



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

J. ERIC BOYETTE  
SECRETARY

April 22, 2021

MEMORANDUM TO: Mr. Brandon Jones, P.E.  
Division 5 Engineer

FROM: Rodger Rochelle, P.E.  
NCTA Chief Engineer

SUBJECT: Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (I-87) in Knightdale, Wake and Johnston Counties; Federal Aid No. STP-0540(19), STP-0540(20), and STP-0540(21); WBS Nos. 37673.1.TA1, 35516.1.TA1, and 35517.1.TA1; STIP Project Nos. R-2721, R-2828, and R-2829

DocuSigned by:

*Rodger Rochelle*

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Attached are the modified US Army Corps of Engineers (USACE) Phased Section 404 Individual Permit, NC Division of Water Resources (NCDWR) Section 401 Individual Water Quality Certification, Neuse Riparian Buffer Authorization, and Non-404 Jurisdictional Wetlands and Waters Permit for the construction of the Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (I-87) in Knightdale, Wake and Johnston Counties. STIP Nos. R-2721, R-2828, and R-2829. ***Changes are based on the April 16, 2021 letter requesting modification of the permit to authorize changes due to an impact evaluation error; specifically the excavation at Permit Site 44, impacting 0.02 acre of wetlands was previously shown as hand clearing impact.*** Subject to any requisite permit modifications, all environmental permits have been received for the construction of the final design sections of this project.

A copy of this permit package is posted on the NCDOT website at:  
<https://xfer.services.ncdot.gov/pdea/PermIssued>

cc: w/o attachment (see website for attachments)  
Mr. Ron Davenport, P.E. Contracts Management  
Mr. Clarence Coleman, P.E., FHWA  
Mrs. Heather Montague, Division 5  
Mr. Mark Craig, P.E., Division 5  
Mr. Boyd Tharrington, P.E., State Construction Engineer  
Mr. Corey McLamb, P.E., Division 4  
Mr. Dennis Jernigan, P.E., NCTA  
Dr. Majed Al-Ghandour, P.E., Programming and TIP  
Mr. Todd Lapham, Utilities Unit  
Mr. Stephen Morgan, P.E., Hydraulics Unit  
Mr. Brian Hanks, P.E., Structures Management Unit  
Mr. Mark Staley, Roadside Environmental  
Mr. Derrick Weaver, P.E., Environmental Policy Unit  
Ms. Beth Harmon, NCDMS

Mailing Address:  
NC DEPARTMENT OF TRANSPORTATION  
TURNPIKE AUTHORITY  
1578 MAIL SERVICE CENTER  
RALEIGH, NC 27699-1578

Telephone: (919) 707-2700  
Fax: (919) 715-5511  
Customer Service: 1-877-368-4968

Website: [ncdot.gov](http://ncdot.gov)

Location:  
1 SOUTH WILMINGTON STREET  
RALEIGH, NC 27601

# PROJECT COMMITMENTS

## Complete 540 – Triangle Expressway Southeast Extension Wake and Johnston Counties, North Carolina

STIP Project Nos. R-2721, R-2828, and R-2829  
State Project Nos. 6.401078, 6.401079, and 6.401080  
Federal Aid Project Nos. STP-0540(19), STP-0540(20), and STP-0540(21)  
WBS Nos. 37673.1.TA1, 35516.1.TA1, and 35517.1.TA1

### COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
1	Environmental Analysis Unit, NCTA	Historic Architectural Resources	NCDOT will coordinate with the NC State Historic Preservation Office and the property owner(s) relative to potential retaining wall design to eliminate the need for permanent easement or right-of-way from the Panther Branch School.	Completed	R-2828
2	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will conduct an archaeological survey of the Preferred Alternative and will coordinate the results with the NC State Historic Preservation Office and the NC Office of State Archaeology.	Completed	R-2721, R-2828, and R-2829
3	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will establish a Memorandum of Agreement with the NC State Historic Preservation Office in order to take into account the project's effect on archaeological resources.	Completed	R-2828
4	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will coordinate with the NC Office of State Archaeology relative to data recovery of materials in the one site determined eligible for the National Register of Historic Places based on the information contained at the site.	Final Design and Construction	R-2828
5	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the Town of Cary relative to a potential Section 4(f) de minimis use finding for the Middle Creek School Park.	Completed	R-2721
6	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the City of Raleigh relative to a potential Section 4(f) de minimis use finding for the Neuse River Trail.	Completed	R-2829
7	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Neuse River Trail through the project construction zone.	Final Design and Construction	R-2829
8	Environmental Analysis Unit, NCTA	Noise	NCDOT will prepare Design Noise Reports for the Selected Alternative during final design. All feasible and reasonable noise abatement measures will be constructed.	Final Design and Construction	R-2721, R-2828, and R-2829

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
9	Hydraulics Unit, NCTA	Stormwater Management	NCDOT will utilize Design Standards in Sensitive Watersheds in the Swift Creek and <del>in the Lower</del> Middle Creek watersheds.	Construction and *Final Design	R-2721, R-2828, and R-2829*
10	Environmental Analysis Unit, NCTA	Migratory Birds	NCDOT will comply with requirements set forth in the Migratory Bird Treaty Act (MBTA) of 1918. <i>On December 22, 2017, after further analysis of the text, history, and purpose of the MBTA, the US Department of Interior issued Opinion M-37050. Opinion M-37050 permanently withdraws and replaces Opinion M-37041. Opinion 37050 concludes that the MBTA applies to only affirmative actions that have as their purpose to reduce migratory birds by taking or killing of migratory birds, their eggs, or their nest.</i>	Construction	R-2721, R-2828, and R-2829
11	Hydraulics Unit, NCTA	Major Drainage Structures	NCDOT will perform a more detailed hydrologic and hydraulic analysis for each major drainage crossing for the Selected Alternative.	Final Design	R-2721, R-2828, and R-2829
12	Utilities Unit, NCTA	Utilities	NCDOT will coordinate with the appropriate utility owners during design of the Selected Alternative for all utility conflicts, including means to avoid or minimize impacts to utilities.	Final Design	R-2721, R-2828, and R-2829
13	Environmental Analysis Unit, NCTA	Indirect Effects & Cumulative Impacts	NCDOT will prepare a quantitative assessment for indirect and cumulative effects and impacts for the Selected Alternative.	Completed	R-2721, R-2828, and R-2829
14	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the <a href="#">Biological Assessment of Potential Impacts to Federally Listed Species</a> (December 2017) and the <a href="#">USFWS Biological Opinion</a> (April 2018) and as amended.	Construction and *Final Design	R-2721, R-2828, and R-2829*
15	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the <a href="#">Biological Assessment for Atlantic Sturgeon Critical Habitat</a> (December 2017) and the <a href="#">NMFS concurrence letter</a> (May 2018).	Final Design and Construction	R-2829
16	Environmental Analysis Unit, Division 5, NCTA	Protected Species	FHWA and NCDOT will update the 2017 Biological Assessment and coordinate with USFWS in accordance with ESA Section 7 for the Neuse River Waterdog, Carolina Madtom, Atlantic Pigtoe, and Atlantic Pigtoe Critical Habitats.	Completed	R-2721, R-2828, and R-2829
17	Environmental Analysis Unit, Division 5, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Revised Biological Assessment of Potential Impacts to Federally Listed Species (July 2019) and the USFWS Revised Biological/Conference Opinion (October 2019).	Construction and *Final Design	R-2721, R-2828, and R-2829*

