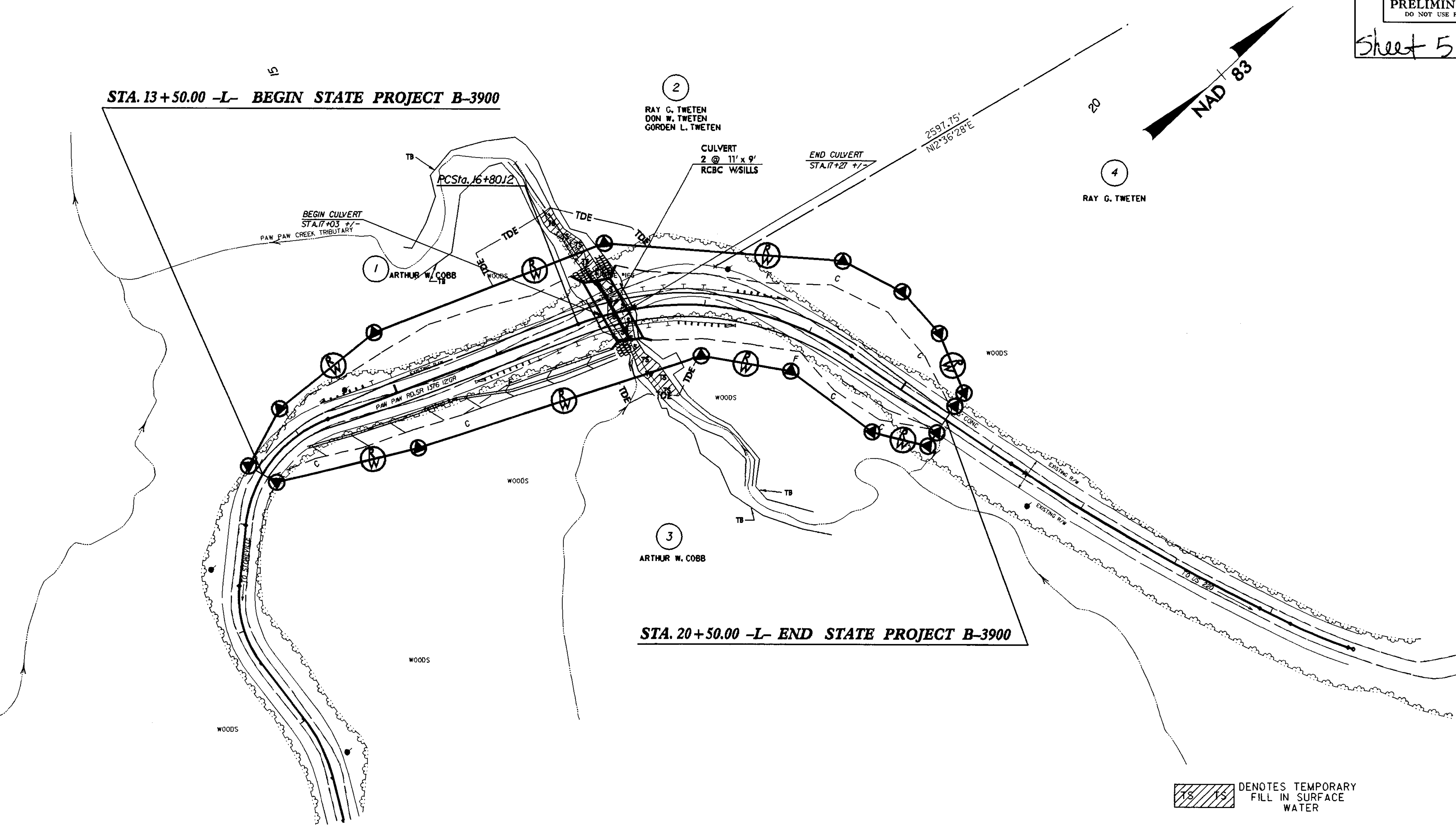
REPLACE BRG#165 OVER TRIB.
TO PAW PAW CREEK ON SR 1376

** NOTE: DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30MPH)

PROJECT REFERENCE NO.	SHEET NO.
B-3900	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Sheet 5 of 7



REVISIONS

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER

100' 0' 100' 200' 300'
SCALE: 1" = 100'

FOR -L- PROFILE SEE SHEET 5
SEE SHEETS C-1 THRU C- FOR CULVERT PLANS

8/17/99

07-FEB-2007 14:52
r:\hydraulics\cadd\b-3900_hyd_prm_wet.dgn

** NOTE: DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30MPH)

PROJECT REFERENCE NO.	SHEET NO.
B-3900	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Sheet 6 of 7

8/17/99

REVISIONS

STA. 13+50.00 -L- BEGIN STATE PROJECT B-3900

STA. 20+50.00 -L- END STATE PROJECT B-3900

NAD 83

2597.75'
N12°36'28"E

RAY G. TWETEN
DON W. TWETEN
GORDEN L. TWETEN

ARTHUR W. COBB

RAY G. TWETEN

CULVERT
2 @ 11' x 9'
RCBC W/SILLS

END CULVERT
STA. 17+27 +/-

BEGIN CULVERT
STA. 8+03 +/-

PCSta. 16+80.12

PAW PAW CREEK TRIBUTARY

PAW PAW RD.SR 1376 (2ND)

EXISTING R/W

WOODS

TDE

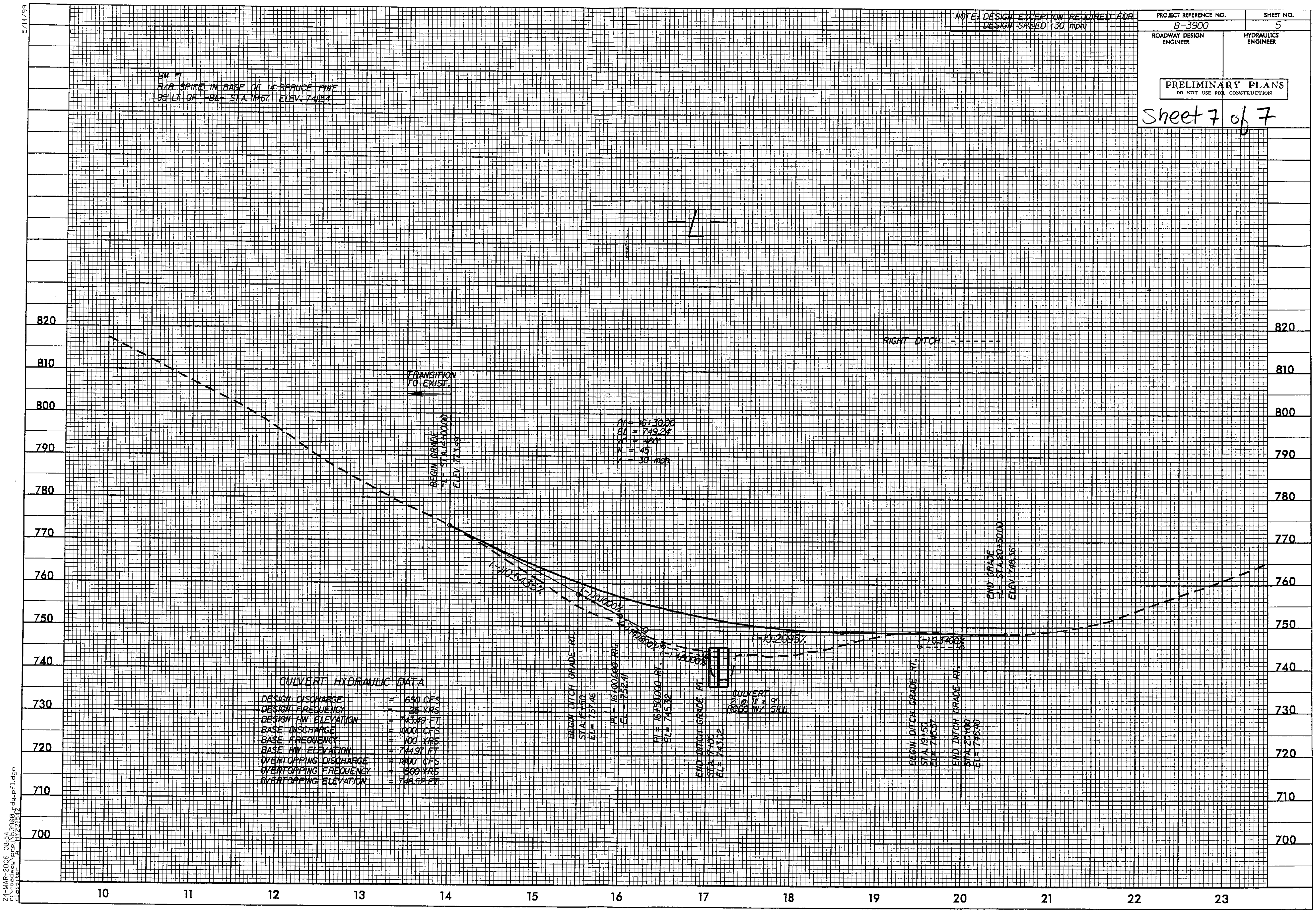
TB

DENOTES TEMPORARY FILL IN SURFACE WATER

DENOTES FILL IN SURFACE WATER

SCALE: 1"= 100'

FOR -L- PROFILE SEE SHEET 5
SEE SHEETS C-1 THRU C- FOR CULVERT PLANS


NOTE: DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30 mph)
PROJECT REFERENCE NO.
B-3900
SHEET NO.
5
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Sheet 7 of 7
BM #1
R/R SPIKE IN BASE OF 14" SPRUCE PINE
95' LT. OF -BL- STA. 11+67 ELEV. 741.54
-L-
RIGHT DITCH
TRANSITION TO EXIST.
BEGIN GRADE
-L- STA. 14+00.00
ELEV. 773.49
PI = 16+30.00
EL = 749.24
VC = 480'
K = 45
V = 30 mph
(-)10.5435%
(-)10.1000%
(-)14.1800%
(-)14.6000%
(-)0.2095%
(+)0.3400%
CULVERT HYDRAULIC DATA
DESIGN DISCHARGE = 650 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 743.49 FT
BASE DISCHARGE = 1000 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 744.97 FT
OVERTOPPING DISCHARGE = 1800 CFS
OVERTOPPING FREQUENCY = 500 YRS
OVERTOPPING ELEVATION = 748.52 FT
BEGIN DITCH GRADE RT.
STA. 15+50
EL = 757.46
PI = 16+00.000 RT.
EL = 752.41
PI = 16+50.000 RT.
EL = 745.32
END DITCH GRADE RT.
STA. 17+00
EL = 743.02
CULVERT
2 @ 11' x 9'
RCBC W/ SILL
BEGIN DITCH GRADE RT.
STA. 19+50
EL = 745.57
END DITCH GRADE RT.
STA. 20+00
EL = 745.40
END GRADE
-L- STA. 20+50.00
ELEV. 748.36
820
810
800
790
780
770
760
750
740
730
720
710
700
10
11
12
13
14
15
16
17
18
19
20
21
22
23
5/14/99
24-MAR-2006 08:54
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TIP PROJECT: B-3900

CONTRACT: C201583

07-FEB-2007 14:35
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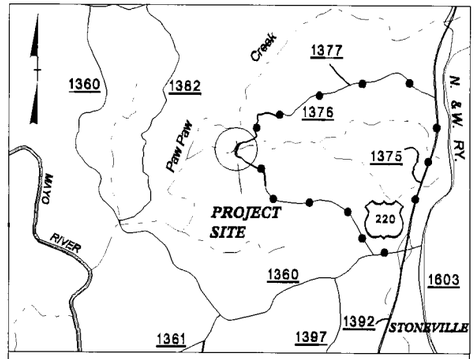
$$$$USERNAME$$$$

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



VICINITY MAP

DENOTES DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

LOCATION: BRIDGE NO. 165 OVER A CREEK ON SR 1376 (PAW PAW ROAD)

TYPE OF WORK: GRADING, DRAINAGE, AND CULVERT

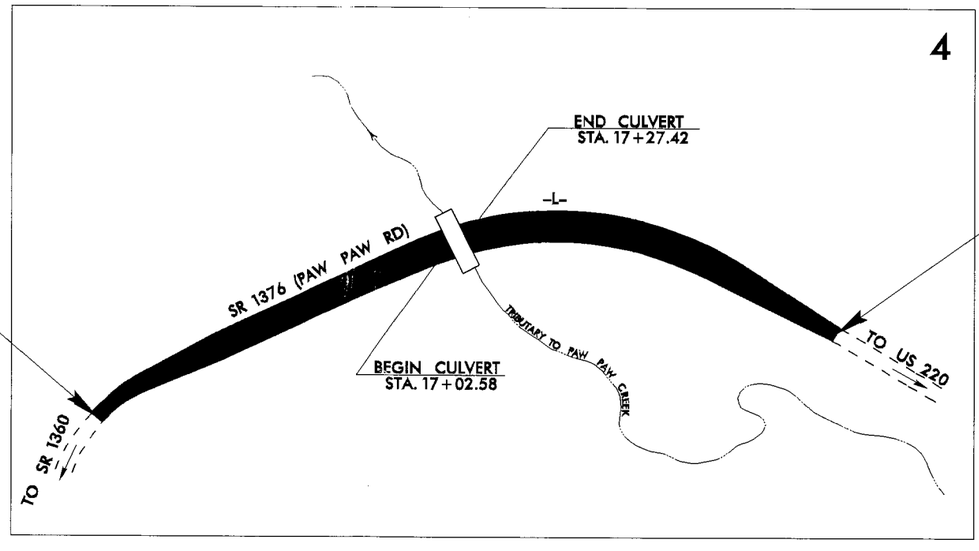
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3900	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33336.1.1	BRZ-1376(1)	P.E.
33336.2.1	BRZ-1376(1)	R/W & UTIL
33336.3.1	BRZ-1376(1)	CONST.

