



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

January 3, 2023

MEMORANDUM TO: Division 12 Environmental and Construction Units
FROM: *mat* Michael A. Turchy, ECAP Group Leader
Environmental Analysis Unit
SUBJECT: Environmental Permits for the Replacement of Bridge 7 on NC 182 over
Indian Creek in Lincoln County, Division 12, **TIP: B-4571.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Regional General Permit 50	May 25, 2025
NC Division of Water Resources Section 401 Water Quality Certification	General Certification No. 4135 [RGP50]	May 25, 2025

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans.

The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) is required.

The General Conditions and Certifications for Nationwide and Regional Permits can be referenced at:
https://xfer.services.ncdot.gov/pdea/PermIssued/_General_Conditions_and_Certifications/

PROJECT COMMITMENTS

T.I.P Project No. B-4571
Replacement of Bridge 7 over Indian Creek along NC 182
Lincoln County
WBS Element 38414.1.2

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Hydraulics Unit – FEMA Coordination

NCDOT 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).
Status: The NCFMP recommendation letter signed on October 9, 2018, states the project has been recommended for approval as a Type 2a MOA.

Division 12 Construction – FEMA Coordination

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.

Division 12 Construction, Resident Engineer's Office – Offsite Detour

In order to have time to adequately reroute school buses, Lincoln County Schools Transportation Offices will be contacted at (704) 732-2261 at least one month prior to road closure.

Lincoln County Emergency Management will be contacted at (704) 736-9385, at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Division 12 Construction – Sensitive Watersheds

NCDOT will adhere to its *Design Standards in Sensitive Watersheds* this project due to the HQW classification of Indian Creek.

The Erosion Control plans have been designed to adhere to the Design Standards in Sensitive Watersheds.

Environmental Analysis Unit – Northern long-eared bat

~~Construction authorization will not be requested until Endangered Species Act compliance is satisfied for the northern long-eared bat (NLEB).~~

~~Relevant information for NLEB was provided to the USACE with the permit application to satisfy the Endangered Species Act compliance for this species.~~

Status: This commitment has been removed because the northern long-eared bat is no longer listed for the study area.

COMMITMENTS FROM PERMITTING

No special commitments were developed during permitting.

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2019-00671 County: Lincoln County U.S.G.S. Quad: Cherryville

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: Michael Turchy, ECAP Manager

EAU
NCDOT

Address: 1598 Mail Service Center
Raleigh NC, 27699

Telephone Number: 919-707-6108 (Erin Cheely)

Size (acres) N/A Nearest Town Crouse

Nearest Waterway Indian Creek River Basin Santee

USGS HUC 03050102 Coordinates Latitude: 35.441683; Longitude: -81.378634

Location description: NC 182 and Indian Creek, southwest of Lincolnton, NC.

Description of projects area and activity: TIP B-4751; This verification authorizes the replacement of a 189 linear foot 3-span bridge, with a 200 linear foot clear-span bridge, on NC 182 over Indian Creek, requiring the permanent discharge of 91 linear feet of class II riprap for stream bank stabilization (75 linear feet in one location, 16 linear feet in another location) near Crouse, Lincoln County, North Carolina. The project also includes the temporary discharge of fill materials (gravel, stone) below the ordinary high water mark of Indian Creek for a temporary 30 x 60 linear construction access/work pad.

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344);
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number: 50; NCDOT Bridges, Road Widening, and Interchanges

SEE ATTACHED RGP GENERAL, REGIONAL AND/OR SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated April 18, 2019 and October 21, 2022. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide and/or regional general permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general permit's

expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Eric Alsmeyer at (919) 554-4884, ext. 23, or Eric.C.Alsmeier@usace.army.mil.**

Corps Regulatory Official: Monte Matthews Date: 2022.11.14
Expiration Date of Verification: May 25, 2025 16:36:18 -05'00' Date: **November 14, 2022**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at <https://regulatory.ops.usace.army.mil/customer-service-survey/>

Copy furnished (by email): E. Cheely, NCDOT, ECAP

Action ID Number: SAW-2019-00671

County: Lincoln County

Permittee: Michael Turchy, ECAP Manager
NCDOT

Project Name: NCDOT/B 4571, NC182, Bridge 7, Indian Creek

Date Verification Issued: November 14, 2022

Project Manager: Eric Alsmeyer

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Eric Alsmeyer
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587
919.554.4884, Ext. 23

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date



NORTH CAROLINA
Environmental Quality

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

RICHARD E. ROGERS, JR.