## COMMITMENTS FROM PERMITTING

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
18	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Woodcreek Trail through the project construction zone.	Construction	R-2721A
19	Division 5, NCTA	404 Permit Condition 2	NCDOT will protect the Atlantic Sturgeon by not blocking greater than 50% of the Neuse River below the ordinary high-water mark with temporary causeways or work bridges. All causeways and work bridges will be removed at the end of the project.	Construction	R-2829
20	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3	NCDOT will comply with the attached USFWS Biological Opinion-Revised (USFWS BO), dated October 15, 2019.	Construction and *Final Design	R-2721, R-2828, and R-2829*
21	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS Biological Opinion (BO) Section 2.4)	NCDOT will invite representatives of the USFWS NCWRC, and other agency personnel to preconstruction meetings prior to incurring impacts in jurisdictional features, as well as to preconstruction meetings associated with installation of structures within 0.25 mile of the Swift Creek crossing.	Construction	R-2828
22	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will not allow any part of the bridging structure for Swift Creek to be within 10 feet of the top of bank on either side of the channel. No permanent structures or temporary structures will be placed in Swift Creek. All permanent and temporary structures will be installed and designed to maintain stability of the stream banks of Swift Creek.	Construction	R-2828
23	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will require construction of two permanent hazardous spill basins (HSBs) at the crossing of Swift Creek. Road runoff from approximately 1.3 miles of road facility will be directed to the HSBs prior to discharge into Swift Creek or Swift Creek tributaries. The HSBs will be designed to contain a spill from a typical tanker truck. NCDOT will implement their standard protocols for upkeep and use of these HSBs.	Construction	R-2828

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
24	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will conduct a preconstruction survey (just prior to construction) at the Swift Creek crossing and remove mussels from a defined salvage area and relocate them to appropriate habitat within Swift Creek outside of the salvage area (relocation site) or if deemed appropriate, after coordination with the USFWS and NCWRC, Dwarf Wedgemussel and Yellow Lance individuals may be taken into captivity to use as brood stock for propagation efforts. The preconstruction survey will be incorporated into a Mussel Relocation Plan, which will identify the salvage area and relocation site, and be developed in coordination with USFWS/NCWRC.	Construction	R-2828
25	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will provide funding to Wake County and NCWRC, after receiving the Section 404 Permit, to be utilized for the retrofit and upgrade of the existing research facility in the A.E. Finley Center, at the Historic Yates Mill County Park for the purpose of research and propagation of aquatic species.	Final Design	R-2721, R-2828, and R-2829
26	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 8.4)	NCDOT will monitor the Action area for evidence of sediment loss. The USFWS will be contacted if project related sedimentation is occurring beyond 400 meters from the Action area.	Construction	R-2828
27	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 17	NCDOT will implement the Memorandum of Agreement (MOA) between the USACE and SHPO dated March 11, 2018 and adhere to the specific Stipulations provided in the MOA attachment.	Final Design and Construction	R-2721, R-2828, and R-2829
28	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 23	NCDOT will segregate topsoil (6-12") in wetland areas where pipelines will be installed via trenching. The topsoil will be used to backfill the trench.	Construction	R-2828
29	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 27	NCDOT will only complete construction activities on TIPs R-2721A and B under the Section 404 Permit dated October 24, 2019 and R-2828 dated February 3, 2020. No work will commence for TIP R-2829 without further USACE coordination.	Construction	R-2721, R-2828, and R-2829
30	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will stop in-water construction activities if a sturgeon is spotted within 50 feet of operations. (See Attached NMFS Consultation)	Construction	R-2829
31	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will observe an in-water work moratorium of February 15-October 31. This includes installation/removal of causeways and temporary bridges. This will cover the WRC moratorium of February 15-September 30.	Construction	R-2829

<b>Item</b>	<b>Responsible Party</b>	<b>Commitment Source</b>	<b>Project Commitment</b>	<b>Project Stage / Status</b>	<b>Applicable STIP Project</b>
32	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will not blast within 50 feet of the Neuse River.	Construction	R-2829
33	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will adhere to shoreline stabilization Project Design Criteria (PDCs) when installing new bridges and piers.	Construction	R-2829
34	Division 5, NCTA	National Marine Fisheries Service Consultation (Attachment 1)	NCDOT will follow the PDCs outlined in Attachment 1 of the NMFS Consultation	Construction	R-2829



**DEPARTMENT OF THE ARMY**  
**WILMINGTON DISTRICT, CORPS OF ENGINEERS**  
**69 DARLINGTON AVENUE**  
**WILMINGTON, NORTH CAROLINA 28403-1343**

April 20, 2021

Regulatory Division

Action ID No. SAW-2009-02240; Complete 540; TIP R-2828

Mr. Rodger Rochelle, PE  
Chief Engineer, North Carolina Turnpike Authority  
North Carolina Department of Transportation (NCDOT)  
1578 Mail Service Center  
Raleigh, North Carolina 27699-1578

Dear Mr. Rochelle:

Reference the Department of the Army permit issued to the North Carolina Department of Transportation (NCDOT) on October 24, 2019, and subsequently modified on February 4, 2020, April 29, 2020, January 7, 2021, and March 19, 2021. This permit authorized the discharge of fill material into waters of the United States for construction of the Triangle Expressway Southeast Extension (Complete 540) from NC 55 Bypass in Apex to US 64/264 (I-87) in Knightdale, Wake and Johnston Counties. Sections included within this permit are R-2721, R-2828, and R-2829. Currently, only STIPs R-2721A&B and R-2828 are authorized for construction; STIP R-2829 has not yet been through final design, has not completely minimized impacts to waters and wetlands, nor has a final compensatory mitigation plan.

Also, please reference your April 16, 2021 letter, requesting modification of the permit (Mod 05) to authorize changes due to an impact evaluation error. Specifically, the excavation at Permit Site 44, impacting 0.02 acre of wetlands was previously shown as hand clearing impact.

The Corps has completed the evaluation of your request and has determined that it is appropriate and reasonable, and no public notice is required for this modification. Therefore, the permit is modified as requested and as shown on the enclosed revised Permit Drawings, Sheets 1, 97, 98, 169, and 171 of 171, labeled "Permit Drawing Package Last Revised on 04/15/21."

The modified design for R-2828 will have no additional permanent impacts, so additional compensatory mitigation will not be required.

Note: The drawings listed above are now part of the permit drawing packages referenced in Special Condition 1 of the permit. All conditions of the permit, including the permit expiration date of December 31, 2024, remain applicable.

Should you have any questions, contact Mr. Eric Alsmeyer, via email at [Eric.C.Alsmeier@usace.army.mil](mailto:Eric.C.Alsmeier@usace.army.mil) or by telephone at (919) 554-4884, extension 23.

