



## STATE OF NORTH CAROLINA

## DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

July 28, 2014

U.S. Army Corps of Engineers  
Wilmington District Office  
69 Darlington Avenue  
Wilmington, NC 28403

ATTN: Ms. Sarah Elizabeth Hair  
NCDOT Division 8 Project Coordinator

SUBJECT: **Application for Section 404 Nationwide Permit Nos. 13, 23, and 33 and Section 401 Water Quality Certification** for the replacement of Bridge No. 22 over Richland Creek on SR 1111 (Lilly's Bridge Road), Montgomery County, North Carolina. Federal Aid Project No. BRZ-1111(8), TIP No. B-4780.

Debit \$240.00 from WBS Element No. 38551.1.1

Please find enclosed the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination (JD), North Carolina Ecosystem Enhancement Program (EEP) Mitigation Acceptance Letter, Stormwater Management Plan, permit drawings, and roadway design plans for the subject project. A Programmatic Categorical Exclusion (PCE) was completed for this project in October 2013.

The proposed let date for this project is July 21, 2015, with a let review date of June 2, 2015. However, Richland Creek flows into Lake Tillery, which is managed by Duke Energy and subject to Federal Energy Regulatory Commission (FERC) licensing. B-4780 is within Duke Energy's full pond storage limits and must go through a review by FERC to assure that NCDOT is not affecting their storage capacity or other terms of their license. Therefore, we are expediting the design and permitting process for this project in order to ensure that FERC has the required information and sufficient time to review the project prior to Let.

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

TELEPHONE: 919-707-6100  
FAX: 919-212-5785  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**PHYSICAL ADDRESS:**  
Century Center - Building B  
1020 Birch Ridge Dr  
Raleigh, NC 27610-4328

A copy of this permit application will be posted on the NCDOT Website at <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>, under *Quick Links > Permit Applications*. A copy of the PCE is also available at the above website address under *Quick Links > Environmental Documents*. Thank you for your assistance with this project. If you have any questions or need additional information, please contact Jim Mason at either [jsmason@ncdot.gov](mailto:jsmason@ncdot.gov) or (919) 707-6136.

Sincerely,

  
Richard W. Hancock, P.E., Manager  
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List



Office Use Only:  
Corps action ID no. \_\_\_\_\_  
DWQ project no. \_\_\_\_\_  
Form Version 1.3 Dec 10 2008

## Pre-Construction Notification (PCN) Form

### A. Applicant Information

#### 1. Processing

1a. Type(s) of approval sought from the Corps:  Section 404 Permit  Section 10 Permit

1b. Specify Nationwide Permit (NWP) number: 13 23 33 or General Permit (GP) number:

1c. Has the NWP or GP number been verified by the Corps?  Yes  No

1d. Type(s) of approval sought from the DWQ (check all that apply):

401 Water Quality Certification – Regular  Non-404 Jurisdictional General Permit  
 401 Water Quality Certification – Express  Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required? For the record only for DWQ 401 Certification:  Yes  No For the record only for Corps Permit:  Yes  No

1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.  Yes  No

1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.  Yes  No

1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?  Yes  No

#### 2. Project Information

2a. Name of project: Replacement of Bridge No. 22 over Richland Creek on SR 1111 (Lilly's Bridge Road)  
2b. County: Montgomery  
2c. Nearest municipality / town: Mount Gilead  
2d. Subdivision name: *not applicable*  
2e. NCDOT only, T.I.P. or state project no.: B-4780

#### 3. Owner Information

3a. Name(s) on Recorded Deed: North Carolina Department of Transportation  
3b. Deed Book and Page No.: *not applicable*  
3c. Responsible Party (for LLC if applicable): *not applicable*  
3d. Street address: 1598 Mail Service Center  
3e. City, state, zip: Raleigh, NC 27699-1598  
3f. Telephone no.: (919) 707-6136  
3g. Fax no.: (919) 212-5785  
3h. Email address: jsmason@ncdot.gov

|   |   |
|---|---|
| <b>4. Applicant Information (if different from owner)</b> |   |
| 4a. Applicant is:   | <input type="checkbox"/> Agent <input type="checkbox"/> Other, specify: |
| 4b. Name:   | <i>not applicable</i>   |
| 4c. Business name (if applicable):                        |   |
| 4d. Street address:                                       |   |
| 4e. City, state, zip:                                     |   |
| 4f. Telephone no.:  |   |
| 4g. Fax no.:  |   |
| 4h. Email address:  |   |
| <b>5. Agent/Consultant Information (if applicable)</b>    |   |
| 5a. Name:   | <i>not applicable</i>   |
| 5b. Business name (if applicable):                        |   |
| 5c. Street address:                                       |   |
| 5d. City, state, zip:                                     |   |
| 5e. Telephone no.:  |   |
| 5f. Fax no.:  |   |
| 5g. Email address:  |   |

|   |   |                                      |
|---|---|--------------------------------------|
| <b>B. Project Information and Prior Project History</b>   |   |                                      |
| <b>1. Property Identification</b>   |   |                                      |
| 1a. Property identification no. (tax PIN or parcel ID):   | <i>not applicable</i>   |                                      |
| 1b. Site coordinates (in decimal degrees):  | Latitude: 35.2540<br>(DD.DDDDDDD)   | Longitude: -80.0717<br>(-DD.DDDDDDD) |
| 1c. Property size:  | 1.5 acres   |                                      |
| <b>2. Surface Waters</b>  |   |                                      |
| 2a. Name of nearest body of water (stream, river, etc.) to proposed project:  | Richland Creek  |                                      |
| 2b. Water Quality Classification of nearest receiving water:  | WS-IV&B CA  |                                      |
| 2c. River basin:  | Yadkin-Pee Dee  |                                      |
| <b>3. Project Description</b>   |   |                                      |
| 3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application:                                       | SR 1111 (Lilly's Bridge Rd) is classified as a Rural Local Route in the Statewide Functional Classification System and is not a National Highway System Route. Land use within the vicinity includes Forested Land, Low- to Mid-Density Residential, Silviculture, and Recreation.  |                                      |
| 3b. List the total estimated acreage of all existing wetlands on the property:  | 0 acres   |                                      |
| 3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property:  | 210 linear feet   |                                      |
| 3d. Explain the purpose of the proposed project:  | To replace a structurally deficient and functionally obsolete bridge.   |                                      |
| 3e. Describe the overall project in detail, including the type of equipment to be used:   | The project consists of replacing the existing one-span, 29.25-foot long bridge with a 55.5-foot long double 12-foot by 9-foot Reinforced Concrete Box Culvert (RCBC) on the existing alignment. The proposed culvert is 26 feet wide. Traffic will be maintained via off-site detour. Standard road building equipment, such as trucks, dozers, and cranes will be used. |                                      |
| <b>4. Jurisdictional Determinations</b>   |   |                                      |
| 4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown  |                                      |
| Comments: Action ID No. SAW-2009-01696  |   |                                      |
| 4b. If the Corps made the jurisdictional determination, what type of determination was made?  | <input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final  |                                      |
| 4c. If yes, who delineated the jurisdictional areas?  | Agency/Consultant Company: NCDOT  |                                      |
| Name (if known): Principal Investigator: Lindsey Riddick  | Other:  |                                      |
| 4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.   | September 15, 2009  |                                      |
| <b>5. Project History</b>   |   |                                      |
| 5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown  |                                      |
| 5b. If yes, explain in detail according to "help file" instructions.  |   |                                      |
| <b>6. Future Project Plans</b>  |   |                                      |
| 6a. Is this a phased project?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |                                      |
| 6b. If yes, explain.  |   |                                      |

### C. Proposed Impacts Inventory

#### 1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

|                                      |   |                                  |
|--------------------------------------|---|----------------------------------|
| <input type="checkbox"/> Wetlands    | <input checked="" type="checkbox"/> Streams - tributaries | <input type="checkbox"/> Buffers |
| <input type="checkbox"/> Open Waters | <input type="checkbox"/> Pond Construction                |                                  |

#### 2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

| 2a. Wetland impact number – Permanent (P) or Temporary (T)            | 2b. Type of impact | 2c. Type of wetland (if known) | 2d. Forested  | 2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other) | 2f. Area of impact (acres) |
|---|--------------------|--------------------------------|---|---|----------------------------|
| Site <input type="checkbox"/> P <input checked="" type="checkbox"/> T |                    |                                | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ  |                            |
| Site <input type="checkbox"/> P <input checked="" type="checkbox"/> T |                    |                                | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ  |                            |
| Site <input type="checkbox"/> P <input checked="" type="checkbox"/> T |                    |                                | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ  |                            |
| 2g. Total wetland impacts   |                    |                                |   |   | 0 ac Perm.<br>0 ac Temp.   |

2h. Comments:

#### 3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

| 3a. Stream impact number - Permanent (P) or Temporary (T)               | 3b. Type of impact | 3c. Stream name | 3d. Perennial (PER) or intermittent (INT)?                              | 3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)           | 3f. Average stream width (feet) | 3g. Impact length (linear feet) |
|---|--------------------|-----------------|---|---|---------------------------------|---------------------------------|
| Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T | Perm. Fill (RCBC)  | Richland Creek  | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ | 15-20                           | 52                              |
| Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T | Bank Stabilization | Richland Creek  | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ | 15-20                           | 66                              |
| Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T | Temporary Fill     | Richland Creek  | <input checked="" type="checkbox"/> PER<br><input type="checkbox"/> INT | <input checked="" type="checkbox"/> Corps<br><input type="checkbox"/> DWQ | 15-20                           | 53                              |
| Site <input type="checkbox"/> P <input type="checkbox"/> T              |                    |                 | <input type="checkbox"/> PER<br><input type="checkbox"/> INT            | <input type="checkbox"/> Corps<br><input type="checkbox"/> DWQ            |                                 |                                 |
| 3h. Total stream and tributary impacts                                  |                    |                 |   |   |                                 | 118 ft Perm.<br>53 ft Temp.     |

3i. Comments: The 66 linear ft of bank stabilization is associated with the Reinforced Concrete Box Culvert (RCBC). At both the inlet and the outlet of the RCBC, the existing stream bank will be excavated, widening the stream channel and creating newly set back stream banks. The new stream banks, de-stabilized by the excavation, will require rip rap bank stabilization, which will be keyed-in one foot below the newly widened stream bed.

