



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

April 11, 2013

N.C. Division of Water Quality  
585 Waughtown St.  
Winston-Salem, NC 27107

ATTN: Ms. Amy Euliss  
NCDOT Division 7 Coordinator

SUBJECT: **Revision to On-hold Letter Response for Section 401 Water Quality Certification and Jordan Lake Watershed Riparian Buffer Authorization Application** for the replacement of Bridge No. 161 over North Prong Stinking Quarter Creek on SR 1124 (Stafford Mill Road), Alamance County, North Carolina. Federal Aid Project No. BRZ – 1124 (5), TIP No. B-4401.

- REFERENCE: 1) N.C. Ecosystem Enhancement Program Mitigation Acceptance Letter, dated February 19, 2013.
- 2) Application for Section 401 Water Quality Certification and Jordan Lake Watershed Riparian Buffer Authorization and Notice of Intent to Use Section 404 Nationwide Permits 3 and 13, dated February 20, 2013.
- 3) NCDWQ On-hold Letter, dated February 25, 2013.
- 4) Revised N.C. Ecosystem Enhancement Program Mitigation Acceptance Letter, dated March 12, 2013.
- 5) NCDOT Response to NCDWQ On-hold Letter, dated March 15, 2013.

Per your comments via email and phone correspondence regarding the N.C. Department of Transportation's (NCDOT) March 15, 2013 response to the N.C. Division of Water Quality's (NCDWQ) on-hold letter, NCDOT has revised the permit application packet to address the issues that you had identified. Revisions include the following:

- The Stormwater Management Plan (SMP) has been updated to sufficiently discuss the stormwater design of the project and to provide additional information about both the existing and proposed stormwater ditches.
- The buffer drawings were revised because, after NCDWQ was supplied with complete information regarding the existing and proposed stormwater ditches, it was determined

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TELEPHONE: 919-707-6100  
FAX: 919-212-5785  
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Century Center - Building B  
1020 Birch Ridge Dr  
Raleigh, NC 27610-4328

that the buffer impacts resulting from the two proposed lateral base ditches should be considered "Allowable". Therefore, the portions of the ditches that run through the "Bridge" buffer impact zone were reverted back to being hatched "Allowable" and these impacts were listed separately on the Buffer Impact Summary Sheet. The impacts from the ditches where they run through the "Road Crossing" buffer impact zone are superseded by the "Mitigable" Road Crossing impacts; therefore, those impacts were included as Road Crossing and no ditch impacts are shown or calculated for those portions of the ditches.

- The Pre-Construction Notification (PCN) has been updated to reflect these changes.
- Due to the above changes to the buffer impacts, the amount of buffer mitigation required has been reduced from the numbers provided in our on-hold response packet and the N.C. Ecosystem Enhancement Program (EEP) revised Mitigation Acceptance Letter. The buffer mitigation required has reverted back to the numbers presented in the original permit application and the original EEP Mitigation Acceptance Letter. Please refer to the original EEP Mitigation Acceptance Letter when reviewing this packet. NCDOT is coordinating with EEP.

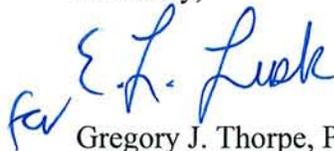
The wetland and stream permit drawings and the impacts presented in them have not changed since the submission of the original permit application.

Please find enclosed revised versions of the PCN, SMP, and buffer drawings and a copy of the original EEP Mitigation Acceptance Letter. We believe that this new information addresses all of your concerns regarding the project and respectfully request that you proceed with processing the permit application.

A copy of this revision to the on-hold response packet will be posted on the NCDOT Website at: <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>.

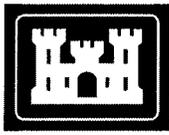
Thank you for your assistance with this project. If you have any questions or need additional information, please contact Jim Mason at either [jmason@ncdot.gov](mailto:jmason@ncdot.gov) or (919) 707-6136.

Sincerely,

A handwritten signature in blue ink that reads "Gregory J. Thorpe". To the left of the signature, the letters "for" are written in a smaller, cursive hand.