FOR THE COMMANDER

 Date: 2021.04.20  
14:50:13 -04'00'

Monte Matthews  
Lead Project Manager  
Wilmington District

Enclosure

Electronic Copy Furnished with Enclosure:

Ms. Amy Chapman,  
NC Div. Of Water Resources  
[amy.chapman@ncdenr.gov](mailto:amy.chapman@ncdenr.gov)



NORTH CAROLINA  
Environmental Quality

ROY COOPER  
Governor

DIONNE DELLI-GATTI  
Secretary

S. DANIEL SMITH  
Director

**North Carolina Division of Water Resources  
Transportation Permitting Unit  
In-Field Minor 401 Water Quality Certification Modification**

Project Name/ TIP Project No.: R-2828 NC Hwy 540 Date: April 8, 2021

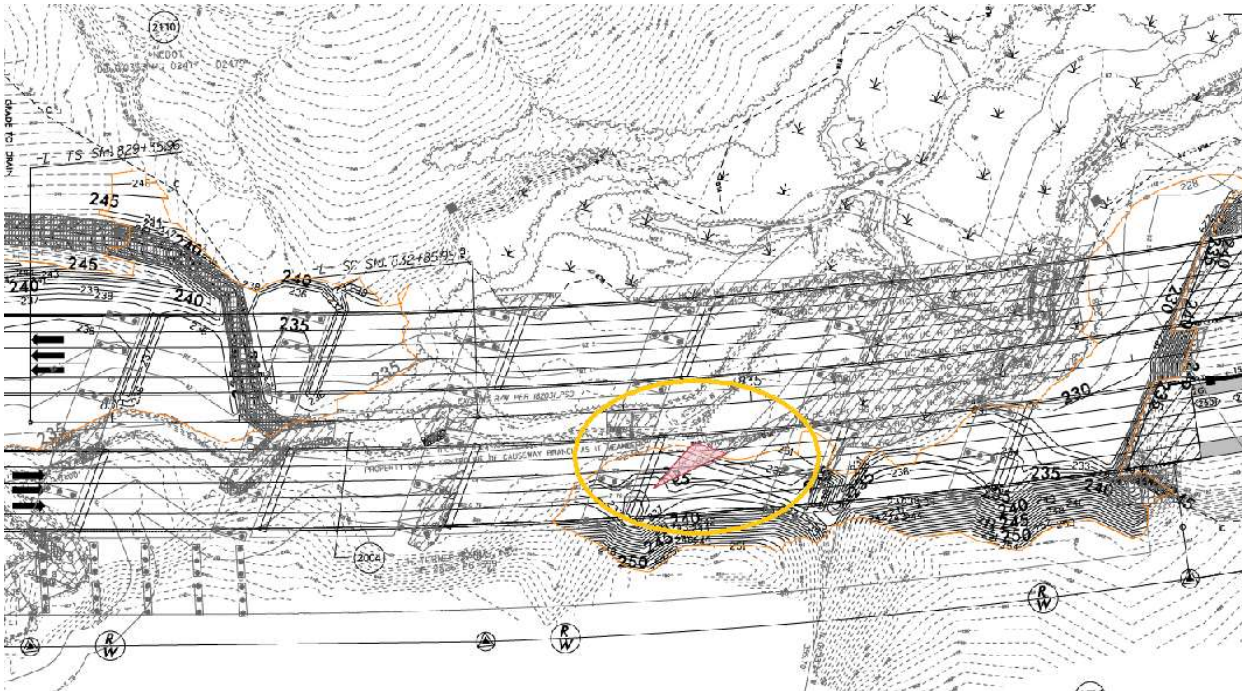
DOT Division: 5 County: Wake DWR Project No. **20181249 ver 7** Permit Type: **WQC#4179**

DOT Field Staff: Nicole Thomson DWR Field Staff: Rob Ridings

Modification Description:

**Site 44: 0.015 acres of Hand Clearing impact modified to Excavation impact.**

Modification Sketch:



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617  
919.707.9000

This in-field modification is required for the following reason(s):

- The information contained in the application or presented in support thereof is incorrect in the following manner:

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- Conditions under which the original certification was issued have changed in the following manner:

A small area of wetland under the bridge is at a higher elevation than bridge clearance allows. Instead of Hand Clearing, this area, aprox 0.015 acres must be Excavated down to level.

This in-field modification is valid only if issued by an authorized agent of the Division of Water Resources, Transportation Permitting Unit <sup>1</sup>.

This in-field modification authorizes the NCDOT to

Change 0.015 acres of Hand Clearing impact to "Excavation" impact at Site 44 on project section R-2828.

— In WAKE County. The project shall be constructed as described in the Modification Description and Sketch on Page 1 of this document dated 04/08/2021 to improve/construct the section of NC 540 that extends from NC 55 to I-40. The approved design is that described in the Modification Description and Modification Sketch on Page 1 of this document dated 4/8/2021. Any further changes to the original Water Quality Certification dated February 15, 2019, modified January 30, 2020, April 20, 2020, June 1, 2020, December 29, 2020, and March 9, 2021.

— may require a formal written modification request.

The description of the proposed action provides adequate assurance that the proposed action in the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Section 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth. Should your project change, you are required to notify the DWR 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 conditions. For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state, or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Modification Approval shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions(s) of Modification Approval:

1. As-built drawings of the proposed action shall be submitted to the NC DWR Transportation Permitting Unit within 30 days of completion of the action.




2. All the authorized action activities and conditions of the certification associated with the original Water Quality Certification dated 02/15/2019 and all other corresponding modification still apply except where superseded by this certification.

3. Additional Conditions:


Excavated area shall be seeded and/or mulched as necessary to maintain stability and prevent erosion.

Failure to construct the proposed action as described in the Modification Description and Sketch on Page 1 of this document and/or violations of any condition herein set forth may result in revocation of this modification approval and may result in criminal and/or civil penalties. This modification approval shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. If the Corps of Engineers requires a formal written modification to the 404 permit for the proposed action, the NC DWR must require a formal written modification to the 401 WQC, and therefore, this in-field modification is invalid. If additional (wetland, stream, buffer) impacts for this project (now or in the future) exceed (one acre, 150 linear feet, or one-third of an acre/150 linear feet, respectively), or if mitigation is required above and beyond the current mitigation requirement for this project, this in-field modification is invalid and a formal written modification is required.

This in-field modification is effective upon the date the last party signs this document. This in-field modification is made upon mutual agreement between DOT and DWR as indicated by the signatures below and is, therefore, not subject to appeal by either party. Appeals by third parties must be made within sixty (60) days of notification pursuant to the contested case provisions of the Administrative Procedure Act, NC Gen. Stat. §150B-23 et seq.

DWR Field Staff Signature:   
DocuSigned by: 80ECA32C7C38490...

Date: April 8, 2021

DOT Field Staff Signature:   
DocuSigned by: 768FCFF5084D43B...

Date: 4/9/2021

<sup>1</sup> – An authorized agent of the Transportation Permitting Unit is defined as DWR staff that are DOT-funded and review and issue 401 Water Quality Certification for DOT projects. These staff include Central Office and Regional Office personnel.



## Certificate Of Completion

Envelope Id: A917199FB5E84B399FFDCD586EC9B98F	Status: Completed
Subject: Please Docusign 20181248ver7	
Source Envelope: 3F288E2B9ABE42F29161C36D8BA21C1E	
Document Pages: 3	Signatures: 1
Certificate Pages: 5	Initials: 0
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Envelopeld Stamping: Enabled	Robert Ridings
Time Zone: (UTC-08:00) Pacific Time (US & Canada)	217 W. Jones Street
	Raleigh, NC 27699
	rob.ridings@ncdenr.gov
	IP Address: 149.168.204.10

## Record Tracking

Status: Original	Holder: Robert Ridings	Location: DocuSign
4/8/2021 9:12:23 AM	rob.ridings@ncdenr.gov	
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## Signer Events

Signer Events	Signature	Timestamp
Nicole Thomson njthomson2@ncdot.gov Security Level: Email, Account Authentication (None)	 <p>DocuSigned by: <i>Nicole Thomson</i> 768FCFF5084D43B...</p> <p>Signature Adoption: Pre-selected Style Using IP Address: 24.88.252.155</p>	<p>Sent: 4/8/2021 9:18:44 AM</p> <p>Viewed: 4/9/2021 1:19:52 PM</p> <p>Signed: 4/9/2021 1:20:58 PM</p>