#### 4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

| 4a.<br>Open water<br>impact number –<br>Permanent (P) or<br>Temporary (T) | 4b.<br>Name of<br>waterbody<br>(if applicable) | 4c.<br>Type of impact | 4d.<br>Waterbody type | 4e.<br>Area of impact (acres) |
|---|--|-----------------------|-----------------------|-------------------------------|
| O1 <input type="checkbox"/> P <input type="checkbox"/> T                  |  |                       |                       |                               |
| O2 <input type="checkbox"/> P <input type="checkbox"/> T                  |  |                       |                       |                               |
| <b>4f. Total open water impacts</b>                                       |  |                       |                       | 0 Permanent<br>0 Temporary    |

4g. Comments:

#### 5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

| 5a.<br>Pond ID<br>number                  | 5b.<br>Proposed use or<br>purpose of pond | 5c.<br>Wetland Impacts (acres) |                              |                             | 5d.<br>Stream Impacts (feet) |        |           | 5e.<br>Upland<br>(acres) |  |  |  |  |
|---|---|--------------------------------|------------------------------|-----------------------------|------------------------------|--------|-----------|--------------------------|--|--|--|--|
|   |   | Flooded                        | Filled                       | Excavat<br>ed               | Flooded                      | Filled | Excavated |                          |  |  |  |  |
| P1  |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| P2  |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| <b>5f. Total</b>                          |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| 5g. Comments:                             |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| 5h. Is a dam high hazard permit required? |   |                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | If yes, permit ID no:        |        |           |                          |  |  |  |  |
| 5i. Expected pond surface area (acres):   |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| 5j. Size of pond watershed (acres):       |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |
| 5k. Method of construction:               |   |                                |                              |                             |                              |        |           |                          |  |  |  |  |

**6. Buffer Impacts (for DWQ)**

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

|   |                          |                    |  |  |                                       |
|---|--------------------------|--------------------|--|--|---------------------------------------|
| 6a. Project is in which protected basin?                              |                          |                    | <input type="checkbox"/> Neuse<br><input type="checkbox"/> Catawba | <input type="checkbox"/> Tar-Pamlico<br><input type="checkbox"/> Randleman | <input type="checkbox"/> Other:       |
| 6b.<br>Buffer impact<br>number –<br>Permanent (P) or<br>Temporary (T) | 6c.<br>Reason for impact | 6d.<br>Stream name | 6e.<br>Buffer<br>mitigation<br>required?                           | 6f.<br>Zone 1 impact<br>(square feet)                                      | 6g.<br>Zone 2 impact<br>(square feet) |
| B1 <input type="checkbox"/> P <input type="checkbox"/> T              |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                       |
| B2 <input type="checkbox"/> P <input type="checkbox"/> T              |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                       |
| B3 <input type="checkbox"/> P <input type="checkbox"/> T              |                          |                    | <input type="checkbox"/> Yes<br><input type="checkbox"/> No        |  |                                       |
| 6h. Total buffer impacts  |                          |                    | 0  | 0  |                                       |
| 6i. Comments:   |                          |                    |  |  |                                       |

**D. Impact Justification and Mitigation****1. Avoidance and Minimization**

## 1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

Based on the drainage area and design discharges, a 2@ 12-foot wide by 9-foot high RCBC was determined to be adequate from a hydraulics standpoint. The culvert will be designed such that the slope, low flow velocities, and low flow channel designs are consistent with the existing stream. Because culverts generally cost less, require less maintenance throughout their service life, and last longer than bridges, a culvert is the preferred structure type; An off-site detour will be employed; A temporary Stilling Basin will be used to dewater the culvert construction area; Two class B rip rap pads will be placed adjacent to the road, northeast of the culvert. The purpose of these pads is to reduce stormwater velocity and create diffuse flow.

## 1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

NCDOT Best Management Practices for Construction and Maintenance Activities and Best Management Practices for the Protection of Surface Waters will be employed.

**2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State**

|  |   |
|--|---|
| 2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>If no, explain:  |
| 2b. If yes, mitigation is required by (check all that apply):  | <input type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps  |
| 2c. If yes, which mitigation option will be used for this project?   | <input type="checkbox"/> Mitigation bank<br><input checked="" type="checkbox"/> Payment to in-lieu fee program<br><input type="checkbox"/> Permittee Responsible Mitigation |

**3. Complete if Using a Mitigation Bank**

## 3a. Name of Mitigation Bank: not applicable

|   |      |          |
|---|------|----------|
| 3b. Credits Purchased (attach receipt and letter) | Type | Quantity |
|---|------|----------|

## 3c. Comments:

**4. Complete if Making a Payment to In-lieu Fee Program**

|   |  |
|---|--|
| 4a. Approval letter from in-lieu fee program is attached. | <input checked="" type="checkbox"/> Yes  |
| 4b. Stream mitigation requested:                          | 52 linear feet @ 2:1 = 104 linear feet   |
| 4c. If using stream mitigation, stream temperature:       | <input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold |
| 4d. Buffer mitigation requested (DWQ only):               | 0 square feet  |
| 4e. Riparian wetland mitigation requested:                | 0 acres  |
| 4f. Non-riparian wetland mitigation requested:            | 0 acres  |
| 4g. Coastal (tidal) wetland mitigation requested:         | 0 acres  |

## 4h. Comments:

**5. Complete if Using a Permittee Responsible Mitigation Plan**

## 5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.

## 6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

| 6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?  |                       |                                |                   | <input type="checkbox"/> Yes          | <input checked="" type="checkbox"/> No |
|---|-----------------------|--------------------------------|-------------------|---------------------------------------|--|
| 6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.  |                       |                                |                   |                                       |  |
| Zone  | 6c. Reason for impact | 6d. Total impact (square feet) | Multiplier        | 6e. Required mitigation (square feet) |  |
| Zone 1  |                       |                                | 3 (2 for Catawba) |                                       |  |
| Zone 2  |                       |                                | 1.5               |                                       |  |
| 6f. Total buffer mitigation required:   |                       |                                |                   | 0                                     |  |
| 6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund). |                       |                                |                   |                                       |  |
| 6h. Comments:   |                       |                                |                   |                                       |  |

| <b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>  |  |  |
|--|--|--|
| <b>1. Diffuse Flow Plan</b>  |  |  |
| 1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  |
| 1b. If yes, then is a diffuse flow plan included? If not, explain why.<br><br>Comments:  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |  |
| <b>2. Stormwater Management Plan</b>   |  |  |
| 2a. What is the overall percent imperviousness of this project?  | N/A  |  |
| 2b. Does this project require a Stormwater Management Plan?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |  |
| 2c. If this project DOES NOT require a Stormwater Management Plan, explain why:  |  |  |
| 2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan:<br><br>See attached permit drawings. |  |  |
| 2e. Who will be responsible for the review of the Stormwater Management Plan?  | <input type="checkbox"/> Certified Local Government<br><input type="checkbox"/> DWQ Stormwater Program<br><input checked="" type="checkbox"/> DWQ 401 Unit   |  |
| <b>3. Certified Local Government Stormwater Review</b>   |  |  |
| 3a. In which local government's jurisdiction is this project?  | not applicable   |  |
| 3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):  | <input type="checkbox"/> Phase II<br><input type="checkbox"/> NSW<br><input type="checkbox"/> USMP<br><input type="checkbox"/> Water Supply Watershed<br><input type="checkbox"/> Other:   |  |
| 3c. Has the approved Stormwater Management Plan with proof of approval been attached?  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |  |
| <b>4. DWQ Stormwater Program Review</b>  |  |  |
| 4a. Which of the following state-implemented stormwater management programs apply (check all that apply):  | <input type="checkbox"/> Coastal counties<br><input type="checkbox"/> HQW<br><input type="checkbox"/> ORW<br><input type="checkbox"/> Session Law 2006-246<br><input checked="" type="checkbox"/> Other: CA; The project is within the Critical Area for a hazardous spill basin. Due to the location of this project being parallel to NC 73, truck traffic would be low; therefore, no basins are anticipated. |  |
| 4b. Has the approved Stormwater Management Plan with proof of approval been attached?  | <input type="checkbox"/> Yes <input type="checkbox"/> No N/A   |  |
| <b>5. DWQ 401 Unit Stormwater Review</b>   |  |  |
| 5a. Does the Stormwater Management Plan meet the appropriate requirements?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |  |

|   |   |                             |
|---|---|-----------------------------|
| 5b. Have all of the 401 Unit submittal requirements been met? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
|---|---|-----------------------------|

|  |   |  |
|--|---|--|
| <b>F. Supplementary Information</b>  |   |  |
| <b>1. Environmental Documentation (DWQ Requirement)</b>  |   |  |
| 1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| 1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| 1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.)<br><br>Comments:   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| <b>2. Violations (DWQ Requirement)</b>   |   |  |
| 2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 2b. Is this an after-the-fact permit application?  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):   |   |  |
| <b>3. Cumulative Impacts (DWQ Requirement)</b>   |   |  |
| 3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| 3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description.<br><br>Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary. |   |  |
| <b>4. Sewage Disposal (DWQ Requirement)</b>  |   |  |
| 4a. 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.<br><br>not applicable   |   |  |

