CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

STIP Project No.	**B-5350**
WBS No.	**46064.1.1**
Federal Project No.	**BRZ-1768(3)**

A. Project Description:

The proposed project will replace Alamance County Bridge No. 44 on SR 1768 (Hughes Mill Road) over Jordan Creek (Figure 1).

The proposed project is included in the 2016-2025 North Carolina State Transportation Improvement Program (STIP). The project is scheduled for right of way acquisition and construction in state fiscal years 2017 and 2018, respectively.

Bridge No. 44 is 36 feet long. The replacement structure will be a bridge approximately 65 feet long providing a minimum 27 feet 10 inches clear roadway width. The bridge will include two 10-foot travel lanes and 3-foot 11 inches minimum offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately two feet above the existing structure with a minimum 0.3% gradient to facilitate deck drainage.

The approach roadway will extend approximately 331 feet from the south end of the new bridge and 304 feet from the north end of the new bridge. The approaches will include a 20-foot pavement width providing two lanes. Four-foot grass shoulders will be provided on each side (7-foot shoulders where guardrail is included). The roadway will be designed as a Local Route using Sub-Regional Tier Guidelines with a 55 mile per hour design speed.

Traffic will be detoured off-site during construction (Figure 2). The offsite detour for this project will include NC 62 and SR 1761 (Willie Pace Road). The detour for the average road user would result in less than approximately 10 minutes additional travel time (3 miles additional travel). Up to a 12-month duration of construction is expected on this project.

B. Purpose and Need:

The purpose of the proposed project is to replace a deficient bridge. The bridge is considered structurally deficient due to a deck condition appraisal of 4 out of 9, substructure condition appraisal of 3 out of 9, and a structural evaluation of 2 out of 9 according to FHWA standards.

NCDOT Bridge Management Unit records indicate Bridge No. 44 has a sufficiency rating of 38 out of a possible 100 for a new structure. The bridge has a posted weight limit of 18 tons single-unit vehicles and 23 tons truck tractor semi-trailers.

The bridge deck of Bridge No. 44 is situated approximately 8 feet above the creek bed. The existing clear roadway on the bridge is 24 feet. The current 100-year water surface elevation at this crossing does overtop the existing roadway.

Bridge No. 44 was built in 1968. The bridge has a forty-eight year old steel plank superstructure on I-beams and timber substructure. Since 2011, temporary repairs were made to the bridge to keep the bridge open, including asphalt surface repair / replacement, maintenance / repair of the steel plank bridge floor, and repair / replacement of timber substructure components. The substandard timber substructure, including decaying timber bulkhead boards in vertical abutments and weather cracking timber piles, as well as the section loss along joints and drain holes on the steel plank floor are becoming increasingly unacceptable. Timber components have a typical life expectancy of between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. Timber components of Bridge No. 44 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore, the bridge is approaching the end of its useful life. Replacement of the bridge will result in smoother traffic operations.

C. Proposed Improvements:

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

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

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

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

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

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

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

4. Transportation corridor fringe parking facilities.

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

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

7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.

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

10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when

located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.

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

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

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

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

D. Special Project Information:

The estimated costs, based on 2016 prices, for the project are included below:

Roadway Approaches	$ 208,590
Structure	$ 232,500
Structure Removal	$ 16,800
Misc. & Mob.	$ 98,110
Eng. & Contingencies	$ 94,000
Total Construction Cost	$ 650,000
Right-of-Way Cost	$ 17,250
Utility Cost	$ 0
Total Project Cost	$ 667,250

Estimated Traffic:

Year 2018 - 123 vpd
Year 2035 - 200 vpd
TTST - 2%
Dual - 3%

Accidents: According to Traffic Engineering, there were no crashes reported in the vicinity of the bridge during a ten-year period (2002-2012).

Design Exceptions: There are no anticipated design exceptions for this project.

Pedestrian and Bicycle Accommodations: This section of SR 1768 is not part of a designated bicycle route. Sidewalks do not exist on the existing bridge and there is no indication of pedestrian usage on or near the bridge. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 44 is constructed predominantly of steel and timber, and it should be possible to remove the structure with no resulting debris in the water based on standard demolition practices.