Gregory J. Thorpe, Ph.D., Manager  
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List  
Mr. Andrew Williams, USACE



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:	<input type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 3 13 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

#### 2. Project Information

2a. Name of project:	Replacement of Bridge No. 161 over North Prong Stinking Quarter Creek on SR 1124 (Stafford Mill Road)
2b. County:	Alamance
2c. Nearest municipality / town:	Kimesville
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4401

#### 3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
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: 35.9747 (DD.DDDDDD) Longitude: - 79.5336 (-DD.DDDDDD)
1c. Property size:	1.8 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	North Prong Stinking Quarter Creek
2b. Water Quality Classification of nearest receiving water:	WS-V NSW
2c. River basin:	Cape Fear
<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 1124 is classified as a Rural Local Route. Land use within the vicinity includes Forested Land, Agriculture, Silviculture, and Low- to Medium-Density Residential.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.02 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 170 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 four-span, 106-foot long bridge with a three-span, 140-foot bridge. Traffic will be maintained via an off-site detour. Temporary causeways will be installed on both sides of the creek to assist with bridge demolition and construction; causeways will not be simultaneously placed in the creek. 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? Comments: Site visit by USACE and NCDWQ on 3/8/10; NCDWQ JD received 3/15/10, USACE JD pending.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
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? Name (if known): Principal Investigator: Jim Mason	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. NCDWQ - March 15, 2010	
<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):

- Wetlands                       Streams - tributaries                       Buffers  
 Open Waters                       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 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
<b>2g. Total wetland impacts</b>					0 Perm. 0 Temp.

2h. Comments: The entirety of Wetland WA (emergent, Non-tidal Freshwater Marsh), totaling 0.01 acres, will be hand-cleared.

#### 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 type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Rock Causeways	North Prong Stinking Quarter Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	30-35	29
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	North Prong Stinking Quarter Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	30-35	87
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input checked="" type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>3h. Total stream and tributary impacts</b>						87 Perm 29 Temp

3i. Comments:								
<b>4. Open Water Impacts</b>								
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. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact			4d. Waterbody type	4e. Area of impact (acres)		
O1 <input type="checkbox"/> P <input type="checkbox"/> T								
O2 <input type="checkbox"/> P <input type="checkbox"/> T								
O3 <input type="checkbox"/> P <input type="checkbox"/> T								
O4 <input type="checkbox"/> P <input type="checkbox"/> T								
<b>4f. Total open water impacts</b>						0 Permanent 0 Temporary		
4g. Comments:								
<b>5. Pond or Lake Construction</b>								
If pond or lake construction proposed, then complete the chart below.								
5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
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 <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input checked="" type="checkbox"/> Other: Jordan
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6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge	North Prong Stinking Quarter Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3,506	1,788
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Crossing	North Prong Stinking Quarter Creek	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	291	2,619
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Impacts Other Than Crossings of Streams and Other Surface Waters (Parallel Impacts)	North Prong Stinking Quarter Creek	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14	519
B4 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Protection of Existing Structures, Facilities, and Stream Banks When This Requires Additional Disturbance of the Riparian Buffer or the Stream Channel	North Prong Stinking Quarter Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1,202	573
B5 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Ditch Impacts	North Prong Stinking Quarter Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	446	342
<b>6h. Total buffer impacts</b>				5,459	5,841

6i. Comments: Wetland in Buffer Impacts: 263 square feet in Zone 1, 139 square feet in Zone 2, all of which are within the "Protection of existing structures, facilities, and stream banks when this requires additional disturbance of the riparian buffer or the stream channel" buffer impact type, which is Allowable.

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

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

An off-site detour will be employed; A special cut ditch with a Class B rip-rap pad at its terminus will be installed between STA. 13+50 and STA. 14+25 LT; A pre-formed scour hole will be installed at STA. 15+80 RT; A rip-rap-lined lateral base ditch underlain with filter fabric will be installed between STA. 16+40 and STA. 18+50 LT. At the ditch's origin will be a an 18-inch reinforced concrete pipe; at its terminus will be Class I rip-rap underlain with filter fabric starting at the end of the ditch and extending to/onto the streambank; A PSRM-lined lateral base ditch will be installed between STA. 16+90 and STA. 17+40 RT.

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

NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge; Best Management Practices for the Protection of Surface Waters will be employed; Additionally, since this project is located within the Jordan Lake Watershed and buffer rules apply, Design Standards in Sensitive Watersheds 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?

Yes       No

If no, explain:

2b. If yes, mitigation is required by (check all that apply):

DWQ       Corps

2c. If yes, which mitigation option will be used for this project?

Mitigation bank  
 Payment to in-lieu fee program  
 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.

Yes

4b. Stream mitigation requested:

0 linear feet

4c. If using stream mitigation, stream temperature:

warm       cool       cold

4d. Buffer mitigation requested (DWQ only):

5,622 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?  Yes  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	Road Crossing/Parallel Impact	305	3 (2 for Catawba)	915
Zone 2	Road Crossing/Parallel Impact	3,138	1.5	4,707
<b>6f. Total buffer mitigation required:</b>				<b>5,622</b>

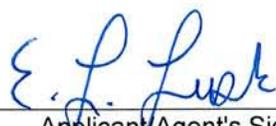
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

Payment into an approved in-lieu fee fund (EEP)

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: See buffer drawings	<input checked="" 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: See attached permit drawings.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <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 <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <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 <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5. DWQ 401 Unit Stormwater Review</b>	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

<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.)  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.  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.  not applicable	