Director

November 21, 2022
Lincoln County
NCDWR Project No. 20190505v2
Bridge 7 on NC 182
TIP Project B-4571

APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Jeffery Wyatt, Environmental Supervisor
NCDOT, Division 12
P.O. Box 47
Shelby, NC 28151-0047

Dear Mr. Wyatt:

You have our approval, in accordance with your application dated October 21, 2022, and with the conditions listed below, to replace Bridge 7 over Indian Creek on NC 182 in Lincoln County. *This is a reissuance of the above referenced permit.*

Stream Impacts in the Catawba River Basin.

Site	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)		Stream Impacts Requiring Mitigation (linear ft)
	Bank Stabilization	Causeway	Fill	
1	75	60	-	-
2	16	-	-	-
Totals	91	60	-	-

Total Stream Impact for Project: 151 linear feet.

After reviewing your application, we have decided that the proposed impacts are covered by General Water Quality Certification (GC) Number 4135. This GC corresponds to US Army Corps of Engineers Regional General Permit 201902350. 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 corresponding 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 300 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.



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

Condition(s) of Certification:**Project Specific Conditions**

1. All work in or adjacent to stream waters shall be conducted per approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual. [15A NCAC 02H.0506(b)(3) and (c)(3)]
2. As a condition of this 401 Water Quality Certification, 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 .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
3. The permittee shall use Design Standards in Sensitive Watersheds (15A NCAC 4B.0124[a]-[e]) in areas draining to WS-II and HQW waters. [15A NCAC 02H.0506(b)(2)]
4. 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. [15A NCAC 02H.0506(b)(2)]
5. Stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. (15A NCAC 02B.0224 and .0225)
6. 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. [15A NCAC 02H.0506(b)(2)]

General Conditions

1. 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]
2. 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)]
3. 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)]
4. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
5. 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)]



6. 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]
7. 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)]
8. 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)]
9. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing or flagging 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]
10. 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.
11. 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)]
12. 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)]
13. 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 02H.0506(b)(3) and (c)(3)]
14. 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)]
15. 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.

16. Where placement of sediment and erosion control devices in wetlands and/or waters is unavoidable, they shall be removed, and the natural grade restored upon completion of the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This letter completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Dave Wanucha at 336-403-5655 or dave.wanucha@ncdenr.gov if you have any questions or concerns.

Sincerely,

DocuSigned by:

Amy Chapman

Richard B. Rogers Jr., Director
Division of Water Resources

Electronic copy only distribution:

Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Rebekah Reid, US Fish and Wildlife Service
David McHenry, NC Wildlife Resources Commission
File Copy





NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director

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 _____

Completed hard copies can be emailed to kristilynn.carpenter@ncdenr.gov or mailed to:
NCDEQ Transportation Permitting
1617 Mail Service Center
Raleigh NC 27699-1617



09/08/19

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 6

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4571	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38414.1.2	N/A	PE	

LINCOLN COUNTY

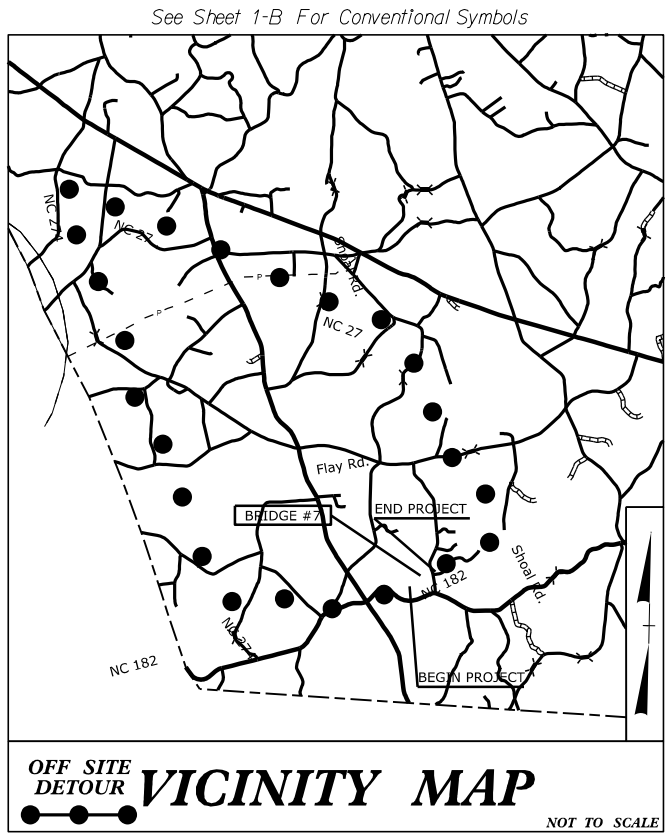
LOCATION: BRIDGE NO. 7 OVER INDIAN CREEK ON NC 182