Offsite Detour: As discussed previously, an offsite detour is proposed. Alamance County Fire Marshall anticipates low impacts to response emergency medical services. Alamance-Burlington School System indicated impacts to schools are moderate with two public school buses crossing this bridge daily. The condition of all roads, bridges and intersections along the detour are acceptable without improvement. The Alamance-Burlington School System is also concerned about the location of students being able to get to a bus stop and a turnaround for the buses.

Hydraulics: Alamance County is a participant in the National Flood Insurance Program. According to the NC Floodplain Mapping Program, 100-year base flood elevations were established for Jordan Creek in a Limited Detailed Flood Study.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to a FEMA-regulated stream. Therefore, the Division Resident Engineer shall submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on the construction plans.

Agency Coordination: NCDOT has sought input from the following agencies as a part of the project development process: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, N.C. Department of Environment & Natural Resources, N.C. Department of Cultural Resources (SHPO), N.C. Wildlife Resources Commission, Burlington-Graham MPO, Alamance-Burlington School System, Alamance County Fire Marshall/Emergency Management, Alamance County, and City of Burlington.

In addition to their standard recommendations, the N.C. Department of Environment and Natural Resources (NCDENR) Division of Water Resources (DWR) (formerly Division of Water Quality) recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Jordan Creek. NCDWR requests that road design plans provide treatment

of the stormwater runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices*.

Additionally, NCDWR commented that NCDOT is required to obtain a State Stormwater permit prior to construction of the proposed project and indicated that a buffer mitigation plan must be provided to them prior to approval of the Water Quality Certification.

Public Involvement: A letter was sent to all property owners directly affected by the project. Property owners were invited to comment if they had questions about the project. No comments have been received.

Based upon responses to the landowner letter, a public meeting was determined unnecessary.

E. Threshold Criteria

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

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?		X
(3)	Will the project affect anadromous fish?		X
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	X	
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		X
(7)	Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?	X	
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		X

(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		X

PERMITS AND COORDINATION		YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		X
(11)	Does the project involve Coastal Barrier Resources Act resources?		X
(12)	Will a U. S. Coast Guard permit be required?		X
(13)	Could the project result in the modification of any existing regulatory floodway?		X
(14)	Will the project require any stream relocations or channel changes?		X

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES		YES	NO
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	

(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X
(29)	Will the project affect any archaeological remains which are important to history or pre-history?		X
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?		X
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?		X
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?		X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 7: Jordan Creek is Class WS-II; HQW; NSW waters of the State. NCDWR recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Jordan Creek. Design Standards in Sensitive Watersheds will be implemented during construction.

G. CE Approval

STIP Project No.	**B-5350**
WBS No.	**46064.1.1**
Federal Project No.	**BRZ-1768(3)**

Project Description:

The proposed project will replace Alamance County Bridge No. 44 on SR 1768 (Hughes Mill Road) over Jordan Creek.

Categorical Exclusion Action Classification:

_____ TYPE II (A)
__X__ TYPE II (B)

Approved:

7/20/16 Beverly S. Robinson
Date
Project Development Group Supervisor
Project Development & Environmental Analysis Unit

7/20/16 Dilea D. Mayhew
Date
Consultant Project Manager
Mott MacDonald

For Type II (B) projects only:

7/28/16 for Joseph P Leigh
Date
John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

PROJECT COMMITMENTS

Alamance County
Bridge No. 44 on SR 1768 (Hughes Mill Road)
Over Jordan Creek
Federal Aid Project No. BRZ-1768(3)
WBS No. 46064.1.1
STIP No. B-5350

Division 7 Construction, Resident Engineer's Office - Offsite Detour
In order to have time to adequately reroute school buses and address school bus stop concerns, Alamance-Burlington School System will be contacted at (336) 570-6480 at least one month prior to road closure.

Alamance County Emergency Medical Services (336) 570-6796, Fire Marshal (336) 227-1365, and Sheriff (336) 570-6300; Village of Alamance (336) 226-0033; and City of Burlington Office of Emergency Management (336) 229-3122 will be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

In order to have time to adequately reroute and notify transit riders, the Alamance County Transportation Authority will be contacted at (336) 222-0565 at least one month prior to road closure.

