



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 11, 2015

MEMORANDUM TO: Mr. Mike Mills, PE
Division 7 Engineer

FROM: *for* Philip S. Harris, III, P.E. 
Natural Environment Section
Project Development and Environmental Analysis Unit

SUBJECT: Replacement of Bridge No. 169 over Gum Creek on SR 1148
(Anthony Road); Alamance County;
Federal Aid Project No. BRSTP-1148(5); WBS No. 46056.1.1
TIP B-5342

Attached is the Jordan Lake Riparian Buffer Authorization for B-5342. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
<https://connect.ncdot.gov/resources/Environmental>, under *Quick Links > Issued Permits*

cc: w/o attachment (see website for attachments)

Mr. Randy Garris, P.E., State Contract Officer
Mr. Jerry Parker, Division Environ. Officer
Dr. Majed Al-Ghandour, P.E., Program Dev. and TIP
Mr. Roger Thomas, P.E., Roadway Design
Mr. Matt Lauffer, P.E., Hydraulics
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Robert Memory, Utilities Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Kevin Bowen, P.E., State Bridge Construction Engineer
Mr. Eric Midkiff, P.E., PDEA

PROJECT COMMITMENTS

T.I.P. Project No. B-5342
Replacement of Bridge No. 169 on
SR 1148 (Anthony Road) over Gum Creek
Alamance County
Federal Aid Project No. BRSTP-1148(5)
W.B.S. No. 46056.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Division 7 Construction

In order to allow Emergency Management Services (EMS) time to prepare for road closure, the NCDOT Resident Engineer will notify the Director of the Alamance County EMS at (336) 570-6796 of the bridge removal 30 days prior to road closure.

In order to allow Alamance County Schools to prepare for road closure, the NCDOT Resident Engineer will notify the Transportation Director at (336) 570-6480 of the bridge removal 30 days prior to road closure.

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Hydraulic Unit – FEMA Coordination

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of 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).

Hydraulic Design Unit, Natural Environment Section, Roadside Environmental Unit

This project is subject to NC Division of Water Quality Riparian Buffer Rules for the Jordan Lake drainage (Cape Fear River Basin); sediment and erosion control Best Management Practices should be adhered to. Also, road design plans should provide treatment of storm water runoff through BMPs as detailed in the most recent version of NCDWQ's Stormwater Best Management Practices.

Structures Management Unit, Division 7 Construction– FAA Coordination

Burlington-Alamance Regional Airport is located approximately 0.25 mile west of the project area. Coordination should be made regarding crane height restrictions and construction safety protocols. A Federal Aviation Administration Permit must be submitted.

COMMITMENTS FROM PERMITTING

No special conditions were developed during the permitting process.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

April 20, 2015
Alamance County
NCDWR Project No. 20150265
Bridge 169 on SR 1148
TIP No. B-5342
Federal Aid Project No. BRSTP-1148(5)

JORDAN LAKE RIPARIAN BUFFER AUTHORIZATION, with ADDITIONAL CONDITIONS

Mr. Richard W. Hancock, P.E. Manager
NDOT PDEA Unit
1598 MSC
Raleigh, NC 27699

Dear Mr. Hancock:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge 169 over Gum Creek on SR 1148 (Anthony Road) in Alamance County with another bridge. *This Certification replaces the previous version dated April 14, 2015. This corrected version removes a reference to the 401 Water Quality Certification and includes additional electronic distributions.*

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
-	-	-	-	-
-	-	-	-	-
Total	-	0	0	-

Total Stream Impact for Project: 0 linear feet.

Jordan Lake River Riparian Buffer Impacts

Site	Zone 1 Allowable Impact (sq ft)	Zone 1 Mitigable Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Allowable Impact (sq ft)	Zone 2 Mitigable Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
Roadway	668	-	-	1,946	-	-
Bridge	5,275	-	-	85	-	-
-	-	-	-	-	-	-
Total	5,943	-	-	2,031	-	-

Total Buffer Impact for Project: 7,974 square feet.

1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Phone: 919-807-6300 \ Internet: www.ncdenr.gov

The project shall be constructed in accordance with your application dated March 9, 2015. This approval is also valid for the Jordan Lake Riparian Buffer Rules per 15A NCAC 02B .0267. In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 02B .0295. For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.