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

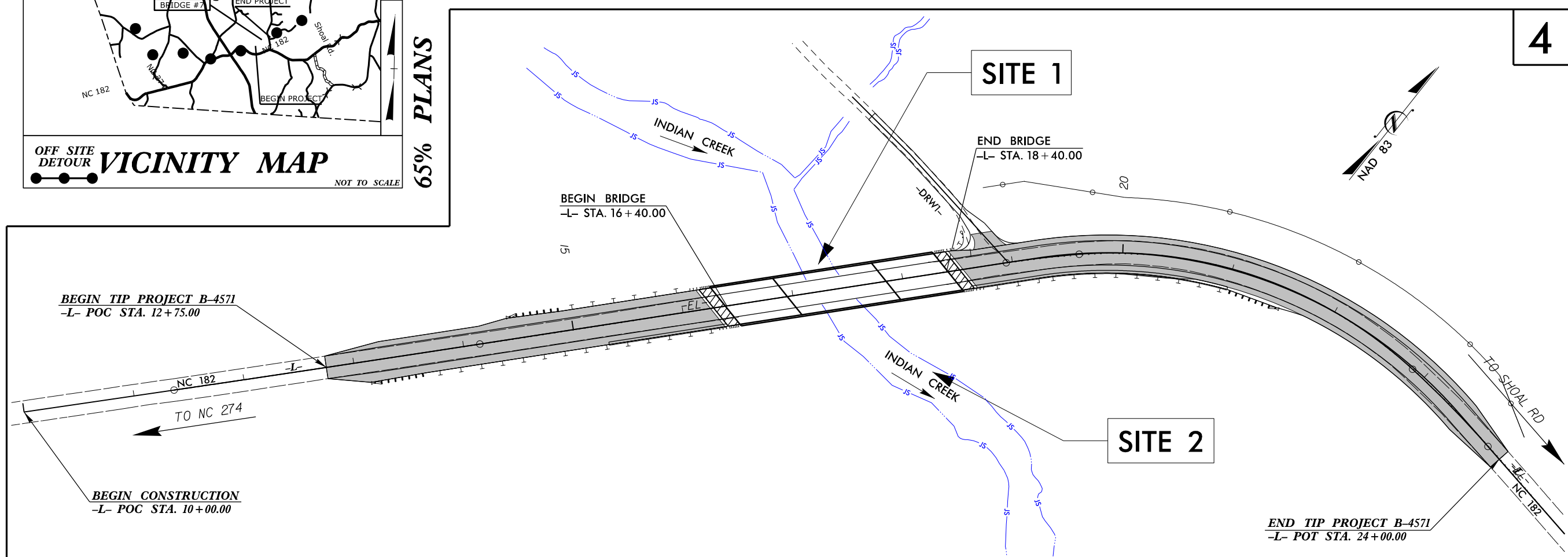
WETLAND AND SURFACE WATER IMPACTS PERMIT



TIP PROJECT: B-4571



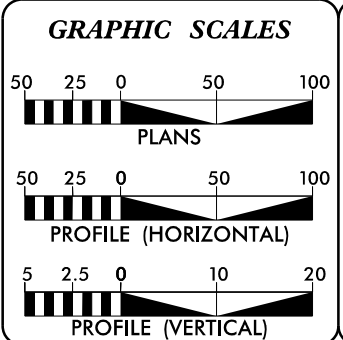
65% PLANS



**DESIGN EXCEPTION NEEDED FOR DESIGN SPEED.
THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
THIS IS NOT A CONTROL OF ACCESS PROJECT.
CLEARING ON THIS PROJECT SHALL BE IN ACCORDANCE WITH METHOD ____.