Hydraulic Unit - FEMA Coordination
The Hydraulics Unit will coordinate with the N.C. Floodplain Mapping Program to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Hydraulics Unit / Division 7 Construction - FEMA
This project involves construction on or adjacent to a FEMA-regulated stream. Therefore, the Division Resident Engineer shall submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on the construction plans.

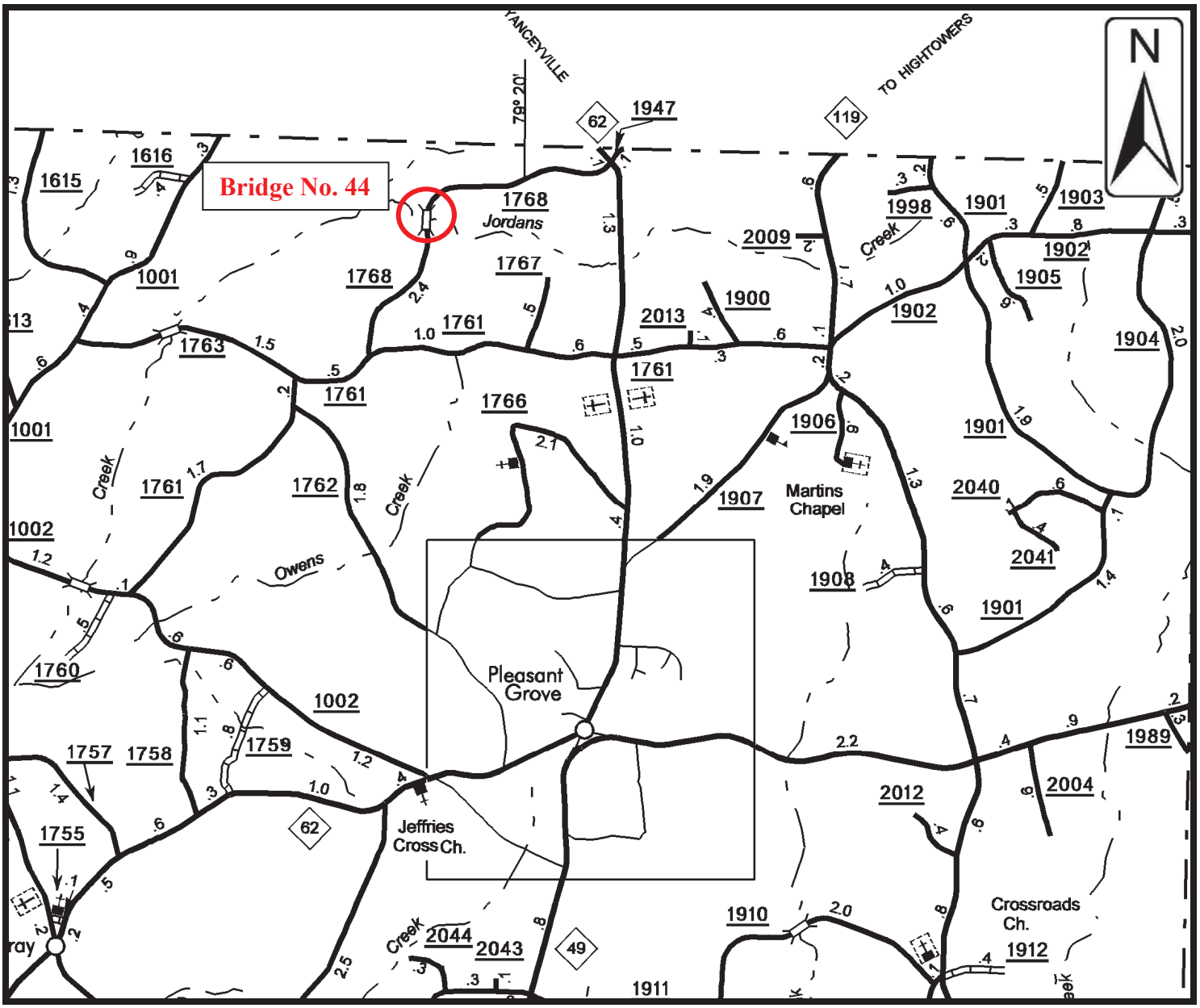
Division Construction/ Natural Environment Section/ Roadside Environmental Unit - High Quality Waters
Jordan Creek is Class WS-II; HQW; NSW waters of the State. NCDWR recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Jordan Creek. Design Standards in Sensitive Watersheds will be implemented during construction. NCDOT will be required to obtain a State Stormwater Permit prior to construction.