Condition(s) of Certification:

Project Specific Conditions

1. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 02B.0267(8)]
2. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 02B.0267(9)]
3. Pursuant to 15A NCAC 02B .0267, sediment and erosion control devices shall not be placed in Zone 1 of any Jordan Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
4. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
5. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0506(b)(2)]
6. 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 Stormwater Best Management Practices. Bridge deck drains shall not discharge directly into the stream. [15A NCAC 02H .0506(b)(5)]
7. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]
8. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]

General Conditions

1. Unless otherwise approved in this certification, placement of culverts and other structures in open 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 downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
2. 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. [15A NCAC 02B.0200]
3. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
4. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
5. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
6. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
7. 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. [15A NCAC 02H.0506(b)(3) and (c)(3)]
8. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
9. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
10. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
11. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
12. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]

13. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
14. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
15. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
17. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
18. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer (or appointee) shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
19. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction.[15A NCAC 02B.0267(10)]
20. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.[15A NCAC 02H.0506(b)(3) and (c)(3)]
21. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
 - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
 - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
22. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except

for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.

The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. Sam M. Hayes, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact Dave Wanucha at (336)776-9703 or dave.wanucha@ncdenr.gov.

Sincerely,



S. Jay Zimmerman, Director
Division of Water Resources

Electronic copy only distribution:

Dave Bailey, US Army Corps of Engineers, Raleigh Field Office
Jerry Parker, Division 7 Environmental Officer
Colin Mellor, NC Department of Transportation
Rachelle Beauregard, NC Department of Transportation
Nicole Thomson, SEPI Engineering
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Dave Wanucha, NC Division of Water Resources Winston Salem Regional Office
File Copy