NAD 83

STA. 13+50.00 -L- BEGIN TIP PROJECT B-3900

STA. 20+50.00 -L- END TIP PROJECT B-3900



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2007 = 125
ADT 2027 = 208
DHV = 10 %
D = 60 %
T = 3 % *
** V = 60 MPH
* TTST 1% DUAL 2%
FUNC. CLASS = LOCAL RURAL
** DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30 MPH)

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3900	=	0.128 MILE
LENGTH OF STRUCTURE TIP PROJECT B-3900	=	0.005 MILE
TOTAL LENGTH OF TIP PROJECT B-3900	=	0.133 MILE

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 3, 2005

LETTING DATE: JULY 17, 2007

BRENDA MOORE, P.E.
PROJECT ENGINEER

ROGER KLUCKMAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3900	1-B

*S.U.E = SUBSURFACE UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

- Edge of Pavement
- Curb
- Prop. Slope Stakes Cut — C
- Prop. Slope Stakes Fill — F
- Prop. Woven Wire Fence
- Prop. Chain Link Fence
- Prop. Barbed Wire Fence
- Prop. Wheelchair Ramp — WCR
- Curb Cut for Future Wheelchair Ramp — CCFR
- Exist. Guardrail
- Prop. Guardrail
- Equality Symbol
- Pavement Removal

RIGHT OF WAY

- Baseline Control Point
- Existing Right of Way Marker
- Exist. Right of Way Line w/Marker
- Prop. Right of Way Line with Proposed R/W Marker (Iron Pin & Cap)
- Prop. Right of Way Line with Proposed (Concrete or Granite) R/W Marker
- Exist. Control of Access Line — CA
- Prop. Control of Access Line — CA
- Exist. Easement Line — E
- Prop. Temp. Construction Easement Line — E
- Prop. Temp. Drainage Easement Line — TDE
- Prop. Perm. Drainage Easement Line — PDE

HYDROLOGY

- Stream or Body of Water
- River Basin Buffer — BZ
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Shoreline
- Falls, Rapids
- Prop Lateral, Tail, Head Ditches — FLOW

STRUCTURES

MAJOR

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

MINOR

- Head & End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Boxes — CB
- Paved Ditch Gutter

UTILITIES

- Exist. Pole
- Exist. Power Pole
- Prop. Power Pole
- Exist. Telephone Pole
- Prop. Telephone Pole
- Exist. Joint Use Pole
- Prop. Joint Use Pole
- Telephone Pedestal — T
- U/G Telephone Cable Hand Hold — TH
- Cable TV Pedestal — C
- U/G TV Cable Hand Hold — TH
- U/G Power Cable Hand Hold — PH
- Hydrant
- Satellite Dish
- Exist. Water Valve
- Sewer Clean Out
- Power Manhole — P
- Telephone Booth — T
- Cellular Telephone Tower
- Water Manhole — W
- Light Pole
- H-Frame Pole
- Power Line Tower
- Pole with Base
- Gas Valve
- Gas Meter — G
- Telephone Manhole
- Power Transformer
- Sanitary Sewer Manhole
- Storm Sewer Manhole — S
- Tank; Water, Gas, Oil
- Water Tank With Legs
- Traffic Signal Junction Box — S
- Fiber Optic Splice Box — F
- Television or Radio Tower
- Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement — TS TS

- Recorded Water Line — W W
- Designated Water Line (S.U.E.*) — W W
- Sanitary Sewer — SS SS
- Recorded Sanitary Sewer Force Main — FSS FSS
- Designated Sanitary Sewer Force Main(S.U.E.*) — FSS FSS
- Recorded Gas Line — G G
- Designated Gas Line (S.U.E.*) — G G
- Storm Sewer — S S
- Recorded Power Line — P P
- Designated Power Line (S.U.E.*) — P P
- Recorded Telephone Cable — T T
- Designated Telephone Cable (S.U.E.*) — T T
- Recorded U/G Telephone Conduit — TC TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC TC
- Unknown Utility (S.U.E.*) — ?UTL ?UTL
- Recorded Television Cable — TV TV
- Designated Television Cable (S.U.E.*) — TV TV
- Recorded Fiber Optics Cable — FO FO
- Designated Fiber Optics Cable (S.U.E.*) — FO FO
- Exist. Water Meter — 0
- U/G Test Hole (S.U.E.*) — ATTUR
- Abandoned According to U/G Record — E.O.I.
- End of Information

BOUNDARIES & PROPERTIES

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Property Line Symbol — PL
- Exist. Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Property Number — 123
- Parcel Number — 6
- Fence Line — WW & ISBW
- Existing Wetland Boundaries — WLB
- High Quality Wetland Boundary — HQ WLB
- Medium Quality Wetland Boundaries — MQ WLB
- Low Quality Wetland Boundaries — LQ WLB
- Proposed Wetland Boundaries — WLB
- Existing Endangered Animal Boundaries — EAB
- Existing Endangered Plant Boundaries — EPB

BUILDINGS & OTHER CULTURE

- Buildings
- Foundations
- Area Outline
- Gate
- Gas Pump Vent or U/G Tank Cap
- Church
- School
- Park
- Cemetery
- Dam
- Sign — S
- Well — W
- Small Mine
- Swimming Pool

TOPOGRAPHY

- Loose Surface
- Hard Surface
- Change in Road Surface
- Curb
- Right of Way Symbol — R/W
- Guard Post — GP
- Paved Walk
- Bridge
- Box Culvert or Tunnel
- Ferry
- Culvert
- Footbridge
- Trail, Footpath
- Light House

VEGETATION

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

RAILROADS

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH

revised 02/02/00

02-FEB-2007 11:20
R:\Projects\b3900_rdy_tsh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-3900	1C
LOCATION AND SURVEYS	

B-3900 SURVEY CONTROL SHEET

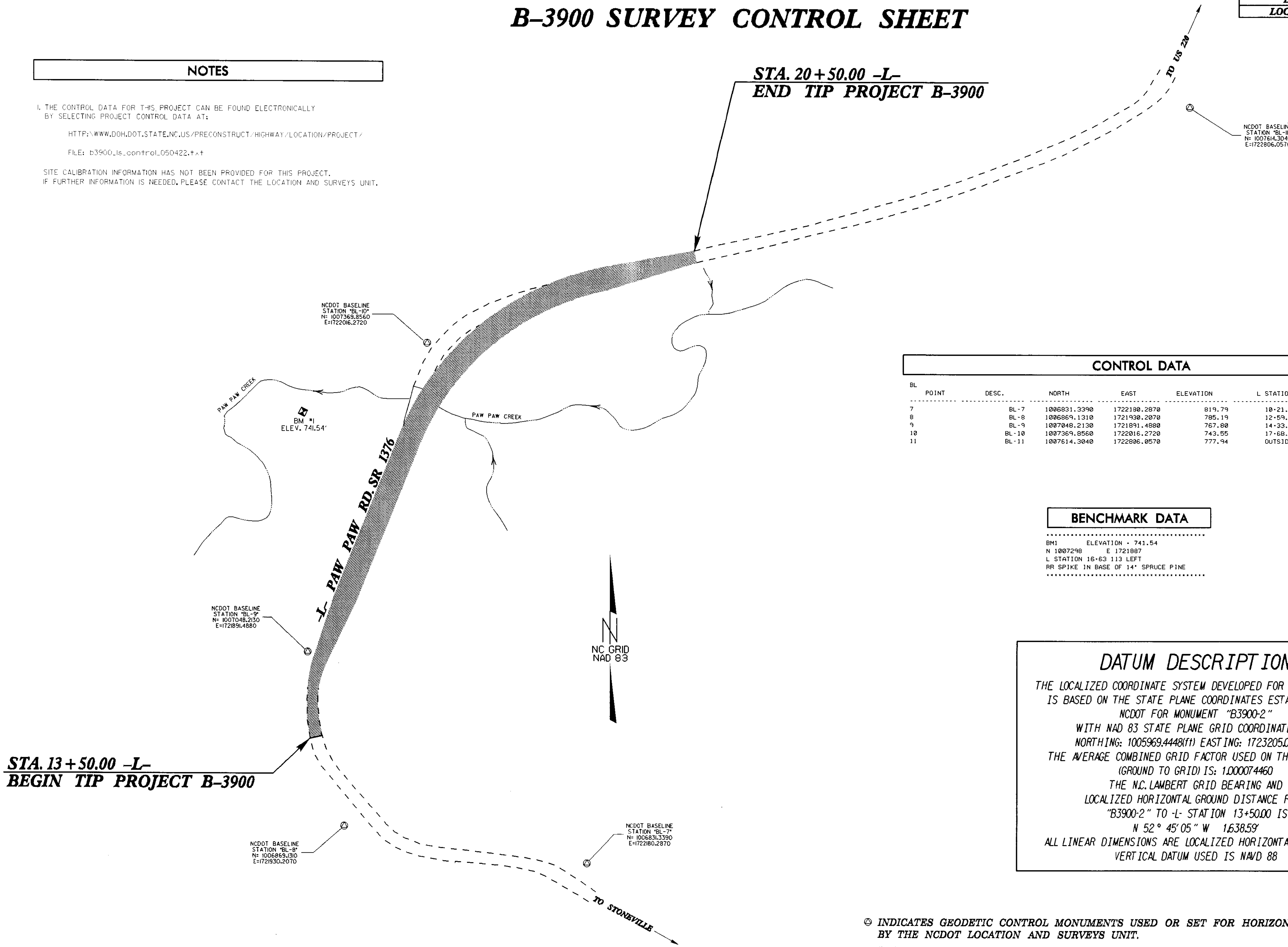
NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

   HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   FILE: b3900_ls_control_050422.txt

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



CONTROL DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
7	BL-7	1006831.3390	1722180.2870	819.79	10+21.66	27.28 RT
8	BL-8	1006869.1310	1721930.2070	785.19	12+59.52	27.40 LT
9	BL-9	1007048.2130	1721891.4880	767.80	14+33.19	14.79 LT
10	BL-10	1007369.8560	1722016.2720	743.55	17+68.36	35.80 LT
11	BL-11	1007614.3040	1722806.0570	777.94	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM1 ELEVATION = 741.54
N 1007298 E 1721887
L STATION 16+63 113 LEFT
RR SPIKE IN BASE OF 14" SPRUCE PINE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3900-2"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 1005969.4448(ft) EASTING: 1723205.0444(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000074460
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3900-2" TO -L- STATION 13+50.00 IS
N 52° 45' 05" W 1,638.59'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

(symbol) INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

6/2/99

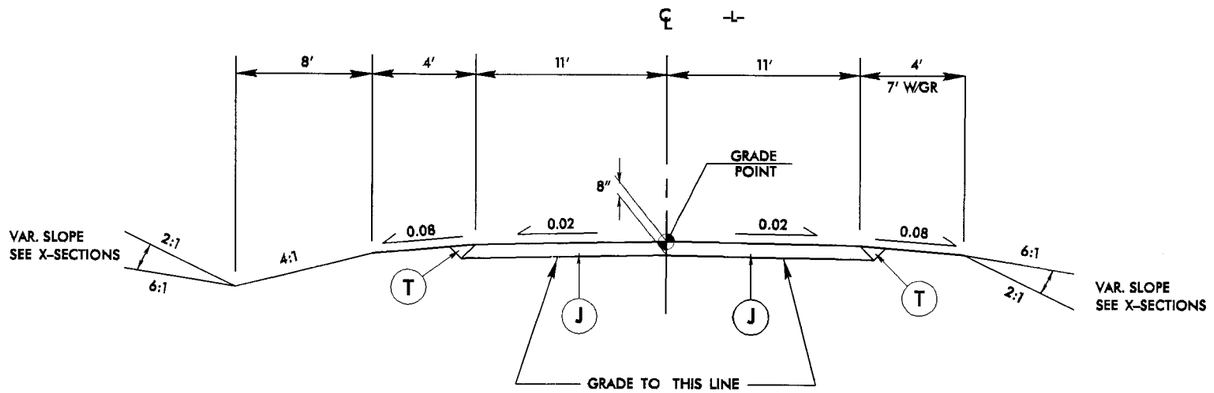
PROJECT REFERENCE NO.	SHEET NO.
B-3900	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FINAL PAVEMENT SCHEDULE

J	PROP. 8" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.