**Electronic Record and Signature Disclosure:**  
Accepted: 4/9/2021 1:19:52 PM  
ID: 2df4296e-29b2-4abb-8625-6be2789f8953

## In Person Signer Events

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## Editor Delivery Events

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Kristy Lynn Carpenter kristilynn.carpenter@ncdenr.gov North Carolina Department of Environmental Quality Security Level: Email, Account Authentication (None)		Sent: 4/8/2021 9:18:44 AM
<b>Electronic Record and Signature Disclosure:</b> Not Offered via DocuSign		
Robert Ridings rob.ridings@ncdenr.gov North Carolina Department of Environmental Quality Security Level: Email, Account Authentication (None)		Sent: 4/8/2021 9:18:44 AM Resent: 4/9/2021 1:21:02 PM Viewed: 4/12/2021 6:06:14 AM
<b>Electronic Record and Signature Disclosure:</b> Not Offered via DocuSign		

Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	4/8/2021 9:18:44 AM
Certified Delivered	Security Checked	4/9/2021 1:19:52 PM
Signing Complete	Security Checked	4/9/2021 1:20:58 PM
Completed	Security Checked	4/9/2021 1:20:58 PM
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

## **ELECTRONIC RECORD AND SIGNATURE DISCLOSURE**

From time to time, North Carolina Department of Environmental Quality (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through your DocuSign, Inc. (DocuSign) Express user account. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to these terms and conditions, please confirm your agreement by clicking the 'I agree' button at the bottom of this document.

### **Getting paper copies**

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. For such copies, as long as you are an authorized user of the DocuSign system you will have the ability to download and print any documents we send to you through your DocuSign user account for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

### **Withdrawing your consent**

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

### **Consequences of changing your mind**

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. To indicate to us that you are changing your mind, you must withdraw your consent using the DocuSign 'Withdraw Consent' form on the signing page of your DocuSign account. This will indicate to us that you have withdrawn your consent to receive required notices and disclosures electronically from us and you will no longer be able to use your DocuSign Express user account to receive required notices and consents electronically from us or to sign electronically documents from us.

### **All notices and disclosures will be sent to you electronically**

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through your DocuSign user account all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

**How to contact North Carolina Department of Environmental Quality:**

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: [susan.penman@ncdenr.gov](mailto:susan.penman@ncdenr.gov)

**To advise North Carolina Department of Environmental Quality of your new e-mail address**

To let us know of a change in your e-mail address where we should send notices and disclosures electronically to you, you must send an email message to us at [susan.penman@ncdenr.gov](mailto:susan.penman@ncdenr.gov) and in the body of such request you must state: your previous e-mail address, your new e-mail address. We do not require any other information from you to change your email address..

In addition, you must notify DocuSign, Inc to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in DocuSign.

**To request paper copies from North Carolina Department of Environmental Quality**

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an e-mail to [susan.penman@ncdenr.gov](mailto:susan.penman@ncdenr.gov) and in the body of such request you must state your e-mail address, full name, US Postal address, and telephone number. We will bill you for any fees at that time, if any.

**To withdraw your consent with North Carolina Department of Environmental Quality**

To inform us that you no longer want to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your DocuSign account, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an e-mail to [susan.penman@ncdenr.gov](mailto:susan.penman@ncdenr.gov) and in the body of such request you must state your e-mail, full name, US Postal Address, telephone number, and account number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

**Required hardware and software**

Operating Systems:	Windows2000? or WindowsXP?
Browsers (for SENDERS):	Internet Explorer 6.0? or above
Browsers (for SIGNERS):	Internet Explorer 6.0?, Mozilla FireFox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	<ul style="list-style-type: none"><li>•Allow per session cookies</li><li>•Users accessing the internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection</li></ul>

\*\* These minimum requirements are subject to change. If these requirements change, we will provide you with an email message at the email address we have on file for you at that time providing you with the revised hardware and software requirements, at which time you will

have the right to withdraw your consent.

**Acknowledging your access and consent to receive materials electronically**

To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please verify that you were able to read this electronic disclosure and that you also were able to print on paper or electronically save this page for your future reference and access or that you were able to e-mail this disclosure and consent to an address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format on the terms and conditions described above, please let us know by clicking the 'I agree' button below.

By checking the 'I Agree' box, I confirm that:

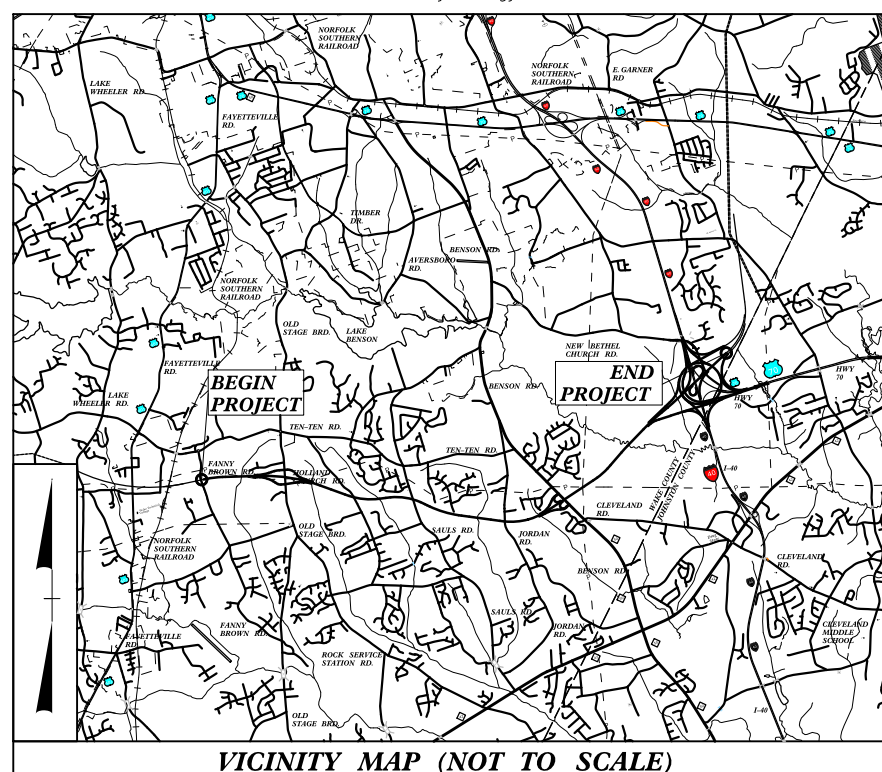
- I can access and read this Electronic CONSENT TO ELECTRONIC RECEIPT OF ELECTRONIC RECORD AND SIGNATURE DISCLOSURES document; and
- I can print on paper the disclosure or save or send the disclosure to a place where I can print it, for future reference and access; and
- Until or unless I notify North Carolina Department of Environmental Quality as described above, I consent to receive from exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to me by North Carolina Department of Environmental Quality during the course of my relationship with you.