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input type="checkbox"/> Yes	<input checked="" 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 survey for bald eagle (no threatened or endangered species listed for Alamance Co.).		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
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		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
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		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
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		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	4.11.13 Date



PROGRAM

February 19, 2013

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

**B-4401**, Replace Bridge Number 161 over North Prong Stinking Quarter Creek on SR 1124  
(Stafford Road), Alamance County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the buffer mitigation for the subject project. Based on the information supplied by you on February 15, 2013, the buffer impacts are located in CU 03030002 of the Cape Fear River basin (Haw Arm) in the Central Piedmont (CP) Eco-Region and are as follows:

Buffer	River Basin	CU Location	Eco-Region	Buffer Impacts (in square feet)		
				Zone 1	Zone 2	TOTAL
Impacts	Cape Fear -- Haw Arm	03030002	CP	305.0	3,138.0	3,443.0

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP number B-4401. Subsequently, EEP will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

Michael Ellison  
EEP Acting Director

Cc: Mr. Andy Williams, USACE – Raleigh Regulatory Field Office  
Ms. Amy Chapman, NC Division of Water Quality  
File: B-4401

*Restoring... Enhancing... Protecting Our State*





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



(Version 1.2; Released July 2012)

**Project/TIP No.:** 33681.1.1      **County(ies):** Alamance      **Page** 1 **of** 3

**General Project Information**

<b>Project No.:</b>	33681.1.1	<b>Project Type:</b>	Bridge Replacement	<b>Date:</b>	1/18/2013
<b>NCDOT Contact:</b>	Marshall Clawson, P.E.	<b>Contractor / Designer:</b>	David Bocker, PE		
<b>Address:</b>	Hydraulics Unit 1020 Birch Ridge Road Raleigh, NC 27610	<b>Address:</b>	7500 E. Independence Blvd, Ste 100 Charlotte, NC 28227		
<b>Phone:</b>	919-707-6713	<b>Phone:</b>	704-537-7300		
<b>Email:</b>	mclawson@ncdot.gov	<b>Email:</b>	dbocker@mulkeyinc.com		
<b>City/Town:</b>	Macedonia Church	<b>County(ies):</b>	Alamance		
<b>River Basin(s):</b>	Cape Fear	<b>CAMA County?</b>	No		
<b>Primary Receiving Water:</b>	North Prong Stinking Quarter Creek	<b>NCDWQ Stream Index No.:</b>			
<b>NCDWQ Surface Water Classification for Primary Receiving Water</b>	<b>Primary:</b>	Water Supply V (WS-V)			
	<b>Supplemental:</b>	Nutrient Sensitive Waters (NSW)			
<b>Other Stream Classification:</b>	None				
<b>303(d) Impairments:</b>	None				
<b>Buffer Rules in Effect</b>	Yes, Cape Fear				

**Project Description**

<b>Project Length (lin. Miles or feet):</b>	0.141 miles	<b>Surrounding Land Use:</b>	Undeveloped, rural
	<b>Proposed Project</b>		<b>Existing Site</b>
<b>Project Built-Up Area (ac.)</b>	0.39 ac.		0.33 ac.
<b>Typical Cross Section Description:</b>	2 Lane shoulder section with paved shoulders		2 Lane Shoulder section
<b>Average Daily Traffic (veh/hr/day):</b>	<b>Design/Future:</b>	400 vpd	<b>Existing:</b> 200 vpd

**General Project Narrative:**

This narrative provides explanation in regards stormwater design on the east side of the creek. It is our position that the stormwater design of the B-4401 project has avoided and minimized impacts to the maximum extend practical. Several options were explored during design to provide treatment of stormwater runoff prior to the buffers; a detailed list of alternatives and reasons why they were not employed are provided below:

- 1 – Grass Swale – A combination for high discharge and steep grades contributed to higher velocities which in turn did not allow for non-erosion velocities; thus grass swale criteria was unable to be met.
- 2 – Use of a level spreader – This option was not feasible due to the steep ditch grades and topography. Additionally, there is no low floodplain on the east side of the creek, the steep slopes continue directly to the water's edge and channel bed.
- 3 – Use of a Pipe System & Preformed Scour – It is not standard practice to "pipe" through the buffers and again there is no flat area to construct a preformed scour hole on the east side of the creek. It is believed that open-channel ditches (lined with PSRM & Riprap) would at least provide some degree of treatment even on the steep grades.
- 4 – Permanent Ditch Check (on LT side of Roadway where additional impervious surface contributes to the improved ditch) – Again on the steep grades, several ditch checks would be required to provide non-erosive velocities. This proposed ditch is in the front of a residence. Implementation of sure a measure could result in potential standing water in the ditch and drive pipe which is not desirable since the potential for standing water is not likely in the existing conditions. For these reasons above, the following design option was incorporated into the design.
- 5 – Minimize contributing amount of impervious surface generated from project & stabilize ditches through the buffers (on the east side of the creek) – General site topography on the east side of the creek is very steep and there is no low floodplain present. Both existing ditches on the east side of the creek are steep and in some areas were observed to be incised. The existing ditches pretty much end at the bridge abutments resulting in the ditch runoff essentially "dropping" down the creek banks into the creek, some riprap is present but in poor condition, and some erosion was observed at these locations. In order to ensure the proposed bridge abutments are protected from potential ditch erosion; the proposed design incorporates lined ditches through the buffers. Riprap at the LT ditch discharge point has also been provided for bank stabilization. Additionally, there were design constraints in regards to the utilities and right-of-way that limited horizontal location of the ditches.
- 6 - The existing ditch being retained at Station 17+50 –L- Rt to 19+50 –L- Rt does not meet grass swale criteria and although the base ditch provided (Station 17+00 –L-Rt) improves the current conditions it does not meet existing dimensions nor does it provide treatment. It does reduce velocities. Therefore the base ditch at Station 17+00-L- Rt falls under mitigable.

It is important to know that as part of the design; measures were taken to avoid and minimize the need to "ditch through the buffers". The design incorporates a roadway grade that ensures the majority of additional impervious surface (due to the project improvements) that contributes to the stormwater runoff is directed to the west side of the creek. The runoff drains to a pipe system and outlets via a preformed scour hole which provides diffused flow and treatment prior to the buffers. Additionally, no deck drains will used for this project.

There are existing ditches in the two quadrants where the proposed lateral ditches will be installed. The current ditches are deficient and in need of repair, with incision/erosion observed; some rip rap is present, but is in poor condition. Due to the proposed toe of slope, these existing ditches will need to be relocated/realigned slightly. The new ditches will be larger to improve current conditions and to alleviate future maintenance issues. The ditches will not be up-sized due to an increase in impervious surface resulting from teh addition of travel lanes. The proposed ditches do improve current conditions, but grass swale criteria was not met.