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



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
–L– STA. 13+50.00 TO STA. 20+50.00

TRANSITION SHOULDER AND DITCH FROM EXISTING
–L– STA. 13+50.00 TO STA. 14+00.00 (RT)

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6/16/99

COMPUTED BY: HD DATE: 9-2-05
CHECKED BY: RCK DATE: 9-6-05

'N' = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3900	3-A

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		'N' DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS			IMPACT ATTENUATOR TYPE 350			REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350	III	AT-1	EA	G	NG	
-L-	14+25.00	18+75.00	LT	450			17+24.00 (C)	15+00.00 (F)	4	7	50	50	1	1	2						
-L-	15+75.00	18+25.00	RT	250			17+03.00(C)	17+45.00 (C)	4	7	50	50	1	1	2						
			SUBTOTAL	700							DEDUCTIONS FOR ANCHORS:										
			LESS ANCHORS	200							GRAU-350 4 @ 50 EA. = 200										
			TOTAL	500																	
ADDITIONAL POSTS =		5 EACH	SAY	500							TOTAL = 200										

EARTHWORK SUMMARY (CY)

LOCATION	UNCLASS. EXC.	UNDERCUT	EMBANK+%	BORROW	WASTE
-L- STA. 13+50.00 TO STA. 20+50.00	1107		5731	5594	970
-L- STA. 18+75.00 TO STA. 20+50.00		259	311	311	259
PROJECT SUBTOTAL	1107	259	6042	5905	1229
LOSS DUE TO CLEAR & GRUBB	-90			90	
MINUS CULVERT				-822	
PROJECT TOTAL	1017	259	6042	5173	1229
EST. 5% TO REPLACE TOPSOIL ON				259	
BORROW PIT					
GRAND TOTAL	1017	259		5432	
SAY	1020	265		5450	

UNDERCUT (CONTINGENCY) = 100 CY
DDE = 45 CY
-L- PAVEMENT STRUCTURE VOLUME = 64 CY

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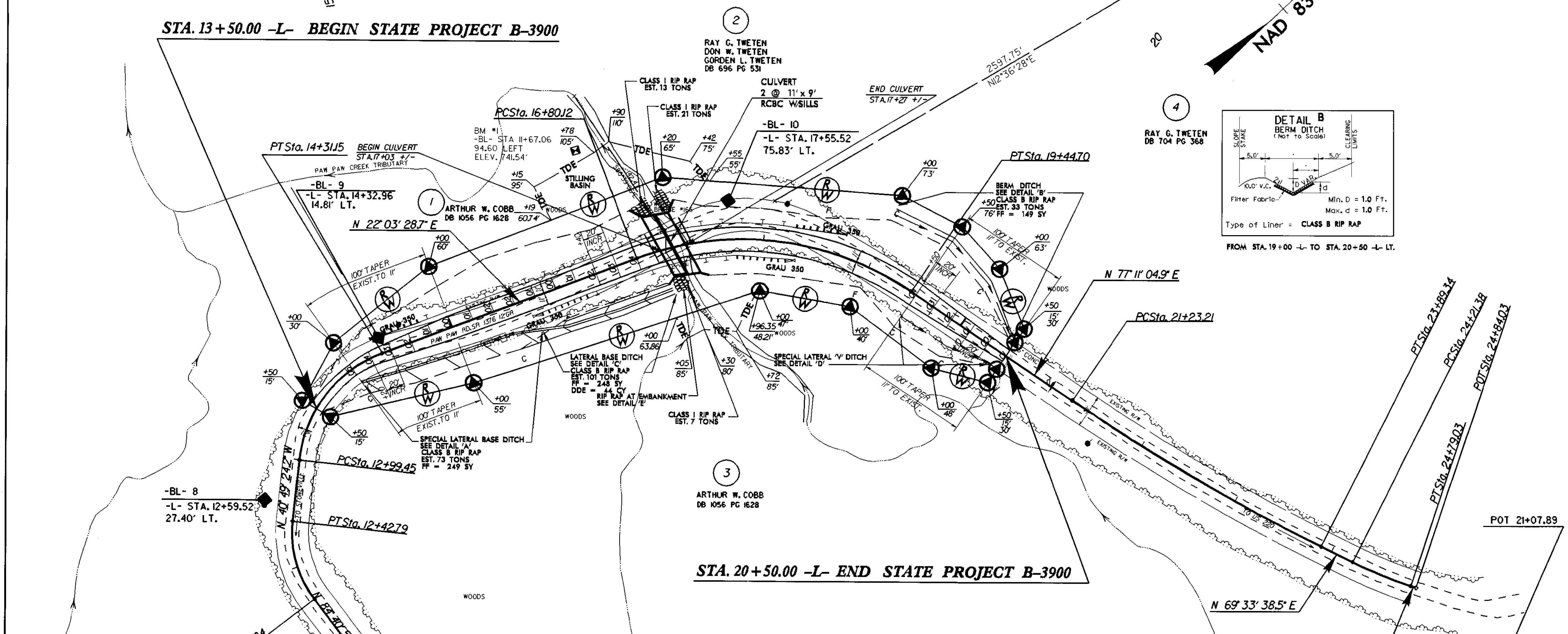
** NOTE: DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30MPH)

PROJECT REFERENCE NO.	SHEET NO.
B-3900	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

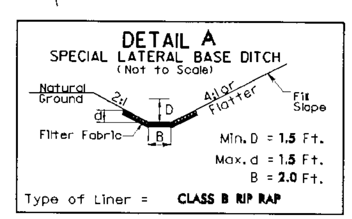
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-

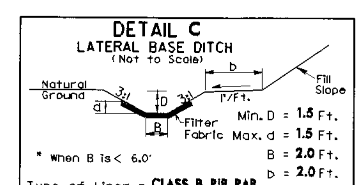
PI Sta 10+71.55	PI Sta 12+06.50	PI Sta 13+72.81	PI Sta 18+23.66	PI Sta 22+56.47	PI Sta 24+50.25
Δ = 23° 21′ 00.5″ (LT)	Δ = 43° 51′ 33.9″ (RT)	Δ = 62° 52′ 52.9″ (RT)	Δ = 55° 07′ 36.2″ (RT)	Δ = 7° 37′ 26.4″ (LT)	Δ = 8° 15′ 26.7″ (LT)
D = 38° 11′ 49.9″	D = 57° 17′ 44.8″	D = 47° 44′ 47.3″	D = 20° 50′ 05.4″	D = 2° 51′ 53.2″	D = 14° 19′ 26.2″
L = 61.13′	L = 76.55′	L = 131.70′	L = 264.59′	L = 266.13′	L = 57.65′
T = 31.00′	T = 40.26′	T = 73.37′	T = 143.54′	T = 133.26′	T = 28.87′
R = 150.00′	R = 100.00′	R = 120.00′	R = 275.00′	R = 2,000.00′	R = 400.00′
			** V = 30mph		
			SE = SEE PLANS		



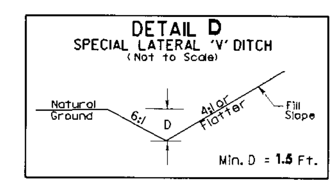
FROM STA. 19+00 -L- TO STA. 20+50 -L- LT.



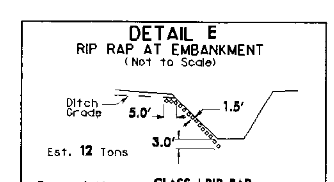
FROM STA. 14+50 -L- RT. TO STA. 15+75 -L- RT.



FROM STA. 15+75 -L- RT. TO STA. 17+00 -L- RT.



FROM STA. 19+50 -L- RT. TO STA. 20+00 -L- RT.



STA. 17+00 -L- RT.

FOR -L- PROFILE SEE SHEET 5
SEE SHEETS C-1 THRU C- FOR CULVERT PLANS

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
B-3900	5

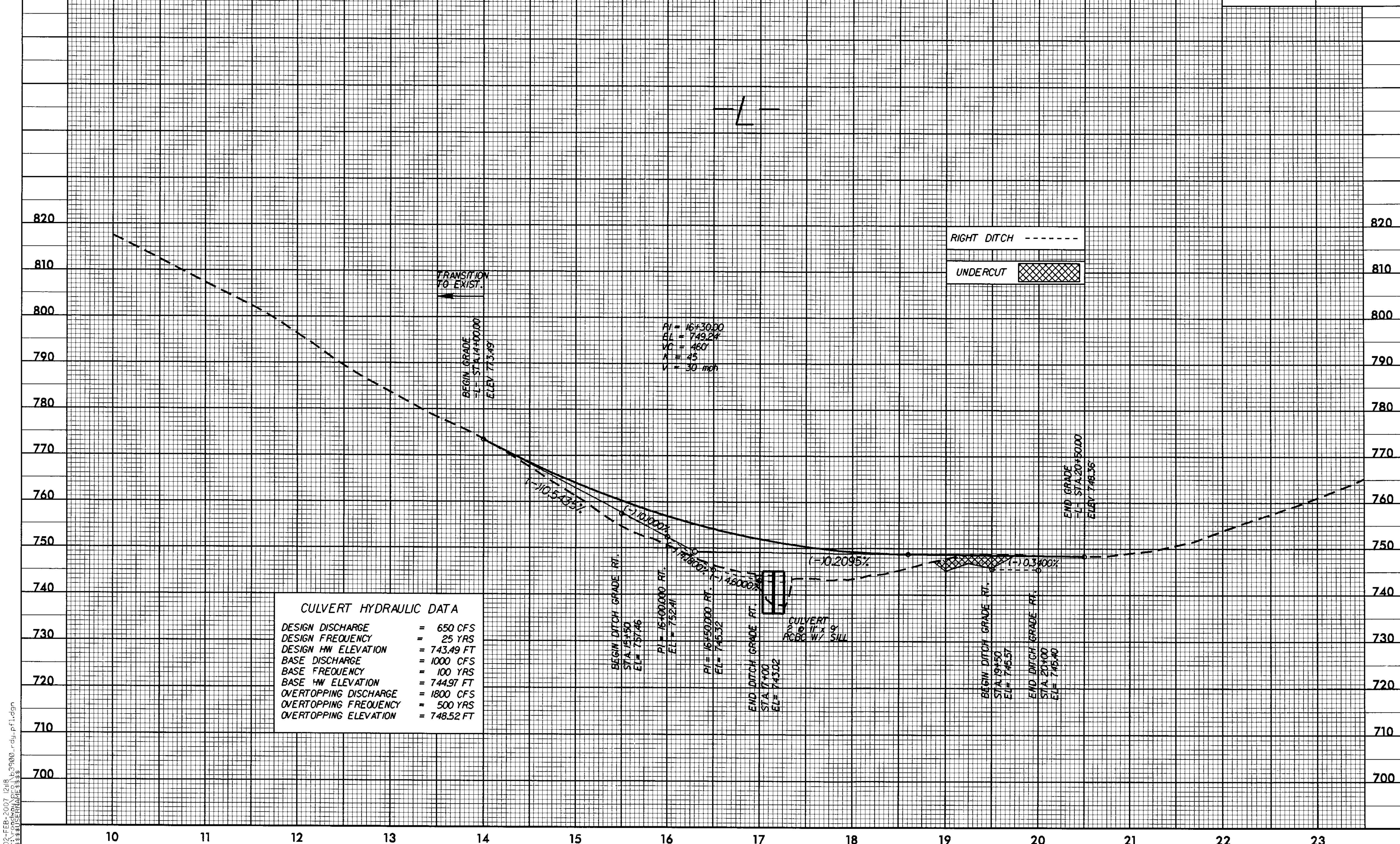
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NOTE: DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED (30 mph)

BM #1
R/R SPIKE IN BASE OF 14" SPRUCE PINE
95' LT OF -BL- STA. 11+67 ELEV. 741.54



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 743.49 FT
BASE DISCHARGE	= 1000 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 744.97 FT
OVERTOPPING DISCHARGE	= 1800 CFS
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING ELEVATION	= 748.52 FT

5/14/99

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PROJ. REFERENCE NO.	SHEET NO.
B-3900	X-1A