09/08/99

2/5/2021  
C:\projects\wise\project\wiseint\wsp\_victoria.kohliway\d0348956\R2828\_hyd\_prm\_wet\_psh\_01.dgn  
USV67748

TIP PROJECT: R-2828

CONTRACT: C204197



VICINITY MAP (NOT TO SCALE)

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

WAKE & JOHNSTON COUNTY

LOCATION: TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION FROM  
EAST OF US 401 TO EAST OF I-40

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE  
OF WORK CONTAINED IN THE REQUEST FOR  
PROPOSALS

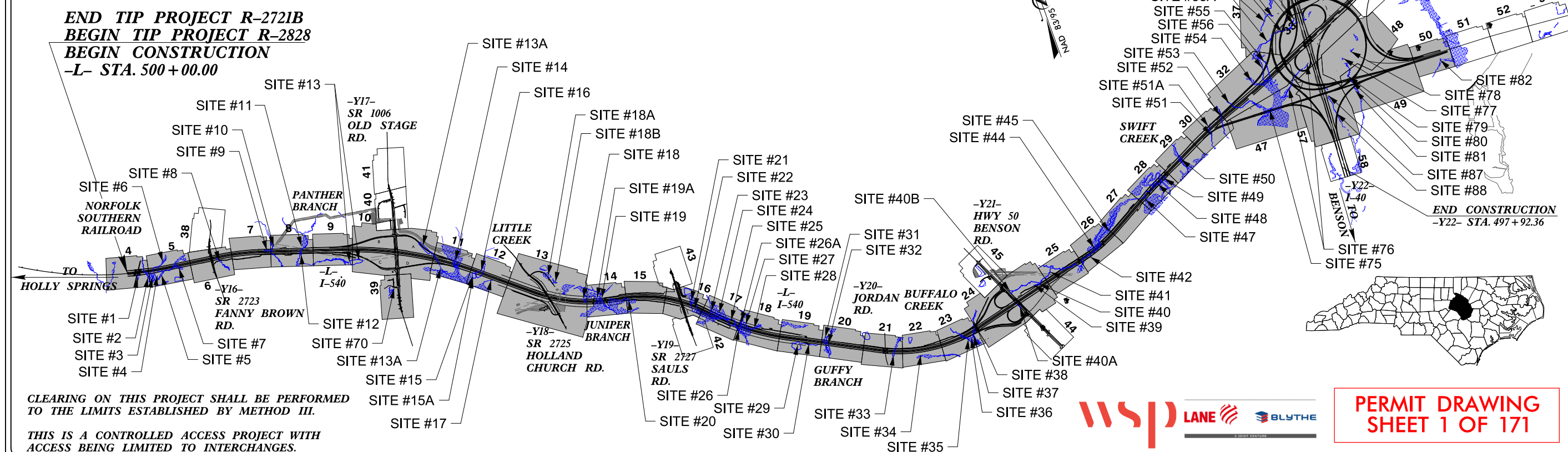
WETLAND AND SURFACE WATER IMPACTS PERMIT

PACKAGE R-2828  
DATE: APRIL 15, 2021

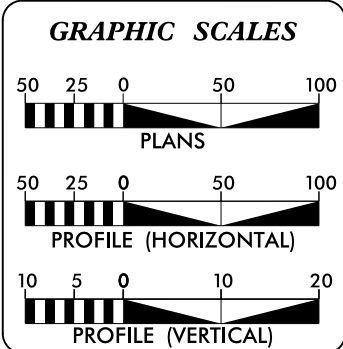
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2828	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35516.3.GV1	NHP-0540(043)	DESIGN-BUILD	
35516.2.3	NHP-0540(043)	R/W	
35516.2.TA1	NHP-0540(043)	R/W	

Permit Drawing Package  
Last Revised on 04/15/21

END TIP PROJECT R-2828  
END CONSTRUCTION  
-L- STA. 968 + 50.00



CLEARING ON THIS PROJECT SHALL BE PERFORMED  
TO THE LIMITS ESTABLISHED BY METHOD III.  
THIS IS A CONTROLLED ACCESS PROJECT WITH  
ACCESS BEING LIMITED TO INTERCHANGES.

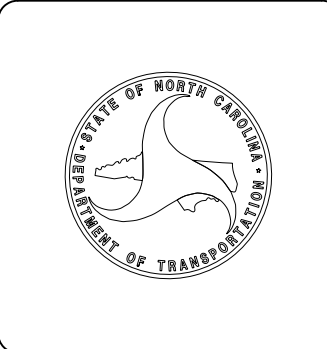


DESIGN DATA	
ADT 2018	= NA
ADT 2040	= 53,400
DHV	= 12 %
D	= 65 %
T	= 11 % *
V	= 75 MPH
*(TTST 4 + DUAL 7)	
FUNCTIONAL CLASS:	FREEWAY

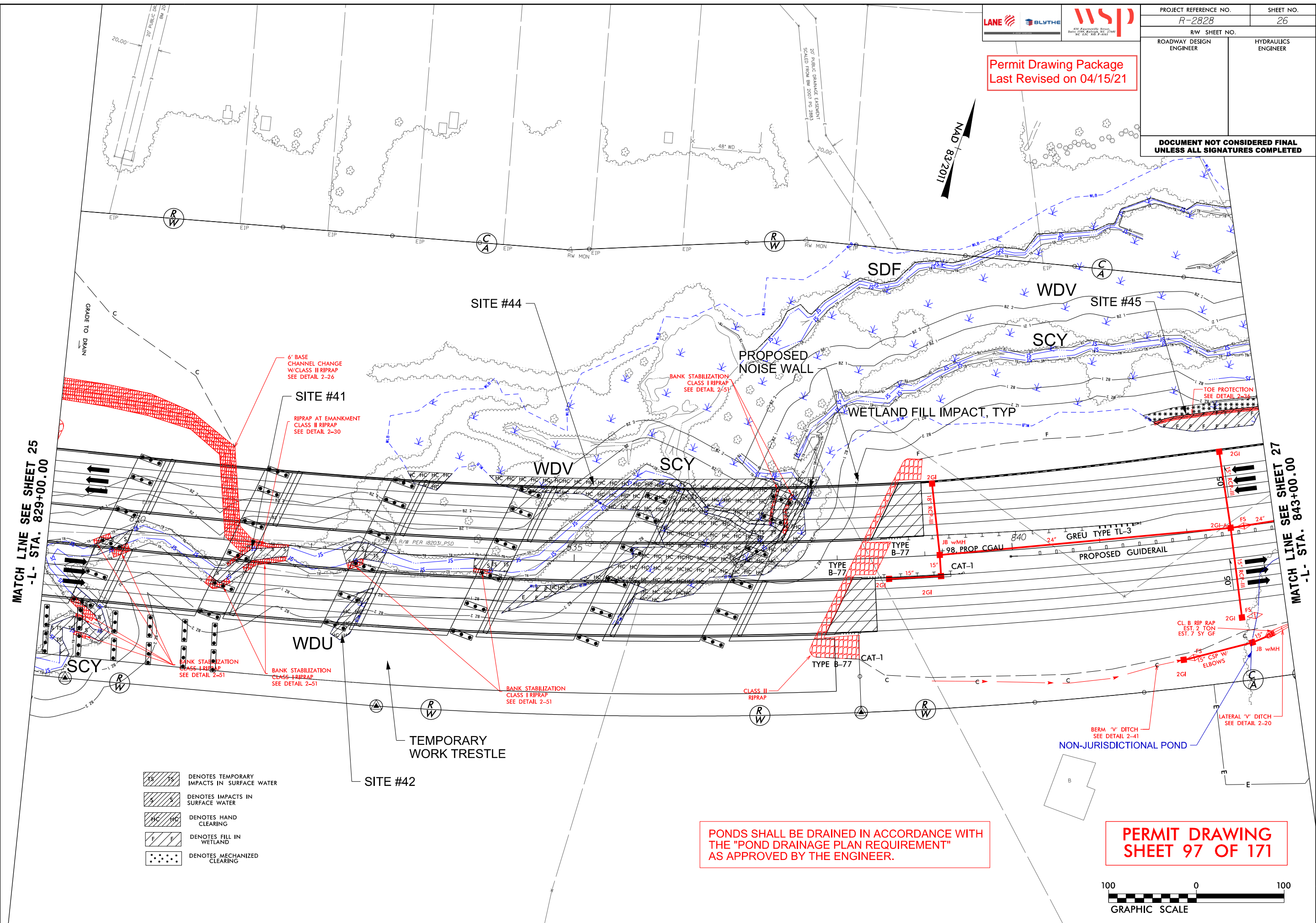
PROJECT LENGTH	
LENGTH OF ROADWAY PROJECT R-2828	= 8.055 Miles
LENGTH OF STRUCTURE PROJECT R-2828	= 0.562 Miles
TOTAL LENGTH OF TIP PROJECT R-2828	= 8.617 Miles
NCDOT CONTACT:	
DESIGN BUILD PROJECT ENGINEER TRANSPORTATION PROGRAM MANAGEMENT UNIT	