**5. Endangered Species and Designated Critical Habitat (Corps Requirement)**

|   |   |                                    |
|---|---|------------------------------------|
| 5a. Will this project occur in or near an area with federally protected species or habitat? | <input checked="" type="checkbox"/> Yes     | <input type="checkbox"/> No        |
| 5b. Have you checked with the USFWS concerning Endangered Species Act impacts?              | <input checked="" type="checkbox"/> Yes     | <input type="checkbox"/> No        |
| 5c. If yes, indicate the USFWS Field Office you have contacted.                             | <input checked="" type="checkbox"/> Raleigh | <input type="checkbox"/> Asheville |

5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?

NC Natural Heritage Program data, USFWS website, NCDOT field surveys

**6. Essential Fish Habitat (Corps Requirement)**

|   |                              |  |
|---|------------------------------|--|
| 6a. Will this project occur in or near an area designated as essential fish habitat?                  | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? |                              |  |

NMFS County Index

**7. Historic or Prehistoric Cultural Resources (Corps Requirement)**

|  |                              |  |
|--|------------------------------|--|
| 7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 7b. What data sources did you use to determine whether your site would impact historic or archeological resources?   |                              |  |

NEPA Documentation

**8. Flood Zone Designation (Corps Requirement)**

|   |   |                             |
|---|---|-----------------------------|
| 8a. Will this project occur in a FEMA-designated 100-year floodplain?                                 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA |   |                             |
| 8c. What source(s) did you use to make the floodplain determination? FEMA Maps                        |   |                             |

|  |   |                 |
|--|---|-----------------|
| <i>for</i><br>Richard W. Hancock, P.E.<br>Applicant/Agent's Printed Name | <br>Applicant/Agent's Signature<br>(Agent's signature is valid only if an authorization letter from the applicant is provided.) | 7-28-14<br>Date |
|--|---|-----------------|

RECEIVED

AUG 24 2009

REGULATORY  
WILM.FLD.OFC.

**ATTACHMENT**

**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):**

*September 15, 2009*

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**

Lindsey Riddick

NCDOT

1598 Mail Service Center

Raleigh, NC 27699-1598

(919) 431-6602

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:CESAW-RG-R;**

*SAW-2009-01696; NCDOT/B-4780, bridge No. 22 on Lilly's Bridge Road*

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

B-4780, SR 1111 over Richland Creek, Montgomery County, NC

**(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: North Carolina County/parish/borough: Montgomery City:

Center coordinates of site (lat/long in degree decimal format):

Lat. 35.25<sup>4056</sup> ° N, Long. -80.0717<sup>99</sup> ° W.

Universal Transverse Mercator: zone 17

Name of nearest waterbody: Richland Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 300' linear feet: various width (ft) and/or acres.

Cowardin Class:

Stream Flow: intermittent and perennial

Wetlands: acres.

Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: *September 15, 2009*  
 Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply)**

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: *NCDOT*

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps:

Corps navigable waters' study:

U.S. Geological Survey Hydrologic Atlas:

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name: Morrow Mountain; 1:24000.

USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> (Accessed: May 6, 2009).

National wetlands inventory map(s). Cite name: SAW shapefile.

State/Local wetland inventory map(s):

FEMA/FIRM maps:

100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date):  
or  Other (Name & Date):

Previous determination(s). File no. and date of response letter:

Other information (please specify):

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

  
Signature and date of  
Regulatory Project Manager  
(REQUIRED)

  
Signature and date of  
person requesting preliminary JD  
(REQUIRED, unless obtaining  
the signature is impracticable)

| Site number    | Latitude  | Longitude  | Cowardin Class | Estimated amount of aquatic resource in review area | Class of aquatic resource |
|----------------|-----------|------------|----------------|---|---------------------------|
| SA             | 35.254719 | -80.072404 |                | 200'  |                           |
| Richland Creek | 35.253989 | -80.071776 |                | 100'  | stream                    |
|                |           |            |                |   |                           |
|                |           |            |                |   |                           |
|                |           |            |                |   |                           |
|                |           |            |                |   |                           |

Copies furnished:

NCDOT, Div. 8, Art King, 902 N. Sandhills Blvd, PO Box 1067  
 Aberdeen, NC 28315

NCDENR, DWA, Ken Aventte, 225 Green Street, Suite 714  
 Fayetteville, NC 28301-5043



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Michael Ellison, Director  
Ecosystem Enhancement Program

John E. Skvarla, III  
Secretary

July 17, 2014

Mr. Richard W. Hancock, P.E.  
Project Development and Environmental Analysis Unit  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

**B-4780**, Replace Bridge Number 22 over Richland Creek on SR 1111 (Lilly's Bridge Road),  
Montgomery 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 on July 10, 2014, the impacts are located in CU 03040104 of the Yadkin River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

| Yadkin<br>03040104<br>CP | Stream |      |      | Wetlands |                  |                  | Buffer (Sq. Ft.) |        |
|--------------------------|--------|------|------|----------|------------------|------------------|------------------|--------|
|                          | Cold   | Cool | Warm | Riparian | Non-<br>Riparian | Coastal<br>Marsh | Zone 1           | Zone 2 |
| Impacts (feet/acres)     | 0      | 0    | 52.0 | 0        | 0                | 0                | 0                | 0      |

\*Some of the stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

This impact and associated mitigation need were under projected by the NCDOT in the 2014 impact data. EEP will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. 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 Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill  
EEP Asset Management Supervisor

cc: Ms. Liz Hair, USACE – Wilmington Regulatory Field Office  
Mr. David Wainwright, NCDWQ – Raleigh Office  
Ms. Linda Fitzpatrick, NCDOT – PDEA  
File: B-4780

Highway Stormwater Program  
 STORMWATER MANAGEMENT PLAN  
 FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Page 1 of 2

|  |          |   |                       |                         |                                |                                   |          |  |
|--|----------|---|-----------------------|-------------------------|--------------------------------|-----------------------------------|----------|--|
| Project/TIP No.:   |          | 38551.1.1   |                       | County(ies):            | Montgomery                     |                                   |          |  |
| <b>General Project Information</b>                             |          |   |                       |                         |                                |                                   |          |  |
| Project No.:   |          | 38551.1.1   |                       | Project Type:           | Bridge Replacement             |                                   | Date:    |  |
| NCDOT Contact:   |          | Bill Zerman   |                       | Contractor / Designer:  | Mulkey Engineers & Consultants |                                   |          |  |
|  | Address: | Hydraulics Unit<br>1020 Birch Ridge Road<br>Raleigh, NC 27610   |                       |                         | Address:                       | 6750 Tryon Road<br>Cary, NC 27518 |          |  |
|  | Phone:   | 919-707-6713  |                       |                         | Phone:                         | 919-858-1873                      |          |  |
|  | Email:   | bzerman@ncdot.gov   |                       |                         | Email:                         | dduffield@mulkeyinc.com           |          |  |
| City/Town:   |          | Mount Gilead  |                       | County(ies):            | Montgomery                     |                                   |          |  |
| River Basin(s):  |          | Yadkin-Pee Dee  |                       | CAMA County?            | No                             |                                   |          |  |
| Primary Receiving Water:                                       |          | Richland Creek  |                       | NCDWQ Stream Index No.: |                                |                                   |          |  |
| NCDWQ Surface Water Classification for Primary Receiving Water |          |   | Primary:              | Water Supply IV (WS-IV) |                                | Class B                           | Class CA |  |
|  |          |   | Supplemental:         |                         |                                |                                   |          |  |
| Other Stream Classification:                                   |          | None  |                       |                         |                                |                                   |          |  |
| 303(d) Impairments:  |          | None  |                       |                         |                                |                                   |          |  |
| Buffer Rules in Effect   |          | N/A   |                       |                         |                                |                                   |          |  |
| <b>Project Description</b>                                     |          |   |                       |                         |                                |                                   |          |  |
| Project Length (lin. Miles or feet):                           |          | 0.11  | Surrounding Land Use: | Undeveloped, rural      |                                |                                   |          |  |
|  |          | Proposed Project  |                       |                         |                                | Existing Site                     |          |  |
| Project Built-Upon Area (ac.):                                 |          | 0.47  | ac.                   | 0.33                    | ac.                            |                                   |          |  |
| Typical Cross Section Description:                             |          | 2 Lane shoulder section with paved shoulders  |                       |                         |                                | 2 Lane Shoulder section           |          |  |
| Average Daily Traffic (veh/hr/day):                            |          | Design/Future:  | 2000                  | Existing:               | 1310                           |                                   |          |  |
| General Project Narrative:                                     |          | This project involves replacing a 2 lane bridge with a timber deck with asphalt wearing surface. The existing bridge allows water to sheet flow off the deck and directly into the stream. The replacement structure is a reinforced double barrel box culvert with grassy fill slopes for treatment and the proposed ditches from the roadway typical tie into the existing ditches way outside the limits of the culvert but within the project limits. In addition a phase construction plan will involves building double barrel box culvert with impervious dike upstream and downstream along with a temporary construction pipe to allow for phasing. These impervious dikes will allow for effluent to be pumped to a stilling basin. It is the intent of the project to remove the old bridge and construct the proposed double barrel box culvert using current construction practices for removal and construction. The permanent stream impacts are 95 feet while the temporary stream impacts are 78 feet. No wetlands are present and there for no wetland impacts are anticipated. |                       |                         |                                |                                   |          |  |
| <b>References</b>  |          |   |                       |                         |                                |                                   |          |  |