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2015	=	1100
ADT 2040	=	1400
K	=	12%
D	=	75%
T	=	6%*
**V	=	30 MPH
*(TTST 2%+DUALS 4%)		
FUNC CLASS = RURAL MAJOR COLLECTOR SUB-REGIONAL TIER		

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT B-4571	=	0.175 MI.
LENGTH OF STRUCTURE T.I.P. PROJECT B-4571	=	0.038 MI.
TOTAL LENGTH OF T.I.P. PROJECT B-4571	=	0.213 MI.

NCDOT CONTACT: TIERRE PETERSON, PE & DAVID STUTTS, PE
STRUCTURES MANAGEMENT UNIT

PREPARED IN THE OFFICE OF:

Stantec STANTEC CONSULTING
881 Jones Franklin Road | Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866 | Fax. (919) 851-7824
www.stantec.com
License No. P-48672

SUNGATE DESIGN GROUP, P.A.
700 JONES FARMHOUSE ROAD
RALEIGH, NORTH CAROLINA 27609
NC COA No. C-0880

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: 12/01/2018
LETTING DATE: 10/15/2019

MICHAEL D. LINDGREN, PE
PROJECT ENGINEER

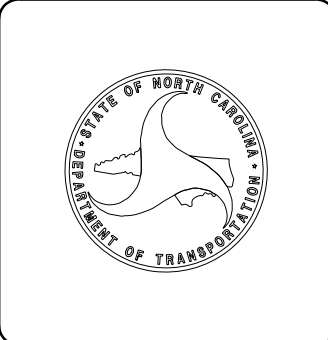
MICHAEL B. LITTLEFIELD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

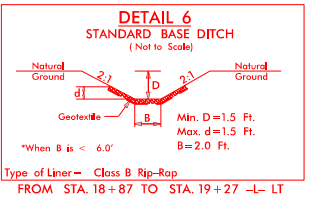
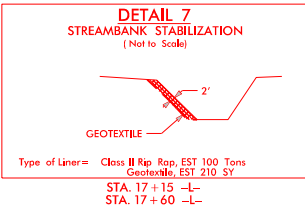
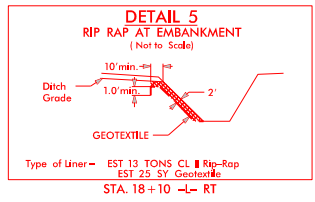
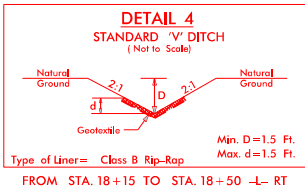
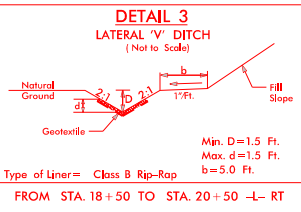
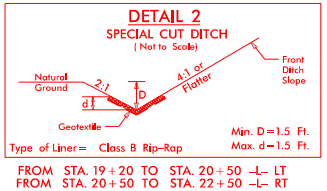
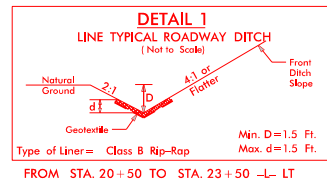


2/25/2019 B4571-Hyd-prm-wet_psh_01.dgn jnarvey

PROJECT REFERENCE NO. B-4571	SHEET NO. 2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