Prepared In the Office of <b>wsp</b> 434 FAYETTEVILLE STREET SUITE 500 RALEIGH, NC 27601 TEL: 1-919-836-4040 FAX: 1-919-836-0099 LICENSE NO. F-0165	
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: SEPT. 09, 2019	DANIEL BRIDGES, PE PROJECT ENGINEER
LETTING DATE: DEC. 11, 2019	RONYELL THIGPEN, PE PROJECT DESIGN ENGINEER

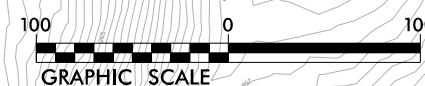
HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



PERMIT DRAWING  
SHEET 98 OF 171

## REVISIONS

WETLAND AND SURFACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1*	503+27 (RT)	RDWY Fill (WCD)	0.16									
2	505+24, 505+63 (LT)	9'x8' RCBC (SBP)						0.03	< 0.01	519	20	
2	505+24, 505+63 (LT)	9'x8' RCBC Pipe Stabil. (SBP)						< 0.01		95		
3	506+50 (RT)	42" RCP(WCE(1),WCE(2),SBR)	0.55			< 0.01		< 0.01	< 0.01	90	10	
3	506+50 (RT)	42" RCP Pipe Stabilization (SBR)						< 0.01		35		
4	508+50 (LT)- 511+70 (RT)	Drain Pond (PM)						1.57				
5**	508+60-515+40 (RT)	RDWY Fill WCF / Stream SBR	0.03					0.03		462		
6	512+15 (LT)	RDWY Fill WCH / Stream SBU	0.02		< 0.01	0.04		0.02	< 0.01	173	33	
7	515+32 (LT) - 520+00 (LT)	RDWY Fill WCI / Stream SBS	0.67		0.07	0.05		< 0.01		27		
8	529+75 - 531+00 (RT)	Roadway Fill (WCJ)	0.12			0.01						
9	545+63 - 548+40	Roadway Fill (WCL)	0.22									
10**	548+68 (LT)-549+40 (RT)	6'x8' RCBC (SBY, WCM)				< 0.01		0.05	< 0.01	485	18	
10	548+68 (LT)-549+40 (RT)	Culvert Stabilization (SBY)						< 0.01		77		
10	548+68 (LT)-549+40 (RT)	Bank Stabilization (SBY)						< 0.01		14		
11	557+67 (RT)-559+60 (LT)	9'x8' RCBC (WCQ, SBX)	0.08			0.04		0.08	< 0.01	484	22	
11	557+67 (RT)-559+60 (LT)	9'x8' RCBC Culvert Stabil. (SBX)						0.01		70		
11	557+67 (RT)-559+60 (LT)	Bank Stabilization (SBX)						< 0.01		7		
12	558+00 (RT)	Roadway Fill (WCR)	0.06									
13	Ramp Quad C (-Y17-)	Drain Pond (PN)						1.04				
13	Ramp Quad C (-Y17-)	Roadway Fill (WCV)	0.02			< 0.01						
13**	Ramp Quad C (-Y17-)	Roadway Fill (WCW)	0.04									
13A	Ramp Quad A (-Y17-)	Drain Pond (PP)						1.01				
13A	Ramp Quad A (-Y17-)	Roadway Fill WCZ(2)	0.40	< 0.01								
SHEET 1 SUBTOTALS***:			2.36	< 0.01	0.08	0.16		3.88	0.01	2538	103	0

NOTES:

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\*\*Represents any non-riparian wetland impact

\*\*\*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
03/04/2020  
WAKE & JOHNSTON  
TIP NO. R-2828  
WBS NO. 37673.1.TA2

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
14	609+07 (LT)-610+38 (RT)	Roadway Fill (WCZ(1))	1.28			0.27						
14	609+07 (LT)-610+38 (RT)	10'x8' RCBC (SCC)						0.02	< 0.01	322	10	
14	609+07 (LT)-610+38 (RT)	Culvert Stabilization (SCC)						< 0.01		78		
14	609+07 (LT)-610+38 (RT)	10'x8' RCBC (SCK)						0.02	< 0.01	257	10	
14	609+07 (LT)-610+38 (RT)	Culvert Stabilization (SCK)						< 0.01		26		
15	616+50 (RT)	Drain Pond PQ, WCZ(2)						0.35				
15A	616+50 (RT)	Energy Dissipator (WCZ(2)	< 0.01			< 0.01						
16	618+00 (RT)	Drain Pond (PR)						1.01				
17	622+30 - 622+54 (RT)	Roadway Fill (WCZ(1))	0.01			< 0.01						
18	653+75 - 655 + 50 (LT)	Roadway Fill (WDB)	0.36			0.04						
18A	-Y18A- 15+00 - 17+50	Roadway Fill (WDD)	0.20			0.10						
18B	-Y18A- 19+50	18" RCP (SCF)						< 0.01	< 0.01	47	10	
18B	-Y18A- 19+50	18" RCP Pipe Stabil. (SCF)						< 0.01		17		
19	BRIDGE	Bank Stabilization (SCG)						< 0.01	< 0.01	10	17	
19A	BRIDGE	Roadway Fill (WDB)	0.03			0.02	0.85					
20	662+00 - 671+00	Roadway Fill (WDB)	2.00			0.12						
21	689+00 - 691+00 (LT)	Roadway Fill (WDF)	0.19		0.02	0.05						
22	690+00 - 691+75 (RT)	Drain Pond (PU)						0.87				
23	692+20 - 703+00	Roadway Fill (WDG(1))	2.75		0.38	0.26						
24	699+00 - 700+00 (LT)	Drain Pond (PW)						0.12				
25	703+00 - 705+40	Drain Pond (PV)						0.93				
26	697+00 -709+00	Roadway Fill (SCL)						0.06	< 0.01	1047	10	
26	697+00 -709+00	Culvert Stabilization (SCL)						< 0.01		30		
SHEET 2 SUBTOTALS***:			6.82		0.39	0.86	0.85	3.40	< 0.01	1834	57	0

NOTES:

\*Represents an isolated wetland impact (also non-riparian)

\*\* Represents an isolated wetland impact

\*\*\*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
03/04/2020  
WAKE & JOHNSTON  
TIP NO.R-2828  
WBS NO. 37673.1.TA2