**North Carolina Department of Transportation**  
**Highway Stormwater Program**  
**STORMWATER MANAGEMENT PLAN**  
**FOR LINEAR ROADWAY PROJECTS**



(Version 1.2; Released July 2012)

**Project/TIP No.:** 38551.1.1

**County(ies):** Montgomery

## FOR LINEAR ROADWAY PROJECTS

Page 2 of 2

## Preformed Scour Holes and Energy Dissipators

YES  NO

Have minimum design criteria, as presented in the NCDOT Best Management Practices Toolbox (2008), NCDOT Standard Details, or FHWA HEC-14 (July 2006), been met and verified, as applicable? If No, provide further explanation of why design criteria was not met.

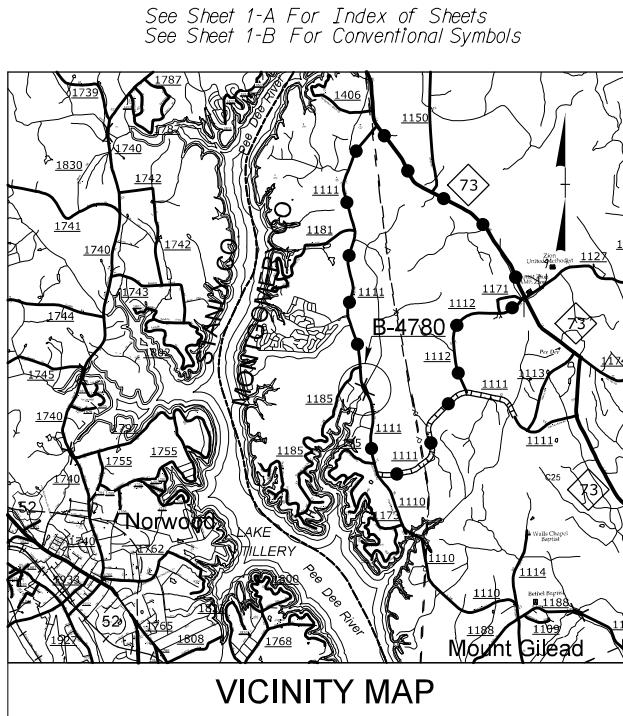
### **Additional Comments**

\* Refer to the NCDOT Best Management Practices Toolbox, Version 1 (March 2008), NCDOT Standard Details, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

## CONTRACT:

## TIP PROJECT: B-4780

09/08/99

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

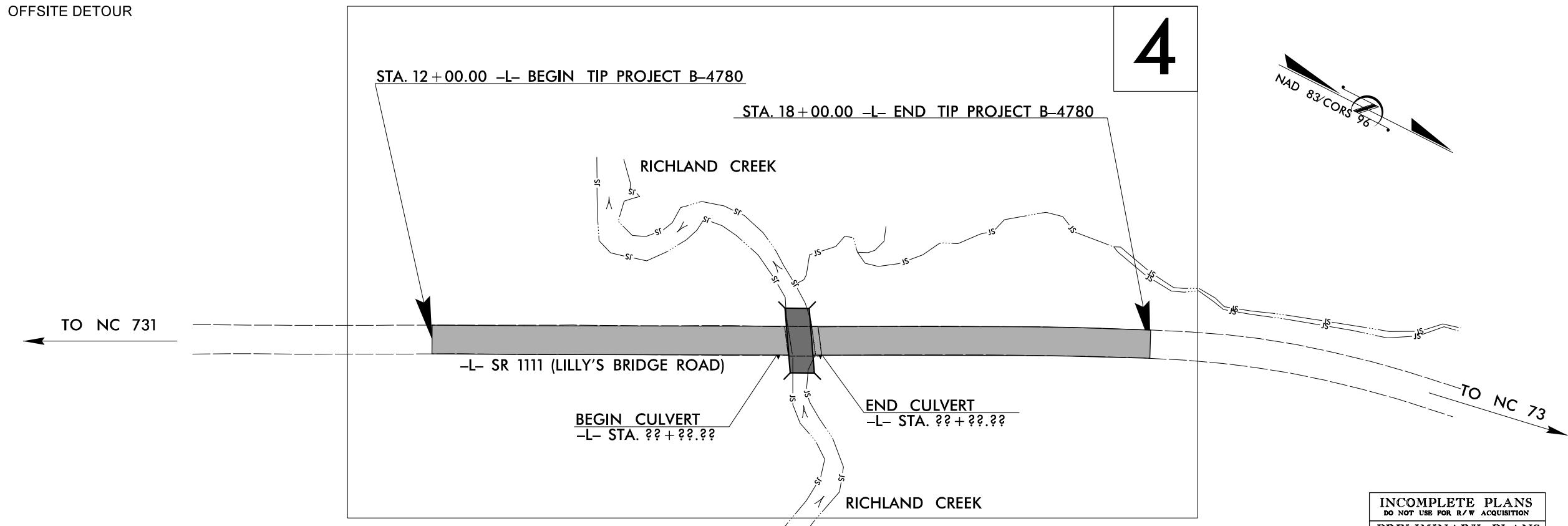
## MONTGOMERY COUNTY

LOCATION: BRIDGE NO. 22 ON SR 1111 (LILLY'S BRIDGE ROAD)  
OVER RICHLAND CREEK.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT.

PERMIT DRAWING  
SHEET 1 OF 5

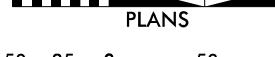
## WETLAND AND SURFACE WATER IMPACTS PERMIT



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_.

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

## GRAPHIC SCALES



## DESIGN DATA

ADT 2015 = 1310  
ADT 2035 = 2000  
DHV = 8 %  
D = 60 %  
T = 11 % \*  
V = 55 MPH  
\* TTST = 3% DUAL = 8%

FUNC CLASS = RURAL LOCAL  
"SUBREGIONAL TIER"

## PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4780 = ?? MILES  
LENGTH STRUCTURE TIP PROJECT B-4780 = ?? MILES  
TOTAL LENGTH OF TIP PROJECT B-4780 = 0.114 MILES

Prepared In the Office of:

## DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JUNE 20, 2014

LETTING DATE:  
JULY 21, 2015

JAMES A. SPEER, PE

PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE

PROJECT DESIGN ENGINEER

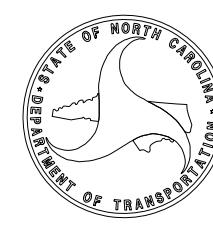
## HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN

ENGINEER

SIGNATURE: P.E.