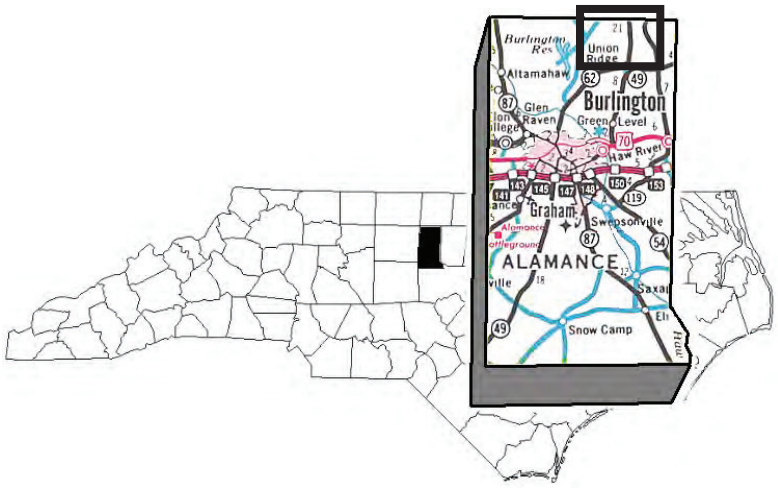
Hydraulics Unit, Natural Environment Section - Buffer Rules
The Jordan Lake Watershed Riparian Buffer Rules apply to this project. A buffer mitigation plan must be provided to NCDWR prior to approval of the Water Quality Certification.

Right of Way Branch, PDEA-Human Environment Section, Geotechnical Engineering Unit - Archaeological Site
The proposed project is located adjacent to one known archaeological site that was recommended eligible for the National Register of Historic Places. Any ground disturbing activities within the environmentally sensitive area denoted on the design plans should be avoided. The PDEA-Archaeology Group Leader, Matt Wilkerson, should be contacted at (919) 707-6089 for any questions regarding the environmentally sensitive area.