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

**PERMIT DRAWING
SHEET 2 OF 6**

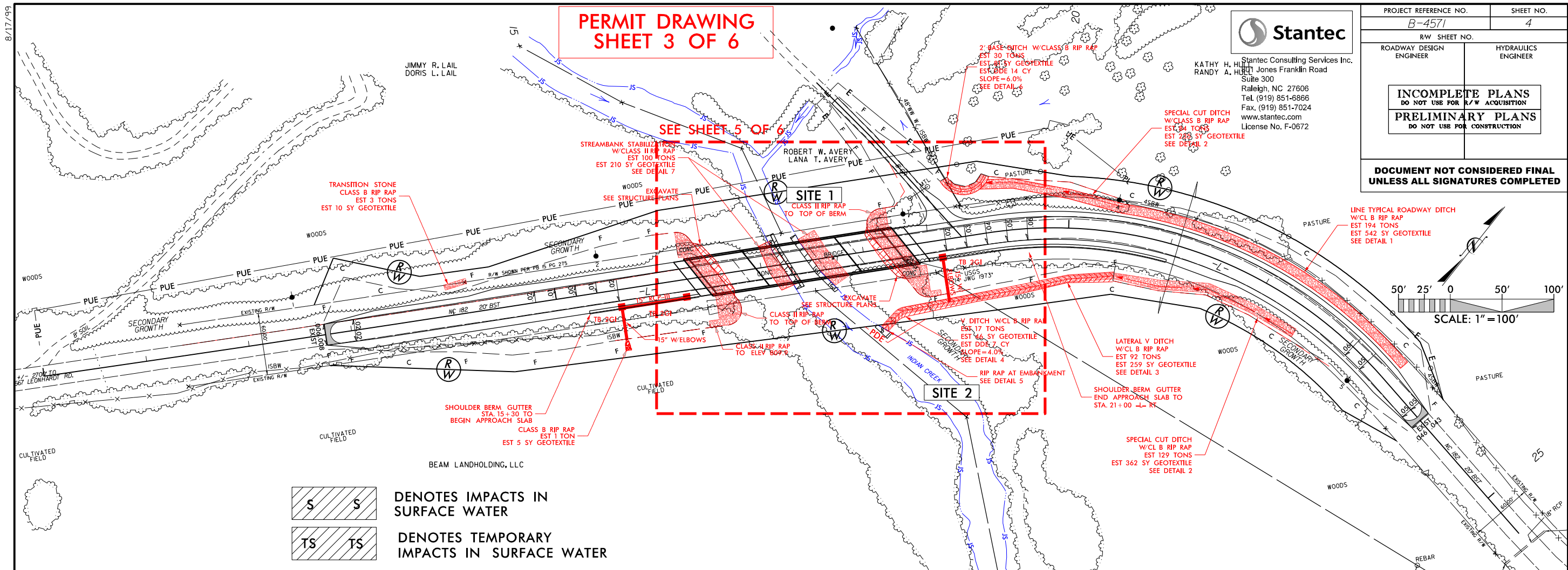


**PERMIT DRAWING
SHEET 3 OF 6**



Stantec Consulting Services Inc.
KATHY H. HULL
RANDY A. HULL
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

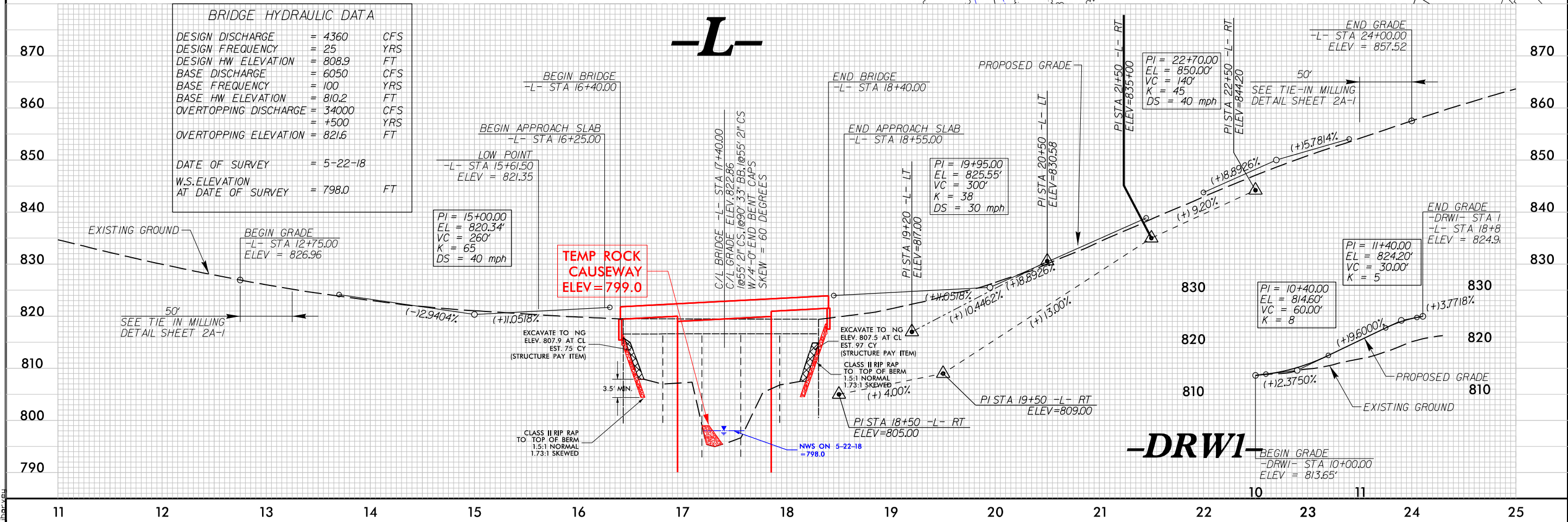
PROJECT REFERENCE NO. B-4571	SHEET NO. 4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 4360	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 808.9	FT
BASE DISCHARGE	= 6050	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 810.2	FT
OVERTOPPING DISCHARGE	= 34000	CFS
OVERTOPPING ELEVATION	= +500	YRS
DATE OF SURVEY	= 5-22-18	
W.S. ELEVATION AT DATE OF SURVEY	= 798.0	FT