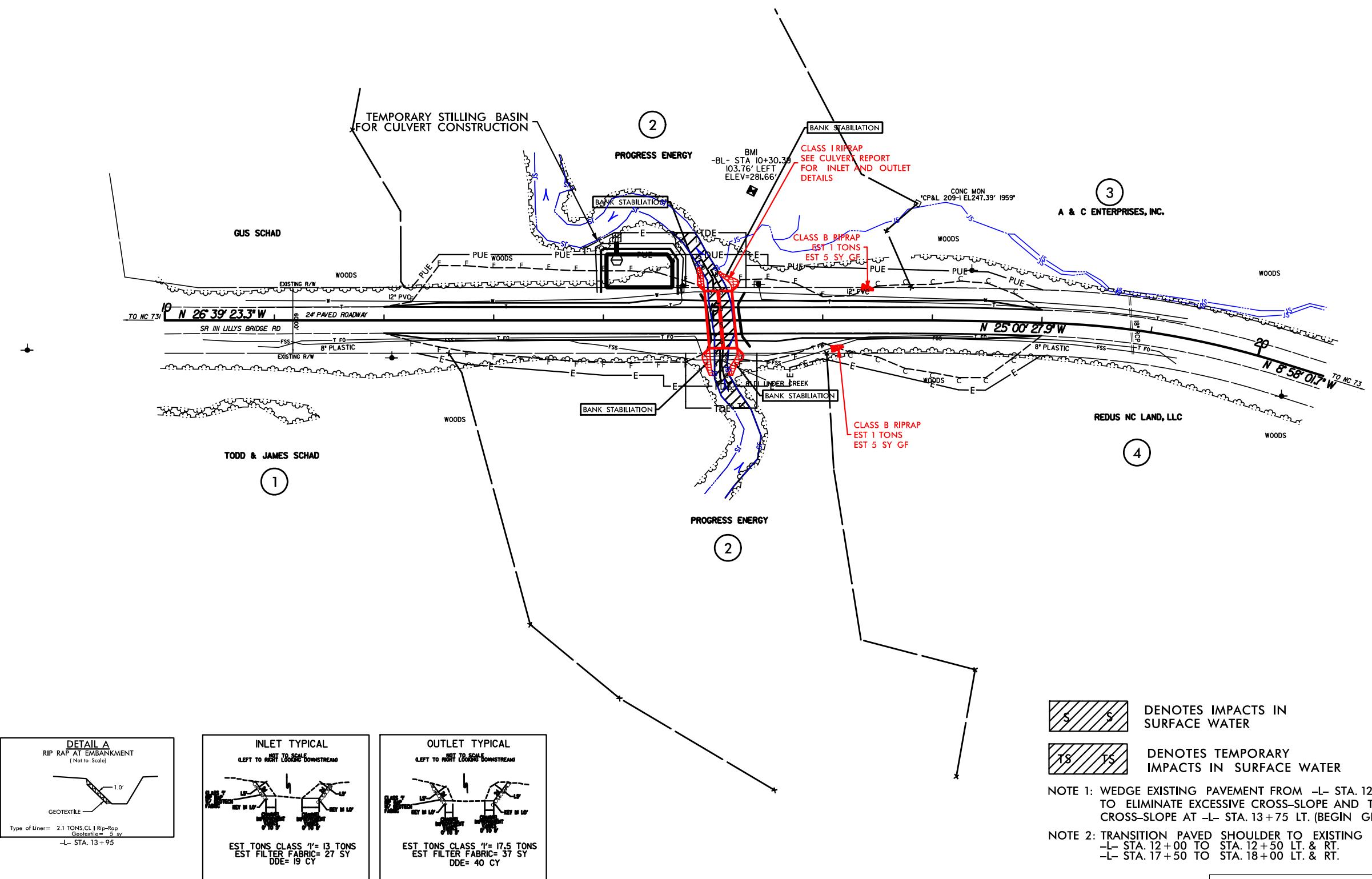


| <u>-L-</u>                         |                                     |
|------------------------------------|-------------------------------------|
| PI Sta 17+2168                     | PI Sta 19+1451                      |
| $\Delta = 1^{\circ}38'55.4''$ (RT) | $\Delta = 16^{\circ}02'26.3''$ (RT) |
| $D = 2^{\circ}00'00.0''$           | $D = 7^{\circ}15'00.0''$            |
| $L = 82.44'$                       | $L = 221.25'$                       |
| $T = 41.22'$                       | $T = 111.35'$                       |
| $R = 2864.79'$                     | $R = 790.29'$                       |

A graphic scale bar with a black and white checkered pattern. Above the bar, the following distances are labeled: 100', 0', 100', 200', and 300'. The '0'' label is positioned between the first and second segments, and the '300'' label is positioned at the end of the bar.

|  |  |                        |
|--|--|------------------------|
| PROJECT REFERENCE NO.  |  | SHEET NO.              |
| <b>B-4780</b>  |  | <b>4</b>               |
| RW SHEET NO.   |  |                        |
| ROADWAY DESIGN<br>ENGINEER   |  | HYDRAULICS<br>ENGINEER |
| <div style="text-align: center; border: 1px solid black; padding: 10px;"> <b>PRELIMINARY PLANS</b><br/>           DO NOT USE FOR CONSTRUCTION         </div> |  |                        |

