



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

March 18, 2026

MEMORANDUM TO: Becca Gallas, P.E.
Division 5 Engineer

FROM: Alan Shapiro, 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:

Alan Shapiro

B149124683BD45D...

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. ***The changes are based on the March 16, 2026, email request for modification of the permit to authorize a change in impacts at Sites 32/33 for R-2829B. This modification is necessary to correct a potential long term stability problem at the outlet of Culvert 11.*** 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/EnvironmentalPermits/Archived/I-540%20\(R-2721%20R-2828%20R-2829\)/R-2829B%20Wake%20Johnston/](https://xfer.services.ncdot.gov/pdea/EnvironmentalPermits/Archived/I-540%20(R-2721%20R-2828%20R-2829)/R-2829B%20Wake%20Johnston/)

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., Deputy Chief Engineer

Mr. Bill Martin, P.E., Programming and TIP

Mr. Timothy Ritacco, Utilities Unit

Mr. Matt Lauffer, P.E., Hydraulics Unit

Mr. David Snoke, P.E., Structures Management Unit

Mr. Mark Staley, Roadside Environmental

Mr. John Jamison, Environmental Policy Unit

Ms. Beth Harmon, NCDMS

Ms. Deanna Riffey, Natural Environment Unit-Environmental Coordination & Permitting

Mailing Address:

NC DEPARTMENT OF TRANSPORTATION
TURNPIKE AUTHORITY
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RALEIGH, NC 27699-1599

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Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:

2501 AERIAL CENTER PARKWAY
SUITE 200
MORRISVILLE, NC 27560

404/401

Permits

From: [Alsmeyer, Eric C CIV USARMY CESAW \(USA\)](#)
To: [Ridings, Rob](#); [Duprey \(Sage Group\), Nicole J](#)
Cc: [Miguel Ortiz](#); [Abi Sheffey](#); [Jake Marinelli](#); [Riffey, Deanna](#); [Harris \(HNTB\), Jennifer H](#); [Shapiro, Alan W](#)
Subject: [External] RE: Request for Modification on R2829B, Complete 540, Federal Aid Project No. 050047; Permit sites 32/33; Permit Mod Request #27
Date: Wednesday, March 18, 2026 10:52:42 AM
Attachments: [image004.png](#)
[image005.png](#)
[image006.png](#)
[R-2829B_Permit_Site_32_Sheets_76_79_March_Modification_FINAL.pdf](#)
[241212_Revised_Special_Conditions_Complete_540_Wake-Johnston.pdf](#)

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Nikki: Reference the Department of the Army permit issued to the North Carolina Turnpike Authority, (NCTA) on October 24, 2019, and subsequently modified, to authorize 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 (1-87) in Knightdale, Wake and Johnston Counties. Sections included within this permit are R-2721, R-2828, and R-2829.

Also, please reference your 3/16/2026 email below, requesting modification of the permit to authorize change of impacts at Permit Sites 32/33, for R-2829B. The modification is necessary to correct a potential long term stability problem at the outlet of Culvert 11. NCTA proposes to convert 0.003 ac (10.1'x13.2') of mechanized clearing to permanent fill in WJJ(1), to allow for an uninterrupted flow from the JS into the stream improvements. NCTA would use excavated wetland material from the channel improvements to backfill the channelization, and stabilize with wetland seed and coir fiber matting.

Additional compensatory mitigation is not required because the original mechanized clearing wetland impact also required compensatory wetland mitigation, and the filled channel will be at wetland grade.

The Corps has completed the evaluation of your request and has determined that it is appropriate and reasonable, and that no public notice is required for this modification. Therefore, the permit is modified as requested and as shown on the attached R-2829B_Permit Site 32_Sheets 76_79 March Modification FINAL permit drawings, received 3/16/2026.

The special conditions for the permit are also enclosed, and have not changed from the revised Special Conditions provided with the December 13, 2024 modification. The revised permit expiration date remains December 31, 2029.

Please reply or call if you have any questions or if I may serve you in any other way.

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 the Customer Satisfaction Survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Eric

Eric Alsmeyer

Project Manager

Work Cell: 919.817.1570

Regulatory - WRDA / Transportation Branch

US Army Corps of Engineers, Wilmington District

3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587

Regulatory

Homepage: <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

You can now submit jurisdictional determinations through the Regulatory Request System (RRS) at the following link: <https://rrs.usace.army.mil/rrs>



For help with submitting an application through the online Regulatory Request System (RRS), please visit: <https://rrs.usace.army.mil/rrs/support>

From: Ridings, Rob <rob.ridings@deq.nc.gov>

Sent: Tuesday, March 17, 2026 11:07 AM

To: Duprey (Sage Group), Nicole J <ext-njduprey@ncdot.gov>; Alsmeyer, Eric C CIV USARMY CESAW (USA) <Eric.C.Alsmeier@usace.army.mil>

Cc: Miguel Ortiz <mortiz@SAGEECOLOGICAL.COM>; Abi Sheffey <asheffey@SAGEECOLOGICAL.COM>; Jake Marinelli <JMarinelli@SAGEECOLOGICAL.COM>; Riffey, Deanna <driffey@ncdot.gov>; Harris (HNTB), Jennifer H <ext-jhharris1@ncdot.gov>; Shapiro, Alan W <awshapiro@ncdot.gov>

Subject: [Non-DoD Source] RE: Request for Modification on R2829B, Complete 540, Federal Aid Project No. 050047; Permit sites 32/33; Permit Mod Request #27

Good Morning,

See attached the completed 401 In-field Modification as requested.

Please let us know if you need anything else.

Rob Ridings

Environmental Specialist

401/Buffer Transportation Permitting (DOT Divisions 4-5)

Division of Water Resources, NC Department of Environmental Quality

rob.ridings@deq.nc.gov

919-707-8786



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From: Duprey (Sage Group), Nicole J <ext-njduprey@ncdot.gov>

Sent: Monday, March 16, 2026 7:03 PM

To: Alsmeyer, Eric C SAW <eric.c.alsmeyer@usace.army.mil>; Ridings, Rob <rob.ridings@deq.nc.gov>

Cc: Miguel Ortiz <mortiz@SAGEECOLOGICAL.COM>; Abi Sheffey <asheffey@SAGEECOLOGICAL.COM>; Jake Marinelli <JMarinelli@SAGEECOLOGICAL.COM>; Riffey, Deanna <driffey@ncdot.gov>; Harris (HNTB), Jennifer H <ext-jhharris1@ncdot.gov>; Shapiro, Alan W <awshapiro@ncdot.gov>

Subject: Request for Modification on R2829B, Complete 540, Federal Aid Project No. 050047; Permit sites 32/33; Permit Mod Request #27

Dear Eric and Rob –

This email is in regards to USACE Section 404 Authorization SAW-2009-02240, issued October 24, 2019, modified February 4, 2020 (corrected revision issued February 7, 2020), April 29, 2020, January 7, 2021, March 19, 2021, March 3, 2022, July 1, 2022, September 13, 2022, February 17, 2023, June 21, 2023, July 19, 2023, August 4, 2023, August 11, 2023, December 13, 2023, January 22, 2024, May 29, 2024, October 28, 2024, December 13, 2024, May 19, 2025, June 6, 2025, August 26, 2025, October 8, 2025, October 27, 2025, October 31, 2025, December 3, 2025, and December 4, 2025.

NCDWR Water Quality Certification Number 4179 and Neuse River Riparian Buffer Authorization, issued February 15, 2019, modified January 30, 2020, April 20, 2020 (corrected revision issued April 23, 2020), June 1, 2020, December 29, 2020, March 9, 2021, April 8, 2021, November 1, 2021, May 18, 2022, July 22, 2022, February 15, 2023, June 19, 2023, July 19, 2023, August 4, 2023, August 11, 2023, December 12, 2023, January 22, 2024, May 29, 2024, October 7, 2024, December 10, 2024, May 15, 2025, June 2, 2025, August 20, 2025, October 2, 2025, October 24, 2025, October 30, 2025, December 1, 2025, and December 5, 2025.

As you are aware, the North Carolina Department of Transportation (NCDOT) applied for a phased Section 404 Individual Permit, Section 401 Individual Water Quality Certification (WQC), and Neuse River Riparian Buffer Authorization, and Non-404 Jurisdictional Wetlands and Waters Permit for the

subject project in September 2018. The project, also known as Complete 540, encompasses three NCDOT Transportation Improvement Plan (TIP) projects: R-2721 (NC-55 Bypass to US-401), R-2828 (east of US-401 to 1-40 Interchange), and R-2829 (east of 1-40 to US 64/264). The permit and previous modification dates are listed in the reference section above.

During the Agency review of the project on 3/10/26, you were made aware of the existing field conditions at Site 32/33 which are creating a long term stability problem at the outlet of Culvert 11. The original erosion control plans and permits showed prior channelization of the wetland; however, the location of this path has shifted over time. The current location of the channel would allow for backflow from SHC into the backside of the permanent excavation riprap ditch which would cause long term stability issues. The JV is proposing to convert 0.003 ac (10.1'x13.2') of mech clearing to permanent fill in WJJ(1) due to these existing site conditions. The team proposes to place permanent fill within the channelization to allow for an uninterrupted flow from the JS into the stream improvements. The team intends to utilize excavated wetland material from the channel improvements to backfill the channelization and stabilize with wetland seed and coir fiber matting. Attached are revised permit drawing, and a plan sheet showing the change in channelization with photos of the area before and after construction started.

The requested change is a change in impact type – from mechanized clearing to permanent fill. As the mechanized clearing area was previously mitigated for, no mitigation is anticipated or proposed for this requested permit modification.

Please let me know if you have any questions or concerns.

Thank you!

Nikki
Nicole Duprey, PWS
Please note new name

North Carolina Turnpike Authority
North Carolina Department of Transportation

919-754-7806

1 South Wilmington Street
Raleigh, NC 27601
1578 Mail Service Center
Raleigh, NC 27699-1578



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Revised SPECIAL CONDITIONS

Action ID SAW-2009-02240; Complete 540; TIPS R-2721, R-2828, and R-2829

Note: Special Condition 9 was modified on October 28, 2024, and Special Condition 30 was added on December 12, 2024.

1. **Work Limits:** All work authorized by this permit shall be performed in strict compliance with the attached permit plans submitted on September 12, 2018, and revised on February 8, 2019, which are a part of this permit. The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands.

2. **Unauthorized Dredge and/or Fill:** Except as authorized by this permit or any U.S. Army Corps of Engineers approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and waste activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

3. **Permit Distribution:** The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions and drawings shall be available at the project site during construction and maintenance of this project.

4. **Preconstruction Meeting:** The Permittee shall conduct an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate U.S. Army Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall schedule the preconstruction meeting for a time frame when the Corps, and NCDWR Project Managers can attend. The Permittee shall invite the Corps, and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to

schedule and participate in the required meeting. The thirty (30) day requirement can be waived with the concurrence of the Corps.

5. Notification of Construction Commencement and Completion: The Permittee shall notify the U.S. Army Corps of Engineers in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

6. Reporting Address: All reports, documentation, and correspondence required by the conditions of this permit shall be submitted to the following: U.S. Army Corps of Engineers, Wilmington District Raleigh Regulatory Field Office, Attn: Eric Alsmeyer, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587, or eric.c.alsmeyer@usace.army.mil. The Permittee shall reference the following permit number, SAW-2009-02240, on all submittals.

7. Permit Revocation: The Permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

8. Reporting Violations: Violation of these permit conditions or violation of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act shall be reported to the Corps in writing and by telephone at: 919.554.4884, extension 23, within 24 hours of the Permittee's discovery of the violation.

9. Endangered Species

1) The Permittee shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally-listed threatened or endangered species, except as authorized by the October 15, 2019 US Fish and Wildlife Service BIOLOGICAL/CONFERENCE OPINION, as modified by the September 30, 2024 ADDENDUM. While accomplishing the authorized work, if the Permittee discovers or observes an injured or dead threatened or endangered species, the U.S. Army Corps of Engineers, Wilmington District Raleigh Field Office, telephone 919.554.4884, extension 23, email to eric.c.alsmeyer@usace.army.mil will be immediately notified to initiate the required Federal coordination.

2) Atlantic Sturgeon: In order to protect the federally-listed Atlantic sturgeon, no temporary causeways or work bridges will block more than 50% of the Neuse River below its ordinary high water mark, and will be removed at the end of the project's construction.

3) DWM Biological Opinion: This Department of the Army permit does not authorize you to take an endangered species, in particular the Dwarf wedgemussel, *Alasmidonta heterodon*. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with “incidental take” provisions with which you must comply). The attached October 15, 2019 US Fish and Wildlife Service BIOLOGICAL/CONFERENCE OPINION, as modified by the September 30, 2024 ADDENDUM (B/CO-A), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the B/CO-A. Your authorization under this permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached B/CO-A, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your permit. The U.S. Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its B/CO-A, and with the ESA.