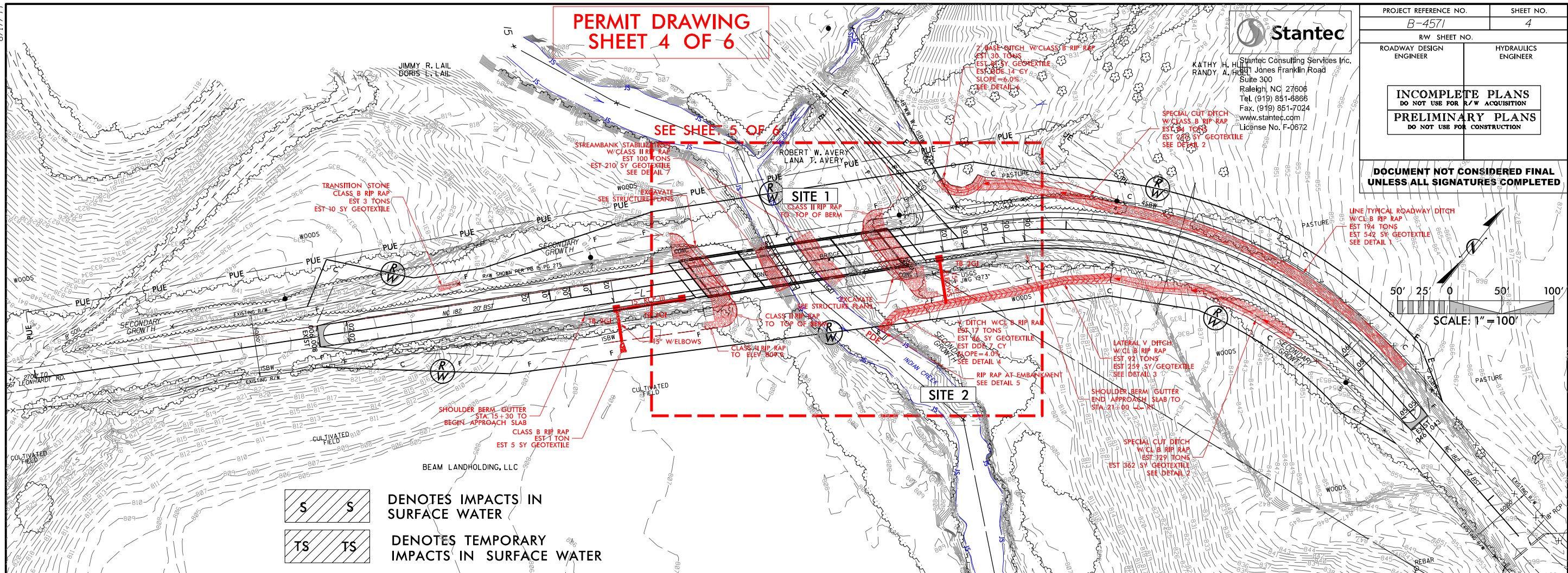


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PERMIT DRAWING SHEET 4 OF 6

Stantec
Stantec Consulting Services Inc.
KATHY H. HUBBARD
Randy A. Hubert
Suite 300
Raleigh, NC 27606
Tel. (919) 851-8866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