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
26A	707+50	Roadway Fill (SCM)						0.01	< 0.01	266	35	
26A	707+50	Culvert Stabilization (SCM)						< 0.01		65		
27	705+75 - 714+00	Roadway Fill (WDH)	2.44		0.03	0.24						
28	711+00 - 714+00 (LT)	Roadway Fill (SCN)						0.01	< 0.01	156	10	
29	726+50 - 728+00 (RT)	Drain Pond (PY)						1.40				
30	728+00 - 734+50 (RT)	Channel Change (SCQ)						0.06		673		
31	736+00	Roadway Fill (WDJ, SCQ)	0.38			0.09		0.03	< 0.01	130	58	
32	736+70 (LT) - 738+00 (RT)	2 @ 8'x9' RCBC (SCP)						0.07	0.02	379	92	
32	736+70 (LT) - 738+00 (RT)	Culvert Stabilization (SCP)						< 0.01		44		
32	736+70 (LT) - 738+00 (RT)	Bank Stabilization (SCP)						< 0.01		29		
33	759+00 (RT) - 759+82 (LT)	Roadway Fill (WDM)	0.39			0.03						
34	767+65 (RT)	Roadway Fill (WDN)				< 0.01						
35	782+00 (LT)	9'x8' RCBC (SCT)						0.05	< 0.01	441	37	
35	782+00 (LT)	Culvert Stabilization (SCT)						< 0.01		47		
35	782+00 (LT)	Bank Stabilization (SCT)						< 0.01		18		
36	782+00 - 787+20	Roadway Fill (WDO)	0.71		< 0.01	0.06						
37	785+90 (RT) - 787+70 (LT)	48" RCP (SCV)						0.03	< 0.01	394	20	
37	785+90 (RT) - 787+70 (LT)	Pipe Stabilization (SCV)						< 0.01		37		
38	788+00 (LT)	Roadway Fill (WDP)				< 0.01						
39	812+00 - 813+00 (LT)	Roadway Fill (WDS)	0.08									
40	812+90 - 813+37 (LT)	Channel Change (SDB)						< 0.01		54		
40	813+50 (LT)	Channel Change (SDC)						< 0.01		93		
40A*	-Y21- 40+00 (LT)	Roadway Fill (WDR)	0.09									
40B	-Y21- 44+40 (RT)	Roadway Fill (SCZ)						< 0.01	< 0.01	52	13	
SHEET 3 SUBTOTALS***:			4.09		0.03	0.43		1.70	0.03	2878	265	0

NOTES:

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\*\*Represents any non-riparian wetland impact

\*\*\*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
03/04/2020  
WAKE & JOHNSTON  
TIP NO.R-2828  
WBS NO. 37673.1.TA2

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
41	813+50 (LT) - 829+50 (RT)	Channel Change (SCY)						0.21	0.05	1453	187	
41	-Y21- 44+50 (RT)	18" CSP (SCY)						< 0.01		58		
41	-Y21- 44+50 (RT)	Pipe Stabilization (SCY)						< 0.01		21		
41	829+50 (LT) - 834+00 (RT)	Bank Stabilization (SCY)						0.08		283		
42	BRIDGE 832+50 (RT)	Work Trestle (WDU)					0.02					
44	BRIDGE	Bridge****	0.02		0.02		0.54		0.05		238	
44	BRIDGE	Bank Stabilization						0.01		44		
45	841+78 - 843+00 (LT)	Roadway Fill (WDV)	0.05			0.03						
47	856+50 - 861+50	Roadway Fill (WDV)	0.37			0.05						
48	861+40 - 866+30	Work Trestle (WDV)	0.02			< 0.01	0.65					
49	867+50 - 868+50	Work Trestle (WDY)	< 0.01				0.17					
50	876+00	14'X8' RCBC (SDJ)						0.03	< 0.01	318	46	
50	876+00	Culvert Stabilization (SDJ)						< 0.01		42		
50	876+00	Bank Stabilization (SDJ)						< 0.01		48		
50A	875+50 - 877+00	Roadway Fill (WDZ)	0.56			0.09						
51	890+00	42" RCP (SDK)						< 0.01	< 0.01	32	10	
51	890+00	Pipe Stabilization (SDK)						< 0.01		21		
51A	890+00	Roadway Fill (WEA)	0.29									
52	895+00	60" RCP (SDL)						0.05	< 0.01	588	20	
52	895+00	Pipe Stabilization (SDL)						< 0.01		39		
53	900+50 (LT) - 906+50 (RT)	42" RCP (SDM)						0.05	< 0.01	948	20	
53	900+50 (LT) - 906+50 (RT)	Pipe Stabilization (SDM)						< 0.01		47		
54	911+00 (LT) - 913+75 (RT)	Roadway Fill (WEC)	1.88			0.10						
SHEET 4 SUBTOTALS***:			3.19		0.02	0.27	1.38	0.45	0.10	3942	521	0

NOTES:

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\*\*Represents any non-riparian wetland impact

\*\*\*Rounded totals are sum of actual impacts

\*\*\*\*Impacts are rounded to the nearest hundreds

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

03/04/2020

WAKE & JOHNSTON

TIP NO.R-2828

WBS NO. 37673.1.TA2

SHEET169OF171

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
55	914+00 (RT)-918+50 (LT)	2@ 9'x9' RCBC (SDW)						0.12	< 0.01	834	10	
55	914+00 (RT)-918+50 (LT)	Culvert Stabilization (SDW)						< 0.01		18		
55	914+00 (RT)-918+50 (LT)	Bank Stabilization (SDW)						< 0.01		4		
56	Y22SLIPRPB 38+50 (LT)	Channel Change (SDV)						0.02	< 0.01	518	10	
57	-Y22RPB- 25+42 (LT)	54" RCP (SDT)						0.01	< 0.01	113	10	
57	-Y22RPB- 25+42 (LT)	Pipe Stabilization (SDT)						< 0.01		22		
57A	-Y22RPB- 26+50 (LT)	Channel Change (SDS)						< 0.01	< 0.01	72	10	
58	Y22FLYBD 46+50-47+75	42" RCP (SDT)						0.01	< 0.01	196	20	
58	Y22FLYBD 46+50-47+75	Pipe Stabilization (SDT)						< 0.01		47		
58A	Y22FLYCC 123+00-127+00	54" RCP (SDT)						0.05	< 0.01	485	20	
58A	Y22FLYCC 123+00-127+00	Pipe Stabilization (SDT)						< 0.01		57		
59	Y22FLYCC 119+00 (RT)	15" CSP (SDX)						< 0.01		17	15	
59	Y22FLYCC 119+00 (RT)	Pipe Stabilization (SDX)						< 0.01	< 0.01	75		
59A	Y22FLYCC 119+00 (RT)	Roadway Fill (WEJ)				< 0.01						
70	-Y17- 28+50	24" Pipe Stabilization SCB(1)						< 0.01	< 0.01	20	10	
72	REMOVED	Non-Jurisdictional Pond (PAB)										
73	Y22FLYBD 34+70 (RT)	30" RCP Extension (SDR)						< 0.01	< 0.01	10	10	
73	Y22FLYBD 34+70 (RT)	Pipe Stabilization (SDR)						< 0.01		57		
75	Y22FLYCC 34+00-41+00	Bridge (WEC, SDV)	0.03			0.02	1.56		0.01		254	
76	Y22FLYCC 143+00 (RT)	42" RCP (WEC, SDO)	< 0.01			< 0.01		0.08	< 0.01	1101	10	
77	Y22FLYCC 71+00 (615' LT)	Roadway Fill (WEY)	0.06									
78	REMOVED	60" RCP Pipe Removal (SET)										
79	Y22FLYBD 83+00 (LT)	54" RCP (SET)						0.04	< 0.01	563	20	
79	Y22FLYBD 83+00 (LT)	Pipe Stabilization (SET)						< 0.01		44		
SHEET 5 SUBTOTALS***:			0.09			0.02	1.56	0.36	0.02	4253	399	0