4) NLEB Programmatic Biological Opinion: 11. The Wilmington District, Federal Highway Administration, U.S. Fish and Wildlife Service (USFWS), and the North Carolina Department of Transportation (NCDOT) have conducted programmatic Section 7(a)(2) consultation for the Northern long-eared bat (NLEB) for NCDOT projects located in Divisions 1-8. The result of this programmatic consultation is a Programmatic Biological Opinion (PBO) issued by the USFWS titled, “Programmatic Biological Opinion – Revised, NCDOT Program Effects on the Northern Long-eared Bat in Divisions 1-8”, dated December 15, 2022. This PBO contains agreed upon conservation measures which would minimize take of NLEB. As noted in the PBO, applicability of these conservation measures varies depending on the location of the project. The USFWS has documented that no reasonable and prudent measures, nor terms and conditions, are necessary or appropriate to minimize the amount or extent of incidental take of NLEB caused by the Action; therefore, the incidental take statement does not provide reasonable and prudent measures for this species. Department of the Army (DA) authorization under general permit or standard permit (Individual Permit) is conditional upon the permittee’s compliance with applicable, agreed upon conservations measures of the PBO, which is incorporated by reference in this permit. Failure to comply with the applicable conservation measures, where a take of the NLEB occurs, would constitute an unauthorized take by the permittee, and would also constitute permittee non-compliance with this permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO and the ESA. All PBOs can be found on our website at:
<https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>.

5) TCB Programmatic Biological Opinion: The U.S. Fish and Wildlife Service’s (USFWS’s) Programmatic Conference Opinion (PCO) titled "NCDOT Program Effects on the Tricolored Bat in Divisions 1-8", dated November 20, 2023, contains

mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that are specified in the PCO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the PCO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the PCO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PCO, and with the ESA.

10. Maintain Flows and Circulation Patterns of Waters: Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters and/or wetlands.

11. Sediment and Erosion Control:

1) During the clearing phase of the project, heavy equipment shall not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

2) No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit. This includes, but is not limited to, sediment control fences and other barriers intended to catch sediment losses.

3) The Permittee shall remove all sediment and erosion control measures placed in waters and/or wetlands, and shall restore natural grades on those areas, prior to project completion.

4) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the “North Carolina Sediment and Erosion Control Planning and Design Manual” to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the

project shall remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures shall be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures shall be inspected and maintained regularly, especially following rainfall events. All fill material shall be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

12. Clean Fill: The Permittee shall use only clean fill material for this project. The fill material shall be free of items such as trash, construction debris, metal and plastic products, and concrete block with exposed metal reinforcement bars. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source.

13. Water Contamination: All mechanized equipment shall be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the Permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act shall be followed.

ANADROMOUS FISH / AQUATIC LIFE

14. Aquatic Life Movement: No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area. All discharges of dredged or fill material within waters of the United States shall be designed and constructed to maintain low flows to sustain the movement of aquatic species.

15. Prohibitions on Concrete: The Permittee shall take measures necessary to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (concrete is set and cured).

COMPENSATORY MITIGATION

16. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit.

CULTURAL RESOURCES

17. Historic Properties (MOA): The Permittee shall fully implement the Memorandum of Agreement between the Permittee, the North Carolina State Historic Preservation Officer and the U.S. Army Corps of Engineers, Wilmington District, dated last signed 3/11/2018, which is incorporated herein by reference.

CULVERTS

18. Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48 inches in diameter shall be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert shall be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Culverts shall be designed and constructed in a manner that minimizes destabilization and head cutting.

19. Measures shall be included in the culvert construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a culvert or pipe shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

20. The Permittee shall implement all reasonable and practicable measures to ensure that equipment, structures, fill pads, work, and operations associated with this project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or stream bank erosion. The Permittee shall routinely monitor for these effects, cease all work when detected, take initial corrective measures to correct actively eroding areas, and notify this office immediately. Permanent corrective measures may require additional authorization by the U.S. Army Corps of Engineers.

21. Culverts placed within wetlands must be installed in a manner that does not restrict the flows and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water shall not be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

PONDS

22. Sediment Sluicing: The release of sediments from ponds (sluicing) is not authorized by this permit. The Permittee shall take all measures necessary to control any bottom

sediments that may be sluiced during the drainage of pond(s) on the project site.

UTILITY LINES

23. Temporary Impacts Restoration Measures: Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability. In wetland areas where pipeline installation via trenching is authorized, wetland topsoil shall be segregated from the underlying subsoil, and the top 6 to 12 inches of the trench shall be backfilled with topsoil from the trench.

24. Cleared wetland areas shall be re-vegetated with a wetland seed mix or a mix of native woody species. Fescue grass or any invasive species such as *Lespedeza* spp., shall not be used within the wetland areas.

25. Prior to construction within any jurisdictional areas, the Permittee shall correctly install silt fencing (with or without safety fencing) parallel with the utility line corridor, on both sides of the jurisdictional crossing. This barrier is to serve both as an erosion control measure and a visual identifier of the limits of construction within any jurisdictional area. The Permittee shall maintain the fencing, at minimum, until the wetlands have re-vegetated and stabilized.

26. Hydraulic Fracturing (Fracking): When directional boring or horizontal directional drilling (HDD) under waters of the United States, including wetlands, the Permittee shall closely monitor the project for hydraulic fracturing or “fracking” and material from the drilling operation leaching to the surface and into jurisdictional areas. Any discharge from fracking or leaching into waters of the United States, including wetlands, shall be reported to U.S. Army Corps of Engineers, Wilmington District Raleigh Field Office, telephone 919.554.4884, extension 23, email to eric.c.alsmeyer@usace.army.mil within 48 hours. Restoration and/or mitigation may be required as a result of any unintended discharges.

NCDOT STANDARD PERMIT CONDITIONS

27. Phased Permit and Mitigation: This permit only authorizes work on Sections A and B of TIP R-2721. Construction on Sections of TIP, R-2828 and R-2829 shall not commence until all the following occur:

(a) final design has been completed for those sections and submitted to the U.S. Army Corps of Engineers (Corps); (b) the Permittee has minimized impacts to waters and wetlands to the maximum extent practicable and the Corps concurs with this assessment through standard Merger 4B and 4C meetings; (c) any modification to the plans have been approved by the Corps in writing; and (d) a final compensatory mitigation plan for the relevant TIP project has been submitted by the Permittee and approved by the Corps.

28. Temporary Fills: Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability.

29. Borrow and Waste: To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used as borrow and/or waste sites associated with this project. The Permittee shall provide the U.S. Army Corps of Engineers with appropriate maps indicating the locations of proposed borrow and/or waste sites as soon as such information is available. The Permittee shall submit to the Corps site-specific information needed to ensure that borrow and/or waste sites comply with all applicable Federal requirements, to include compliance with the Endangered Species Act and the National Historic Preservation Act, such as surveys or correspondence with agencies (e.g., the USFWS, the NC-HPO, etc.). The required information shall also include the location of all aquatic features, if any, out to a distance of 400 feet beyond the nearest boundary of the site. The Permittee shall not approve any borrow and/or waste sites before receiving written confirmation from the Corps that the proposed site meets all Federal requirements, whether or not waters of the U.S., including wetlands, are located in the proposed borrow and/or waste site. All delineations of aquatic sites on borrow and/or waste sites shall be verified by the U.S. Army Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all borrow and/or waste sites comply with Special Condition 2 of this permit. Additionally, the Permittee shall produce and maintain documentation of all borrow and waste sites associated with this project. This documentation will include data regarding soils, vegetation, hydrology, any delineation(s) of aquatic sites, and any jurisdictional determinations made by the Corps to clearly demonstrate compliance with Special Condition 2. All information will be available to the U.S. Army Corps of Engineers upon request. The Permittee shall require its contractors to complete and execute reclamation plans for each borrow and/or waste site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the U.S. Army Corps of Engineers within 30 days of the completion of the reclamation work.

30. Boater Safety Plan: The permittee shall implement the *NEUSE RIVER & NEUSE RIVER GREENWAY TRAIL USER SAFETY PLAN*, attached, submitted 9/16/2024, which would mitigate the impacts to personal watercraft use of this portion of the Neuse River by providing safety signage, buoys, ring buoys, and designated portage routes during construction of bridge spans over the Neuse.



NEUSE RIVER & NEUSE RIVER GREENWAY TRAIL USER SAFETY PLAN

NC 540 (R-2829B)

Triangle Expressway Southeast Extension

from south of SR 2542 (Rock Quarry
Road) to I-87/US 64/US 264

**SUBMITTED
7/22/2025**

Submitted by

FLATIRON



In partnership with



*NC 540 Triangle Expressway Southeast Extension (R-2829B)
from south of SR 2542 (Rock Quarry Road) to I-87 / US 64 / US 264*

Neuse River and Neuse River Greenway Trail Safety Plan

The R-2829B project includes construction activities at, across and above the Neuse River and the existing Neuse River Greenway Trail. This plan provides details of the safety measures to be incorporated into the construction operations to ensure that users of both the Neuse River and the Neuse River Greenway Trail are informed of ongoing construction hazards and are protected from construction activities while passing through the construction area.

General Safety Procedures and Precautions:

Throughout the duration of construction, the Flatiron-Fred Smith JV will have the following measures in place for both the Neuse River and the Neuse River Greenway Trail:

- Flatiron-Fred Smith JV will comply with all Contract and RFP requirements while implementing this safety plan.
- As required per Division One of the NCDOT Standard Specifications Section 108-3, modified by the RFP, Flatiron-Fred Smith JV will provide a Site Specific Safety Plan (SSSP) prior to starting any work. The SSSP with spill control and response plan will be provided to all on-site staff and shall include details on spill prevention and cleanup, marine operations, and emergency/crisis management.
- This plan shall be reviewed annually, at a minimum, by Flatiron-Fred Smith JV and NCDOT to determine if any adjustments need to be made to improve the functionality of the plan or address any changes on-site.
- Regular safety inspections of all equipment will be performed monthly to ensure everything is in proper condition and working order.
- Flatiron-Fred Smith JV will have monitors and/or flaggers to direct river and greenway users away from active or hazardous construction areas and activities.
- Unless work is being performed outside of the allowable public use of the greenway (dawn to dusk), if an overhead operation is ongoing without a greenway trail detour or river user diversion in place, Flatiron-Fred Smith JV will have monitors / flaggers on each side of the construction zone to stop construction work while users pass beneath an overhead operation.

The greenway and river traffic will be shifted to the proposed detour / portage routes when any unprotected overhead work is ongoing in an area. When the new bridge girders are in place, the stay in place decking is installed, and the overhangs with plywood protection are installed, this will prevent materials from falling onto the active portions of the greenway trail or Neuse River.

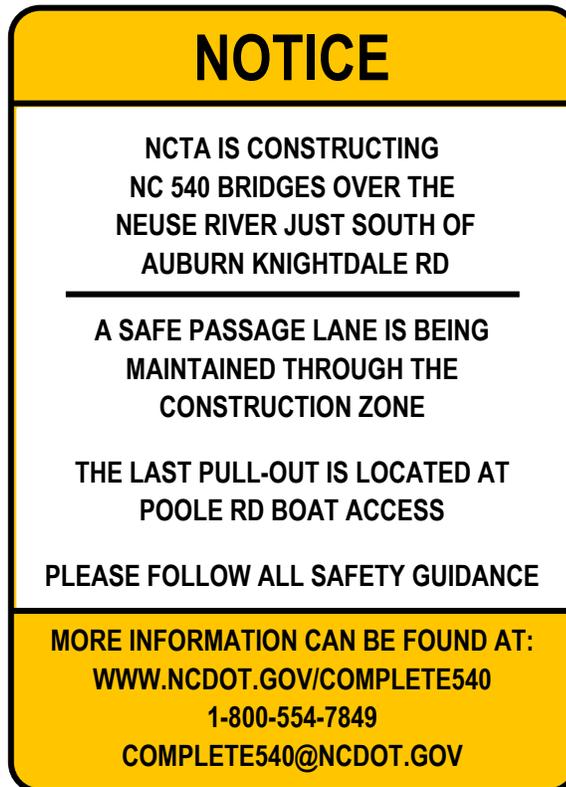
- In the event of a storm being forecast in the area that could result in localized flooding or overtopping the temporary access causeway, Flatiron-Fred Smith JV will remove all materials and equipment in advance of the storm.