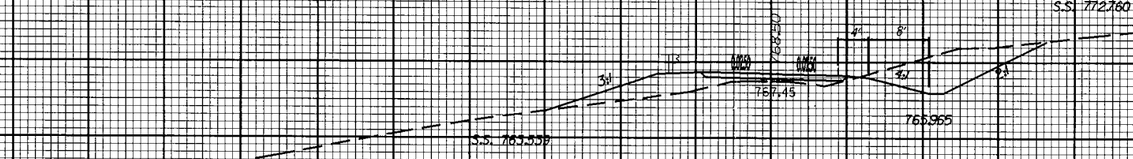
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

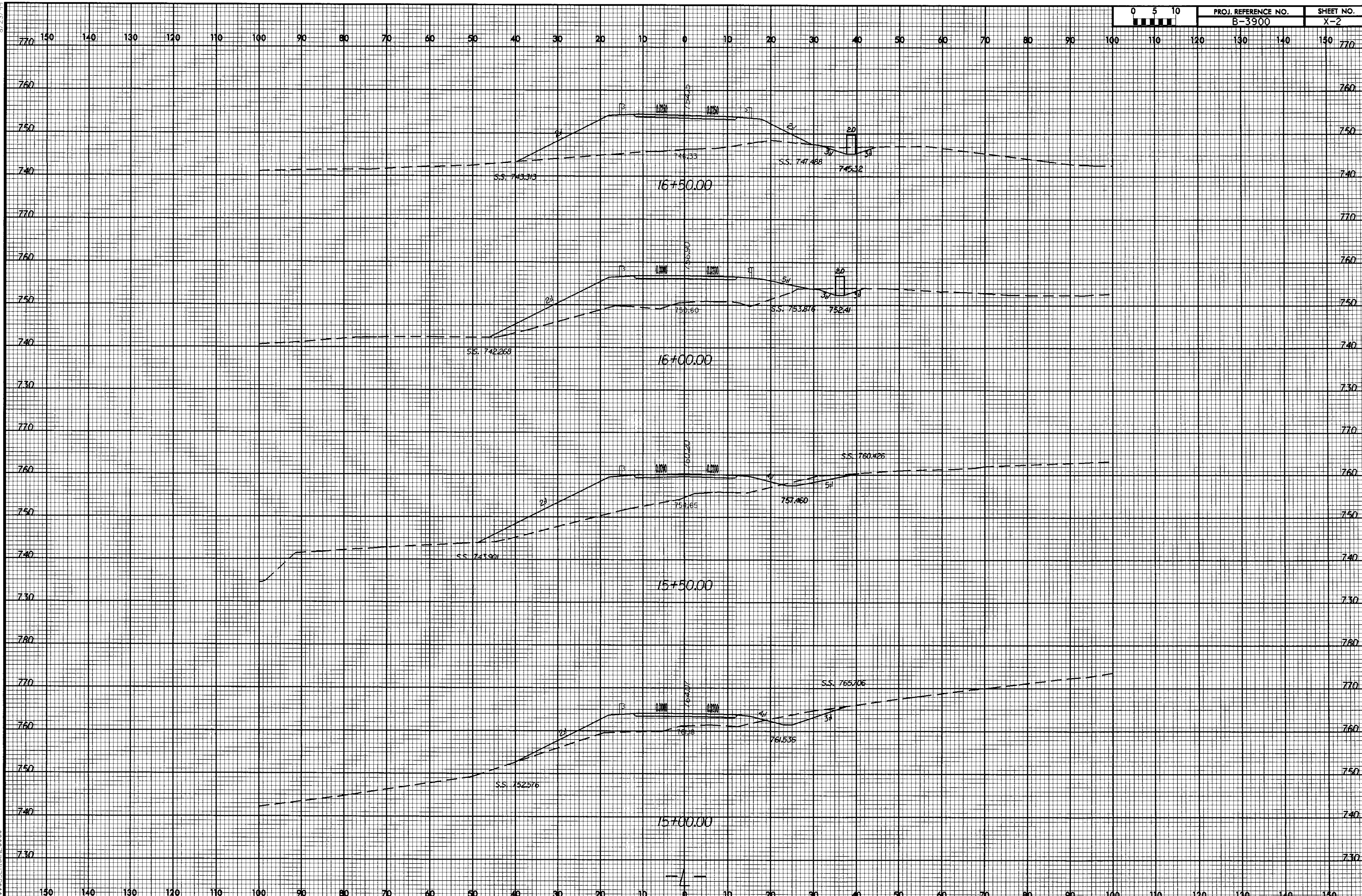
Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	DDE (cu. yd.)	Undercut (cu. yd.)
13+50.00	0	0	0	0
14+00.00	37	10	0	0
14+50.00	100	56	0	0
15+00.00	84	176	0	0
15+50.00	35	444	0	0
16+00.00	14	648	5	0
16+50.00	0	696	20	0
17+00.00	0	861	19	0
17+50.00	0	809	0	0
18+00.00	0	538	0	0
18+50.00	0	364	0	0
19+00.00	98	178	0	27
19+50.00	331	106	0	92
20+00.00	317	92	0	89
20+50.00	91	57	0	51

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3900	X-1



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJ. REFERENCE NO.	SHEET NO.
B-3900	X-2



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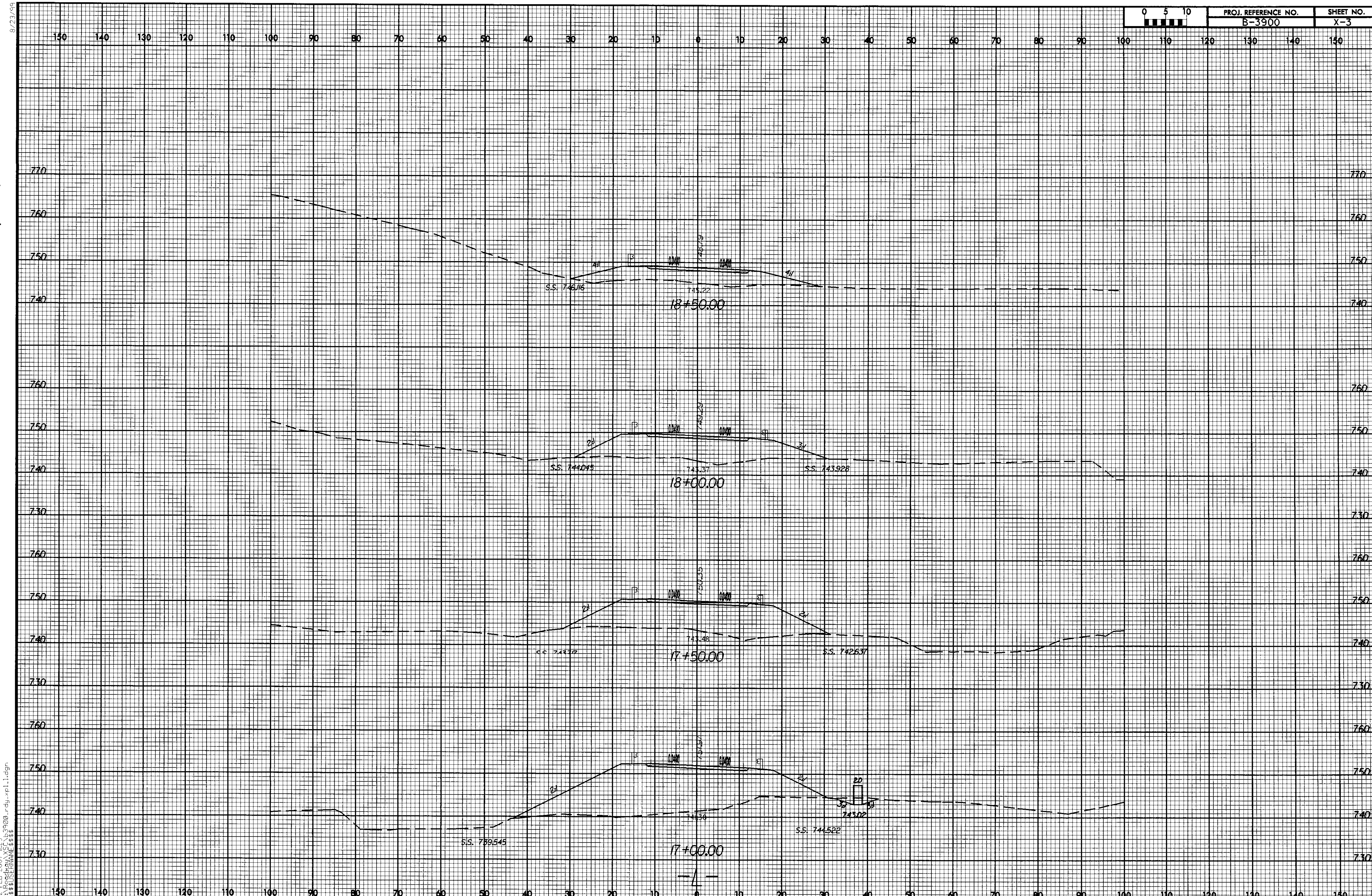
PROJ. REFERENCE NO.	SHEET NO.
B-3900	X-3



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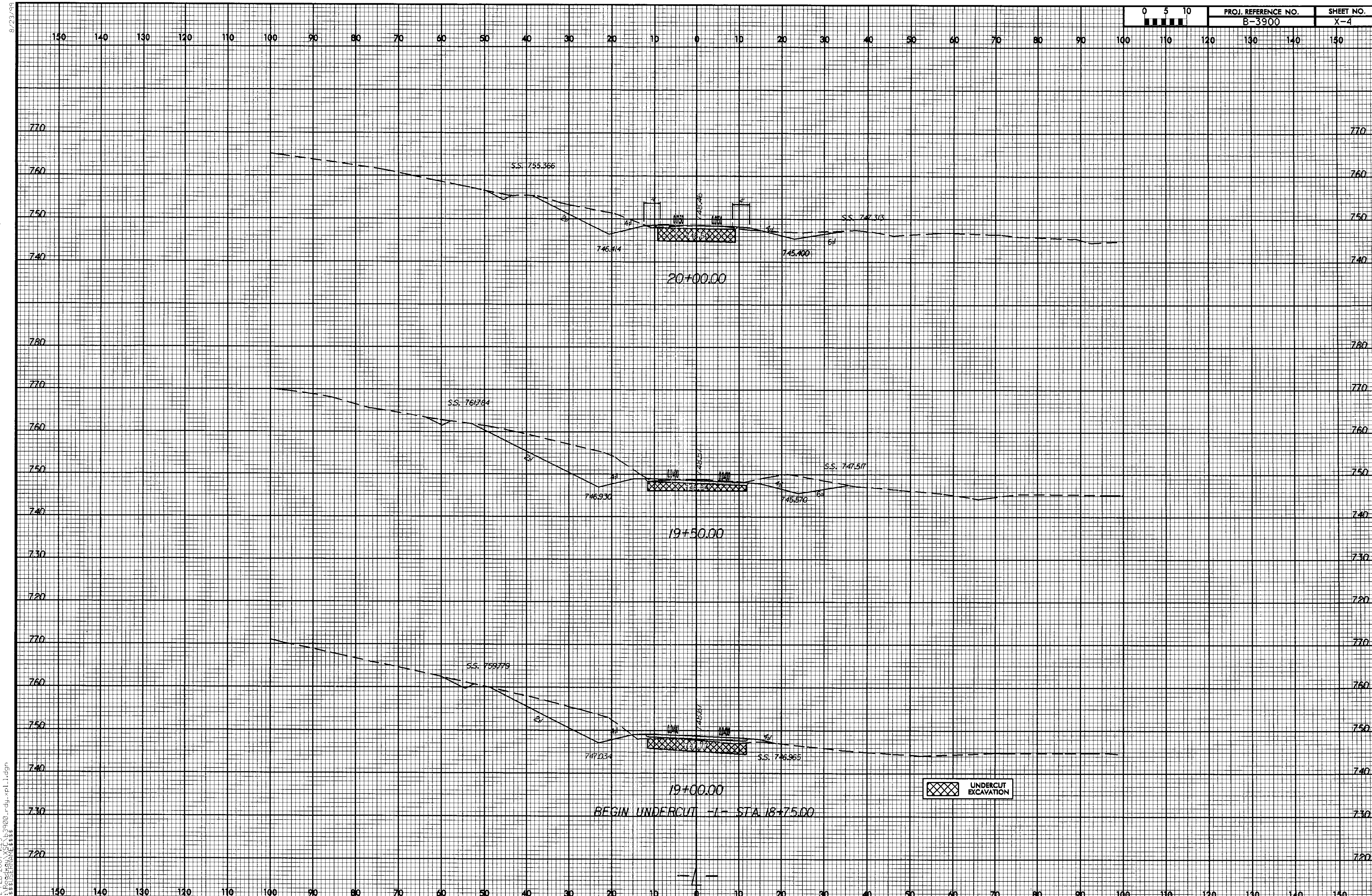
PROJ. REFERENCE NO.
B-3900
SHEET NO.
X-4
0 5 10
S.S. 755.366
S.S. 747.313
746.414
745.400
20+00.00
S.S. 761.764
S.S. 747.517
746.930
745.570
19+50.00
S.S. 759.179
747.034
S.S. 746.965
19+00.00
BEGIN UNDERCUT -L- STA 18+75.00
UNDERCUT EXCAVATION
-L-
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3900	X-5

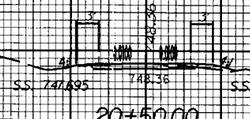
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

780
770
760
750
740

748.98

21+00.00

END PROJECT -L- STA.20+50.00
END UNDERCUT -L- STA.20+50.00



20+50.00

-L-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	**B-3900**
State Project No.	**8.2511301**
W.B.S. No.	**33336.1.1**
Federal Project No.	**BRZ-1376(1)**

A. Project Description:

The purpose of this project is to replace Rockingham County Bridge No. 165 over an unnamed creek. The replacement structure will consist of a two-barrel (each barrel 8x6 feet) reinforced concrete box culvert on an alignment shifted approximately 20 feet east of the existing alignment. Traffic will be detoured offsite during construction.