**References**

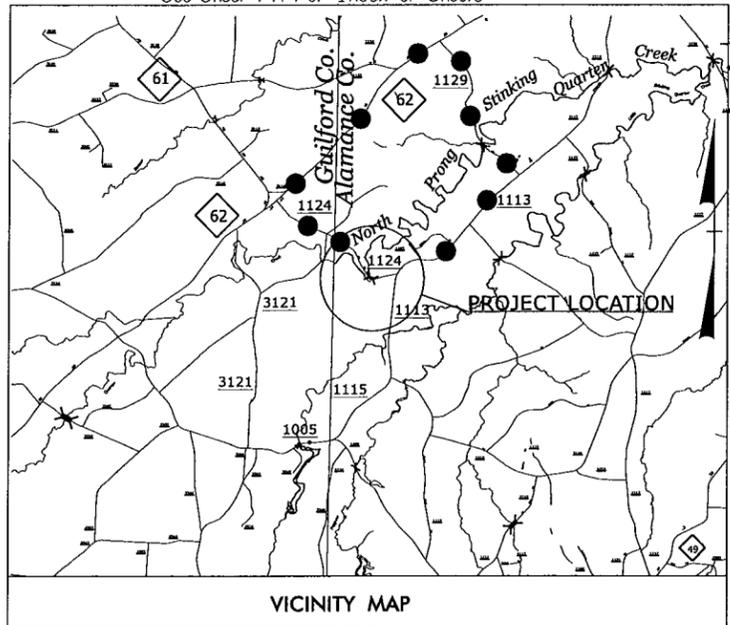
Revised 4/8/2013





TIP PROJECT: B-4401

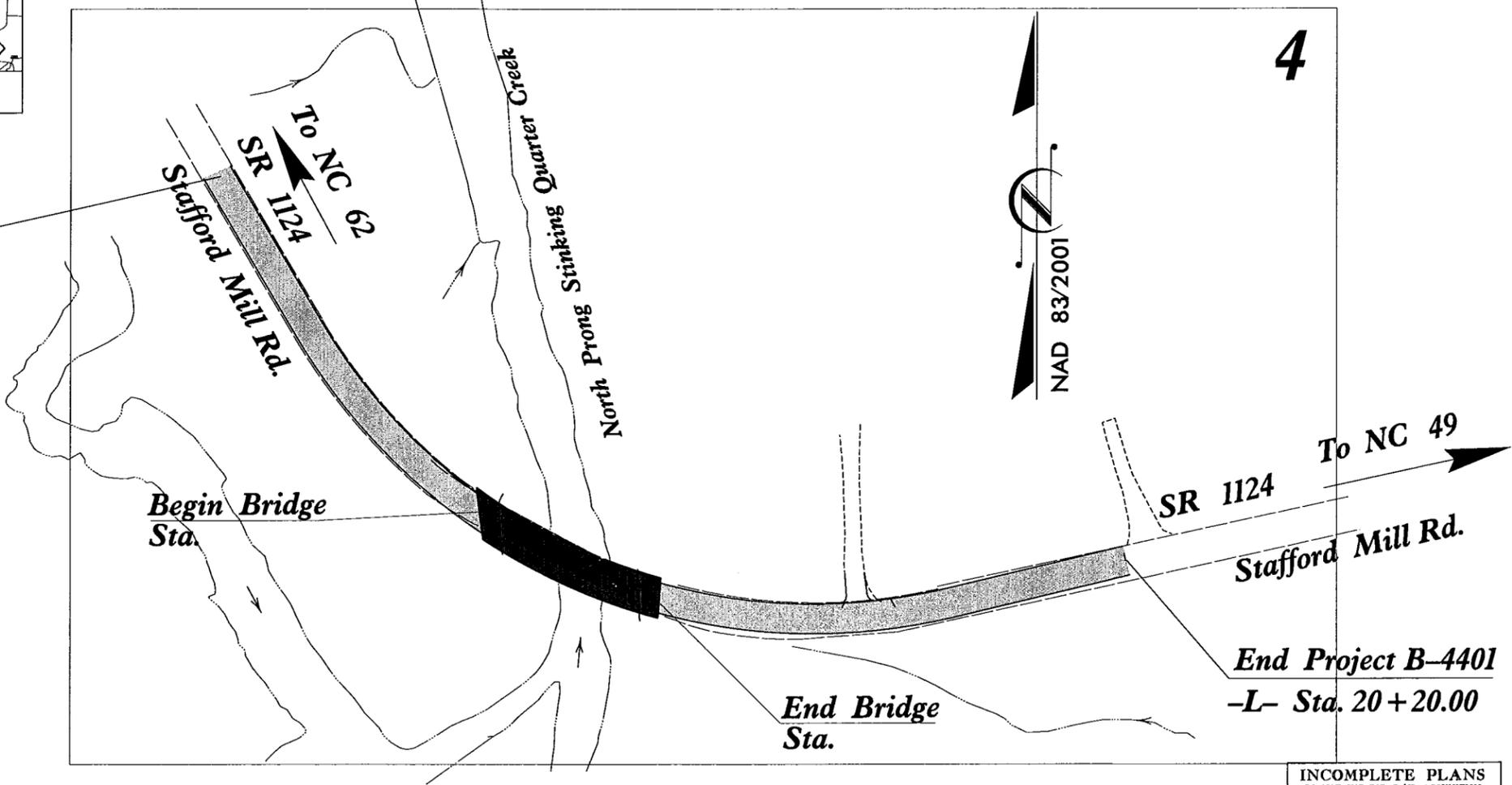
See Sheet 1-A For Index of Sheets



VICINITY MAP

●●●●● Offsite Detour Route

**Begin Project B-4401**  
-L- Sta. 12 + 75.00

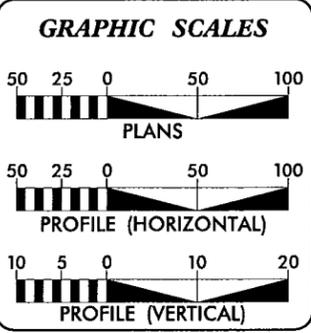


**End Project B-4401**  
-L- Sta. 20 + 20.00

Design Exception Required for Horizontal SSD  
This Project is Not Within the Limits of Any Municipality  
Method of Clearing \_\_\_\_\_

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

CONTRACT:



**DESIGN DATA**

ADT 2010 =	200 vpd
ADT 2035 =	400 vpd
DHV =	13 %
D =	85 %
T =	14 % *
V =	35 MPH
* TTST 4%	DUAL 10%
Functional Class- Rural Local	
Sub Regional Tier	

**PROJECT LENGTH**

Total Length TIP Project B-4401 = 0.141 Miles

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

2006 STANDARD SPECIFICATIONS

**PRODUCTION RIGHT OF WAY DATE:**  
November 16, 2012

**PRODUCTION LETTING DATE:**  
May 21, 2013

James Speer, PE  
PROJECT ENGINEER

John Lansford, PE  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

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

**ROADWAY DESIGN ENGINEER**

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

**DIVISION OF HIGHWAYS**  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**ALAMANCE COUNTY**

**LOCATION:** Bridge #161 Over North Prong  
Stinking Quarter Creek on SR 1124 (Stafford Mill Road)  
**TYPE OF WORK:** Grading, Drainage, Paving and Structure