Neuse River Specific Safety Precautions:

Paddlers or other users of the Neuse River waterway will be protected from construction operations as follows:

- Advanced warning Signage will be installed and maintained by Flatiron-Fred Smith JV at the following canoe / kayak access points upstream and downstream of the project location:
 - Lower Milburnie Dam (1101 Old Milburnie Rd, Raleigh, NC 27604)
 - Anderson Point Boat Access (20 Anderson Point Drive, Raleigh, NC 27610)
 - Poole Road Boat Access (6501 Poole Rd, Raleigh, NC 27610)
 - Mial Plantation Road Access (near 6008 Mial Plantation Rd, Raleigh, NC 27610)
 - Hwy 42 Boat Launch (2075 NC Highway 42 E, Clayton, NC)
 - Town of Smithfield Boat Ramp (200 N Front St, Smithfield, NC 27577)

The signs will be similar to the image below:



- Ring Buoys will be staged on each side of the river shoreline both immediately upstream and downstream of the construction zone for emergency rescue operations. Each ring

buoy will be equipped with a minimum of 100 feet of rescue line and a throw bag, mounted on a 4x4 timber post.

- Buoys and signage will be installed in the river to direct river users through the safe portion of the waterway (see sketch NEUSE-01).
- The buoys and signage will provide a safe perimeter around the proposed construction access causeway on the northern bank of the river to warn against unauthorized access to the causeway and work area by river users.
- Signage will direct river users if the river passage is open or closed. The passage will be open when it is safe to pass under the proposed bridge construction and there are no overhead activities ongoing. The passage will be closed and require canoe portage when active overhead operations such as bridge girder erection, stay in place form placement or overhang protection installation and removal. A portage route will be cleared and signed to allow for safe portage around the active construction. The portage route will be chosen to minimize the height of the bank to traverse during normal water elevations. In addition, during these closed times, Flatiron-Fred Smith JV will have monitors and flaggers further directing river users of the proper portage route.
- The Flatiron-Fred Smith JV will communicate to NCDOT / NCTA Communications and Marketing Department (CAMD) at least forty-five (45) days in advance of any construction activities that impact use of the Neuse River.

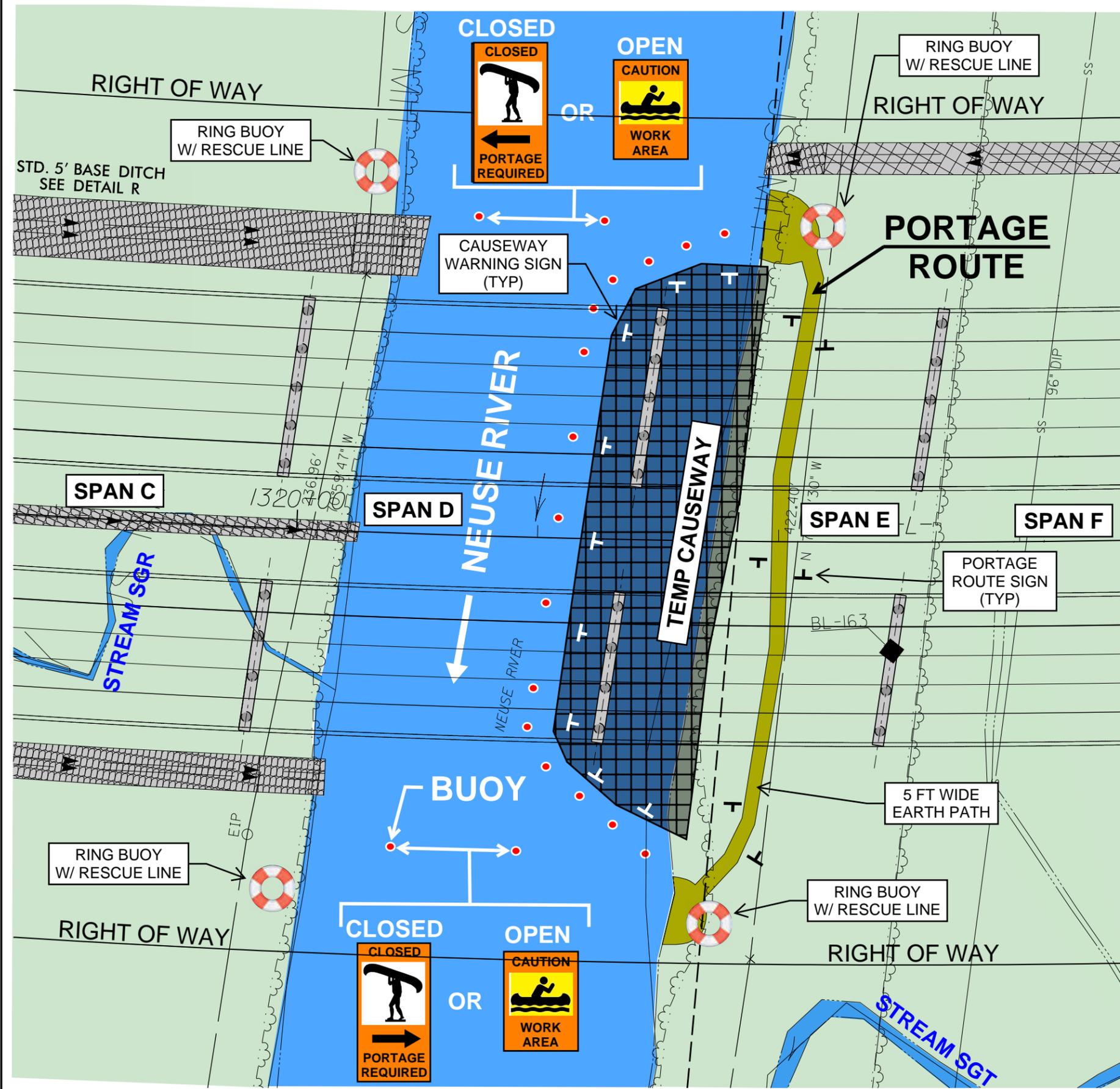
Neuse River Greenway Trail Specific Safety Precautions:

Users of the Neuse River Greenway Trail will be protected from construction operations as follows:

- The Flatiron-Fred Smith JV shall inform NCDOT Division 5 and NCTA at least forty-five (45) days in advance of any construction activities that impact use of the Neuse River Greenway Trail.
- A temporary trail detour route will be constructed and used to divert trail traffic away from active overhead construction activities (see sketches NEUSE-02 through NEUSE-04).
- Prior to beginning construction, orange safety fence will be placed on both sides of the existing greenway trail to keep greenway users on the trail and away from adjacent construction activities and equipment. The limits of the orange safety fence are shown on Figure NEUSE-02 and shall be turned 90 degrees and tied to the nearest tree to “funnel” users between the runs of safety fence. Orange safety fence to be maintained and/or reinstalled at the end of each shift where trail is being used for construction access.
- During the first phase of the bridge construction, trail traffic can be maintained on the existing trail while Bridge Spans C through I are completed. The temporary greenway trail alignment and a portion of the permanent greenway alignment revisions will be constructed during this phase of bridge construction. Paved trail surface to be maintained throughout this phase.

- Once Span C of the bridge is completed, the orange safety fencing will be added to the temporary and permanent trail alignment and greenway trail traffic will be switched to the temporary detour route under completed Span C. Once greenway trail traffic is switched under Span C, construction can commence on Spans A and B as well as the remainder of the permanent greenway alignment revisions.
- Bridge overhang protection removal over the Neuse River Greenway Trail will be done when the trail is closed at night between dusk and dawn.
- With the greenway traffic relocated, the construction of Bridge Spans A and B can be completed and the greenway trail traffic will be shifted to the revised permanent greenway alignment. Orange safety fence is to be placed and maintained along the revised permanent greenway trail for the remainder of the construction contract as well as any portion of the existing trail that remains in use through the construction area.
- The Flatiron-Fred Smith JV shall coordinate installation and removal of greenway protective measures with NCDOT Division 5 and NCTA when crossing the trail. No obstructions that impede the use of the trail shall be left in place after crossing the trail.

Details of the proposed user routing for both the Neuse River and the Neuse River Greenway Trail are provided on the following Figures NEUSE-01 through NEUSE-04.



- PADDLE ACCESS:**
1. PRIOR TO CONSTRUCTION OF BRIDGE SPAN D, PADDLER TRAFFIC WILL BE ROUTED THROUGH THE SOUTHERN SIDE OF THE RIVER USING FLOATING BUOYS AND CAUTION SIGNAGE AS SHOWN BELOW.
 2. DURING LIFTING OF SPAN D BEAMS OR OTHER OVERHEAD OPERATIONS FOR SPAN D, THE RIVER WILL BE CLOSED TO PADDLERS USING THE "PORTAGE REQUIRED" SIGNAGE. NO CONSTRUCTION ACTIVITY IN SPAN E IS ALLOWED WHEN THE PORTAGE ROUTE IS IN USE.
 3. PLACE RING BUOYS FOR EMERGENCY USE AT EACH PORTAGE LANDING AND ON OPPOSITE SIDE OF RIVER..

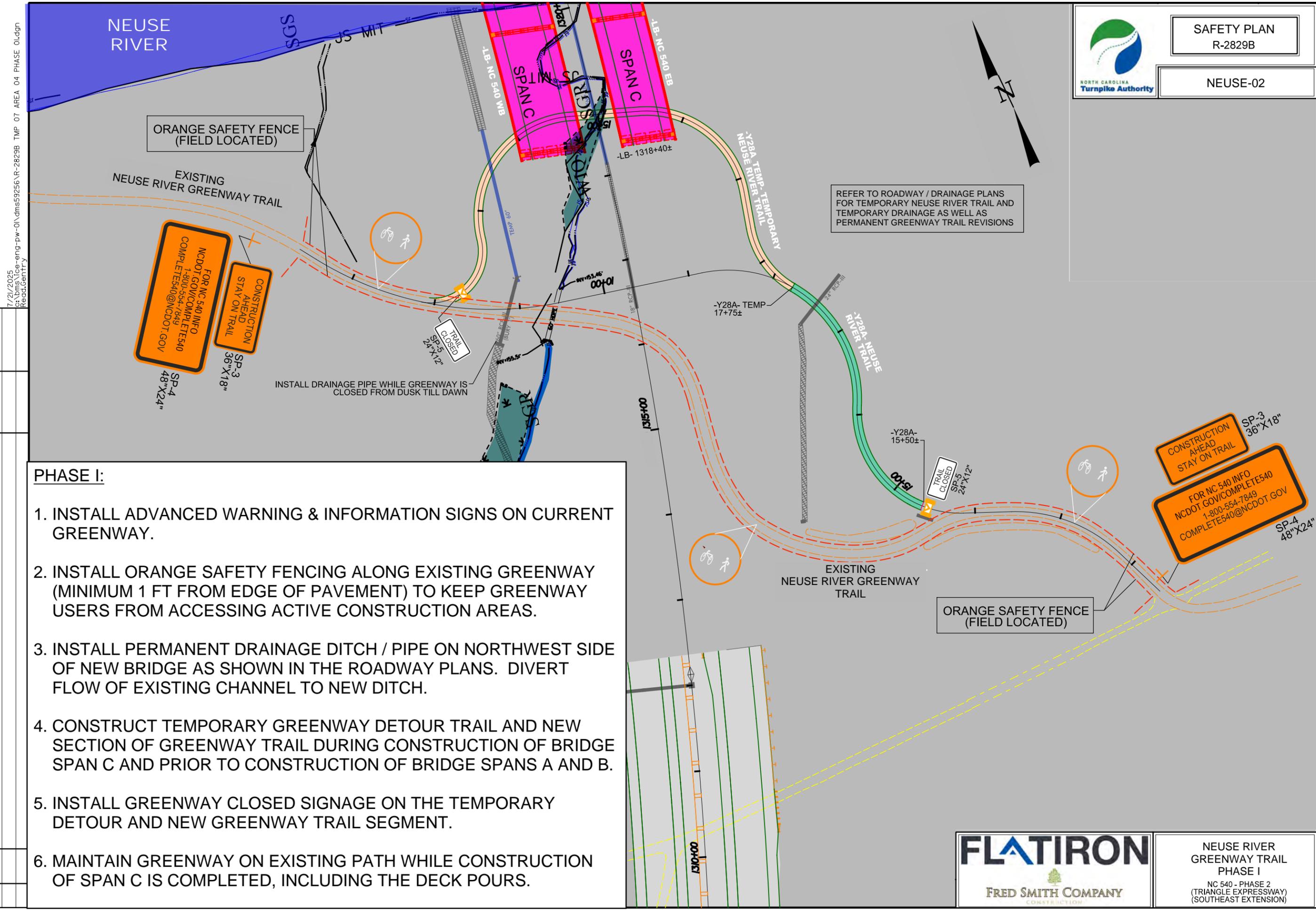
CAUTION SIGNAGE:



CAUSEWAY WARNING SIGN



PORTAGE ROUTE SIGN



REFER TO ROADWAY / DRAINAGE PLANS FOR TEMPORARY NEUSE RIVER TRAIL AND TEMPORARY DRAINAGE AS WELL AS PERMANENT GREENWAY TRAIL REVISIONS

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

CONSTRUCTION
AHEAD
STAY ON TRAIL
SP-3
36"X18"

SP-4
48"X24"

CONSTRUCTION
AHEAD
STAY ON TRAIL
SP-3
36"X18"

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

SP-4
48"X24"

PHASE I:

1. INSTALL ADVANCED WARNING & INFORMATION SIGNS ON CURRENT GREENWAY.
2. INSTALL ORANGE SAFETY FENCING ALONG EXISTING GREENWAY (MINIMUM 1 FT FROM EDGE OF PAVEMENT) TO KEEP GREENWAY USERS FROM ACCESSING ACTIVE CONSTRUCTION AREAS.
3. INSTALL PERMANENT DRAINAGE DITCH / PIPE ON NORTHWEST SIDE OF NEW BRIDGE AS SHOWN IN THE ROADWAY PLANS. DIVERT FLOW OF EXISTING CHANNEL TO NEW DITCH.
4. CONSTRUCT TEMPORARY GREENWAY DETOUR TRAIL AND NEW SECTION OF GREENWAY TRAIL DURING CONSTRUCTION OF BRIDGE SPAN C AND PRIOR TO CONSTRUCTION OF BRIDGE SPANS A AND B.
5. INSTALL GREENWAY CLOSED SIGNAGE ON THE TEMPORARY DETOUR AND NEW GREENWAY TRAIL SEGMENT.
6. MAINTAIN GREENWAY ON EXISTING PATH WHILE CONSTRUCTION OF SPAN C IS COMPLETED, INCLUDING THE DECK POURS.