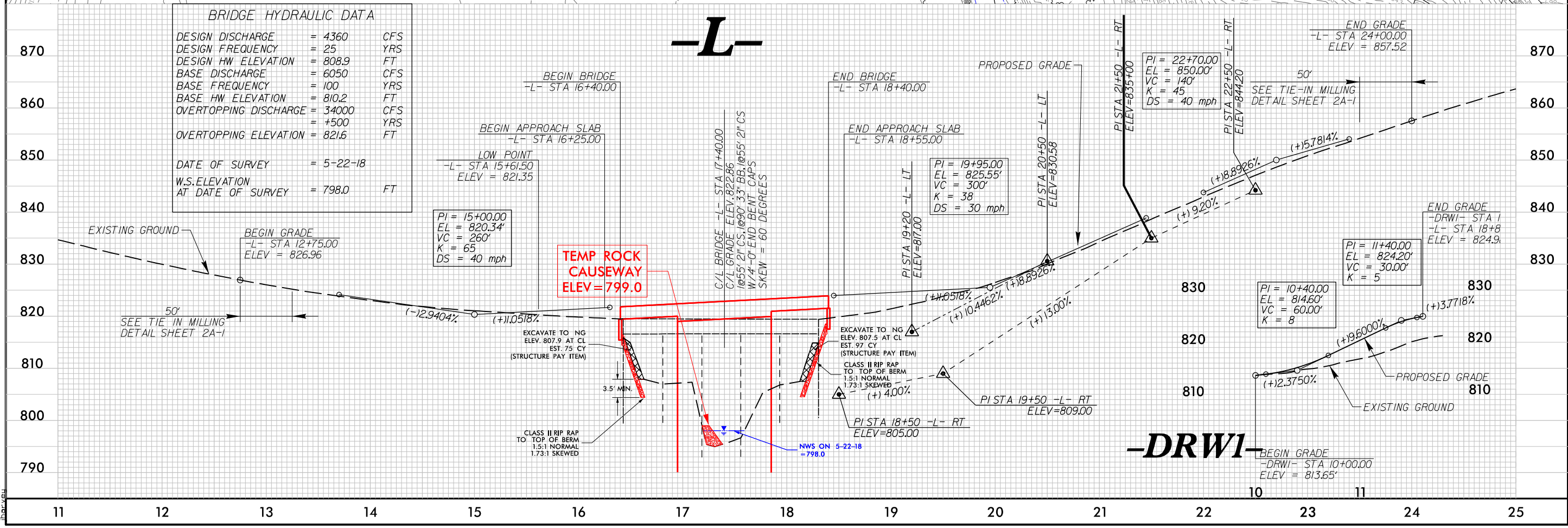
PROJECT REFERENCE NO. B-4571	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 4360 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 808.9 FT
BASE DISCHARGE	= 6050 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 810.2 FT
OVERTOPPING DISCHARGE	= 34000 CFS
OVERTOPPING ELEVATION	= +500 YRS
DATE OF SURVEY	= 5-22-18
W.S. ELEVATION AT DATE OF SURVEY	= 798.0 FT

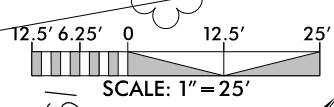


8/17/19

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8/17/99
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10/25/2019 10:45:17 AM

ROBERT W. AVERY
LANA T. AVERY



PROJECT REFERENCE NO. B-4571	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 5 OF 6