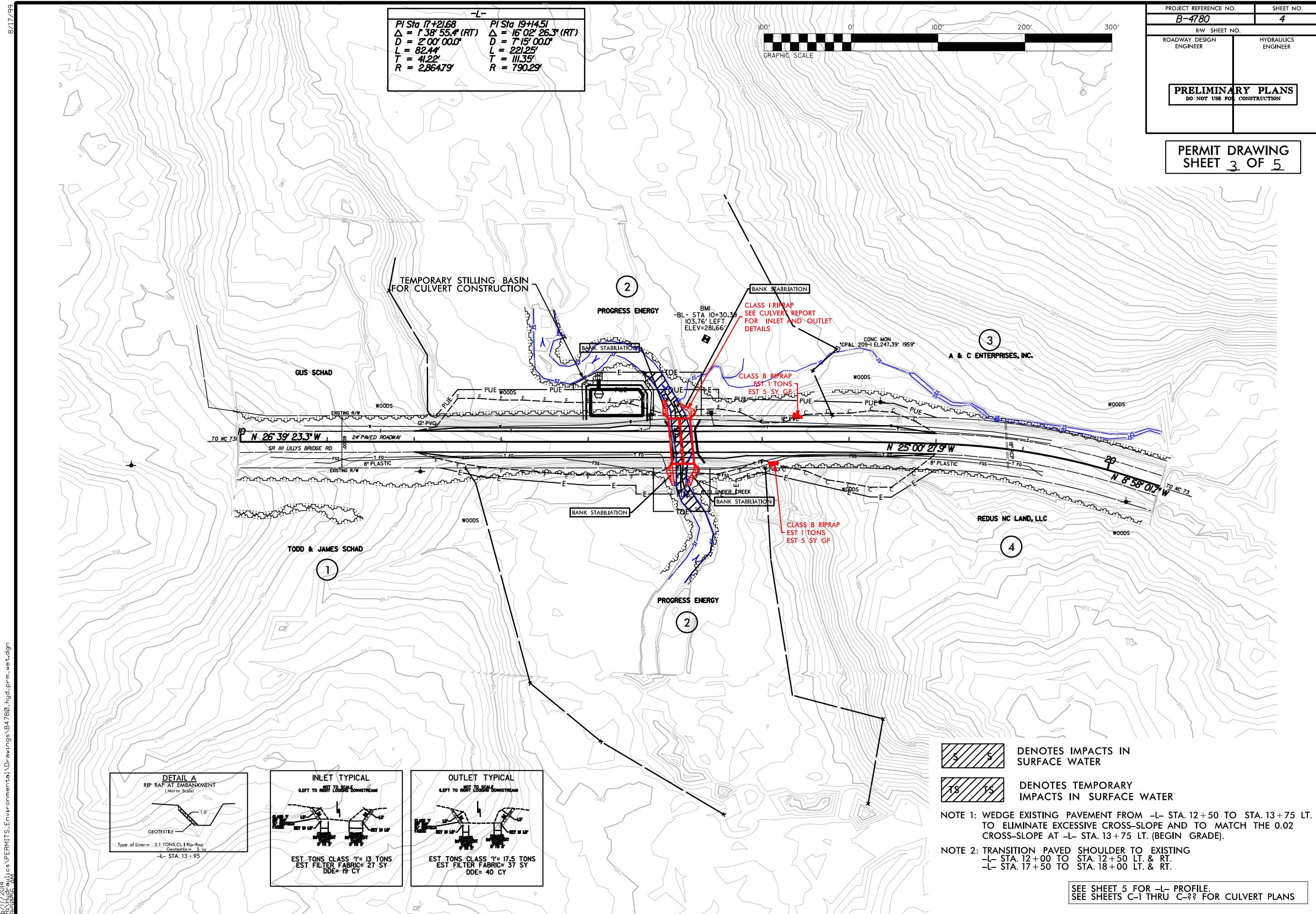
**PERMIT DRAWING  
SHEET 2 OF 5**

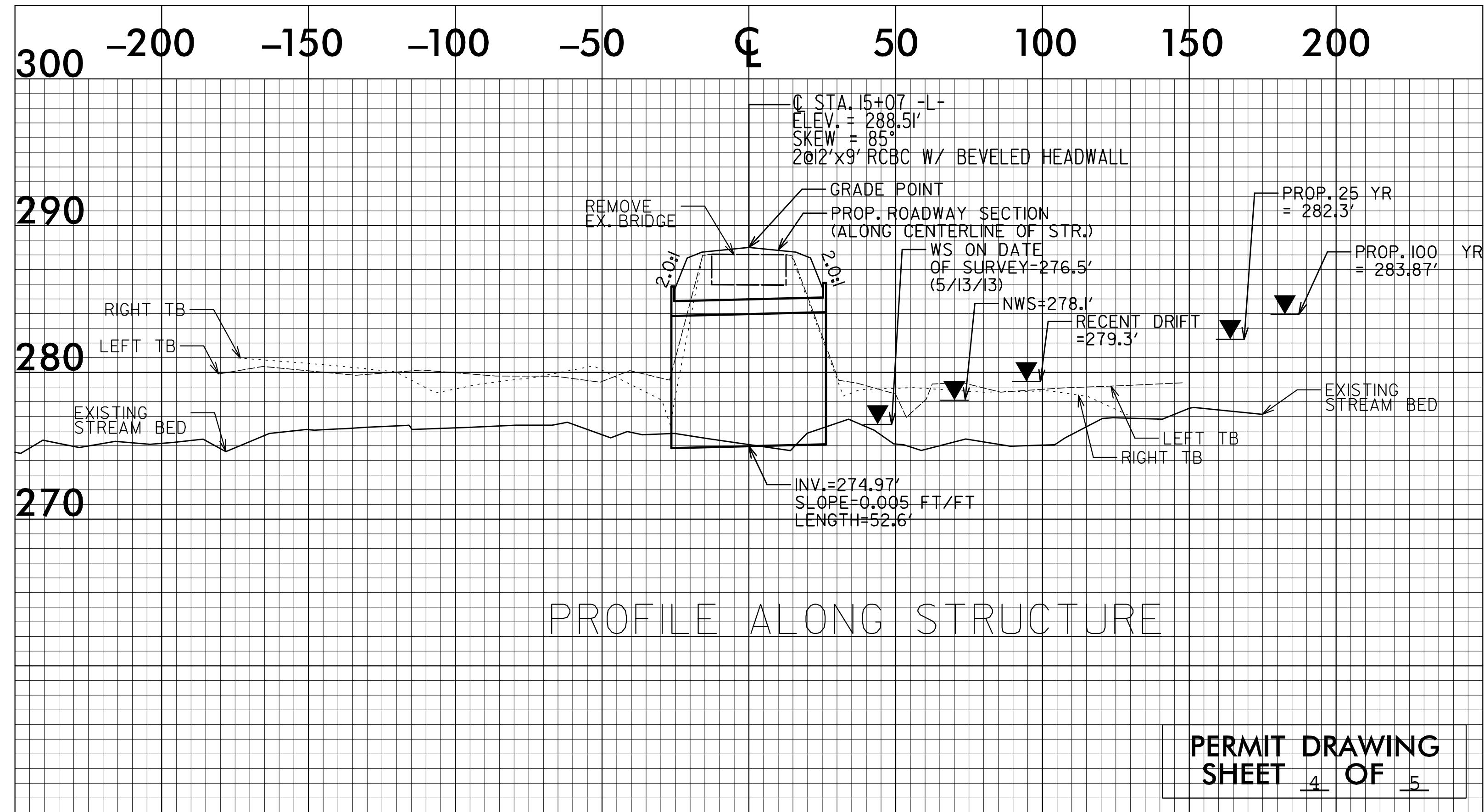


NOTE 1: WEDGE EXISTING PAVEMENT FROM -L- STA. 12+50 TO STA. 13+75 LT.  
TO ELIMINATE EXCESSIVE CROSS-SLOPE AND TO MATCH THE 0.02  
CROSS-SLOPE AT -L- STA. 13+75 LT. (BEGIN GRADE).

NOTE 2: TRANSITION PAVED SHOULDER TO EXISTING  
-L- STA. 12+00 TO STA. 12+50 LT. & RT.  
-L- STA. 17+50 TO STA. 18+00 LT. & RT.

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





## WETLAND PERMIT IMPACT SUMMARY

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

MONTGOMERY COUNTY  
WBS - 38551.1.1 (B-4780)



# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line \_\_\_\_\_  
 County Line \_\_\_\_\_  
 Township Line \_\_\_\_\_  
 City Line \_\_\_\_\_  
 Reservation Line \_\_\_\_\_  
 Property Line \_\_\_\_\_  
 Existing Iron Pin   
 Property Corner \_\_\_\_\_  
 Property Monument   
 Parcel/Sequence Number   
 Existing Fence Line \_\_\_\_\_  
 Proposed Woven Wire Fence \_\_\_\_\_  
 Proposed Chain Link Fence \_\_\_\_\_  
 Proposed Barbed Wire Fence \_\_\_\_\_  
 Existing Wetland Boundary   
 Proposed Wetland Boundary   
 Existing Endangered Animal Boundary   
 Existing Endangered Plant Boundary   
 Known Soil Contamination: Area or Site   
 Potential Soil Contamination: Area or Site 

## BUILDINGS AND OTHER CULTURE:

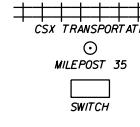
Gas Pump Vent or U/G Tank Cap   
 Sign   
 Well   
 Small Mine   
 Foundation   
 Area Outline   
 Cemetery   
 Building   
 School   
 Church   
 Dam \_\_\_\_\_

## HYDROLOGY:

Stream or Body of Water \_\_\_\_\_  
 Hydro, Pool or Reservoir   
 Jurisdictional Stream   
 Buffer Zone 1   
 Buffer Zone 2   
 Flow Arrow   
 Disappearing Stream   
 Spring   
 Wetland   
 Proposed Lateral, Tail, Head Ditch   
 False Sump 

## RAILROADS:

Standard Gauge \_\_\_\_\_  
 RR Signal Milepost \_\_\_\_\_  
 Switch \_\_\_\_\_  
 RR Abandoned \_\_\_\_\_  
 RR Dismantled \_\_\_\_\_



## RIGHT OF WAY:

Baseline Control Point   
 Existing Right of Way Marker   
 Existing Right of Way Line \_\_\_\_\_  
 Proposed Right of Way Line   
 Proposed Right of Way Line with Iron Pin and Cap Marker   
 Proposed Right of Way Line with Concrete or Granite RW Marker   
 Proposed Control of Access Line with Concrete C/A Marker   
 Existing Control of Access   
 Proposed Control of Access   
 Existing Easement Line   
 Proposed Temporary Construction Easement   
 Proposed Temporary Drainage Easement   
 Proposed Permanent Drainage Easement   
 Proposed Permanent Drainage / Utility Easement   
 Proposed Permanent Utility Easement   
 Proposed Temporary Utility Easement   
 Proposed Aerial Utility Easement   
 Proposed Permanent Easement with Iron Pin and Cap Marker 

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement \_\_\_\_\_  
 Existing Curb \_\_\_\_\_  
 Proposed Slope Stakes Cut   
 Proposed Slope Stakes Fill   
 Proposed Curb Ramp   
 Existing Metal Guardrail   
 Proposed Guardrail   
 Existing Cable Guiderrail   
 Proposed Cable Guiderrail   
 Equality Symbol   
 Pavement Removal 

## VEGETATION:

Single Tree   
 Single Shrub   
 Hedge   
 Woods Line 

## WATER:

Water Manhole \_\_\_\_\_   
 Water Meter \_\_\_\_\_   
 Water Valve \_\_\_\_\_   
 Water Hydrant \_\_\_\_\_   
 Recorded U/G Water Line \_\_\_\_\_   
 Designated U/G Water Line (S.U.E.\*): \_\_\_\_\_   
 Above Ground Water Line \_\_\_\_\_ 

## TV:

TV Satellite Dish \_\_\_\_\_   
 TV Pedestal \_\_\_\_\_   
 TV Tower \_\_\_\_\_   
 U/G TV Cable Hand Hole \_\_\_\_\_   
 Recorded U/G TV Cable \_\_\_\_\_   
 Designated U/G TV Cable (S.U.E.): \_\_\_\_\_   
 Recorded U/G Fiber Optic Cable \_\_\_\_\_   
 Designated U/G Fiber Optic Cable (S.U.E.): \_\_\_\_\_ 

## GAS:

Gas Valve \_\_\_\_\_   
 Gas Meter \_\_\_\_\_   
 Recorded U/G Gas Line \_\_\_\_\_   
 Designated U/G Gas Line (S.U.E.): \_\_\_\_\_   
 Above Ground Gas Line \_\_\_\_\_ 

## SANITARY SEWER:

Sanitary Sewer Manhole \_\_\_\_\_   
 Sanitary Sewer Cleanout   
 U/G Sanitary Sewer Line \_\_\_\_\_   
 Above Ground Sanitary Sewer \_\_\_\_\_   
 Recorded SS Forced Main Line \_\_\_\_\_   
 Designated SS Forced Main Line (S.U.E.): \_\_\_\_\_ 