INSTALL DRAINAGE PIPE WHILE GREENWAY IS CLOSED FROM DUSK TILL DAWN

| REVISIONS | | NO. | DATE | DESCRIPTION | REVISOR | CHECKED BY |
|-----------|---------|-----|--|-------------|---------|------------|
| Δ | 6-16-25 | 1 | Y28 & Y28A NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | CEO | GMK | GMK |
| Δ | 7-21-25 | 2 | Y28A & Y28A TEMP NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | KRG | GMK | GMK |

7/2/2025
 c:\bms\ice-eng-pw-01\dms59256\NR-2829B TMP 07 AREA 04 PHASE 01.dgn
 ReactGentry



NEUSE RIVER
GREENWAY TRAIL
PHASE I
NC 540 - PHASE 2
(TRIANGLE EXPRESSWAY)
(SOUTHEAST EXTENSION)

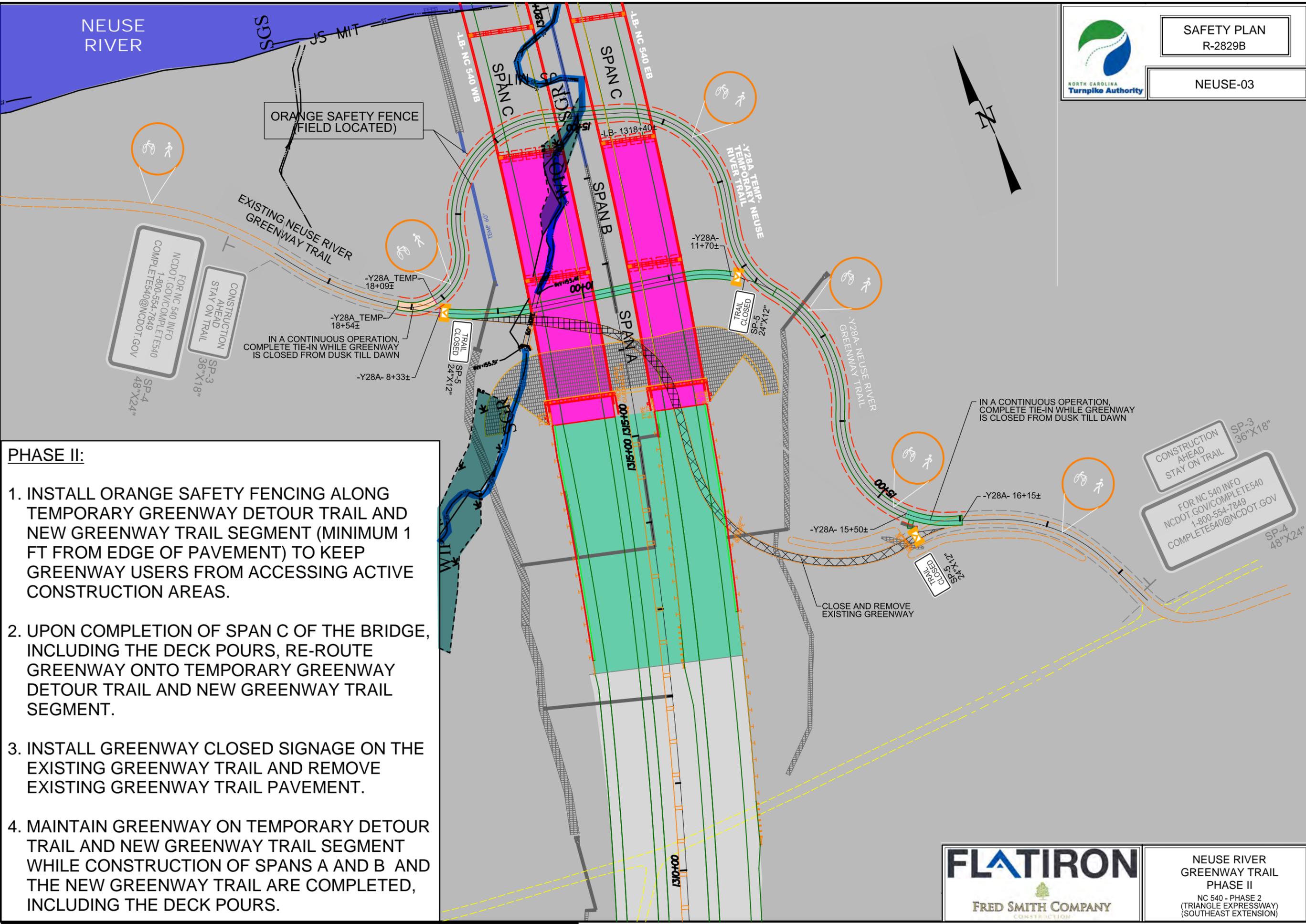


SAFETY PLAN
R-2829B

NEUSE-03



7/2/2025
c:\bms\ice-eng-pw-01\dms59256\1R-2829B TMP 07A AREA 04 PHASE 02.dgn
Reed,Genry



PHASE II:

1. INSTALL ORANGE SAFETY FENCING ALONG TEMPORARY GREENWAY DETOUR TRAIL AND NEW GREENWAY TRAIL SEGMENT (MINIMUM 1 FT FROM EDGE OF PAVEMENT) TO KEEP GREENWAY USERS FROM ACCESSING ACTIVE CONSTRUCTION AREAS.
2. UPON COMPLETION OF SPAN C OF THE BRIDGE, INCLUDING THE DECK POURS, RE-ROUTE GREENWAY ONTO TEMPORARY GREENWAY DETOUR TRAIL AND NEW GREENWAY TRAIL SEGMENT.
3. INSTALL GREENWAY CLOSED SIGNAGE ON THE EXISTING GREENWAY TRAIL AND REMOVE EXISTING GREENWAY TRAIL PAVEMENT.
4. MAINTAIN GREENWAY ON TEMPORARY DETOUR TRAIL AND NEW GREENWAY TRAIL SEGMENT WHILE CONSTRUCTION OF SPANS A AND B AND THE NEW GREENWAY TRAIL ARE COMPLETED, INCLUDING THE DECK POURS.

REVISIONS

| NO. | DATE | DESCRIPTION | REVISOR | CHECKED BY |
|-----|---------|--|---------|------------|
| 1 | 6-16-25 | Y28 & Y28A NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | CEO | GMK |
| 2 | 7-21-25 | Y28A & Y28A TEMP NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | KRG | GMK |



NEUSE RIVER
GREENWAY TRAIL
PHASE II
NC 540 - PHASE 2
(TRIANGLE EXPRESSWAY)
(SOUTHEAST EXTENSION)

CONSTRUCTION AHEAD STAY ON TRAIL SP-3 36"X18"

FOR NC 540 INFO
NCDOT.GOV/COMPLETE540
1-800-554-7849
COMPLETE540@NCDOT.GOV

SP-4 48"X24"

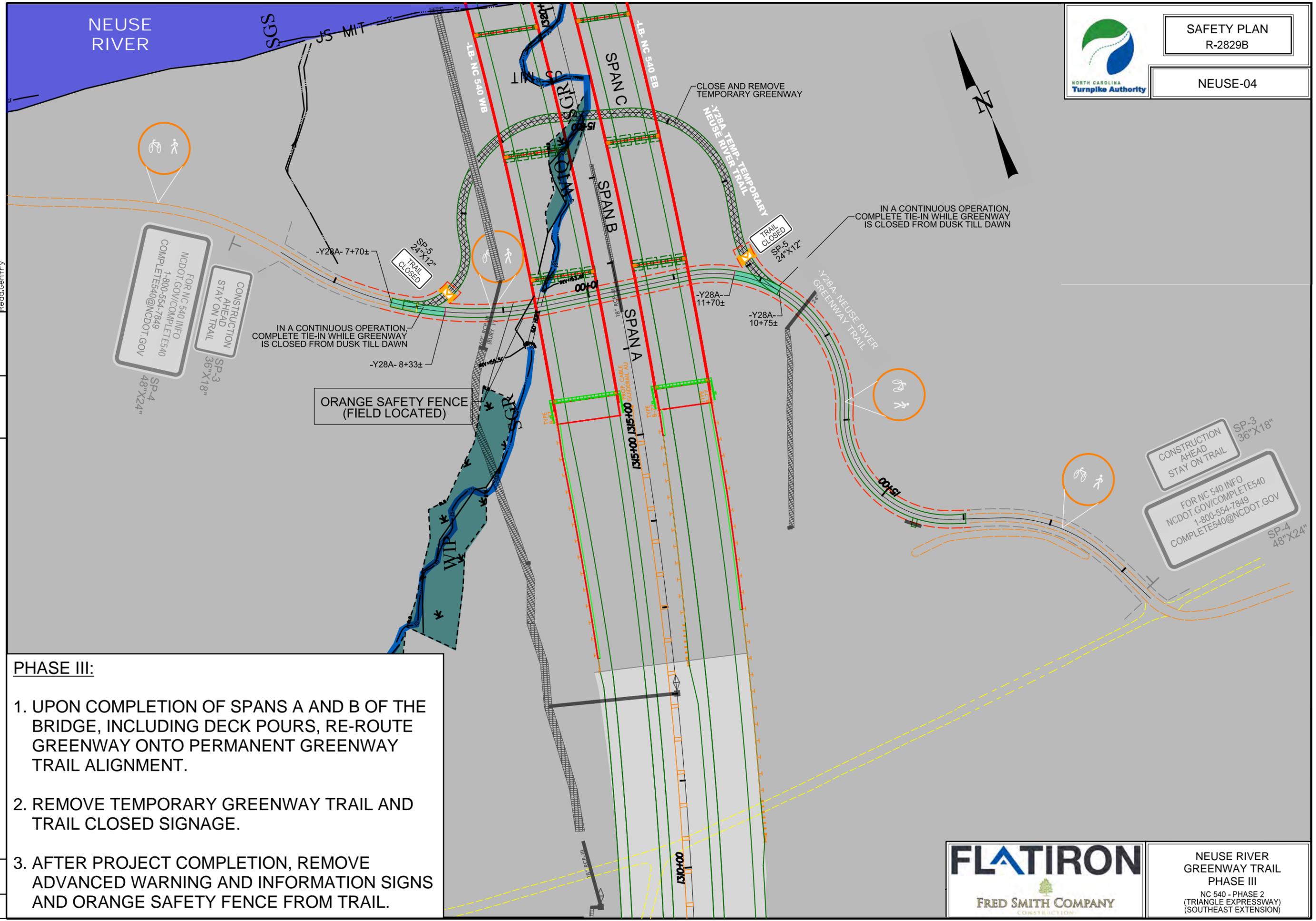


SAFETY PLAN
R-2829B

NEUSE-04



7/2/2025 c:\bms\ice-eng-pw-01\dms5256\1R-2829B TMP 07B AREA 04 PHASE 03.dgn Reel:Gentry



| REVISIONS | | NO. | DATE | DESCRIPTION | REVISOR | CHECKED BY |
|-----------|---------|--|------|-------------|---------|------------|
| ▲ | 6-16-25 | Y28 & Y28A NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | CEO | GMK | | |
| ▲ | 7-21-25 | Y28A & Y28A TEMP NEUSE RIVER GREENWAY TRAIL ALIGNMENTS REVISED | KRG | GMK | | |

PHASE III:

1. UPON COMPLETION OF SPANS A AND B OF THE BRIDGE, INCLUDING DECK POURS, RE-ROUTE GREENWAY ONTO PERMANENT GREENWAY TRAIL ALIGNMENT.
2. REMOVE TEMPORARY GREENWAY TRAIL AND TRAIL CLOSED SIGNAGE.
3. AFTER PROJECT COMPLETION, REMOVE ADVANCED WARNING AND INFORMATION SIGNS AND ORANGE SAFETY FENCE FROM TRAIL.