The roadway grade of the new structure will be approximately 9 feet above the existing roadway at this location. Roadwork for the shifted alignment will begin approximately 300 feet to the south of the existing bridge and approximately 320 feet north of the existing bridge. The existing roadway approaches will be widened to provide a minimum 22-foot pavement width with two 11-foot lanes (the actual width may be 3 feet wider to accommodate vehicular movement.) Six-foot (nine-foot where guardrail is required) grass shoulders will be provided on each side.

B. Purpose and Need:

Bridge Maintenance Unit records indicate the bridge has a sufficiency rating of 40.3 out of a possible 100 for a new structure. The bridge is considered functionally obsolete with deck geometry rating of 3 out of 9 according to Federal Highway Administration (FHWA) guidelines. The bridge is therefore eligible for FHWA's Highway Bridge Replacement and Rehabilitation Program.

Bridge No. 165, built in 1956, is nearing the end of its useful life. The narrow bridge deck (20 feet wide) aging timber bridge components, increasing maintenance costs and a structure not designed to carry modern traffic loads (posted 11 tons for single vehicles, 19 ton for truck-tractor semi-trailers) are the reasons driving the need for replacement.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).

a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
b. Widening roadway and shoulders without adding through lanes
c. Modernizing gore treatments
d. Constructing lane improvements (merge, auxiliary, and turn lanes)
e. Adding shoulder drains
f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
g. Providing driveway pipes
h. Performing minor bridge widening (less than one through lane)
i. Slide Stabilization
j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.

a. Installing ramp metering devices
b. Installing lights
c. Adding or upgrading guardrail
d. Installing safety barriers including Jersey type barriers and pier protection
e. Installing or replacing impact attenuators
f. Upgrading medians including adding or upgrading median barriers
g. Improving intersections including relocation and/or realignment
h. Making minor roadway realignment
i. Channelizing traffic
j. Performing clear zone safety improvements including removing hazards and flattening slopes
k. Implementing traffic aid systems, signals, and motorist aid
l. Installing bridge safety hardware including bridge rail retrofit

3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

a. Rehabilitating, reconstructing, or replacing bridge approach slabs
b. Rehabilitating or replacing bridge decks
c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
d. Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.

5. Construction of new truck weigh stations or rest areas.

6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.

7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near

a street with adequate capacity to handle anticipated bus and support vehicle traffic.

9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.

11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.

12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.

14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

Estimated Costs:

Total Construction	$ 475,000
Right of Way	$ 37,000
Total	$ 512,000

Estimated Traffic:

Current	-	100
Year 2025	-	200
TTST	-	1%
Dual	-	2%

Accidents: No accidents were recorded in a check of a recent three-year period.

Design Speed & Design Exception: This roadway will be designed as a rural local route with lane, shoulder and guardrail meeting the criteria for a 60-mile per hour design speed. The horizontal curvature meets a 30-mile per hour design speed and the vertical curvature meets a 30-mile per hour design speed. Although the horizontal and vertical alignment will be improved with the proposed design, a design exception will still be required. To

improve beyond the proposed becomes impractical considering topographic and environmental constraints and keeping cost in mind.

Functional Classification: Rural Local Route

School Busses: There are no school busses currently using this road.

Division Office Comments: The Division concurs with the proposed alternate.

Bridge Demolition: Bridge 165 is composed entirely timber. Timber can typically be removed without any resulting debris falling into the water.

Studied Offsite Detour: There is an acceptable offsite detour present. The majority of traffic near the bridge is local traffic. Traveling from the north end of SR 1376 back to the intersection with SR 1360 takes a similar amount of time no matter which direction is traveled. According to NCDOT Guidelines for Evaluation of Offsite Detours For Bridge Replacement Projects a project with a 9-month duration of road closure and an additional travel time of less than 5 minutes is considered an acceptable delay in consideration that there are no mitigating circumstances. Rockingham County Emergency Services and the School Bus Transportation Director for Rockingham County have indicated that an offsite detour is acceptable.

Floodplain Elevations: The design of the culvert is such that any impact on floodplain elevations will be minor.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?	X	
(3)	Will the project affect anadromous fish?		X
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	X	
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		X
(7)	Does the project involve waters classified as Outstanding Water Resources (OWR) and/or High Quality Waters (HQW)?		X
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		X
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		X
PERMITS AND COORDINATION		YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		X
(11)	Does the project involve Coastal Barrier Resources Act resources?		X
(12)	Will a U. S. Coast Guard permit be required?		X
(13)	Will the project result in the modification of any existing regulatory floodway?		X
(14)	Will the project require any stream relocations or channel changes?		X

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES		YES	NO
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X*	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X
(29)	Will the project affect any archaeological remains which are important to history or pre-history?		X

(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?	☐	X
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?	☐	X
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?	☐	X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2: Habitat exists for the James spiny mussel although no freshwater mussels were found in a survey. Although the coordination has not been completed yet, a finding of "May affect, not likely to adversely affect" is very likely. There will be no special commitments associated with this issue other than a commitment to follow through with concurrence which will be verified in a construction consultation.

Response to Question 25: Bridge No. 165 is located in a tight curve. As proposed, the replacement would yield a slight shift allowing for better skew of the structure and improved curvature while still being considered essentially the same alignment. It falls within the accepted use of a Programmatic Categorical Exclusion.

G. CE Approval

TIP Project No.	**B-3900**
State Project No.	**8.2511301**
W.B.S. No.	**33336.1.1**
Federal Project No.	**BRZ-1376(1)**

Project Description:

The purpose of this project is to replace Rockingham County Bridge No. 165 over an unnamed creek. The replacement structure will consist of a two-barrel (each barrel 8x6 feet) reinforced concrete box culvert on an alignment shifted approximately 20 feet east of the existing alignment. Traffic will be detoured offsite during construction

The roadway grade of the new structure will be approximately 9 feet above the existing roadway at this location. Roadwork for the shifted alignment will begin approximately 260 feet to the south of the existing bridge and approximately 470 feet north of the existing bridge. The existing roadway approaches will be widened to provide a minimum 22-foot pavement width with two 11-foot lanes (the actual width may be 2.5 feet wider to accommodate vehicular movement.) Six-foot (nine-foot where guardrail is required) grass shoulders will be provided on each side.

Categorical Exclusion Action Classification: (Check one)

____ TYPE II(A)
_X_ TYPE II(B)

Approved:

3-4-05 — Teresa Hart
Date — Assistant Manager
Project Development & Environmental Analysis Branch

3-4-05 — William T. Marshall Jr.
Date — Project Planning Unit Head
Project Development & Environmental Analysis Branch

3-04-05 — Mark D. Wilson
Date — Project Planning Engineer
Project Development & Environmental Analysis Branch

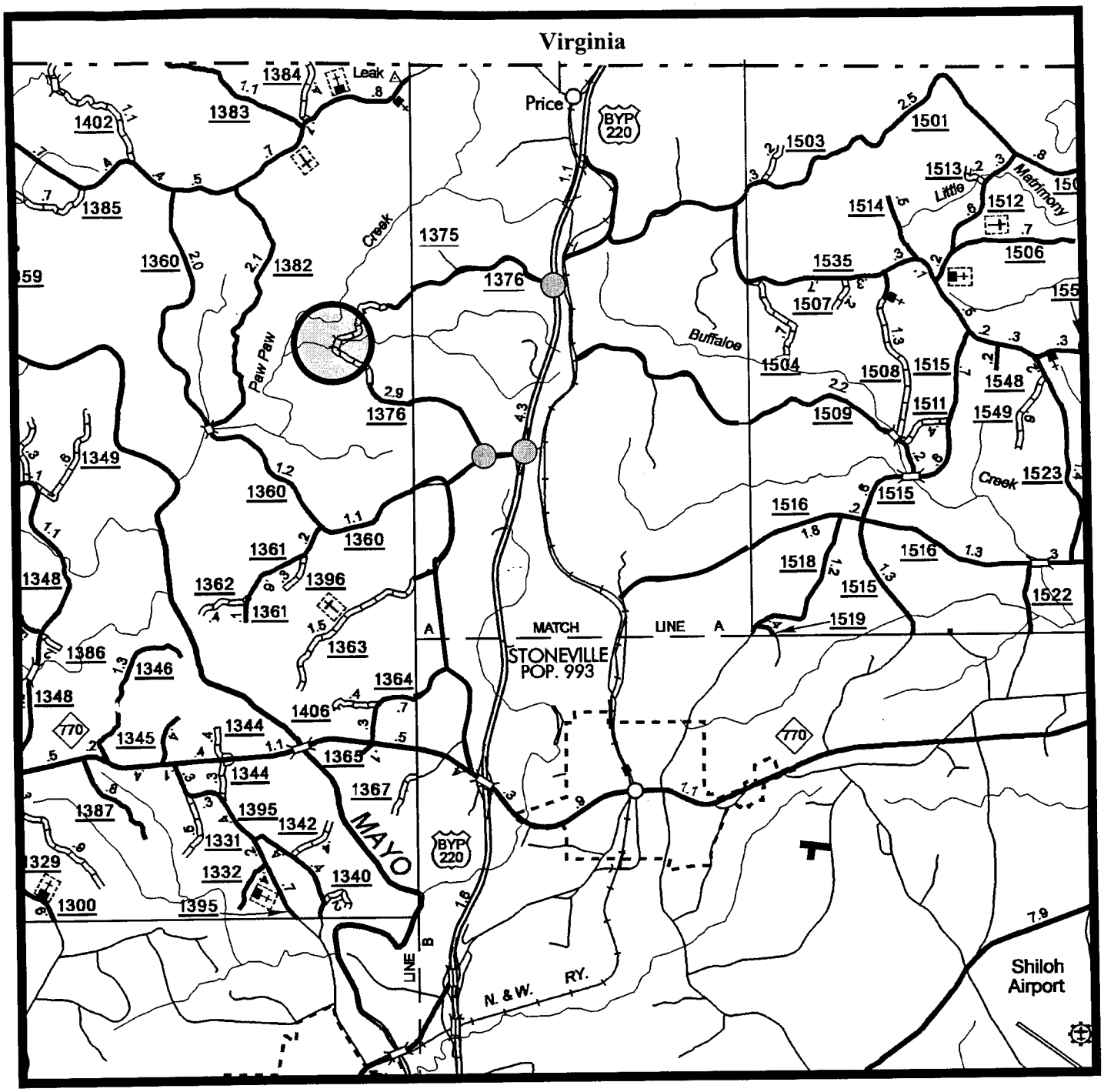
For Type II(B) projects only:

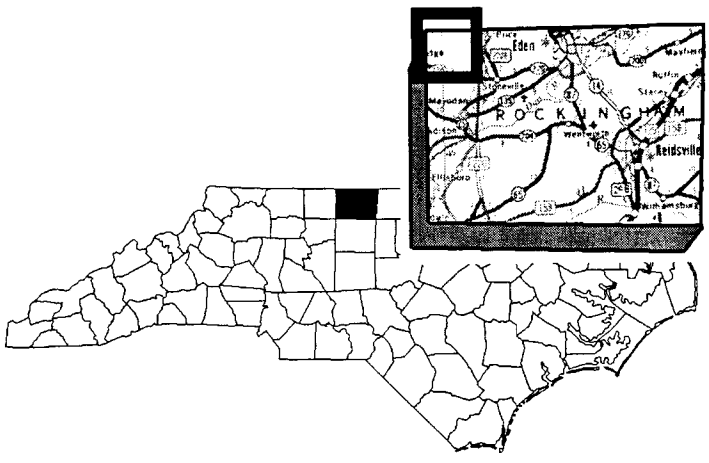
4/4/05 — for John F. Sullivan, III, P.E., Division Administrator
Date — Federal Highway Administration

PROJECT COMMITMENTS:

Rockingham County
Bridge No. 165 on SR 1376
Over Tributary to Paw Paw Creek
Federal Aid Project No. BRZ-1376(1)
State Project No. 8.2511301
W.B.S. No. 33336.1.1
T.I.P. No. B-3900

NCDOT will obtain concurrence from USFWS and report on this in the construction consultation.





NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

ROCKINGHAM COUNTY
REPLACE BRIDGE 165 ON SR 1376
OVER TRIBUTARY TO PAW PAW CREEK
B-3900

Figure 1

North Carolina Department of Cultural Resources

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

Division of Archives and History
William S. Price, Jr., Director

January 3, 2000

MEMORANDUM

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

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

Re: Replacement of Bridge No. 165 on SR 1376 over Creek,
TIP No. B-3900, Rockingham County, ER 01-7944

On November 28, 2000, April Montgomery of our staff met with North Carolina Department of Transportation (NCDOT) staff for a meeting of the minds concerning the above project. She reported our available information on historic architectural and archaeological surveys and resources along with our recommendations. NCDOT provided project area photographs and aerial photographs at the meeting.

Based upon our review of the photographs and the information discussed at the meeting, we offer our preliminary comments regarding this project.

In terms of historic architectural resources we are aware of no historic structures located within the area of potential effect. We recommend that no historic architectural survey be conducted for this project.

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

Having provided this information, we look forward to the receipt of either a Categorical Exclusion or Environmental Assessment, which indicates how NCDOT addressed our comments.

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 any questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919 733-4763.

DB:kgc

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 5, 2001

MEMORANDUM TO: Joel Johnson
Project Planning Engineer

FROM: Lynn Smith, Natural Systems Specialist LS
Natural Systems Unit

SUBJECT: Replacement of Bridge No. 165 over Paw Paw Creek Tributary in Rockingham County. Federal Aid Project No. BRZ-1376(1), State Project No. 8.2511301, TIP No. B-3900.

This report is submitted to assist in the preparation of a Programmatic Categorical Exclusion (PCE) for the subject project. Water resources, biotic resources and jurisdictional issues such as wetlands and federally protected species are included in this report.

This project is located in northern Rockingham County (Figure 1). The proposed project consists of replacing Bridge No. 165 on SR 1376 over a tributary to Paw Paw Creek with a double barrel 8-foot by 6-foot reinforced concrete box culvert at approximately the same location and roadway elevation as the existing bridge. Minor roadway alignment changes may be necessary as shown on Figure 2. Traffic will be maintained off-site on existing roads. The existing right-of-way (R/W) is from ditch line to ditch line, and the proposed is 80.0 ft (24.4 m). The existing cross-section is a two-lane bridge with a 19.0 ft (5.8 m) wide deck, 15.0 ft (4.6 m) gravel approach roadway with grass shoulders. The proposed cross-section is a box culvert with 22.0 ft (6.7 m) travelway and 3 ft (0.9 m) gravel offsets on each side. The project length is approximately 750.0 ft (228.6 m).

Environmental Commitments

Paw Paw Creek tributary is the only surface water present within the project area and flows into the Mayo River approximately 1.5 mi (2.4 km) downstream of the project area. The federally protected species, the James spinymussel does occupy the Mayo River. At this time, there are no site specific environmental commitments. However, it is anticipated that the US Fish and Wildlife Service (USFWS) and the NC Wildlife Resources Commission (NCWRC) will

be involved in future project discussions. The NCDOT should use appropriate sediment and erosion control measures to prevent non-point source pollution. All standard guidelines and recommendations apply at this time.

Purpose

The purpose of this technical report is to inventory, catalog and describe the various natural resources likely to be impacted by the proposed action. This report also attempts to identify and estimate the probable consequences of the anticipated impacts to these resources. Recommendations are made for measures which will minimize resource impacts. **These descriptions and estimates are relevant only in the context of existing preliminary design concepts. If design parameters and criteria change, additional field investigations will need to be conducted.**

Methodology

Research was conducted prior to field investigations. Information sources used in this pre-field investigation of the study area include: U.S. Geological Survey (USGS) quadrangle map for Rockingham County (Price, NC, 1964), Geographical Information Systems (NC Center for Geographical Information & Analysis), USFWS, Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) soil maps and NCDOT aerial photographs of project area (1:1200). Water resource information was obtained from publications of the Department of Environment and Natural Resources, DENR Internet Page 2001 and from the NC Center for Geographic Information and Analysis (Environmental Sensitivity Base Map of Rockingham County, 1995). Information concerning the occurrence of federal and state protected species in the study area was gathered from the USFWS list of protected species (February 26, 2001) and species of concern, and the NC Natural Heritage Program (NCNHP) database of rare species and unique habitats.

General field surveys were conducted along the proposed alignment by NCDOT biologists Lynn Smith and Karen M. Lynch on 17 May 2001. Plant communities and their associated wildlife were identified and recorded. Wildlife identification involved using one or more of the following observation techniques: active searching and capture, visual observations (binoculars), and identifying characteristic signs of wildlife (sounds, scat, tracks and burrows). Jurisdictional wetland determinations were performed utilizing delineation criteria prescribed in the "Corps of Engineers Wetland Delineation Manual" (Environmental Laboratory, 1987). Jurisdictional surface water determinations were performed using guidance provided by NC Division of Water Quality (DWQ),"Field Location of Streams, Ditches, and Ponding" (NCDENR-DWQ, 1997).

Definitions

Definitions for aerial descriptions used in this report are as follows: **Project Study Area** denotes the area bounded by proposed construction limits; **Project Vicinity** describes an area extending 0.5 mi (0.8 km) on all sides of the project study area; and **Project Region** is equivalent to an area represented by a 7.5 minute USGS quadrangle map with the project occupying the central position.

PHYSICAL RESOURCES

Soil and water resources, which occur in the study area, are discussed below. Soils and availability of water directly influence composition and distribution of flora and fauna in any biotic community.

The project study area lies within the Piedmont physiographic region in the north-central part of North Carolina. The topography in this section of Rockingham County is gently rolling. The study area is comprised mostly of forested area with few residential homes. Project elevation is approximately 740.0 ft (225.6 m) above mean sea level (msl).

Soils

There are two soil map units, associated with the Madison Series, occurring within the project boundaries. Table 1 lists physical descriptions of the individual soils.

Table 1. Soils within the Project Study Area

Soil type	Slope	Hydric Classification	Hazards	Description
MaE, Madison sandy loam	15-35%	Non-hydric	Erosion, Runoff	This is a well-drained soil on narrow side slopes. Surface runoff is rapid. Permeability and available water capacity are moderate.
MaD, Madison sandy loam	8-15%	Non-hydric	Erosion, Runoff	This soil is found on convex side slopes and narrow ridges and has the same characteristics as MaE.

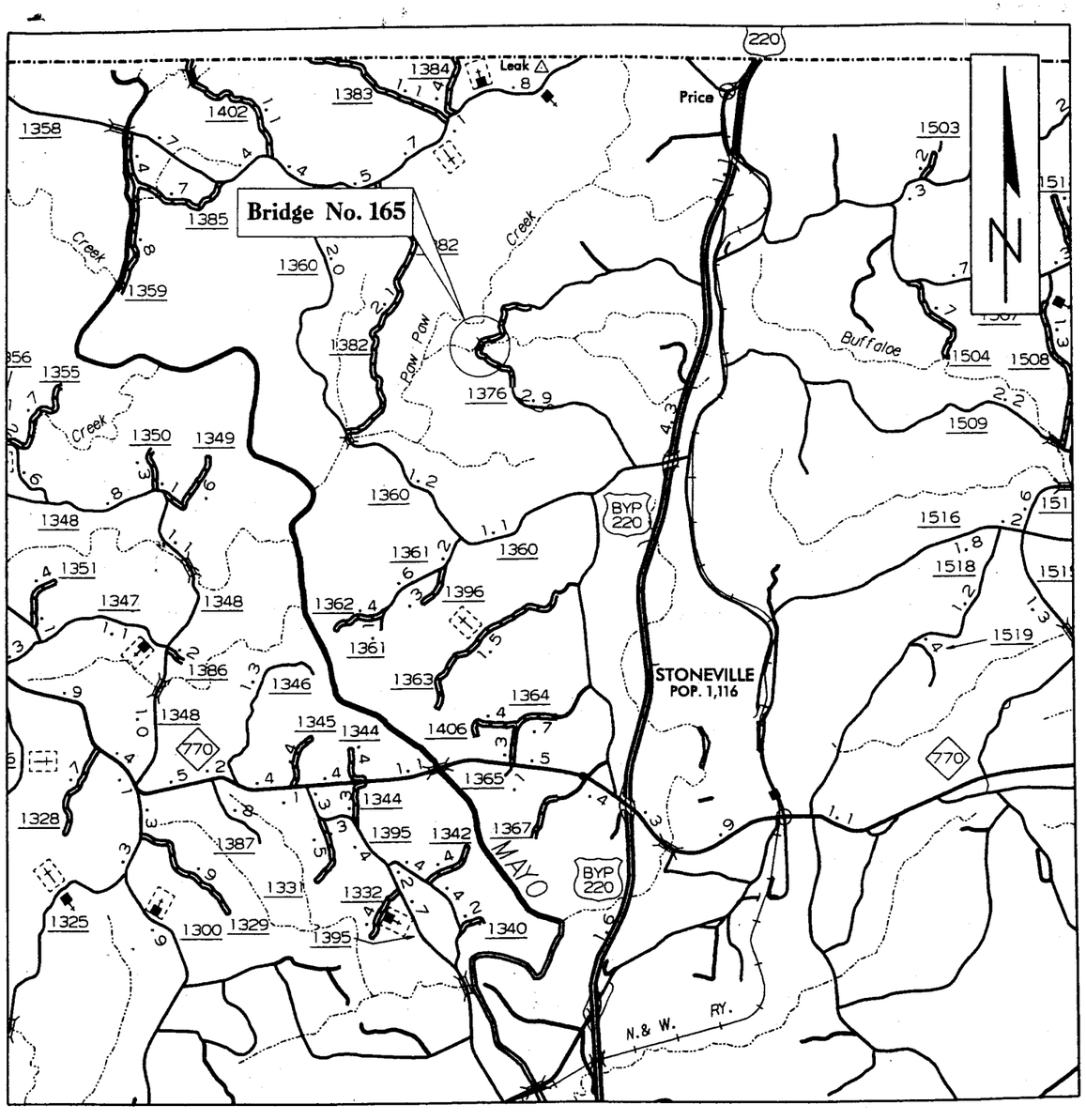
Water Resources

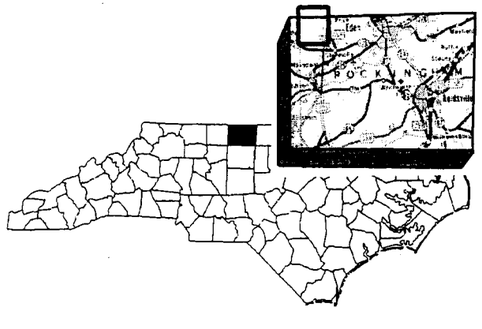
This section contains information concerning those water resources, if present, likely to be impacted by the project. Water resource information encompasses physical aspects of the resource, its relationship to major water systems, Best Usage Standards and water quality of the resources. Probable impacts to these water bodies are also discussed, as are means to minimize impacts.

One stream, an unnamed tributary (Ut) to Paw Paw Creek, will be directly impacted by the proposed project (Figure 2). This tributary to Paw Paw Creek is located in sub-basin 03-02-02 of the Roanoke River Basin and flows into the Mayo River approximately 1.5 mi (2.4 km) downstream of the project area.

Within the project vicinity, the channel of this tributary is approximately 20.0 ft (6.1 m) wide and has an average depth of 5.0 ft (1.5 m). On the day of the site visit, the streamflow was swift and measured approximately 6.0 ft (1.8 m) wide and 3.0 ft (0.9 m) deep. The substrate is composed of bedrock, cobble, sand and silt.