## MISCELLANEOUS:

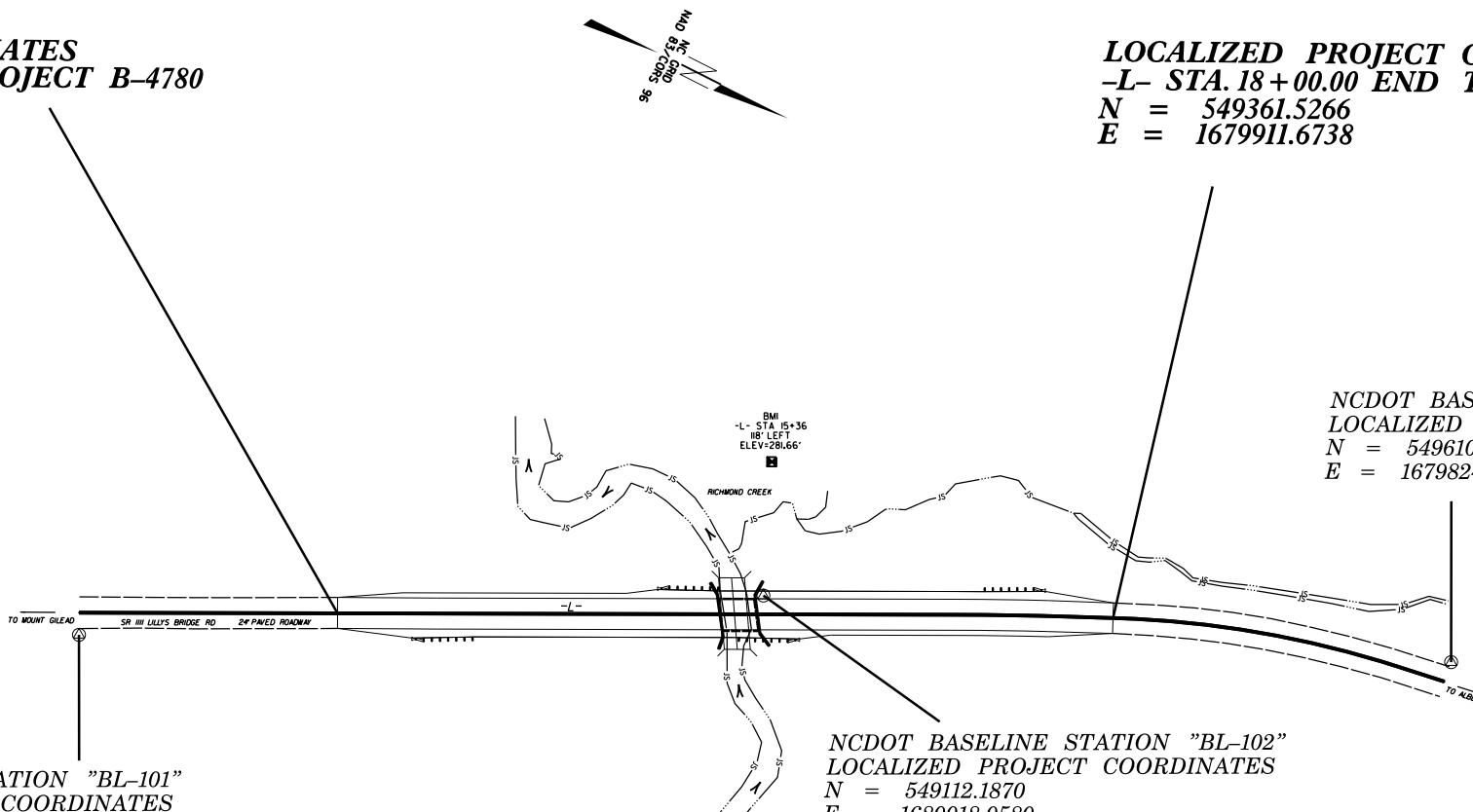
Utility Pole \_\_\_\_\_   
 Utility Pole with Base \_\_\_\_\_   
 Utility Located Object \_\_\_\_\_   
 Utility Traffic Signal Box \_\_\_\_\_   
 Utility Unknown U/G Line \_\_\_\_\_   
 U/G Tank; Water, Gas, Oil \_\_\_\_\_   
 Underground Storage Tank, Approx. Loc.   
 A/G Tank; Water, Gas, Oil \_\_\_\_\_   
 Geoenvironmental Boring \_\_\_\_\_   
 U/G Test Hole (S.U.E.): \_\_\_\_\_   
 Abandoned According to Utility Records \_\_\_\_\_   
 End of Information \_\_\_\_\_ 

E.O.I.

# SURVEY CONTROL SHEET B-4780

## PRELIMINARY

**LOCALIZED PROJECT COORDINATES**  
**-L- STA. 12+00.00 BEGIN TIP PROJECT B-4780**  
**N = 548824.3120**  
**E = 1680178.8320**



**LOCALIZED PROJECT COORDINATES**  
**-L- STA. 18+00.00 END TIP PROJECT B-4780**  
**N = 549361.5266**  
**E = 1679911.6738**

| TYPE | STATION  | NORTH       | EAST         |
|------|----------|-------------|--------------|
| POT  | 10-00.00 | 548645.5695 | 1680268.5600 |
| PC   | 16-88.46 | 549253.7052 | 1679953.2782 |
| PT   | 17-62.90 | 549327.4010 | 1679927.3542 |
| PC   | 18-03.15 | 549364.3484 | 1679910.3386 |
| PT   | 20-24.41 | 549575.2966 | 1679845.9886 |
| POT  | 20-62.22 | 549612.6485 | 1679840.8140 |

| BL    | POINT  | DESC.       | NORTH        | EAST   | ELEVATION              | L STATION | OFFSET |
|-------|--------|-------------|--------------|--------|------------------------|-----------|--------|
| 101   | BL-101 | 548653.2260 | 1680283.8900 | 301.16 | OUTSIDE PROJECT LIMITS |           |        |
| 102   | BL-102 | 549112.1870 | 1680018.0580 | 287.86 | 15-29.41               | 14.53 LT  |        |
| 103   | BL-103 | 549610.4070 | 1679824.2630 | 296.88 | OUTSIDE PROJECT LIMITS |           |        |
| <hr/> |        |             |              |        |                        |           |        |

BM1 ELEVATION: 281.66  
 N 549071 E 1679923  
 L STATION 15-36.00 118 LEFT  
 RR-SPIKE IN BASE OF 8IN ELM TREE

| PERMANENT EASEMENT REBAR |          |        |             |              |
|--------------------------|----------|--------|-------------|--------------|
| ALIGN                    | STATION  | OFFSET | NORTH       | EAST         |
| L                        | 14-75.00 | 30.00  | 549083.5421 | 1680082.2673 |
| L                        | 14-75.00 | 60.00  | 549097.0013 | 1680189.0787 |
| L                        | 15-40.00 | 60.00  | 549155.0922 | 1680079.9170 |
| L                        | 15-40.00 | 30.00  | 549141.6334 | 1680053.1057 |
| L                        | 14-75.00 | 30.00  | 549056.6237 | 1680028.6445 |
| L                        | 14-75.00 | 60.00  | 549043.1645 | 1680001.8332 |
| L                        | 15-30.00 | 60.00  | 549092.3187 | 1679977.1579 |
| L                        | 15-30.00 | -30.00 | 549105.7773 | 1680003.4643 |
| L                        | 15-30.00 | 30.00  | 549053.1956 | 1680148.8946 |
| L                        | 12-25.00 | -30.00 | 549035.1956 | 1680148.8946 |
| L                        | 15-30.00 | -50.00 | 549096.0951 | 1679905.0951 |
| L                        | 15-50.00 | -50.00 | 549114.6793 | 1679977.1223 |
| L                        | 17-50.00 | -45.00 | 549297.0197 | 1679892.1419 |
| L                        | 18-00.00 | -30.00 | 549348.8444 | 1679884.4863 |

### NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4780\_LS\_CONTROL.TXT

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

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

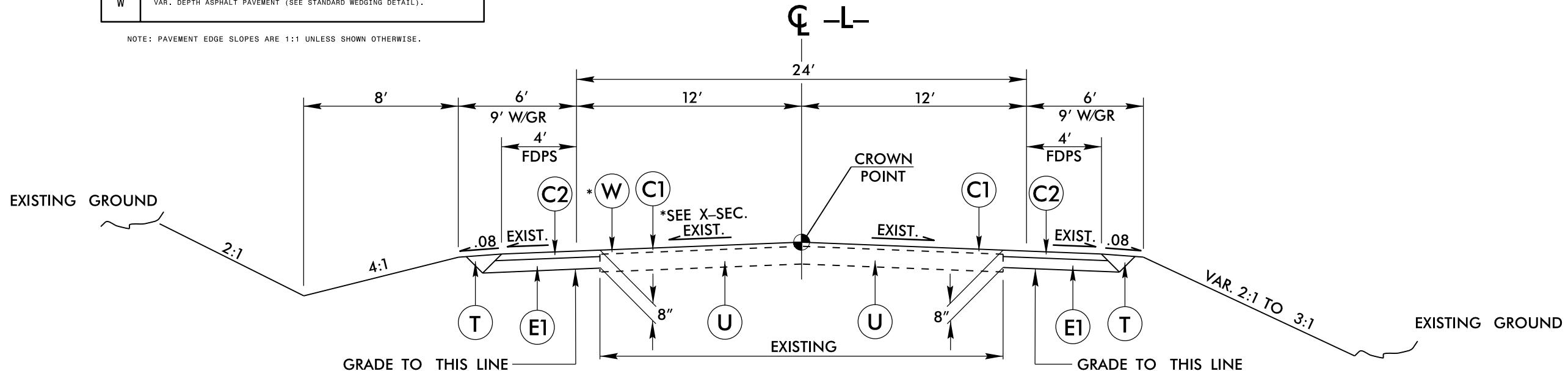
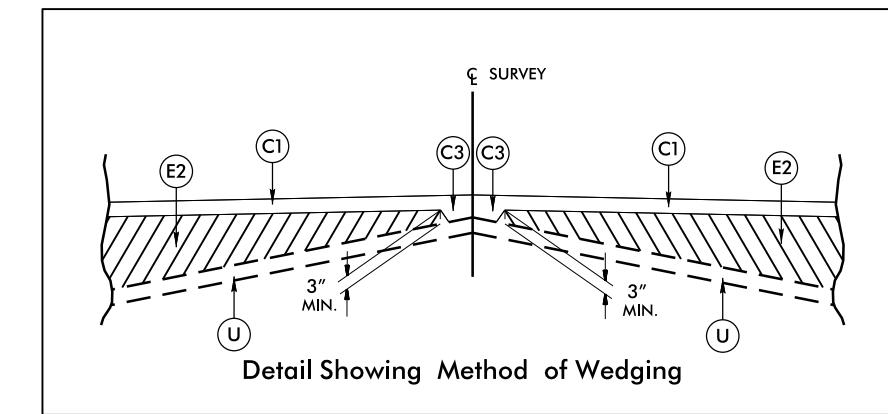
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4780-1".  
 WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF NORTHING: 546982.4100(ft) EASTING: 1680398.8900(ft)  
 ELEVATION: 312.070(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998620950  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4780-1" TO -L- STATION 12+00.00 IS N 6°48'46.9" W 1855.00'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

| PAVEMENT SCHEDULE |   |
|-------------------|---|
| C1                | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.   |
| C2                | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.   |
| C3                | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.                   |
| E1                | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.  |
| E2                | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5½" IN DEPTH. |
| T                 | EARTH MATERIAL.   |
| U                 | EXISTING PAVEMENT.  |
| W                 | VAR. DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).  |