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

NCDWR Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

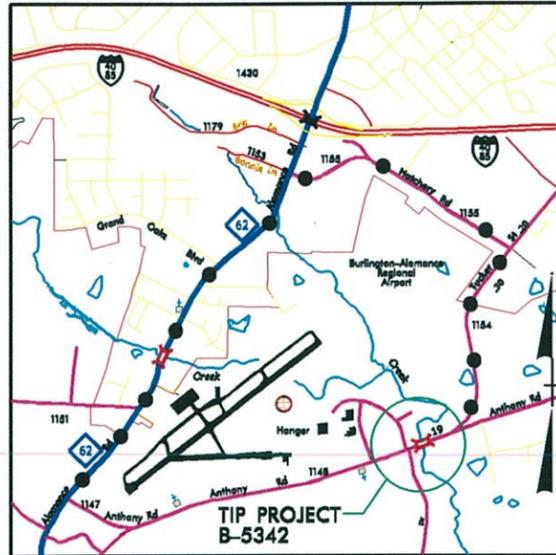
ALAMANCE COUNTY

LOCATION: BRIDGE NO. 169 OVER GUM CREEK ON SR 1148 (ANTHONY ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

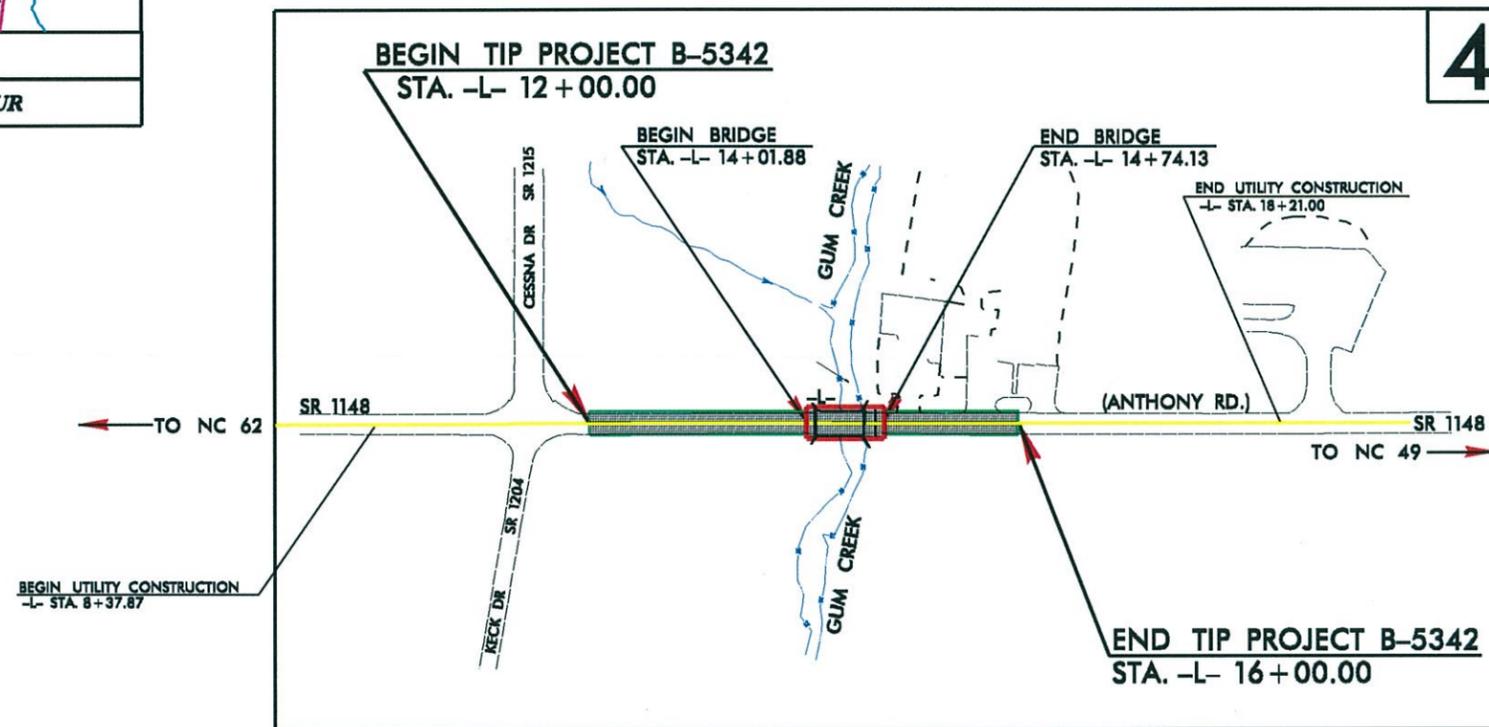
BUFFER IMPACTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5342	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46056.1.1	BRSTP-1148(5)	PE	
46056.2.FD1	BRSTP-1148(5)	RW & UTIL	



VICINITY MAP

--- OFFSITE DETOUR



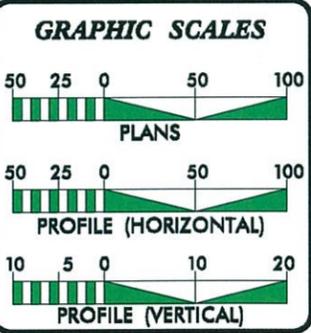
**PERMIT DRAWING
SHEET 1 OF 4**

*DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE "K" FACTORS AND NIGHTTIME SSD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: B-5342

CONTRACT:



DESIGN DATA

ADT 2014 =	4700 VPD
ADT 2035 =	6500 VPD
K =	11 %
D =	55 %
T =	8 % "
V =	50 MPH
* TTST = 2% DUAL = 6%	
FUNC CLASS = COLLECTOR	
SUB REGEIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5342 =	0.062 MI
LENGTH STRUCTURE TIP PROJECT B-5342 =	0.014 MI
TOTAL LENGTH OF TIP PROJECT B-5342 =	0.076 MI

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

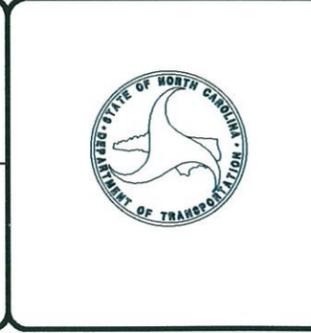
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: DECEMBER 11, 2014	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: DECEMBER 15, 2015	ALLISON K. WHITE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