Streams are assigned a best usage classification by the DWQ. The classification of Paw Paw Creek [Index no. 22-30-6-(2)] is **WS-IV**. Unnamed tributaries receive the same best usage classification as the named streams into which they flow. Therefore, the classification of Paw Paw Creek tributary at Bridge No. 165 is WS-IV. **"WS-IV"** classification denotes waters used as sources of water supply for drinking, culinary, or food processing purposes for those users



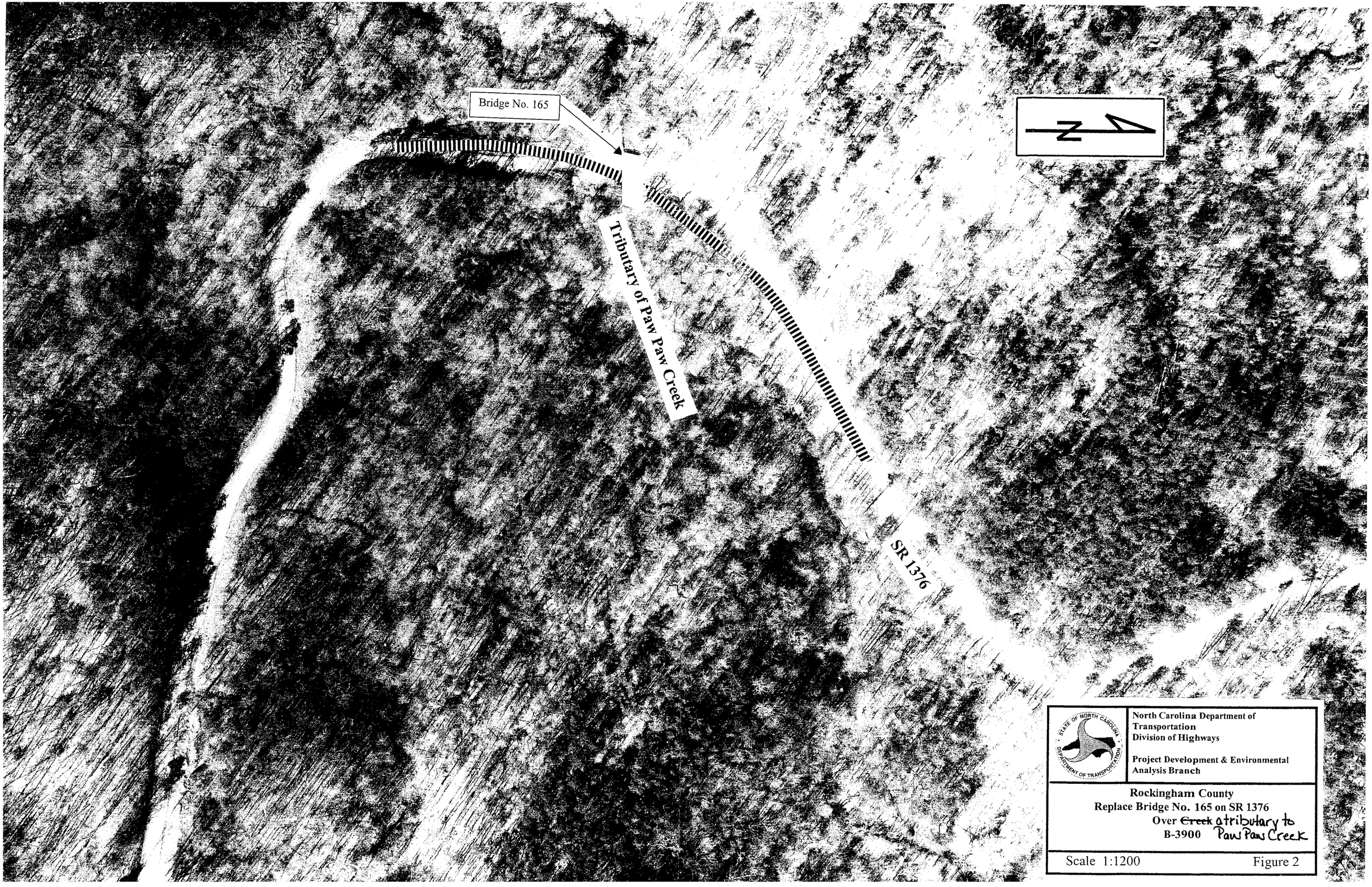


North Carolina
Department of Transportation
Division of Highways
Project Development &
Environmental Analysis Branch

Rockingham County
Replace Bridge No. 165 on SR 1376
Over Creek
B-3900

SCALE: 1 in = 1 mi

Figure 1



North Carolina Department of Transportation
Division of Highways

Project Development & Environmental Analysis Branch

Rockingham County
Replace Bridge No. 165 on SR 1376
Over ~~Creek~~ a tributary to
B-3900 Paw Paw Creek

Scale 1:1200 Figure 2

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. Point source dischargers of treated wastewater are permitted pursuant to rules .0104 and .0211 of 15A NCAC 2B .0100; local programs to control nonpoint source and stormwater discharge of pollution are required; suitable for all Class **C** uses. The **"C"** classification denotes freshwaters suitable for aquatic life propagation and survival, fishing, wildlife, secondary recreation and agriculture.

A Protected Water Supply Watershed lies approximately 0.4 mi (0.6 km) (stream channel distance) downstream of Bridge No. 165. Protected areas are only located within WS-IV watersheds. A protected area is defined as land within five miles and draining to the normal pool elevation of water supplies, or within ten miles upstream and draining to a river intake. **Neither High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds) nor Outstanding Resource Waters (ORW) occur within 1.0 mile (1.6 km) of project study area.**

The DWQ has initiated a whole basin approach to water quality management for the 17 river basins within the state. The basinwide approach allows for more intensive sampling of biological, chemical and physical data that can be used in basinwide assessment and planning. Benthic macroinvertebrates are intensively sampled for specific river basins. Benthic macroinvertebrates have proven to be a good indicator of water quality because they are sensitive to subtle changes in water quality, have a relatively long life cycle, are nonmobile (compared to fish) and are extremely diverse. The overall species richness and presence of indicator organisms help to assess the health of streams and rivers. All basins are reassessed every five years to detect changes in water quality and to facilitate National Pollution Discharge Elimination System (NPDES) permit review. **There are not any biological sampling sites located within 1.0 mi (1.6 km) of Bridge No. 165.**

One Basin Fish Community Assessment Site is located within 2.0 mi (3.2 km) of Bridge No. 165. This site (F-1) is located at the intersection of Paw Paw Creek and SR 1360. Fish tissue samples were last collected August 3, 1990 and received a North Carolina Index of Biotic Integrity (NCIBI) rating of Good. The NCIBI incorporates information about species richness and composition, trophic composition, fish abundance and fish condition and summarizes the effects of all classes of factors influencing aquatic faunal communities. Paw Paw Creek had a very diverse fish population with 26 species. This site had good habitat as evidenced by the number of darter species and sunfish species. The percentage of omnivorous species was elevated suggesting that there is some evidence of moderate nutrient enrichment at this site.

Point source dischargers located throughout North Carolina are permitted through the NPDES Program. Any discharger is required to register for a permit. **There are no permitted dischargers located within 1.0 mi (1.6 km) of Bridge No. 165.**

Nonpoint source discharge refers to runoff that enters surface waters through stormwater or snowmelt. Agricultural activities may serve as a source for various forms of nonpoint source pollutants. Land clearing and plowing disturb soils to a degree where they are susceptible to erosion, which can lead to sedimentation in streams. Sediment is the most widespread cause of

nonpoint source pollution in North Carolina. Pesticides, chemical fertilizers, and land application of animal wastes can be transported via runoff to receiving streams and potentially elevate concentrations of toxic compounds and nutrients. Animal wastes can also be a source of bacterial contamination and can elevate biochemical oxygen demand (BOD). Drainage ditches on poorly drained soils enhance the transportation of stormwater into surface waters (NCDEHNR-DEM, 1993).

BIOTIC RESOURCES

Biotic resources include aquatic and terrestrial ecosystems. This section describes those ecosystems encountered in the study area, as well as, the relationships between fauna and flora within these ecosystems. Composition and distribution of biotic communities throughout the project area are reflective of topography, hydrologic influences and past and present land uses in the study area. Descriptions of the terrestrial systems are presented in the context of plant community classifications and follow descriptions presented by Schafale and Weakley (1990) where possible. Dominant flora and fauna observed, or likely to occur, in each community are described and discussed.

Scientific nomenclature and common names (when applicable) are provided for each animal and plant species described. Plant taxonomy generally follows Radford, et al. (1968). Animal taxonomy follows Martof, et al. (1980), Menhinick (1991), Potter, et al. (1980) and Webster, et al. (1985). Subsequent references to the same organism will include the common name only. Fauna observed during the site visit are denoted with an asterisk (*). Published range distributions and habitat analysis are used in estimating fauna expected to be present within the project area.

Three communities are found in the project study area: Maintained/Disturbed, Mixed Pine/Hardwood Forest and Piedmont/Low Mountain Alluvial Forest. Community boundaries within the study areas are well defined without a significant transition zone between them, and terrestrial faunal species likely to occur within the study area will exploit all communities for shelter and foraging opportunities or as movement corridors.

The maintained/disturbed community occurs along the shoulder of SR 1376. Significant soil disturbance and compaction, along with frequent mowing or herbicide application, keep this community in an early successional state.

Road shoulders act as buffers between the roadway and surrounding communities by filtering stormwater runoff and reducing runoff velocities. The width of the road shoulder is approximately 15.0 ft (4.6 m). Vegetation occurring along the road shoulder and less maintained areas adjacent to the road shoulder includes various grasses, wing stem (*Verbesina occidentalis*), winged sumac (*Rhus copallina*), ragweed (*Ambrosia* sp.), sour grass (*Rumex acetosella*), milkweed (*Asclepias* sp.), aster (*Aster* sp.), wild onion (*Allium canadense*), vetch (*Vicia* sp.), wild geranium (*Geranium carolinianum*), panic grass (*Dicanthelium* sp.), Queen Anne's Lace (*Daucus carota*), daisy (*Chrysanthemum leucanthemum)*, Christmas fern (*Polystichum acrostichoides*), green and gold (*Chrysogonum virginianum*), fire pink (*Silene virginica*), reindeer moss (*Cladonia evansii*), grape (*Vitis* sp.), poison ivy (*Toxicodendron radicans*),

blackberry (*Rubus* sp.), Virginia creeper (*Parthenocissus quinquefolia*) and coral honeysuckle (*Lonicera sempervirens*).

The Mixed Pine/Hardwood Forest occupies the four corners of the existing bridge. This community is adjacent to the alluvial forest and proceeds upslope and is extensive along SR 1376. The canopy is composed primarily of American beech (*Fagus grandifolia*), ironwood (*Carpinus caroliniana*), hickory (*Carya* sp.), Virginia pine (*Pinus virginiana*), red maple (*Acer rubrum*), tulip tree (*Liriodendron tulipifera*), eastern red cedar (*Juniperus virginiana*), black gum (*Nyssa sylvatica*), black walnut (*Juglans nigra*) and sourwood (*Oxydendrum arboreum).* The shrub layer consists of big leaf snowbell (*Styrax grandifolia*), black cherry (*Prunus serotina*), hazelnut (*Corylus americana*), witch-hazel (*Hamamelis virginiana*), flowering dogwood (*Cornus florida*), redbud (*Cercis canadensis*), spicebush (*Lindera benzoin*) and maple leaf viburnum (*Viburnum acerifolium*). The herbaceous and vine layers consists of bellwort (*Uvularia sessifolia*), bedstraw (*Galium* sp.), rattlesnake plantain (*Goodyera pubescens*), rattlesnake fern (*Botrychium virginianum*), running cedar (*Lycopodium flabelliforme*), wild yam (*Dioscorea villosa*), Virginia creeper and Japanese honeysuckle (*Lonicera japonica*).

The Piedmont/Low Mountain Alluvial Forest (Piedmont) is present adjacent to the creek, along the northeast, northwest and southwest corners of the existing bridge. This community is more extensive along the west side of SR 1376. Within the southwest quadrant the alluvial forest reaches down into the creek channel. The canopy and shrub layers are composed of ironwood, red maple, flowering and silky dogwood (*C. amomun*), saplings of pine and red cedar, maple leaf viburnum, blueberry (*Vaccinium* sp.) and black haw (*Viburnum. prunifolium*). The herbaceous layer consists of Jack-in-the-pulpit (*Arisaema triphyllum*), rattlesnake fern, Christmas fern, sensitive fern (*Onoclea sensibilis*), New York ironweed (*Vernonia* sp.), Joe-pye-weed (*Eupatorium fistulosum*), lousewort (*Pedicularis* sp.), bedstraw, bellwort, mock strawberry (*Duchesnea indica*), may-apple (*Podophyllum peltatum*), yellow root (*Xanthorhiza simplicissima*), windflower (*Anemone quinquefolia*), skullcap (*Scutellaria serrata*), Japanese grass (*Microstegium vimineum*), jewel-weed (*Impatiens capensis*), wild yam and Virginia creeper.