NEUSE RIVER GREENWAY TRAIL PHASE III
NC 540 - PHASE 2 (TRIANGLE EXPRESSWAY) (SOUTHEAST EXTENSION)

This in-field modification is required for the following reasons:

- The information contained in the application or presented in support thereof is incorrect in the following manner: N/A
- **Conditions under which the original certification was issued have changed in the following manner:**

Appears to be a long term stability problem at the outlet of Culvert 11. The original permits showed prior channelization of the wetland; however, the location of this path has shifted over time. The current location of the channel would allow for backflow from Stream HC into the backside of the permanent excavation riprap ditch which would cause long term stability issues. NC Turnpike is proposing to convert 0.003 ac of Mech Clearing to Permanent Fill in Wetland-JJ due to these existing site conditions. The team proposes to place Permanent Fill within the channelization to allow for an uninterrupted flow from the stream into the stream improvements. The team shall utilize excavated wetland material from the channel improvements to backfill the channelization and stabilize with wetland seed and coir fiber matting.

This in-field modification is valid only if issued by an authorized agent of the Division of Water Resources, Transportation Permitting Branch¹.

This in-field modification authorizes the NCDOT to

Convert 0.003 ac of Wetland Impact from Mechanized Clearing to Permanent Fill. Impact is already mitigated for and no change to amount of total impacts is proposed. This is for Site 32 on section R-2829B of the Complete 540 Project.

In WAKE County. The project shall be constructed as described in the Modification Description and Sketch of this document dated 03/17/2026 to construct the section of NC 540 that extends from I-87 to I-40. The approved design is that described in the Modification Description and Modification Sketch on Page 1 of this document dated 03/17/2026. Any further changes to the original Water Quality Certification dated **February 15, 2019, modified most recently March 17, 2026** 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.



Conditionss 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. As stated in your modification request, NC Turnpike shall utilize excavated wetland material from the channel improvements to backfill the channelization and stabilize with Wetland Seed and Coir Fiber Matting.**
- 4. Modified Site (#32, section R-2829B) shall be constructed in manner requested by NCDOT in accordance with the request dated March 17, 2026. Any variation will require an additional modification.**

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.

DocuSigned by:

 DWR Field Staff Signature: _____
 3/17/2026
 Date: _____

Signed by:

 DOT Field Staff Signature: _____
 3/17/2026
 Date: _____

¹ – 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.



Permitted Drawings

PERMIT DRAWING SHEET 76 OF 112

-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  SURFACE WATER IMPACTS POND
-  MECHANIZED CLEARING (GRUBBING)
-  TEMPORARY SURFACE WATER IMPACTS
-  TEMPORARY FILL IN WETLAND
-  HAND CLEARING (NON-GRUBBING)
-  WETLAND EXCAVATION



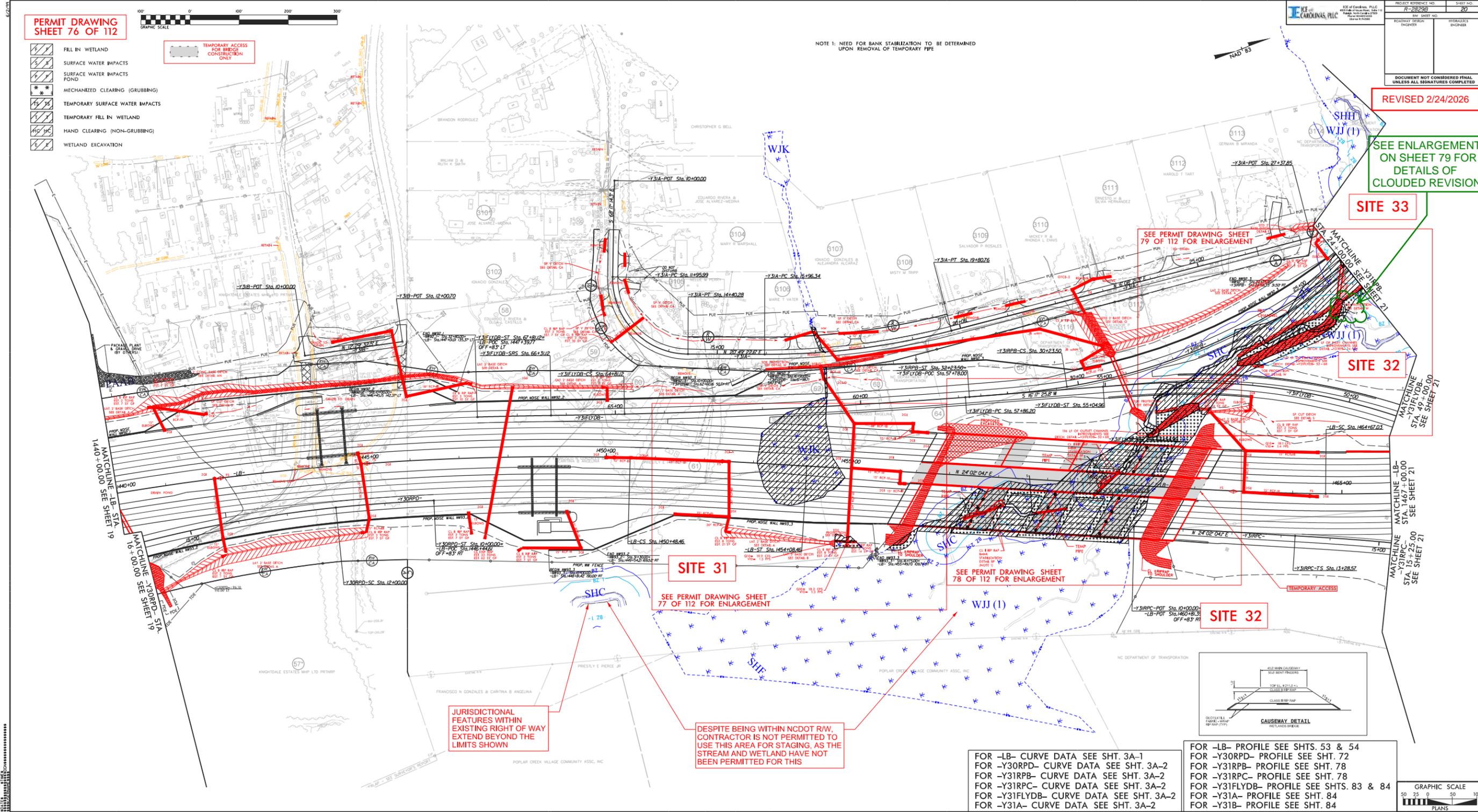
TEMPORARY ACCESS FOR BRIDGE CONSTRUCTION ONLY

NOTE 1: NEED FOR BANK STABILIZATION TO BE DETERMINED UPON REMOVAL OF TEMPORARY PIPE

| | |
|----------------------------------|---------------------|
| PROJECT REFERENCE NO. P-28239 | SHEET NO. 20 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

REVISED 2/24/2026

SEE ENLARGEMENT ON SHEET 79 FOR DETAILS OF CLOUDED REVISION

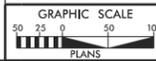


JURISDICTIONAL FEATURES WITHIN EXISTING RIGHT OF WAY EXTEND BEYOND THE LIMITS SHOWN

DESPITE BEING WITHIN NCDOT R/W, CONTRACTOR IS NOT PERMITTED TO USE THIS AREA FOR STAGING, AS THE STREAM AND WETLAND HAVE NOT BEEN PERMITTED FOR THIS

FOR -LB- CURVE DATA SEE SHT. 3A-1
 FOR -Y30RPD- CURVE DATA SEE SHT. 3A-2
 FOR -Y31RPB- CURVE DATA SEE SHT. 3A-2
 FOR -Y31RPC- CURVE DATA SEE SHT. 3A-2
 FOR -Y31FLYDB- CURVE DATA SEE SHT. 3A-2
 FOR -Y31A- CURVE DATA SEE SHT. 3A-2

FOR -LB- PROFILE SEE SHTS. 53 & 54
 FOR -Y30RPD- PROFILE SEE SHT. 72
 FOR -Y31RPB- PROFILE SEE SHT. 78
 FOR -Y31RPC- PROFILE SEE SHT. 78
 FOR -Y31FLYDB- PROFILE SEE SHTS. 83 & 84
 FOR -Y31A- PROFILE SEE SHT. 84
 FOR -Y31B- PROFILE SEE SHT. 84



8/17/99

PERMIT DRAWING SHEET 79 OF 112

SITE 32 ENLARGEMENT

-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  MECHANIZED CLEARING (GRUBBING)
-  WETLAND EXCAVATION



TEMPORARY ACCESS
FOR BRIDGE
CONSTRUCTION
ONLY

ICE of CAROLINAS, PLLC
ICE of Carolinas, PLLC
4505 Falls of Neuse Road, Suite 110
Raleigh, North Carolina 27609
Phone: 803-822-0333
License #: P-2999

PROJECT REFERENCE NO. SHEET NO.

R-2829B

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISED 2/24/2026

REGARDING PERMIT SITE 32 / CULVERT C11 OUTLET CHANNEL IMPROVEMENTS, WE NEED TO CONVERT 0.003 ac (10.1'x13.2') OF MECHANIZED CLEARING TO PERMANENT FILL IN WJJ(1) DUE TO EXISTING SITE CONDITIONS. THE ORIGINAL EROSION CONTROL PLANS AND PERMITS SHOWED PRIOR CHANNELIZATION OF THE WETLAND; HOWEVER, THE LOCATION OF THIS PATH SHIFTED OVER TIME. THE CURRENT LOCATION OF THE CHANNEL WOULD ALLOW FOR BACKFLOW FROM SHC INTO THE BACKSIDE OF THE PERMANENT EXCAVATION RIPRAP DITCH WHICH WOULD CAUSE LONG TERM STABILITY ISSUES. WE WILL NEED PERMANENT IMPACTS TO ALLOW FOR AN UNINTERRUPTED FLOW FROM THE JS INTO THE STREAM IMPROVEMENTS. WE INTEND TO UTILIZE EXCAVATED WETLAND MATERIAL FROM THE CHANNEL IMPROVEMENTS TO BACKFILL THE ORPHAN CHANNEL AND STABILIZE WITH WETLAND SEED AND COIR FIBER MATTING. ATTACHED IS A PLAN SHEET SHOWING THE CHANGE IN CHANNELIZATION WITH PHOTOS OF THE AREA BEFORE AND AFTER CONSTRUCTION STARTED.