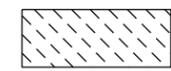


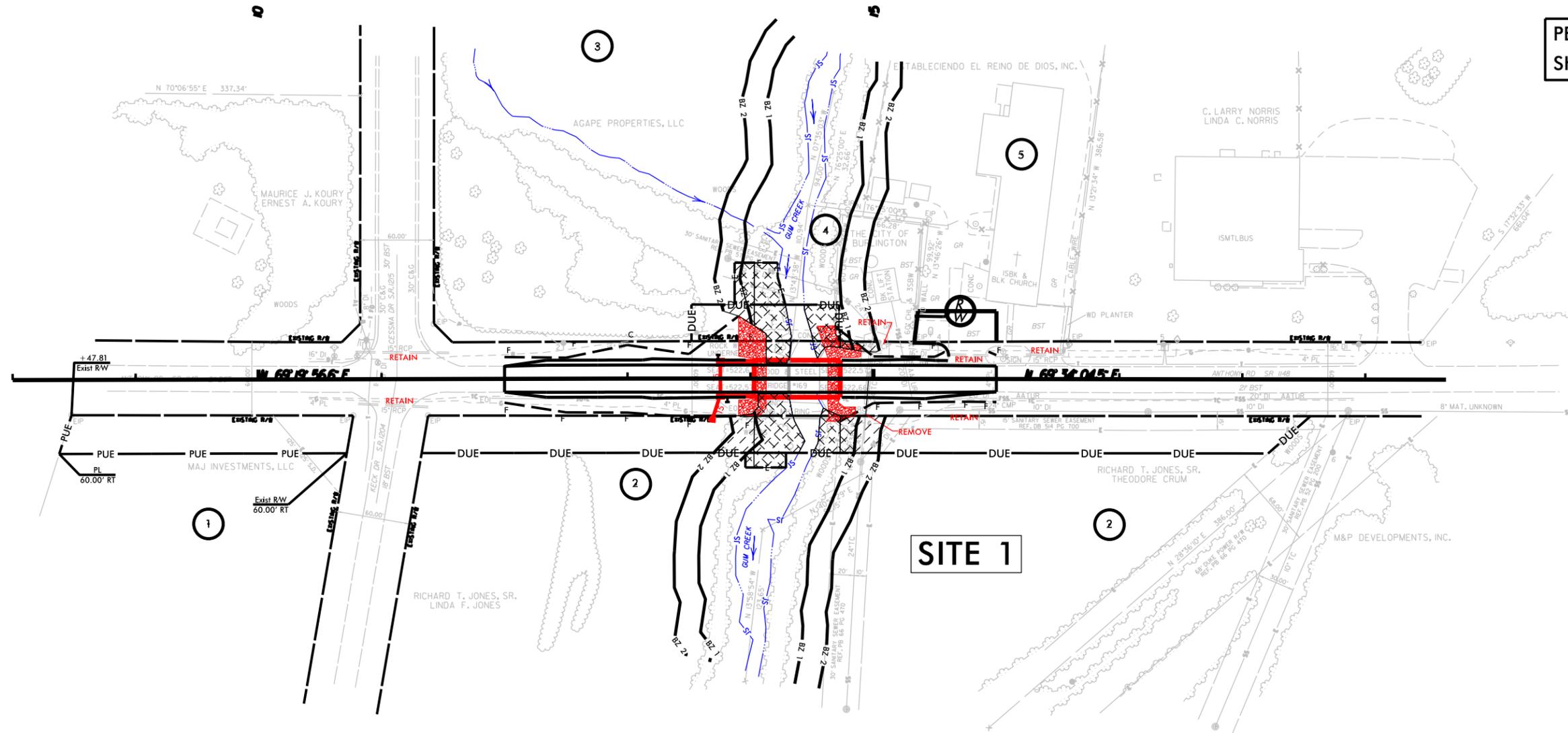
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\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO. B-5342	SHEET NO. 4
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 5 FOR PROFILE

PERMIT DRAWING
SHEET 2 OF 4

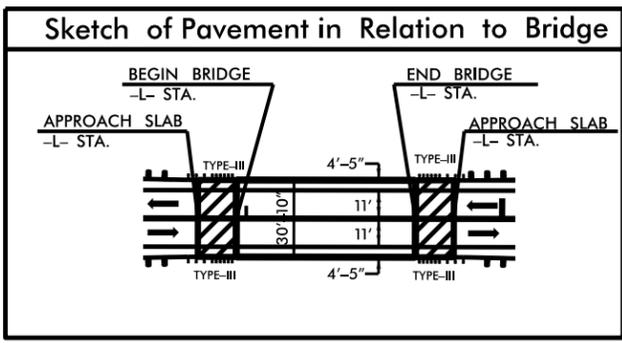
-  ALLOWABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2



REVISIONS

8/17/99

\$\$\$\$SYTIME\$\$\$\$
\$\$\$\$LAYOUT\$\$\$\$
\$\$\$\$DESIGN\$\$\$\$
\$\$\$\$CHECK\$\$\$\$
\$\$\$\$DATE\$\$\$\$



BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	Road	13+76 / 15+10	X			668	1946	2614					
1	Bridge	14+03 / 14+73		X		5275	85	5360					
TOTAL:						5943	2031	7974	0	0	0		

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 ALAMANCE COUNTY
 PROJECT: 46056.1.1 (B-5342)

 2/6/2015
 SHEET 4 OF 4