Wildlife associated with the communities present within the project vicinity include: white-tailed deer* (*Odocoileus virginianus*), eastern mole (*Scalopus aquaticus*), opossum (*Didelphis virginiana*), muskrat (*Ondatra zibethicus*), gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*) and American toad* (*Bufo americanus*).

Avian species utilizing the project vicinity include: tufted titmouse* (*Parus bicolor*), red-eyed vireo* (*Vireo olivaceus*), mourning dove* (*Zenaida macroura*), blue-gray gnatcatcher* (*Polioptila caerulea*), ovenbird* (*Seiurus aurocapillus*) and Louisiana waterthrush* (*Seiurus motacilla*).

Summary of Anticipated Impacts

Construction of the subject project will have various impacts on the biotic resources described. Any construction related activities in or near these resources have the potential to impact biological functions. This section quantifies and qualifies impacts to the natural

resources in terms of area impacted and ecosystems affected. Temporary and permanent impacts are considered here as well.

Calculated impacts to terrestrial resources reflect the relative abundance of the community present within the study area. Project construction will result in clearing and degradation of portions of this community. The project lies in a rural area consisting of natural forest communities and maintained/disturbed road shoulders. Table 2 summarizes potential quantitative losses to biotic communities, resulting from project construction. Estimated impacts are derived using the entire proposed R/W width of 80.0 ft (24.4 m). The gravel road has been excluded from the impact calculations.

Table 2. Anticipated Impacts to Biotic Communities

COMMUNITY	ALTERNATE 1
Maintained/Disturbed	0.53 (0.21)
Mixed Pine/Hardwood Forest	0.54 (0.22)
Piedmont Alluvial Forest	0.14 (0.06)
TOTAL:	**1.21 (0.49)**

Note: Values cited are in acres (hectares).

Plant communities found within the proposed project area serve as nesting and sheltering habitat for various wildlife. However, due to the size and scope of this project, it is anticipated that impacts to fauna will be minimal.

Areas modified by construction (but not paved) will become road shoulders and early successional habitat. Reduced habitat will displace some wildlife further from the roadway while attracting other wildlife by the creation of more early successional habitat. Animals temporarily displaced by construction activities will repopulate areas suitable for the species.

Bridge Demolition

Bridge No. 165 is composed of a timber deck with asphalt wearing surface on timber joist. The substructure is composed of timber caps and timber piles. Therefore, Bridge No. 165 will be removed without dropping components into Waters of the United States. This project falls under Case 3 (Bridge Demolition and Removal Policy, dated 9-20-99) where there are no special restrictions other than those outlined in Best Management Practices for Protection of Surface Waters.

JURISDICTIONAL TOPICS

This section provides descriptions, inventories and impact analysis pertinent to two important issues--Waters of the United States and rare and protected species.

Surface Waters and Wetlands

Surface waters and wetlands fall under the broad category of "Waters of the United States," as defined in Section 33 of the Code of Federal Register (CFR) Part 328.3. Wetlands, defined in 33 CFR 328.3, are those areas that are inundated or saturated by surface or ground

water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated conditions. Any action that proposes to place fill into these areas falls under the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (33 U.S.C. 1344).

Potential wetland communities were investigated pursuant to the 1987 "Corps of Engineers Wetland Delineation Manual". The three parameter approach is used where hydric soils, hydrophytic vegetation and prescribed hydrologic characteristics must **all** be present for an area to be considered a wetland. **Wetlands are not present within the project study area.**

Paw Paw Creek tributary is the only jurisdictional surface water, under Section 404 of the Clean Water Act (33 U.S.C. 1344), present within the project study area. Discussion of the biological, physical and water quality aspects of these streams are presented in previous sections of this report.

Permits

Impacts to jurisdictional surface waters are anticipated. In accordance with provisions of section 404 of the Clean Water Act (33 U.S.C. 1344), a permit will be required from the USACE for the discharge of dredged or fill material into "Waters of the United States".

A Section 404 Nationwide Permit 33 CFR 330.5(a) (23) is likely to be applicable for all impacts to Waters of the United States from the proposed project. This permit authorizes activities undertaken, assisted, authorized, regulated, funded or financed in whole, or part, by another Federal agency or department where that agency or department has determined that pursuant to the council on environmental quality regulation for implementing the procedural provisions of the National Environmental Policy Act;

(1) that the activity, work, or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment, and;

(2) that the office of the Chief of Engineers has been furnished notice of the agency' or department's application for the categorical exclusion and concurs with that determination.

A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality Certification is required prior to the issuance of the section 404 permit. Section 401 of the Clean Water Act requires that the state issue or deny water certification for any federally permitted or licensed activity that may result in a discharge to Waters of the U.S.

Federally-Protected Species

Some populations of fauna and flora have been in, or are in, the process of decline either due to natural forces or their inability to coexist with human activities. Federal law (under the provisions of the Endangered Species Act of 1973, as amended requires that any action, likely to adversely affect a species classified as federally-protected, be subject to review by the USFWS. Other species may receive additional protection under separate state laws.

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of February 26, 2001, the USFWS lists two federally-protected species for Rockingham County.

Table 3. Federally-Protected Species for Rockingham County

Scientific Name	Common Name	Status
Pleurobema collina	James spinymussel	Endangered
Echinacea laevigata	Smooth coneflower	Endangered

Endangered – A taxon "which is in danger of extinction throughout all or a significant portion of its range" (Endangered Species Act, Section 3).

Echinacea laevigata (smooth coneflower) **Endangered**
Plant Family: Asteraceae
Federally Listed: December 9, 1991 PE
Flowers Present: June - early July
Distribution in N.C.: Durham, Granville, Orange, Rockingham

Smooth coneflower is a perennial herb that grows from simple or branched rhizomes. This herb has a smooth stem and few leaves. The basal leaves are the largest, and these leaves are smooth to slightly rough, tapered to the base and elliptical to broadly lanceolate. Mid-stem leaves have short or no petioles and are smaller than the basal leaves. Flowers are light pink to purplish in color and solitary. The petal-like rays usually droop. Fruits are gray-brown, oblong-prismatic and four-angled.

Habitat for the smooth coneflower is found in areas of meadows, open woodlands, glades, cedar barrens, roadsides, power line rights-of-way, clearcuts, and dry limestone bluffs. Plants usually grow in soil derived from calcareous parent material. North Carolina populations are found in soils derived from Diabase, a circumneutral igneous rock. Optimal sites are in areas with abundant sunlight and little competition from other herbaceous plants.

BIOLOGICAL CONCLUSION **NO EFFECT**

Suitable habitat for smooth coneflower is present within the road shoulder portions of the project study area. A plant by plant survey for smooth coneflower, within the road shoulder area, was conducted on 17 May 2001 by NCDOT biologists Karen M. Lynch and Lynn Smith. No specimens were found during the survey. Furthermore, a review of the NC Natural Heritage Program database of rare species and unique habitats on November 1, 2001 revealed that no known occurrences of smooth coneflower occur within 1.0 mi (1.6 km) of the project study area. Therefore, project construction will not affect smooth coneflower.

Pleurobema collina (James spinymussel) Endangered
Animal Family: Unionidae
Date Listed: July 22, 1988

A description and biological conclusion for the James spinymussel is not available at this time. As soon as this information is available, it will be provided in a separate memorandum.

Federal Species of Concern and State Listed Species

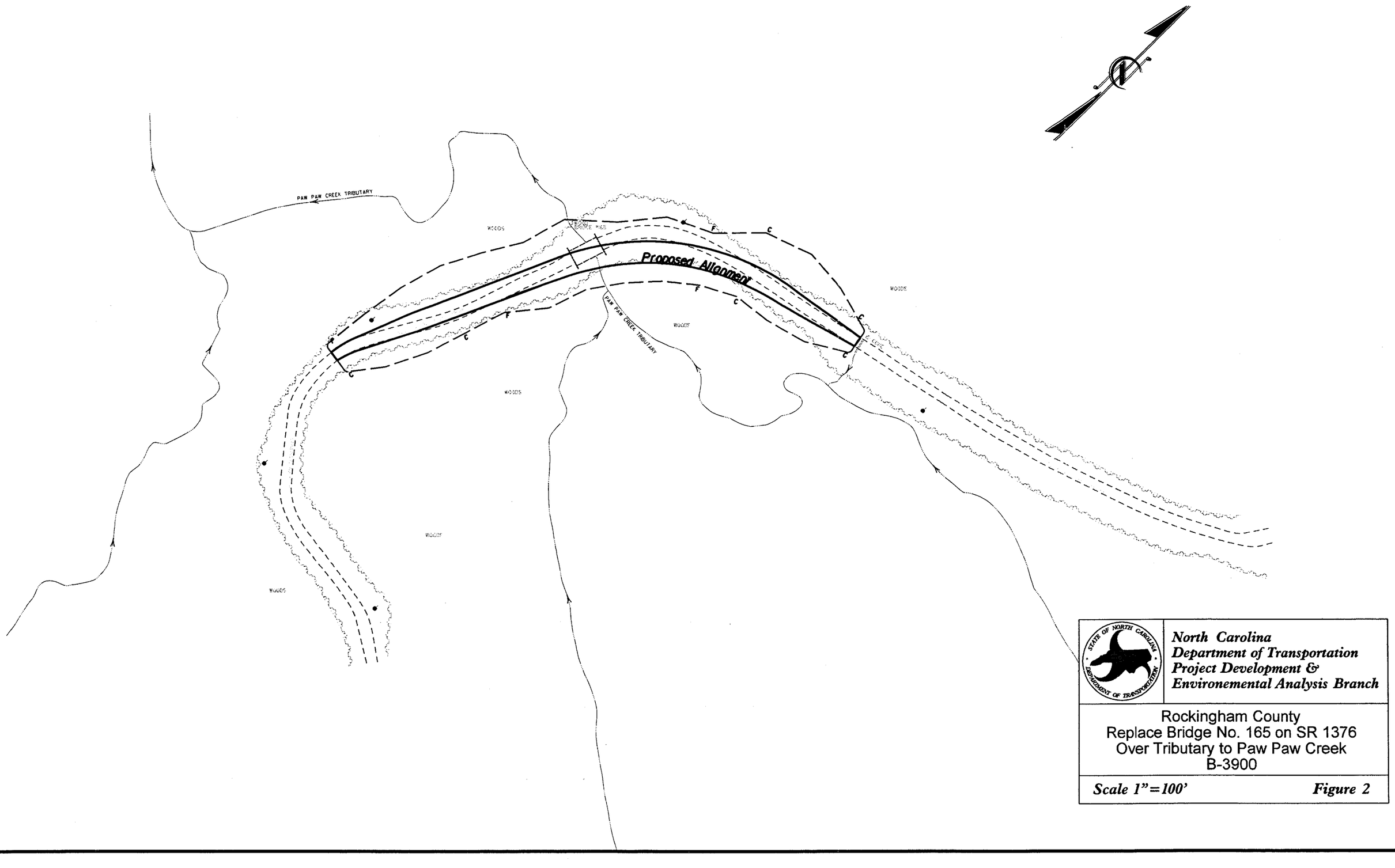
There is one Federal Species of Concern (FSC) listed for Rockingham County. Federal Species of Concern are not afforded federal protection under the ESA and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened or Endangered. Federal Species of Concern are defined as those species which may or may not be listed in the future. These species were formally candidate species, or species under consideration for listing for which there was insufficient information to support a listing of Endangered, Threatened, Proposed Endangered and Proposed Threatened. Organisms which are listed as Endangered (E), Threatened (T), Significantly Rare (SR) or Special Concern (SC) by the North Carolina Natural Heritage Program (NCNHP) list of rare plant and animal species are afforded state protection under the State Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979.

Heller's trefoil (*Lotus helleri*) is the only Federal Candidate and State listed species listed for Rockingham County. The species' state status is as "Candidate" species. Candidate species are very rare in North Carolina generally due to habitat destruction. These species are also either rare throughout their ranges or disjunct in North Carolina from a main range in a different part of the country or world. Also included are species which may have 20-50 populations in North Carolina, but fewer than 50 populations rangewide. If present land use trends continue, candidate species are likely to merit listing as Endangered or Threatened. Suitable habitat for Heller's trefoil does exist in the study area. This data is provided for information purposes as the status of this species may be upgraded in the future.

A review of the NCNHP database of rare species and unique habitats on November 1, 2001 revealed no records of North Carolina rare and/or protected species in or near the project study area. A survey for this species was not conducted during the site visit, nor was the species observed.

Please contact me at (919) 733-7844 extension 286 if you have any further questions regarding this project.

cc: Randy Turner, Natural Systems Unit Head
File B-3900



North Carolina
Department of Transportation
Project Development &
Environemental Analysis Branch

Rockingham County
Replace Bridge No. 165 on SR 1376
Over Tributary to Paw Paw Creek
B-3900

Scale 1"=100' *Figure 2*