CHANNEL
IMPROVEMENTS SEE
DETAIL
-29+13 /
B- 54+63

LAT. 2' BASE DITCH
SEE DETAIL A

FILL
CHANNEL

127 LF OF INLET CHANNEL
IMPROVEMENTS SEE
DITCH DETAIL -Y31RPB- 24+04

127 LF OF INLET CHANNEL
IMPROVEMENTS SEE
DITCH DETAIL -Y31FLYDB- 52+68

TOE PROTECTION
SEE DETAIL W

SITE 32

SITE 33

TOE PROTECTION
TAIL W

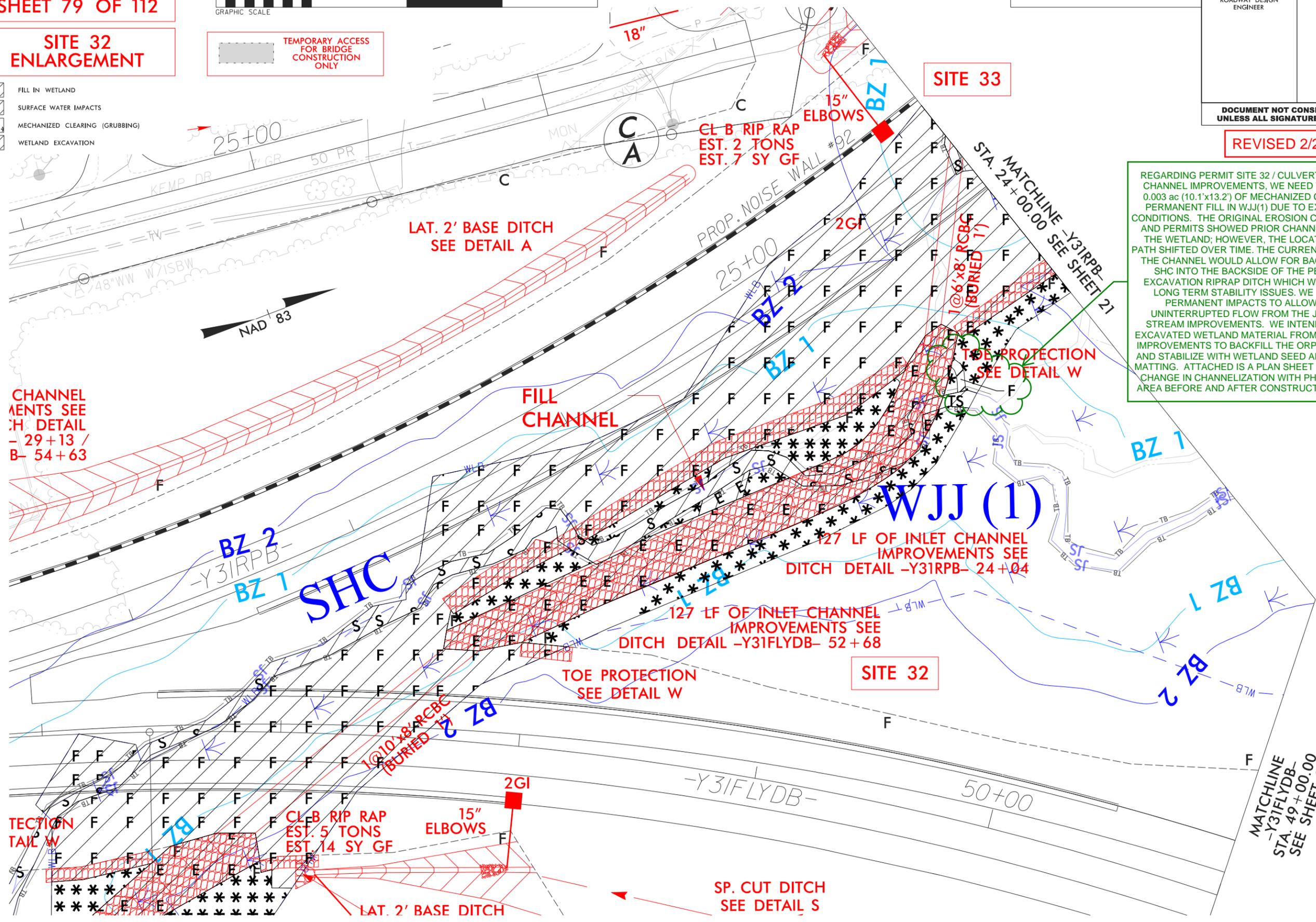
CL B RIP RAP
EST. 5 TONS
EST. 14 SY GF

15" ELBOWS

LAT. 2' BASE DITCH

SP. CUT DITCH
SEE DETAIL S

DATE: 8/17/99
DRAWN BY: [unreadable]
CHECKED BY: [unreadable]
APPROVED BY: [unreadable]



8/17/99

PERMIT DRAWING SHEET 79 OF 112

SITE 32 ENLARGEMENT

- FILL IN WETLAND
- SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)



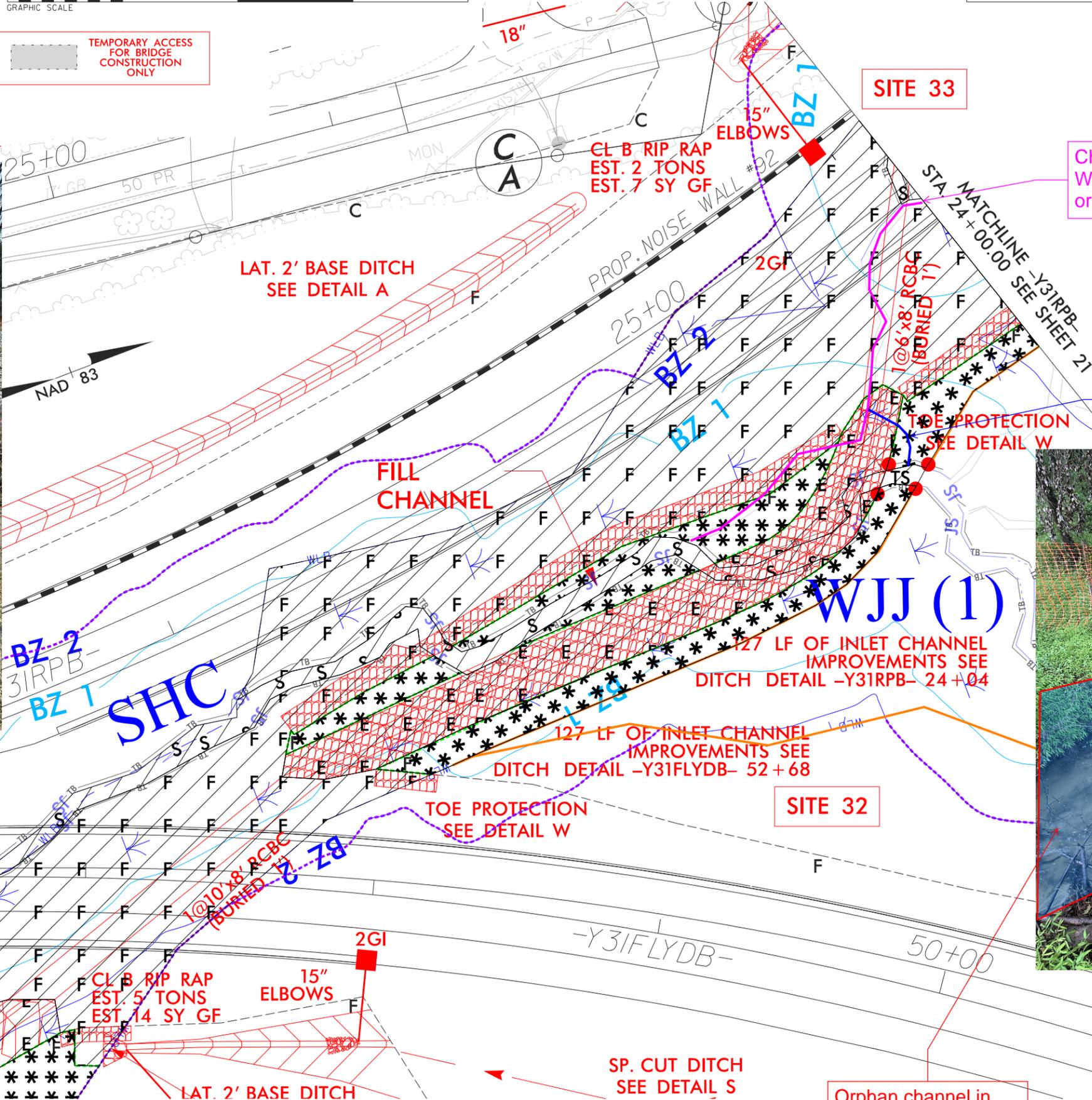
TEMPORARY ACCESS FOR BRIDGE CONSTRUCTION ONLY

ICE of CAROLINAS, PLLC
 4505 Falls of Neuse Road, Suite 110
 Raleigh, North Carolina 27609
 Phone: 803-822-0333
 License #: P-0999

| | |
|---|---------------------|
| PROJECT REFERENCE NO. R-2829B | SHEET NO. _____ |
| R/W SHEET NO. _____ | _____ |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



Current site condition, portion of WJJ(1) needing fill



Channelization of WJJ(1) shown on original plans

WJJ(1) field conditions-channelization moved



Orphan channel in mech clearing prior to construction

STATIONING: 25+00, 50+00, 50+00

MATCHLINE -Y31RPB- 24+00.00 SEE SHEET 21

MATCHLINE -Y31FLYDB- 52+68

MATCHLINE -Y31FLYDB- 50+00

WETLAND AND SURFACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Wetland and/or Stream ID | 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 | -L- 1197+22/1198+69, M | ROADWAY FILL | WHH | 0.143 | | | | | | | | | |
| 2 | -Y27-RPD- 18+86/20+85, LT | EMB. EXCAVATION | WHQ | | | 0.021 | 0.031 | | | | | | |
| 3 | -Y27-RPA- 12+57/22+32, RT | FILL (POND) | WHR, PAH | 0.037 | | | | | | 7.078 | | | |
| 4 | -Y27-RPA- 21+68/23+22, RT | DITCH EXCAVATION | WRV, SOR | 0.043 | | 0.040 | | | | 0.002 | | 34 | |
| 5 | -Y27-RPA- 13+89/17+08, RT | FILL | WAAH | 0.095 | | | | | | | | | |
| 6 | -Y27-RPA- 11+97/12+09, RT | DITCH | WHS, SAAM | 0.024 | | | 0.003 | | | 0.002 | | 11 | |
| 6 | -Y27-RPA- 11+81/12+99, RT | FILL | SGJ | | | | | | 0.022 | | 160 | | |
| 7 | -L- 1241+61/1242+00, RT | BANK STABILIZATION | SGK | | | | | | 0.006 | 0.005 | 28 | 23 | |
| 7 | -L- 1242+00/1242+30, RT | STRUCTURE STABILIZATION | SGK | | | | | | 0.006 | | 39 | | |
| 7 | -L- 1243+18, M | 2 @ 6'x8' RCBC | WHP, SGK | 0.027 | | | | | 0.054 | 0.005 | 406 | 23 | |
| 7 | -L- 1244+17/1244+44, LT | STRUCTURE STABILIZATION | SGK | | | | | | 0.013 | | 55 | | |
| 7 | -L- 1244+19/1244+91, LT | STRUCTURE STABILIZATION | SGJ | | | | | | 0.009 | 0.009 | 44 | 47 | |
| 7A | -L- 1240+99/1241+32, RT | DITCH EXCAVATION | WHM | | | | 0.038 | | | | | | |
| 8 | -L- 1253+21/1253+29, LT | BANK STABILIZATION | SGJ | | | | | | 0.003 | 0.006 | 32 | 42 | |
| 8 | -L- 1253+21/1253+29, LT | DITCH EXCAVATION | SGJ | | | | | | 0.001 | 0.001 | 7 | 7 | |
| 9 | -L- 1268+92/1269+46, LT | ROADWAY FILL | WIC | 0.052 | | | | | | | | | |
| 10 | -Y28- 14+75, LT/RT | BANK STABILIZATION | SGJ | | | | | | 0.004 | 0.008 | 32 | 57 | |
| 11 | -L- 1276+60/1277+19 RT | ROADWAY FILL | WIH | 0.053 | | | | | | | | | |
| 12 | -L- 1288+28/1288+34, LT | BANK STABILIZATION | SGI | | | | | | 0.004 | 0.003 | 22 | 17 | |
| 12 | -L- 1288+34/1288+15, LT | STRUCTURE STABILIZATION | SGI | | | | | | 0.008 | | 48 | | |
| 12 | -L- 1288+18, M | 3 @ 7'x8' RCBC | SGI | | | | | | 0.087 | 0.023 | 408 | 105 | |
| 12 | -L- 1288+11/1288+06, RT | STRUCTURE STABILIZATION | SGI | | | | | | 0.007 | | 26 | | |
| 12 | -L- 1288+06/1288+28, RT | BANK STABILIZATION | SGI | | | | | | 0.014 | 0.002 | 61 | 5 | |
| 13 | -Y27- 25+62, LT | DITCH EXCAVATION | WHG | | | 0.002 | 0.006 | | | | | | |
| 14 | -LB- 1315+04 TO 1315+72 LT | CHANNEL REALIGNMENT | WIP, SGR | 0.036 | | 0.021 | 0.030 | | 0.005 | | 58 | | |
| 14 | -LB- 1316+80 TO 1320+05 M | CHANNEL REALIGNMENT | WIQ, SGR | 0.044 | | 0.011 | | | 0.036 | | 442 | | |
| 15 | -LB- 1320+03 TO 1321+42 M | BRIDGE | Neuse River | | | | | | 0.005 | 0.009 | 20 | 51 | |
| 15 | -LB- 1320+87 TO 1321+76 M | BRIDGE CAUSEWAY | Neuse River | | | | | | | 0.300 | | 220 | |
| 15 | -LB- 1319+95 TO 1321+83 M | BANK STABILIZATION | Neuse River | | | | | | 0.011 | 0.012 | 51 | 73 | |
| 16 | -LB- 1323+35 TO 1323+55 RT | DITCH | SGT | | | | | | 0.002 | 0.001 | 10 | 12 | |
| TOTALS*: | | | | 0.554 | 0.000 | 0.095 | 0.108 | 0.000 | 7.375 | 0.388 | 1949 | 727 | |