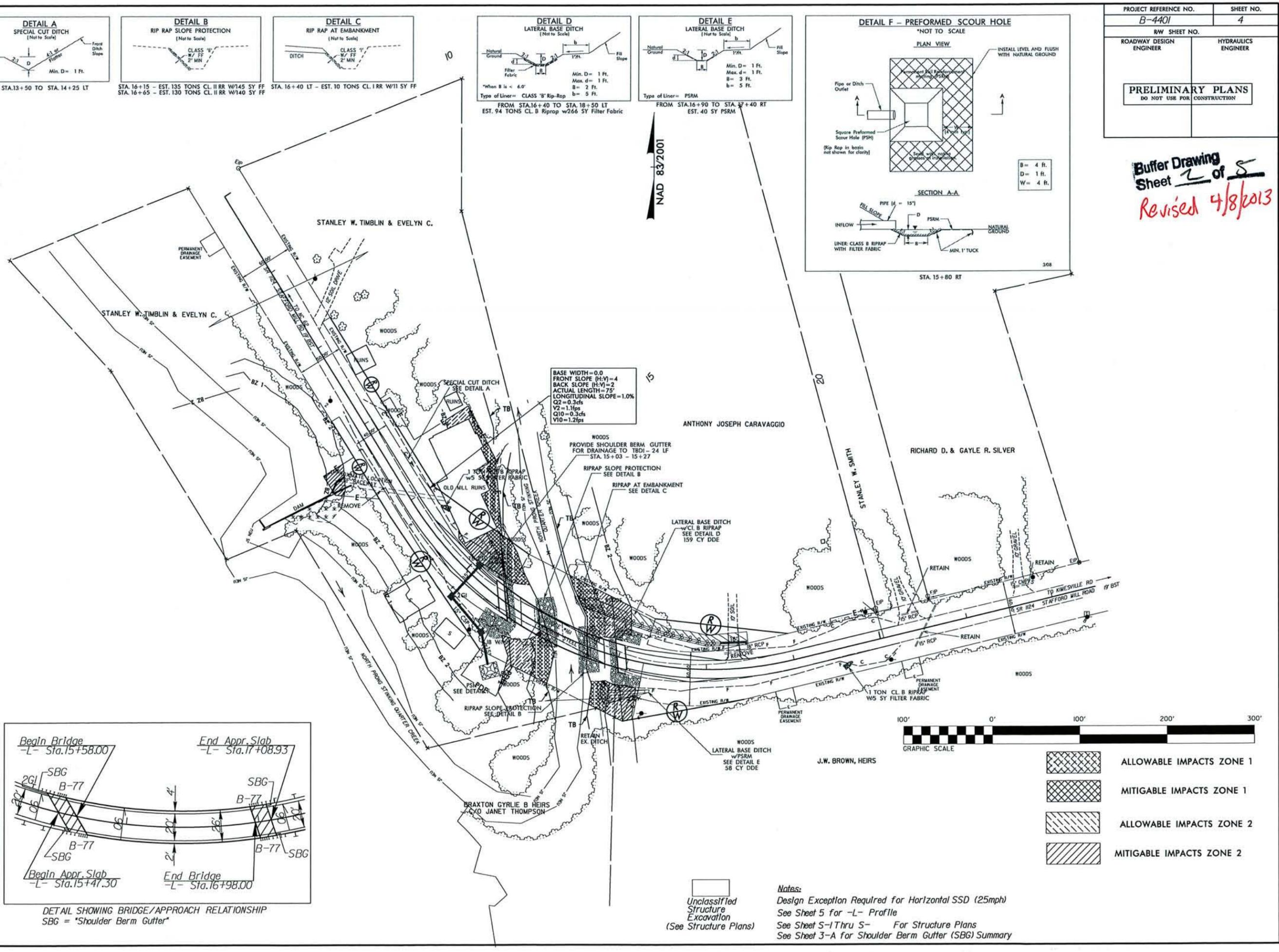
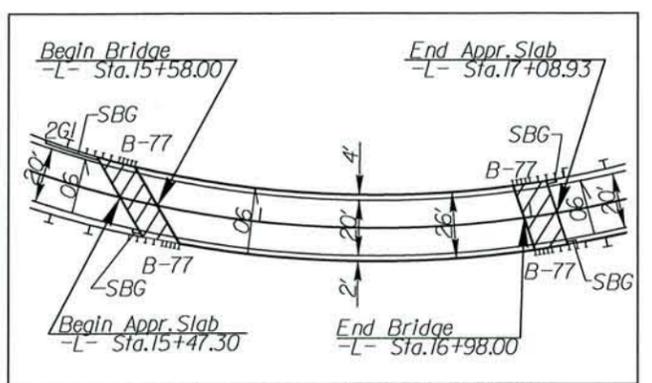
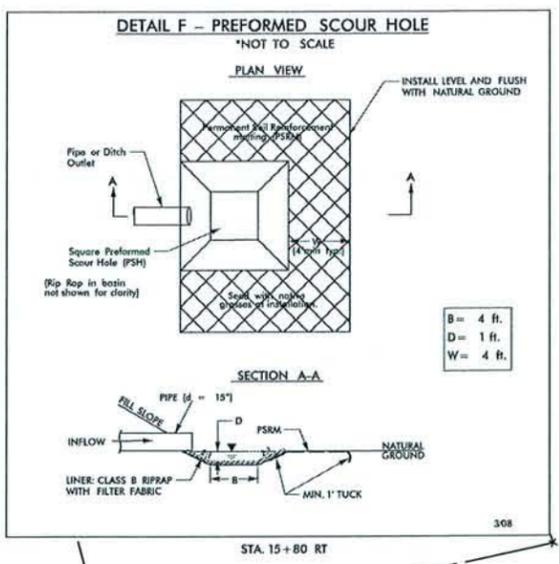
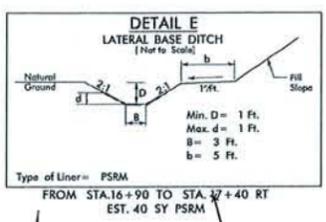
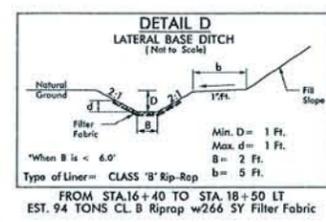
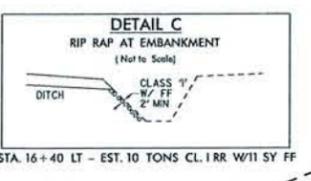
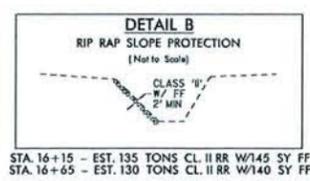
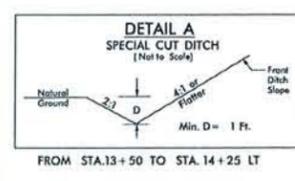
**BUFFER IMPACTS PERMIT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4401	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33681.1.1	BRZ-1124(5)	PE	