APPENDIX A

Figures

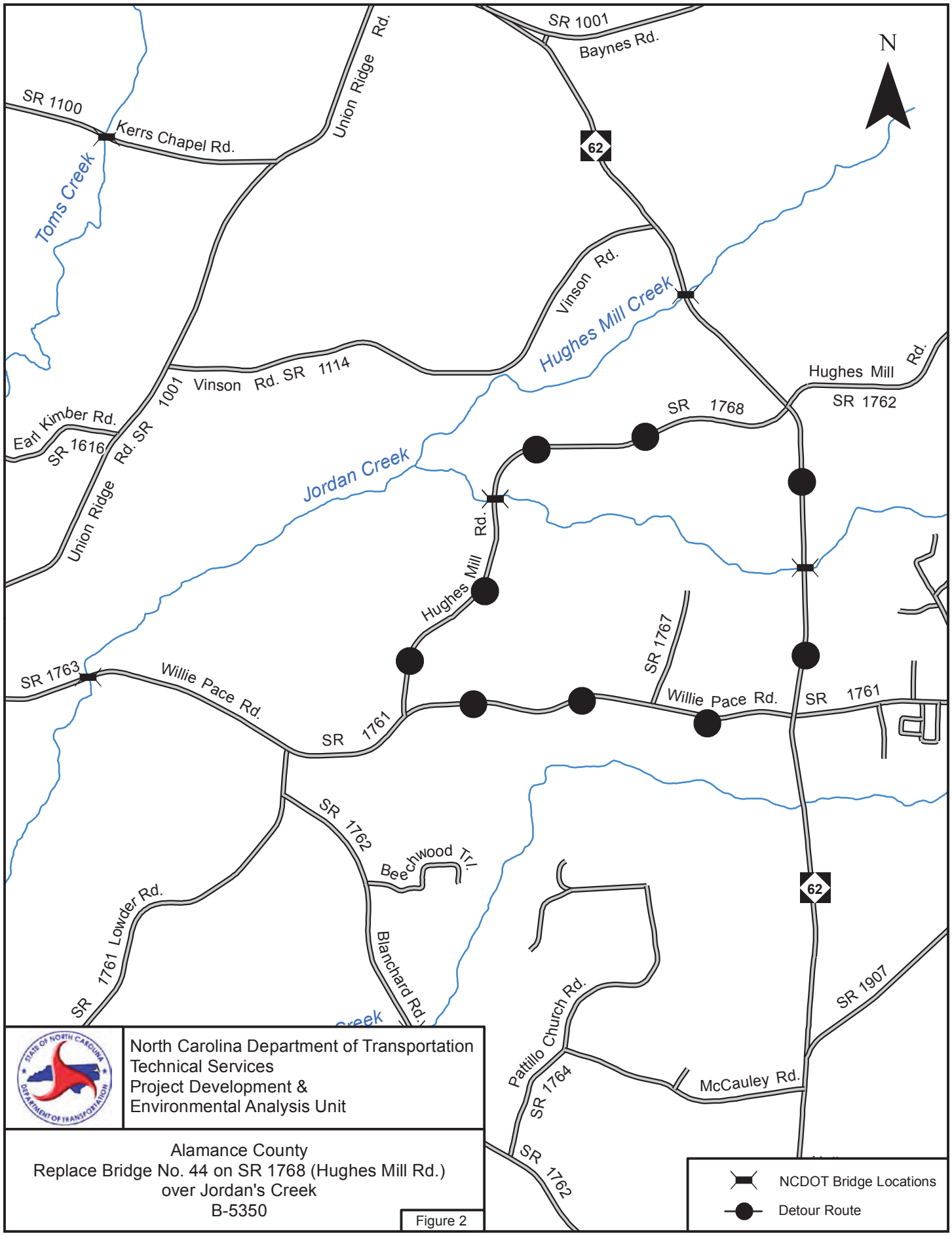




NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT

ALAMANCE COUNTY
REPLACE BRIDGE NO. 44 ON SR 1768
OVER JORDAN'S CREEK
B-5350

Figure 1



North Carolina Department of Transportation
Technical Services
Project Development &
Environmental Analysis Unit

Alamance County
Replace Bridge No. 44 on SR 1768 (Hughes Mill Rd.)
over Jordan's Creek
B-5350

Figure 2

PROJECT REFERENCE NO.	SHEET NO.
B-5350	Figure 3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

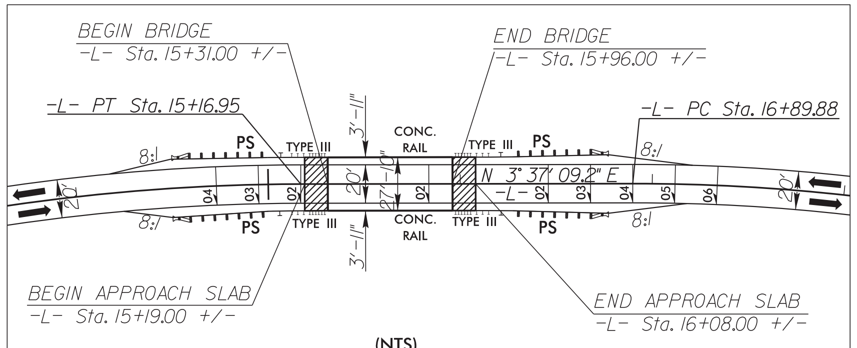
HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of: Hatch Mott MacDonald, PO Box 700, Fuquay-Varina, NC 27526, www.hatchmott.com

ICA Engineering, 5121 Kingdom Way, Suite 100, Raleigh, NC 27607, NC License No. F-0258