*Rounded totals are sum of actual impacts

NOTES:

SITE 15 WETLAND WIR IS NON-404

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 10/14/2024 (REV 7/18/2025 & 10/14/2025)
 WAKE COUNTY

 R-2829B
 SHEET 110 OF 112

WETLAND AND SURFACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Wetland and/or Stream ID | 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) |
| 17 | -Y29RPA- 28+45 TO 27+03 LT | ROADWAY FILL | WIU | 0.118 | | | 0.031 | | | | | | |
| 18 | -LB- 1343+75 TO 1348+35 M** | BRIDGE CAUSEWAY | SGU, WIW | 0.615 | | 0.028 | 0.113 | | | 0.007 | | 73 | |
| 18 | -LB- 1345+30 TO 1346+41 M | BANK STABILIZATION | SGU | | | | | | 0.071 | 0.016 | 306 | 36 | |
| 19 | -Y29RPA- 19+91 TO 22+80 M *** | BRIDGE/CHANNEL CHANGE | WIV | 0.066 | | 0.133 | 0.115 | | | | | | |
| 20 | -LB- 1348+26 TO 1354+79 M | ROADWAY FILL | SGV, WIX | 0.001 | | 0.001 | 0.021 | | 0.036 | 0.001 | 793 | 12 | |
| 21 | -LB- 1373+42 TO 1374+06 RT | ROADWAY FILL | WIY | 0.089 | | | 0.032 | | | | | | |
| 22 | -LB- 1377+53 TO 1382+16 M | ROADWAY FILL | SGY, WIZ | 0.181 | | | | | 0.021 | | 309 | | |
| 22 | -LB- 1381+13 TO 1381+24 LT | COUNTERSUNK RIPRAP | SGY | | | | | | 0.002 | 0.001 | 28 | 10 | |
| 22 | -LB- 1381+15 TO 1381+55 LT | ROADWAY FILL | WJA | 0.002 | | 0.003 | 0.036 | | | | | | |
| 22 | -LB- 1377+53 TO 1380+76 RT | ROADWAY FILL (POND) | PAI | | | | | | 1.679 | | | | |
| 23 | -LB- 1390+22 TO 1390+64 RT | ROADWAY FILL | WJB | | | | 0.011 | | | | | | |
| 23 | -LB- 1388+53 TO 1394+71 M | ROADWAY FILL (POND) | PAK | | | | | | 4.543 | | | | |
| 24 | -LB- 1404+10 TO 1405+75 M | 1 @ 6'x8' RCBC | SHA, WJD | 0.357 | | 0.039 | 0.044 | | 0.023 | | 290 | | |
| 24 | -LB- 1404+71 TO 1404+82 RT | COUNTERSUNK RIPRAP | SHA | | | | | | 0.001 | 0.001 | 15 | 11 | |
| 25 | -LB- 1412+45 TO 1415+37 M | 1 @ 6'x8' RCBC | SHB, WJD | 1.232 | | 0.039 | 0.102 | | 0.003 | | 48 | | |
| 25 | -LB- 1413+94 LT | COUNTERSUNK RIPRAP | SHB | | | | | | | 0.001 | 8 | 13 | |
| 25 | -Y30A- 10+58 TO 12+97 M | 1 6'x8' | SHD | 0.209 | | 0.042 | 0.156 | | | | | | |
| 27 | -Y30- 22+73 TO 37+02 M | ROADWAY FILL | SHC | 0.271 | | | | | 0.171 | | 1804 | | |
| 27 | -Y30- 22+79 RT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.001 | 0.001 | 10 | 10 | |
| 28 | -Y30- 36+94 TO 37+96 M | 2 @ 12'x11' | SHC | | | | | | 0.041 | | 174 | | |
| 28 | -Y30- 37+24 TO 37+64 LT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.029 | 0.003 | 83 | 9 | |
| 28 | -Y30- 37+21 TO 38+01 RT | CHANNEL CHANGE | SHC | | | | | | 0.015 | | 39 | | |
| 28 | -Y30A- 21+58 TO 22+00 M | 3 @ 12'x11' | SHC | | | | | | 0.022 | | 48 | | |
| 28 | -Y30A- 21+64 TO 21+94 RT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.015 | | 30 | | |
| 28 | -Y30A- 21+37 TO 22+00 RT | BANK STABILIZATION | SHC | | | | | | 0.031 | 0.005 | 65 | 10 | |
| 29 | -Y30RPD- 25+73 TO 25+06 LT | ROADWAY FILL | SHE | | | | | | 0.024 | | 173 | | |
| 29 | -LB- 1431+22 TO 1432+16 M | ROADWAY FILL (POND) | POND WJI | | | | | | 0.106 | | | | |
| TOTALS*: | | | | 3.141 | 0.000 | 0.285 | 0.661 | 0.000 | 6.834 | 0.036 | 4223 | 184 | |

*Rounded totals are sum of actual impacts

NOTES:

** SITE 18 Mechanized clearing total has been calculated for the worst-case scenario of losing entire wetland WIW

*** SITE 19 There will be temporary fill placed in the 0.003 ac. under the causeway which will be removed post-construction

SITE 26 CONTAINS NO WET IMPACTS AND HAS BEEN OMITTED FROM SUMMARY

SITE 30 CONTAINS NO WET IMPACTS AND HAS BEEN OMITTED FROM SUMMARY

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 10/14/2024 (REV 07/18/2025)
 WAKE COUNTY

R-2829B

WETLAND AND SURFACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Wetland and/or Stream ID | 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 | -L- 1197+22/1198+69, M | ROADWAY FILL | WHH | 0.143 | | | | | | | | | |
| 2 | -Y27-RPD- 18+86/20+85, LT | EMB. EXCAVATION | WHQ | | | 0.021 | 0.031 | | | | | | |
| 3 | -Y27-RPA- 12+57/22+32, RT | FILL (POND) | WHR, PAH | 0.037 | | | | | | 7.078 | | | |
| 4 | -Y27-RPA- 21+68/23+22, RT | DITCH EXCAVATION | WRV, SOR | 0.043 | | 0.040 | | | | 0.002 | | 34 | |
| 5 | -Y27-RPA- 13+89/17+08, RT | FILL | WAAH | 0.095 | | | | | | | | | |
| 6 | -Y27-RPA- 11+97/12+09, RT | DITCH | WHS, SAAM | 0.024 | | | 0.003 | | | 0.002 | | 11 | |
| 6 | -Y27-RPA- 11+81/12+99, RT | FILL | SGJ | | | | | | | 0.022 | | 160 | |
| 7 | -L- 1241+61/1242+00, RT | BANK STABILIZATION | SGK | | | | | | | 0.006 | 0.005 | 28 | 23 |
| 7 | -L- 1242+00/1242+30, RT | STRUCTURE STABILIZATION | SGK | | | | | | | 0.006 | | 39 | |
| 7 | -L- 1243+18, M | 2 @ 6'x8' RCBC | WHP, SGK | 0.027 | | | | | | 0.054 | 0.005 | 406 | 23 |
| 7 | -L- 1244+17/1244+44, LT | STRUCTURE STABILIZATION | SGK | | | | | | | 0.013 | | 55 | |
| 7 | -L- 1244+19/1244+91, LT | STRUCTURE STABILIZATION | SGJ | | | | | | | 0.009 | 0.009 | 44 | 47 |
| 7A | -L- 1240+99/1241+32, RT | DITCH EXCAVATION | WHM | | | | 0.038 | | | | | | |
| 8 | -L- 1253+21/1253+29, LT | BANK STABILIZATION | SGJ | | | | | | | 0.003 | 0.006 | 32 | 42 |
| 8 | -L- 1253+21/1253+29, LT | DITCH EXCAVATION | SGJ | | | | | | | 0.001 | 0.001 | 7 | 7 |
| 9 | -L- 1268+92/1269+46, LT | ROADWAY FILL | WIC | 0.052 | | | | | | | | | |
| 10 | -Y28- 14+75, LT/RT | BANK STABILIZATION | SGJ | | | | | | | 0.004 | 0.008 | 32 | 57 |
| 11 | -L- 1276+60/1277+19 RT | ROADWAY FILL | WIH | 0.053 | | | | | | | | | |
| 12 | -L- 1288+28/1288+34, LT | BANK STABILIZATION | SGI | | | | | | | 0.004 | 0.003 | 22 | 17 |
| 12 | -L- 1288+34/1288+15, LT | STRUCTURE STABILIZATION | SGI | | | | | | | 0.008 | | 48 | |
| 12 | -L- 1288+18, M | 3 @ 7'x8' RCBC | SGI | | | | | | | 0.087 | 0.023 | 408 | 105 |
| 12 | -L- 1288+11/1288+06, RT | STRUCTURE STABILIZATION | SGI | | | | | | | 0.007 | | 26 | |
| 12 | -L- 1288+06/1288+28, RT | BANK STABILIZATION | SGI | | | | | | | 0.014 | 0.002 | 61 | 5 |
| 13 | -Y27- 25+62, LT | DITCH EXCAVATION | WHG | | | 0.002 | 0.006 | | | | | | |
| 14 | -LB- 1315+04 TO 1315+72 LT | CHANNEL REALIGNMENT | WIP, SGR | 0.036 | | 0.021 | 0.030 | | | 0.005 | | 58 | |
| 14 | -LB- 1316+80 TO 1320+05 M | CHANNEL REALIGNMENT | WIQ, SGR | 0.044 | | 0.011 | | | | 0.036 | | 442 | |
| 15 | -LB- 1320+03 TO 1321+42 M | BRIDGE | Neuse River | | | | | | | 0.005 | 0.009 | 20 | 51 |
| 15 | -LB- 1320+87 TO 1321+76 M | BRIDGE CAUSEWAY | Neuse River | | | | | | | | 0.300 | | 220 |
| 15 | -LB- 1319+95 TO 1321+83 M | BANK STABILIZATION | Neuse River | | | | | | | 0.011 | 0.012 | 51 | 73 |
| 16 | -LB- 1323+35 TO 1323+55 RT | DITCH | SGT | | | | | | | 0.002 | 0.001 | 10 | 12 |
| TOTALS*: | | | | 0.554 | 0.000 | 0.095 | 0.108 | 0.000 | | 7.375 | 0.388 | 1949 | 727 |

*Rounded totals are sum of actual impacts

NOTES:

SITE 15 WETLAND WIR IS NON-404

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 10/14/2024 (REV 7/18/2025 & 10/14/2025)
 WAKE COUNTY