Buffer Drawing  
Sheet 1 of 5

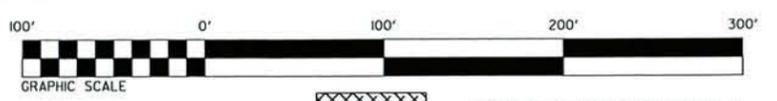
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Buffer Drawing  
 Sheet 2 of 5  
 Revised 4/8/2013



BASE WIDTH = 0.0  
 FRONT SLOPE (H:V) = 4  
 BACK SLOPE (H:V) = 2  
 ACTUAL LENGTH = 75'  
 LONGITUDINAL SLOPE = 1.0%  
 Q2 = 0.3cfs  
 V2 = 1.1fps  
 Q10 = 0.3cfs  
 V10 = 1.2fps

PROVIDE SHOULDER BERM GUTTER FOR DRAINAGE TO TBI - 24 LF STA. 15+03 - 15+27



- ALLOWABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 2

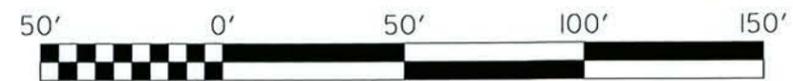
**Notes:**  
 Design Exception Required for Horizontal SSD (25mph)  
 See Sheet 5 for -L- Profile  
 See Sheet 5-I thru 5- For Structure Plans  
 See Sheet 3-A for Shoulder Berm Gutter (SBG) Summary

5/14/09  
 4/8/2013  
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PROJECT REFERENCE NO. B-4401	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