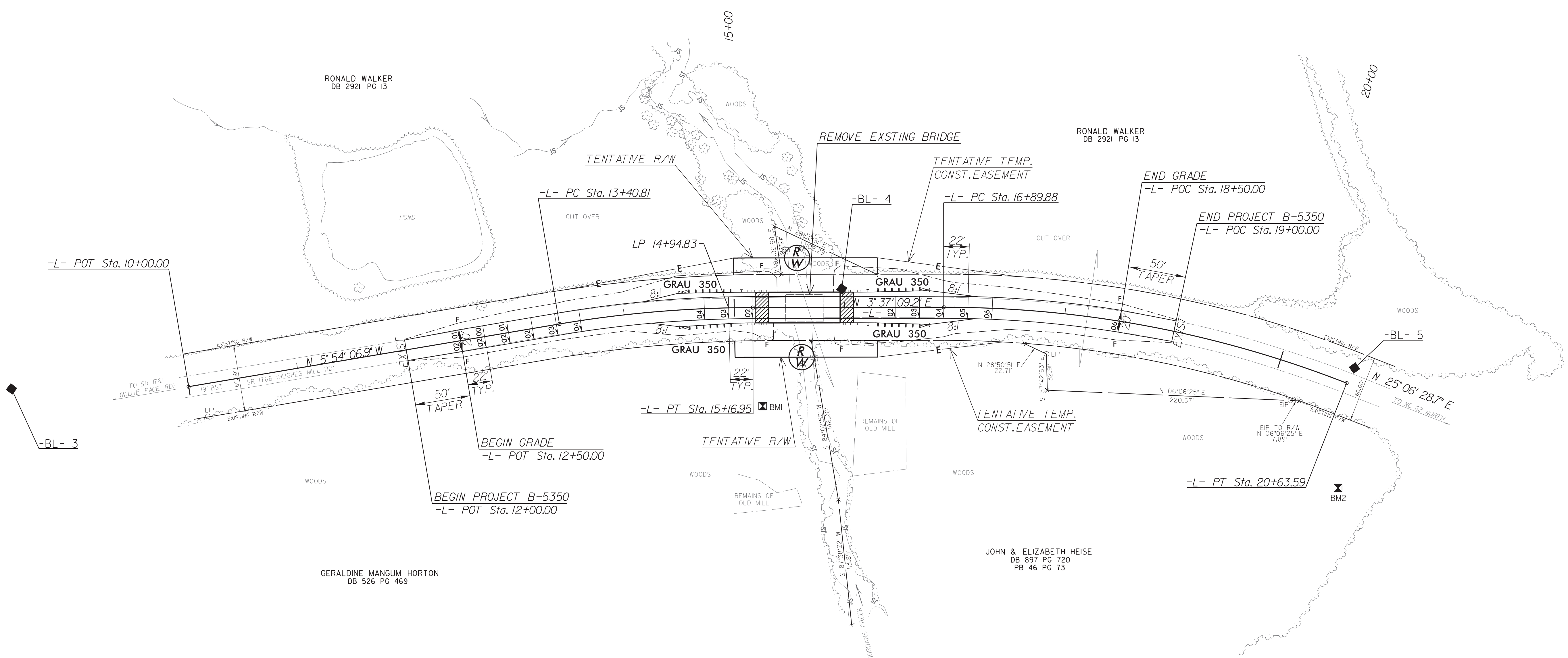
8/17/99



(NTS)
PS = PAVED SHOULDER

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NAD 83/NA 2011



-L-

PI Sta 14+29.08	PI Sta 18+78.96
Δ = 9° 31' 16.1" (RT)	Δ = 21° 29' 19.5" (RT)
D = 5° 24' 18.9"	D = 5° 45' 00.0"
L = 176.15'	L = 373.72'
T = 88.28'	T = 189.08'
R = 1,060.00'	R = 996.45'
SE = SEE PLANS	SE = SEE PLANS

NOTE: TENTATIVE PROPOSED RIGHT OF WAY AND TEMPORARY CONSTRUCTION EASEMENTS ARE SHOWN FOR EARLY UTILITIES COORDINATION AND ARE SUBJECT TO CHANGE BASED ON FURTHER DESIGN RECOMMENDATIONS.