**R
W**
SITE 1

TEMP IMPACTS IN SURFACE WATER

TEMP ROCK CAUSEWAY


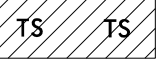
TB 2GI
**15" W/
ELBOWS**

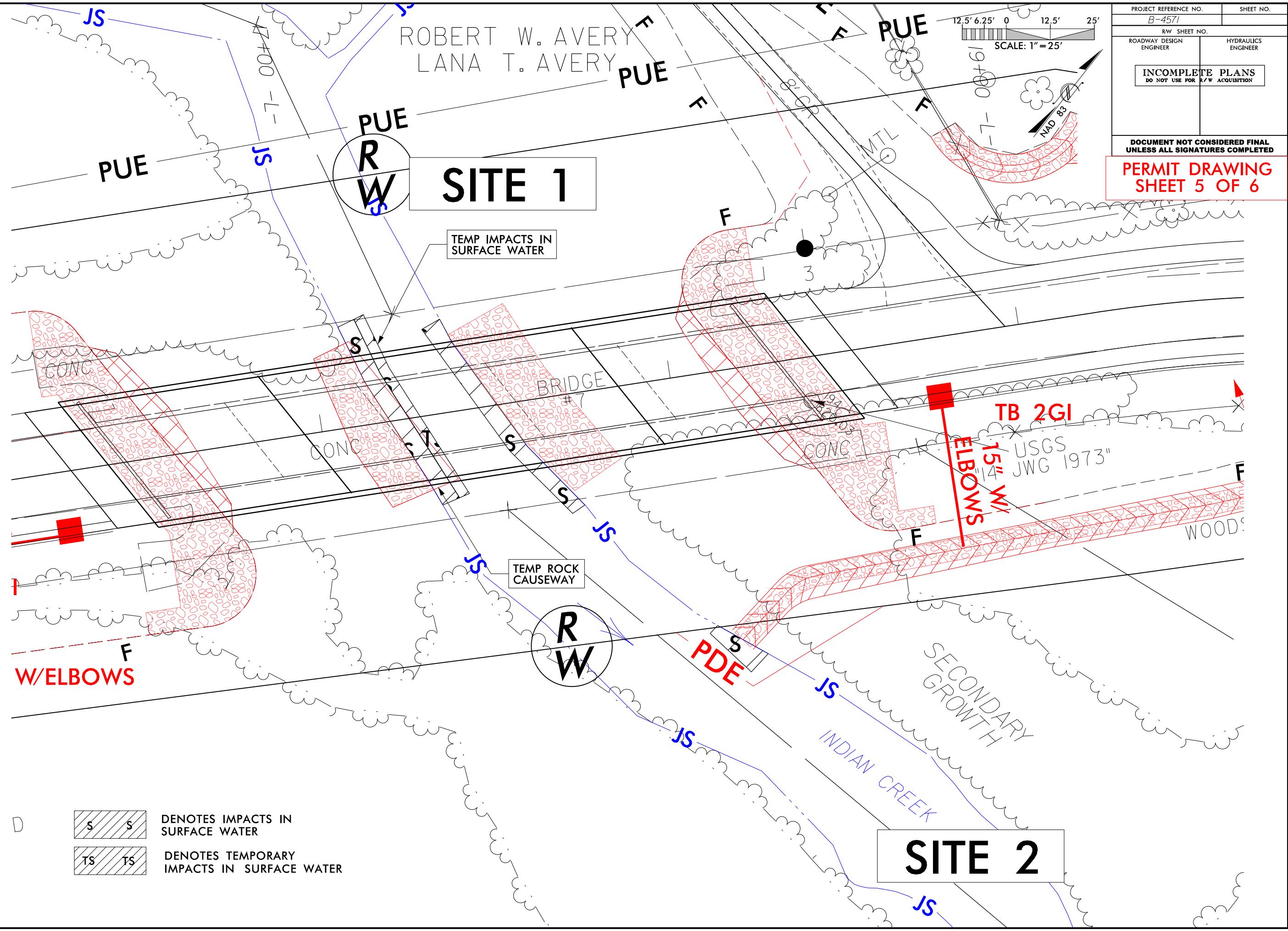
F
W/ELBOWS

**R
W**

PDE

SITE 2

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			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	17+09 to 17+71-L-	BANK STABILIZATION						0.01		75		
		TEMP ROCK CAUSEWAY							< 0.01			
2	18+00 to 18+16-L-RT	RIP RAP EMBANKMENT						< 0.01		16		
TOTALS*:								0.02	< 0.01	91	0	0

*Rounded totals are sum of actual impacts

NOTES:
 Temporary Impacts in Surface Water caused by temporary rock causeway 0.004 ac.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 February 25, 2019
 LINCOLN COUNTY
 B-4571
 38414.1.2
 SHEET 6 OF 6