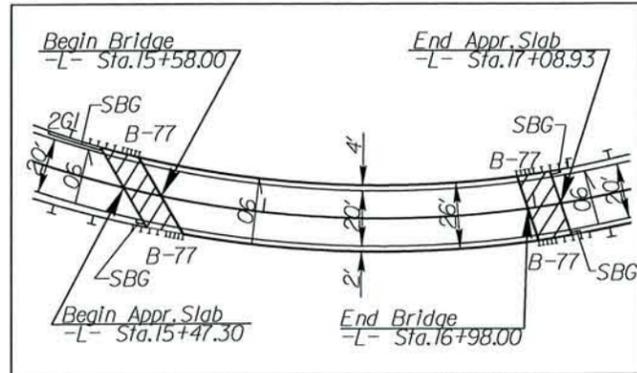
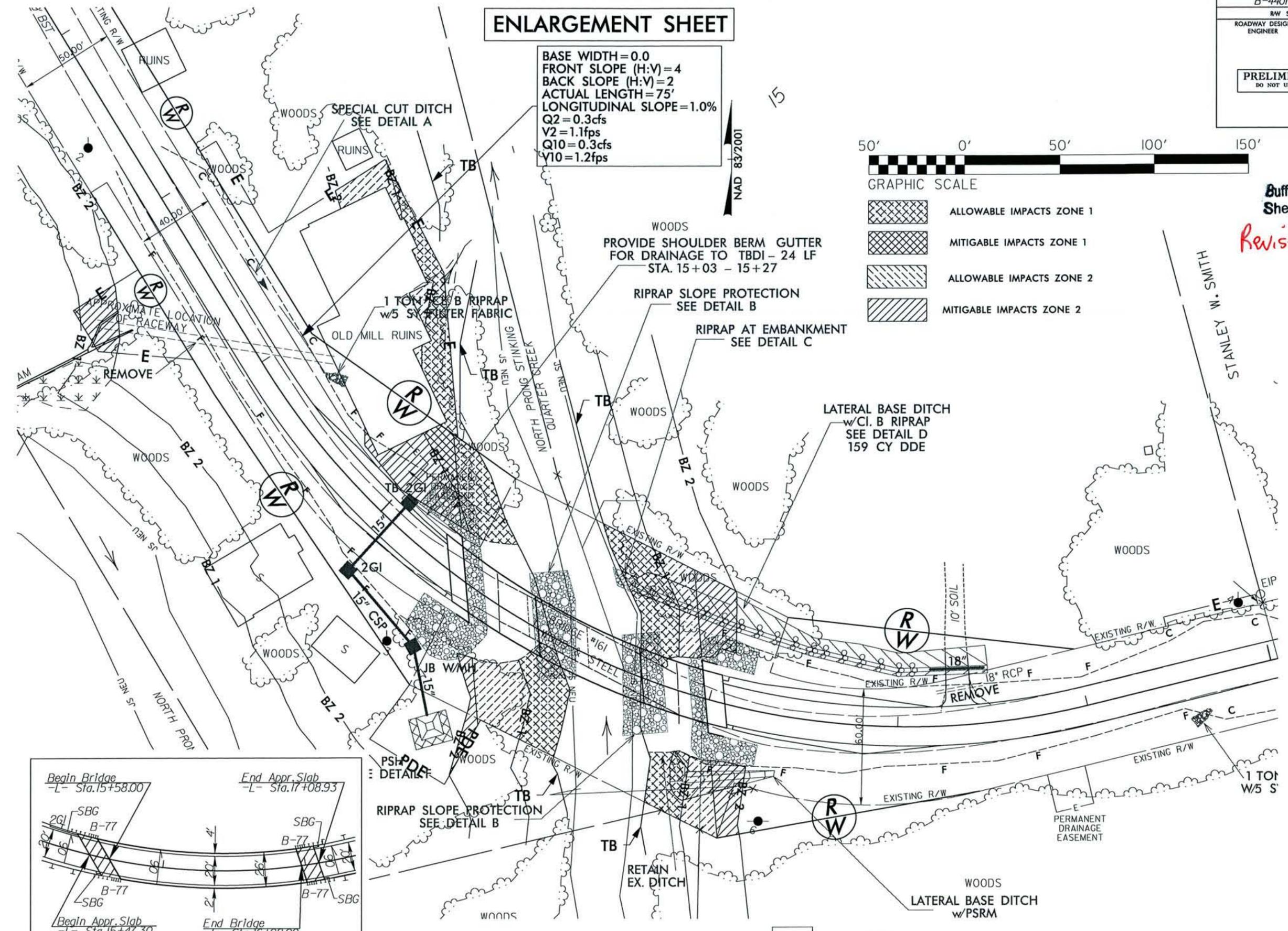
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BASE WIDTH = 0.0  
 FRONT SLOPE (H:V) = 4  
 BACK SLOPE (H:V) = 2  
 ACTUAL LENGTH = 75'  
 LONGITUDINAL SLOPE = 1.0%  
 Q2 = 0.3cfs  
 V2 = 1.1fps  
 Q10 = 0.3cfs  
 V10 = 1.2fps



- GRAPHIC SCALE
- ALLOWABLE IMPACTS ZONE 1
  - MITIGABLE IMPACTS ZONE 1
  - ALLOWABLE IMPACTS ZONE 2
  - MITIGABLE IMPACTS ZONE 2

Buffer Drawing  
 Sheet 3 of 5  
 Revised 4/8/2013



DETAIL SHOWING BRIDGE/APPROACH RELATIONSHIP  
 SBG = "Shoulder Berm Gutter"

Unclassified  
 Structure  
 Excavation  
 (See Structure Plans)

Notes:  
 Design Exception Required for Horizontal SSD (25mph)  
 See Sheet 5 for -L- Profile  
 See Sheet S-1 Thru S- For Structure Plans  
 See Sheet 3-A for Shoulder Berm Gutter (SBG) Summary

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 4/8/2013  
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