R-2829B

WETLAND AND SURFACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Wetland and/or Stream ID | 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) |
| 17 | -Y29RPA- 28+45 TO 27+03 LT | ROADWAY FILL | WIU | 0.118 | | | 0.031 | | | | | | |
| 18 | -LB- 1343+75 TO 1348+35 M** | BRIDGE CAUSEWAY | SGU, WIW | 0.615 | | 0.028 | 0.113 | | | 0.007 | | 73 | |
| 18 | -LB- 1345+30 TO 1346+41 M | BANK STABILIZATION | SGU | | | | | | 0.071 | 0.016 | 306 | 36 | |
| 19 | -Y29RPA- 19+91 TO 22+80 M *** | BRIDGE/CHANNEL CHANGE | WIV | 0.066 | | 0.133 | 0.115 | | | | | | |
| 20 | -LB- 1348+26 TO 1354+79 M | ROADWAY FILL | SGV, WIX | 0.001 | | 0.001 | 0.021 | | 0.036 | 0.001 | 793 | 12 | |
| 21 | -LB- 1373+42 TO 1374+06 RT | ROADWAY FILL | WIY | 0.089 | | | 0.032 | | | | | | |
| 22 | -LB- 1377+53 TO 1382+16 M | ROADWAY FILL | SGY, WIZ | 0.181 | | | | | 0.021 | | 309 | | |
| 22 | -LB- 1381+13 TO 1381+24 LT | COUNTERSUNK RIPRAP | SGY | | | | | | 0.002 | 0.001 | 28 | 10 | |
| 22 | -LB- 1381+15 TO 1381+55 LT | ROADWAY FILL | WJA | 0.002 | | 0.003 | 0.036 | | | | | | |
| 22 | -LB- 1377+53 TO 1380+76 RT | ROADWAY FILL (POND) | PAI | | | | | | 1.679 | | | | |
| 23 | -LB- 1390+22 TO 1390+64 RT | ROADWAY FILL | WJB | | | | 0.011 | | | | | | |
| 23 | -LB- 1388+53 TO 1394+71 M | ROADWAY FILL (POND) | PAK | | | | | | 4.543 | | | | |
| 24 | -LB- 1404+10 TO 1405+75 M | 1 @ 6'x8' RCBC | SHA, WJD | 0.357 | | 0.039 | 0.044 | | 0.023 | | 290 | | |
| 24 | -LB- 1404+71 TO 1404+82 RT | COUNTERSUNK RIPRAP | SHA | | | | | | 0.001 | 0.001 | 15 | 11 | |
| 25 | -LB- 1412+45 TO 1415+37 M | 1 @ 6'x8' RCBC | SHB, WJD | 1.232 | | 0.039 | 0.102 | | 0.003 | | 48 | | |
| 25 | -LB- 1413+94 LT | COUNTERSUNK RIPRAP | SHB | | | | | | | 0.001 | 8 | 13 | |
| 25 | -Y30A- 10+58 TO 12+97 M | 1 6'x8' | SHD | 0.209 | | 0.042 | 0.156 | | | | | | |
| 27 | -Y30- 22+73 TO 37+02 M | ROADWAY FILL | SHC | 0.271 | | | | | 0.171 | | 1804 | | |
| 27 | -Y30- 22+79 RT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.001 | 0.001 | 10 | 10 | |
| 28 | -Y30- 36+94 TO 37+96 M | 2 @ 12'x11' | SHC | | | | | | 0.041 | | 174 | | |
| 28 | -Y30- 37+24 TO 37+64 LT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.029 | 0.003 | 83 | 9 | |
| 28 | -Y30- 37+21 TO 38+01 RT | CHANNEL CHANGE | SHC | | | | | | 0.015 | | 39 | | |
| 28 | -Y30A- 21+58 TO 22+00 M | 3 @ 12'x11' | SHC | | | | | | 0.022 | | 48 | | |
| 28 | -Y30A- 21+64 TO 21+94 RT | COUNTERSUNK RIPRAP | SHC | | | | | | 0.015 | | 30 | | |
| 28 | -Y30A- 21+37 TO 22+00 RT | BANK STABILIZATION | SHC | | | | | | 0.031 | 0.005 | 65 | 10 | |
| 29 | -Y30RPD- 25+73 TO 25+06 LT | ROADWAY FILL | SHE | | | | | | 0.024 | | 173 | | |
| 29 | -LB- 1431+22 TO 1432+16 M | ROADWAY FILL (POND) | POND WJI | | | | | | 0.106 | | | | |
| TOTALS*: | | | | 3.141 | 0.000 | 0.285 | 0.661 | 0.000 | 6.834 | 0.036 | 4223 | 184 | |

*Rounded totals are sum of actual impacts

NOTES:

** SITE 18 Mechanized clearing total has been calculated for the worst-case scenario of losing entire wetland WIW

*** SITE 19 There will be temporary fill placed in the 0.003 ac. under the causeway which will be removed post-construction

SITE 26 CONTAINS NO WET IMPACTS AND HAS BEEN OMITTED FROM SUMMARY

SITE 30 CONTAINS NO WET IMPACTS AND HAS BEEN OMITTED FROM SUMMARY

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 10/14/2024 (REV 07/18/2025)
 WAKE COUNTY

R-2829B

RIPARIAN BUFFER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Stream ID | IMPACTS | | | | | | | | | BUFFER REPLACEMENT | | |
|-----------------|-----------------------------|-----------------------|-------------|---------------|--------|-----------------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|--|
| | | | | 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 | -L- 1195+47/1196+04 , LT | DITCH EXCAVATION | SGH | | | X | | | | | 1571 | 2334 | 3905 | | |
| 3 | -Y27-RPA- 12+22/22+93, RT | POND REMOVAL | PAH | | | X | | | | | 74171 | 48230 | 122401 | | |
| 6 | -Y27-RPA- 22+78/23+28, RT | DITCH EXCAVATION | SAAM | | | X | | | | | 1574 | 180 | 1754 | | |
| 6 | -Y27-RPA- 22+78/23+28, RT | POND REMOVAL | SGJ | | | X | | | | | 10462 | 5253 | 15715 | | |
| 7 | -L- 1241+20/1245+56 | 2 @ 6'x8' RCBC | SGK | X | | | | | | | 34491 | 21916 | 56407 | | |
| 8 | -L- 1253+17/1253+96, LT | DITCH EXCAVATION | SGJ | | | X | | | | | 2484 | 1462 | 3946 | | |
| 10 | -Y28- 15+00 | ROAD CROSSING | SGJ | | | X | 2813 | 1850 | 4663 | | | | | | |
| 12 | -L- 1287+08/1288+88 | 3 @ 7'x8' RCBC | SGL | X | | | | | | | 33194 | 21796 | 54990 | | |
| 14 | -LB- 1313+98 TO 1319+64 M | CHANNEL REALIGNMENT | SGR | | X | | | | | | 27754 | 18077 | 45831 | | |
| 15 | -LB- 1319+37 TO 1322+40 M | BRIDGE | Neuse River | | X | | 12996 | 5136 | 18132 | | | | | | |
| 15 | -LB- 1319+35 TO 1322+57 M | DITCH EXCAVATION | Neuse River | | X | | | | | | 8779 | 5123 | 13902 | | |
| 16 | -LB- 1321+75 TO 1324+01 RT | BRIDGE | SGT | | X | | | | | | 3912 | 4609 | 8521 | | |
| 18 | -LB- 1344+83 TO 1348+34 M | BRIDGES | SGU | | X | | 32853 | 18719 | 51572 | | 20211 | 14256 | 34467 | | |
| 20 | -LB- 1348+68 TO 1355+27 M | ROADWAY FILL | SGV | X | | | | | | | 42154 | 27904 | 70058 | | |
| 20 | -LB- 1348++13 TO 1349+37 RT | BRIDGE | SGV | | X | | 3232 | 1006 | 4238 | | 1978 | 1336 | 3314 | | |
| 22 | -LB- 1380+15 TO 1381+80 M | ROADWAY FILL | SGY | X | | | | | | | 20339 | 13343 | 33682 | | |
| 22 | -LB- 1377+04 TO 1381+28 RT | ROADWAY FILL (POND) | PAI | X | | | | | | | 38584 | 27420 | 66004 | | |
| 24 | -LB- 1404+17 TO 1405+90 M | 1 @ 6'x8' RCBC | SHA | X | | | | | | | 19269 | 13337 | 32606 | | |
| 25 | -Y30RPB- 17+72 TO 20+71 M | 1 @ 6'x8' | SHB | X | | | | | | | 9054 | 7487 | 16541 | | |
| 27 | -Y30- 22+34 TO 24+77 M | ROADWAY FILL | SHD | X | | | | | | | 16565 | 8783 | 25348 | | |
| 27 | -Y30- 23+31 TO 36+68 M | ROADWAY FILL | SHD | | | X | | | | | 74775 | 42097 | 116872 | | |
| 28 | -Y30- 36+45 TO 38+85 M | 2@12'X11', 3@12'X11' | SHC | X | | | | | | | 25651 | 14793 | 40444 | | |
| 29 | -Y30RPD- 24+55 TO 26+22 LT | ROADWAY FILL | SHE | X | | | | | | | 14071 | 12463 | 26534 | | |
| 30 | -LB- 1438+31 TO 1438+74 LT | DITCH EXCAVATION | SAAB | X | | | 186 | 1026 | 1212 | | | | | | |
| 32 | -LB- 1456+26 TO 1461+73 M | BRIDGE | SHC | | X | | 24699 | 19034 | 43733 | | | | | | |
| 32 | -Y31FLYDB- 50+22 TO 54+90 M | 1@10'x8' RCBC | SHC | X | | | | | | | 33895 | 20847 | 54742 | | |
| 32 | -Y31LPB- 16+32 TO 22+05 LT | ROADWAY FILL | SHC | | | X | | | | | 22197 | 14637 | 36834 | | |
| 32 | -Y31LPB- 15+66 TO 16+52 LT | ROADWAY FILL | SHC | X | | | | | | | 19305 | 10950 | 30255 | | |
| 33 | -Y31RPB- 21+02 TO 24+50 M | 1 @ 6'x8' RCBC | SHH | X | | | | | | | 12507 | 12767 | 25274 | | |
| 35 | -Y31LPD- 18+30 TO 20+14 LT | ROADWAY FILL | Pond PAM | X | | | | | | | 22774 | 18737 | 41511 | | |
| TOTALS*: | | | | | | | 76779 | 46771 | 123550 | 591721 | 390137 | 981858 | 0 | 0 | |

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 12/4/2024 (REV 10/14/2025)
 WAKE COUNTY
 R-2829B

RIPARIAN BUFFER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | Stream ID | IMPACTS | | | | | | | | | BUFFER REPLACEMENT | |
|-----------------|----------------------------|------------------------|-------------|---------------|--------|-----------------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| | | | | 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) | | |
| 36 | -LB- 1516+21 TO 1516+72 LT | ROADWAY FILL | SAAJ | X | | | 5421 | 2836 | 8257 | | | | | |
| 37 | -Y29- 8+50 TO 9+10 LT | DITCH EXCAVATION | Neuse River | X | | | | | | 1244 | 1021 | 2265 | | |
| 38 | -Y31RPC- 36+27 TO 38+23 RT | 1@9'x6' RCBC EXTENSION | SHL | X | | | 4572 | 887 | 5459 | | | | | |
| 38 | -Y31RPC- 35+98 TO 37+05 RT | ROADWAY FILL | SAAL | X | | | 1859 | 733 | 2592 | | | | | |
| 39 | -Y31RPD- 39+41 TO 40+67 RT | 1@9'x6' RCBC EXTENSION | SHL | X | | | 4797 | 3241 | 8038 | | | | | |
| SHEET 32 TOTALS | | | | | | | 76779 | 46771 | 123550 | 591721 | 390137 | 981858 | | |
| TOTALS*: | | | | | | | 93428 | 54468 | 147896 | 592965 | 391158 | 984123 | 0 | 0 |

NOTES:

NC DEPARTMENT OF TRANSPORTATION
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 WAKE COUNTY
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WETLANDS IN BUFFER IMPACTS SUMMARY

| SITE NO. | STATION (FROM/TO) | WETLAND ID | WETLANDS IN BUFFERS | |
|---------------|---------------------------|------------|---------------------------|---------------------------|
| | | | ZONE 1 (ft ²) | ZONE 2 (ft ²) |
| 3 | -Y27-RPA- 19+09/20+33, RT | WHR | 1615 | 0 |
| 3 | -Y27-RPA- 21+68/22+86, RT | WRV | 1682 | 894 |
| 3 | -Y27-RPA- 13+90/17+08, RT | WAAH | 4036 | 97 |
| 6 | -Y27-RPA- 13+88/17+08, RT | WHS | 185 | 0 |
| 6 | -Y27-RPA- 13+88/17+08, RT | WHS | 1002 | 0 |
| 7 | -L- 1243+20/1243+59, LT | WHP | 994 | 45 |
| 7 | -L- 1241+20/1241+68, RT | WHM | 498 | 611 |
| 14 | -LB- 1314+05/1315+42 LT | WIP | 1611 | 1280 |
| 14 | -LB- 1316+56/1319+94 M | WIQ | 1866 | 0 |
| 18 | -LB- 1345+15/1345+94 M | WIW | 3034 | 3429 |
| 18 | -Y29RPA- 22+33/23+00 LT | WIV | 883 | 363 |
| 20 | -LB- 1348+33/1355+30 RT | WIX | 22 | 136 |
| 22 | -LB-1380+18/1381+26 RT | WIZ | 4161 | 856 |
| 22 | -LB-1381+16/1381+57 LT | WJA | 1516 | 113 |
| 24 | -LB- 1404+63/1405+58 M | WJD | 3215 | 2327 |
| 25 | -Y30RPB- 17+72/19+05 M | WJF | 6932 | 2763 |
| 27 | -Y30- 28+62/33+72 M | WJH | 3905 | 5107 |
| 32 | -LB- 1456+60/1461+72 M | WJJ(1) | 24019 | 14226 |
| 32 | -Y31FLYDB- 50+23/54+62 M | WJJ(1) | 24771 | 9339 |
| 32 | -Y31LPB- 45+35/45+81 RT | WJL | 506 | 0 |
| 32 | -Y31LPB- 15+68/16+45 LT | WJJ(1) | 17998 | 8967 |
| 33 | -Y31RPB- 21+60/24+46 M | WJJ(1) | 7266 | 3102 |
| 35 | -Y31LPD- 19+19/19+25 LT | WJU | 130 | 39 |
| 35 | -Y31LPD- 19+50/19+61 M | WJX | 0 | 97 |
| 35 | -Y31LPD- 19+43/19+51 LT | WJS | 114 | 0 |
| 38 | -Y31RPC- 36+06/38+24 RT | WJJ(2) | 5329 | 740 |
| 39 | -Y31RPD- 39+39/40+67 RT | WJJ(1) | 4797 | 3241 |
| TOTAL: | | | 122087 | 57772 |

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