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

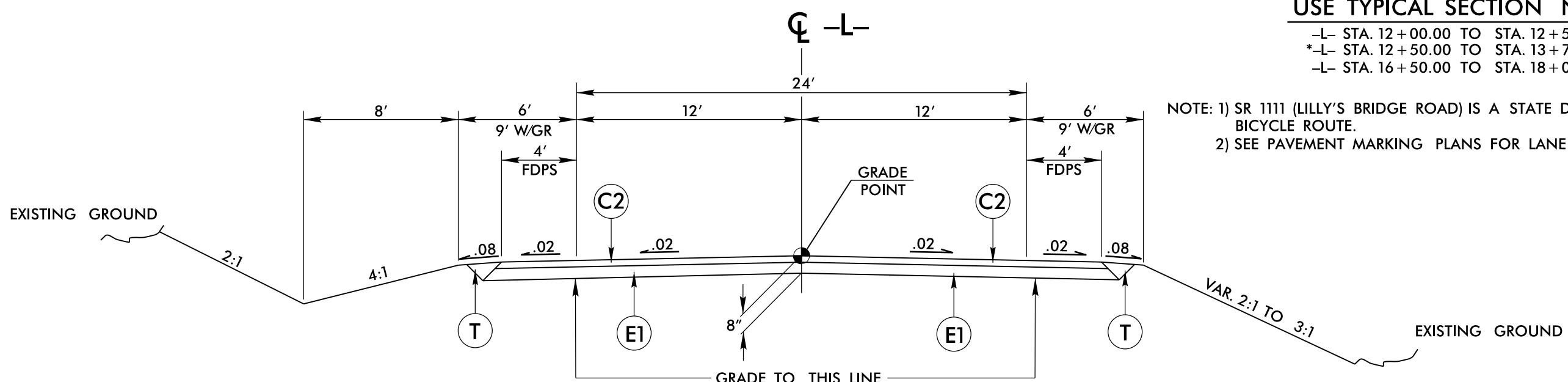


**TYPICAL SECTION NO. 1**

**USE TYPICAL SECTION NO. 1**

-L- STA. 12 + 00.00 TO STA. 12 + 50.00  
 \*-L- STA. 12 + 50.00 TO STA. 13 + 75.00  
 -L- STA. 16 + 50.00 TO STA. 18 + 00.00

NOTE: 1) SR 1111 (LILLY'S BRIDGE ROAD) IS A STATE DESIGNATED SANDHILLS BICYCLE ROUTE.  
 2) SEE PAVEMENT MARKING PLANS FOR LANE WIDTH TRANSITIONS.



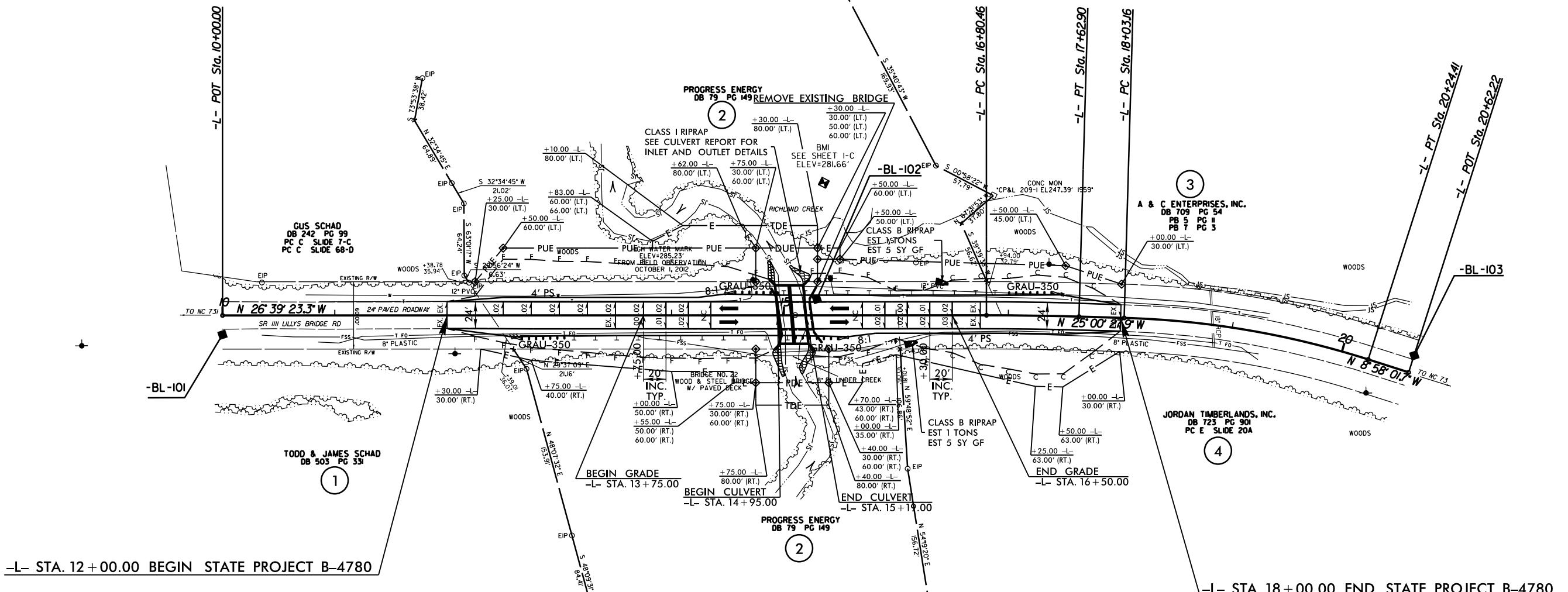
**USE TYPICAL SECTION NO. 2**

-L- STA. 13 + 75.00 TO STA. 16 + 50.00

| -L-                            |                                 |
|--------------------------------|---------------------------------|
| PI Sta 17+21.68                | PI Sta 19+14.51                 |
| $\Delta = 1' 38'' 55.4'' (RT)$ | $\Delta = 16' 02'' 26.3'' (RT)$ |
| $D = 2' 00'' 00.0''$           | $D = 7' 15'' 00.0''$            |
| $L = 82.44'$                   | $L = 221.25'$                   |
| $T = 41.22'$                   | $T = 111.35'$                   |
| $R = 2,864.79'$                | $R = 790.29'$                   |

| PROJECT REFERENCE NO.                            | SHEET NO.              |
|--|------------------------|
| B-4780   | 4                      |
| RW SHEET NO.                                     |                        |
| ROADWAY DESIGN<br>ENGINEER                       | HYDRAULICS<br>ENGINEER |
| PRELIMINARY PLANS<br>DO NOT USE FOR CONSTRUCTION |                        |

NAD 83 CORS 96



NOTE 1: WEDGE EXISTING PAVEMENT FROM -L- STA. 12+50 TO STA. 13+75 LT. TO ELIMINATE EXCESSIVE CROSS-SLOPE AND TO MATCH THE 0.02 CROSS-SLOPE AT -L- STA. 13+75 LT. (BEGIN GRADE).

NOTE 2: TRANSITION PAVED SHOULDER TO EXISTING  
-L- STA. 12+00 TO STA. 12+50 LT. & RT.  
-L- STA. 17+50 TO STA. 18+00 LT. & RT.

SEE SHEET 5 FOR -L- PROFILE.  
SEE SHEETS C-1 THRU C-22 FOR CULVERT PLANS

|   |                        |           |
|---|------------------------|-----------|
| PROJECT REFERENCE NO.                                   |                        | SHEET NO. |
| <b>B-4780</b>   |                        | 5         |
| ROADWAY DESIGN<br>ENGINEER                              | HYDRAULICS<br>ENGINEER |           |
| <b>PRELIMINARY PLANS</b><br>DO NOT USE FOR CONSTRUCTION |                        |           |

E SHEET 4 FOR PLAN VIEW 230