NOTES:

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NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
03/04/2020  
WAKE & JOHNSTON  
TIP NO.R-2828  
WBS NO. 37673.1.TA2

WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
80	-Y22FLYBD- 83+50 (RT)	Roadway Fill (WEV)	0.03									
81	-Y22RPDE- 29+50 (RT)	Roadway Fill (WEU)	0.04									
82	-Y22FLYBD- 113+30 (RT)	HSB Outlet SEH, (WFN(2))				0.05			< 0.01		10	
82	-Y22FLYBD- 113+30 (RT)	12" Pipe Stabil. (SEH)						< 0.01		15		
82A	-Y22SEC2- 382+00 - 386+00 (LT)	Channel Change (SEM)						0.04	< 0.01	422	20	
83	-Y22SEC2- 396+50 (LT)	Channel Change (SEK, WFF)				< 0.01		< 0.01	< 0.01	28	13	
84	-Y22SEC2- 405+00 (LT)	60" CMP & 72" WSP (SEL)							< 0.01		10	
84	-Y22SEC2- 405+00 (LT)	Pipe Stabilizatoin (SEL)						< 0.01		37		
85	-Y22SEC2- 416+00 (LT)	30" RCP Pipe Extension (SEV)						< 0.01	< 0.01	59	10	
85	-Y22SEC2- 416+00 (LT)	Pipe Stabilizatoin (SEV)						< 0.01		19		
87	-Y22SEC2- 474+20 (LT)	42" Pipe (SES)							< 0.01		10	
87	-Y22SEC2- 474+20 (LT)	Pipe Stabilization (SES)						< 0.01		10		
88	-Y22SEC2 (LT) - 80+00 (LT)	48" RCP (SES)						0.02	< 0.01	244	20	
88	-Y22SEC2 (LT) - 80+00 (LT)	Pipe Stabilizatoin (SES)						< 0.01		30		
91	Y22FLYCC 121+30/121+90 (RT)	Haul Road (SDQ)							0.01		66	
	SHEET 1 SUBTOTALS		2.36	< 0.01	0.08	0.16		3.88	0.01	2538	103	
	SHEET 2 SUBTOTALS		6.82		0.39	0.86	0.85	3.40	< 0.01	1834	57	
	SHEET 3 SUBTOTALS		4.09		0.03	0.43		1.70	0.03	2878	265	
	SHEET 4 SUBTOTALS		3.19		0.02	0.27	1.38	0.45	0.10	3942	521	
	SHEET 5 SUBTOTALS		0.09			0.03	1.56	0.36	0.02	4253	399	
TOTALS***:			16.62	< 0.01	0.52	1.79	3.79	9.88	0.20	16309	1504	0

NOTES:

\*Represents an isolated wetland impact (also non-riparian)

\*\*Represents any non-riparian wetland impact

\*\*\*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
03/04/2020  
WAKE & JOHNSTON  
TIP NO.R-2828  
WBS NO. 37673.1.TA2

SHEET171OF171

8/17/99

STEVEN & AMANDA KUBERA  
DB 13792 PG 1471  
BM 2007 PG 2884

Revised 4/16/21



PROJECT REFERENCE NO.  
R-2828

SHEET NO.  
2F-9

R/W SHEET NO.

ROADWAY DESIGN  
ENGINEER

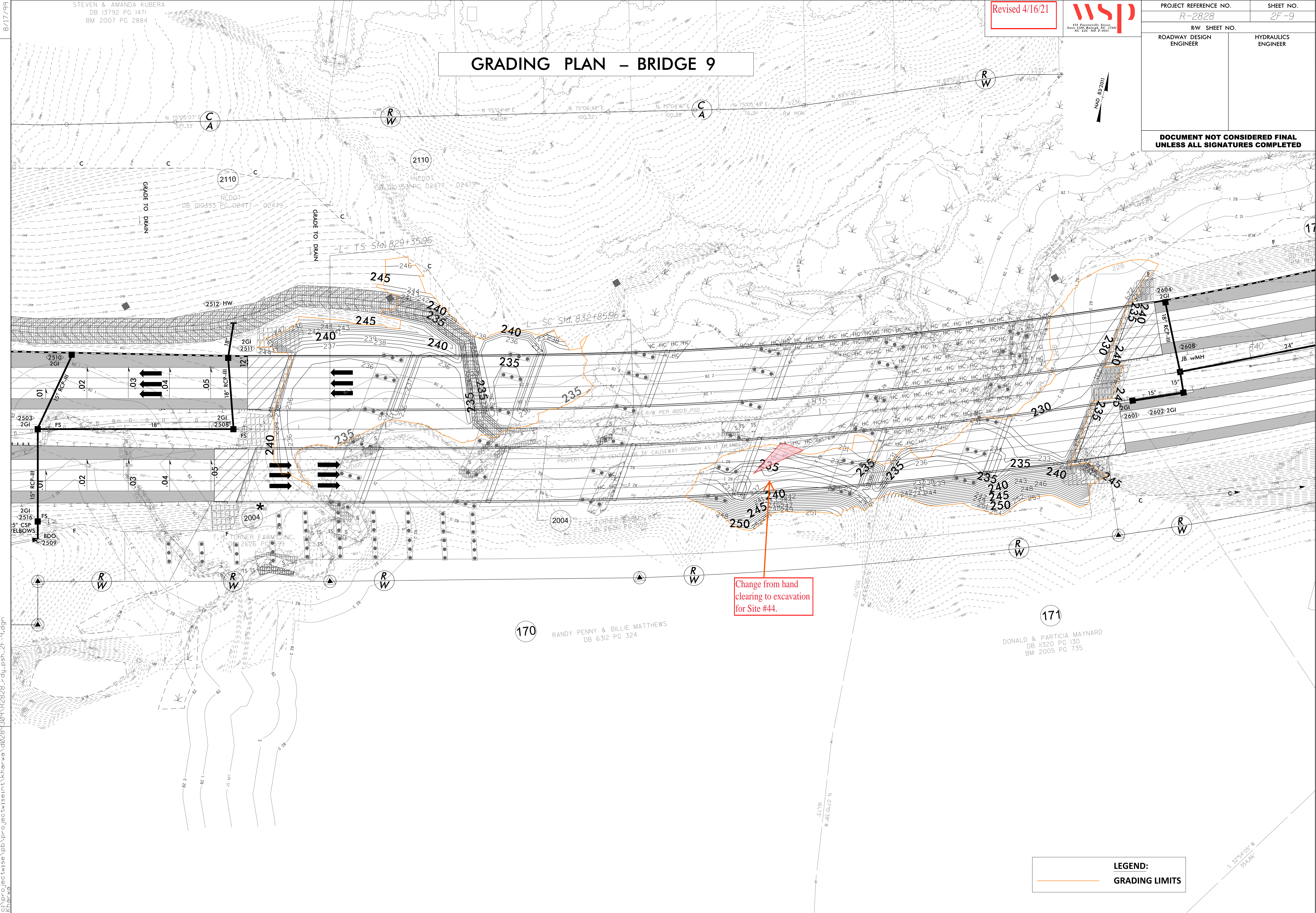
HYDRAULICS  
ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

# GRADING PLAN - BRIDGE 9

REVISIONS

3/19/2021  
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Kharwa



LEGEND:  
GRADING LIMITS