SEE SHEET 5 FOR -L- PROFILE

10:18:44 AM
R:\Roadway\Proj\B5350_rdy_psh_4.dgn

APPENDIX B

Reference Letters

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Pat McCrory
Governor

Charles Wakild, P. E.
Director

John E. Skvarla, III
Secretary

February 11, 2013

MEMORANDUM

To: Gregory M. Blakeney, NCDOT Bridge Project Development Section

From: Amy Euliss, NC Division of Water Quality, Office

Subject: Scoping comments on proposed improvements to Bridge nos. 3 (TIP No. B-5346), 170 (TIP No. B-5347), 173 (B5349) and 44 (TIP No. B5350) in Alamance County.

Reference your correspondence dated December 27, 2013 in which you requested comments for the referenced project. Preliminary analysis of the project reveals the potential for multiple impacts to streams and jurisdictional wetlands in the project area.

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed projects:

B-5346: Bridge No. 3 over Dry Creek over on SR 1529 in Alamance County
*Potential impacts to Dry Creek (WSV;NSW)

1. Dry Creek are class WSV; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Dry Creek. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices*.
2. This project is within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0267. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification.

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6488
Internet: www.ncwaterquality.org

B-5347: Bridge No. 170 over an Unnamed Tributary to Big Alamance Creek on SR 1212 in Alamance County

*Potential impacts to an Unnamed Tributary to Big Alamance Creek (WSV;NSW; 303d Fair Bioclassification-Ecological and Biological Integrity)

1. Big Alamance Creek and its unnamed tributaries are class WSV; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Big Alamance Creek and its unnamed tributaries. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices*.
2. Big Alamance Creek and its unnamed tributaries are class WSV; NSW; 303(d) waters of the State. Big Alamance Creek and its unnamed tributaries Creek is on the 303(d) list for impaired use for aquatic life due to fair bioclassification. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) to reduce the risk of further impairment to Big Alamance Creek and its unnamed tributaries. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices*.
3. This project is within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0267. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification.

B-5349: Bridge No. 173 over Back Creek (Little Creek) on SR 1149 in Alamance County

*Potential impacts to Back Creek (Little Creek) (WSV;NSW)

1. Back Creek (Little Creek) are class WSV; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Back Creek (Little Creek). NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices*.
2. This project is within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0267. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification.

B-5350: Bridge No. 44 over Jordan's Creek on SR 1768 in Alamance County

*Potential impacts to Jordan's Creek (WSII;HQW;NSW)

1. Review of the project reveals the presence of surface waters classified as WSII; High Quality Waters of the State in the project study area. This is one of the highest classifications for water quality. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties.
2. Jordan's Creek are class WSV; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Jordan's Creek. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices*.
3. This project is within the Jordan Lake Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0267. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the NC Ecosystem Enhancement Program, must be provided to NCDWQ prior to approval of the Water Quality Certification.

General Project Comments:

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

2. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDOT's *Stormwater Best Management Practices Manual*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

4. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace

appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

5. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.

6. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

7. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.

8. NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

9. Where streams must be crossed, NCDWQ prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.

10. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.

11. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDOT's *Stormwater Best Management Practices*.

12. Sediment and erosion control measures should not be placed in wetlands or streams.

13. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.

14. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.

15. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require a Nationwide Permit (NW) application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from NCDWQ. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.

16. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

17. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

18. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

19. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

20. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 388/Nationwide Permit No. 6 for Survey Activities.

21. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

22. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities

manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

23. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

24. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

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

26. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

Thank you for requesting our input at this time. NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact _____ at (___) ___-____ or _____@ncdenr.gov.

cc: _____, US Army Corps of Engineers, _____Field Office (electronic copy only)
_____, Federal Highway Administration
_____, PE, Division __ Engineer (if applicable)
_____, Division __ Environmental Officer (if applicable)
_____, Environmental Protection Agency (electronic copy only)
_____, NC Wildlife Resources Commission (electronic copy only)
_____, Division of Coastal Management (electronic copy only) (if applicable)
_____, Ecosystem Enhancement Program (if applicable)
_____, NCDWQ _____ Regional Office (or Central Office if sent from the Regions)
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