



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 17, 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 I-40/I-77 Interchange in Iredell County,
Division 12, **TIP: I-3819B.**

Please find enclosed the following permit modifications for this project:

| Agency | Permit Type | Permit Expiration |
|---|--|-------------------|
| US Army Corps of Engineers Section 404 Clean Water Act Permit | Individual Section 404 | December 31, 2025 |
| NC Division of Water Resources Section 401 Water Quality Certification | Individual Water Quality Certification | December 31, 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.

PROJECT COMMITMENTS

T.I.P Project No. I-3819B
Proposed I-40/I-77 Interchange Area Improvements
Iredell County
WBS Element 34192.1.2

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

In addition to the Section 404 Conditions, Regional Conditions, State Consistency, North Carolina Department of Transportation's (NCDOT) Guidance for Best Management Practices for the Protection of Surface Waters, General Certification Conditions, and Section 401 Conditions for Certification, State Stormwater Permit, NCDOT has agreed to the following special commitments:

Roadway Design Unit

Wetlands: Additional area of wetlands in the southwest quadrant of the I-40/I-77 interchange will be bridged to minimize impacts. Fill slopes will not encroach into the jurisdictional wetland boundaries any more than practicable as shown in the preliminary design.

Structures over Fourth Creek will accommodate the existing Museum Greenway path: The new and widened structures at SR 1934 (Hillside Lane) extension, I-40 and I-77, and their associated ramps shall be designed to span the existing greenway that follows Fourth Creek.

Retaining walls at Pressly Elementary School and Northview Elementary School: In order to minimize the impact to the grounds of these schools, a retaining wall along the proposed shoulder of I-40 and I-77 shall be constructed in accordance with NCDOT construction standards.

The retaining wall for Northview Elementary School was constructed as part of the I-3819A project.

Noise Mitigation:

A final design noise report will be performed based on the results of the planning noise study. Noise mitigation will be provided as required in accordance with the NCDOT Noise Abatement Policy.

COMMITMENTS FROM PERMITTING

See 404 Permit and 401 Certification for special conditions developed during permitting.



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

February 10, 2023

Regulatory Division

Action ID No. SAW-2018-01504

Michael Turchy
Environmental Analysis Assistant Unit, ECAP
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC, 27699-1598

Dear Mr. Turchy:

Reference the Department of the Army (DA) individual permit issued on January 21, 2020, to the North Carolina Department of Transportation (NCDOT), for impacts associated with the I-40/I-77 interchange improvements project (TIP Nos. I-3819B/U-6039), including I-40 from west of SR 2003 (Radio Road) to SR 2158 (Old Mocksville Road) and I-77 from south of SR 2321 (East Broad Street) to south of SR 2171 (Jane Sowers Road), in Iredell County, North Carolina. Reference also the modifications to the permit issued on February 25, 2021 (Mod01) and December 14, 2021 (Mod02).

On December 22, 2022, the U.S. Army Corps of Engineers (Corps) received your third request (Mod03) to modify the standard permit for the I-3819B/U-6039 project to include revisions resulting in changes to permitted impacts at two impact sites (Sites 22 and 23). Two new impact sites (Sites 22A and 22B) have been added within the footprint of the previously permitted Site 22. This modification would result in the reduction of 778 linear feet of permanent stream channel impacts, including a reduction of 778 linear feet of stream bank stabilization impacts. There is also a reduction of 13 linear feet of temporary stream channel impacts. There are no changes to wetland impacts.

The revised stream impacts for the project total 2,527 linear feet of permanent stream impacts (which includes 361 linear feet of stream bank stabilization impacts) and 469 linear feet (0.10 acre) of temporary stream impacts. The wetland impacts, not including utility impacts, remain at 1.07 acre of permanent fill, 0.33 acre of mechanized clearing in wetlands, and 2.64 acres of temporary wetland fill. Utility impacts remain at <0.01 acre of permanent fill, 0.16 acre of mechanized clearing in wetlands, 0.27 acre of temporary wetland fill, and <0.01 acre of non-404 hand clearing in wetlands.

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 (with the updated Special Condition as shown below) and as shown on the enclosed revised Permit Drawings, Sheets 1, 30, 31, 32, 33, 34, 35, & 67 of 67, revised on November 29, 2022. The mitigation requirement for this project has not changed.

For your information, the following special condition from the original authorization has been updated to reference the revised design plans for the modifications:

1. All work authorized by this permit shall be performed in strict compliance with the submitted plans, as revised by modification requests, which are part of this permit. The Permittee shall ensure the construction design plans for this project do not deviate from the submitted original and revised permit plans. Any modification to the permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands.

A conditioned water quality certification has been issued for your project. You must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

All other conditions of the permit, including the permit expiration date of December 31, 2025, remain in effect as written. Should you have any questions, contact Mr. Eric Alsmeyer, via email at Eric.C.Alsmeier@usace.army.mil or by telephone at (919) 554-4884, extension 23.

FOR THE COMMANDER

 2023.02.10
09:19:48 -05'00'

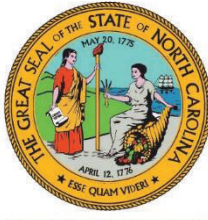
Monte Matthews
Chief, Transportation Permit Branch

Enclosures

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director



NORTH CAROLINA
Environmental Quality

January 12, 2023

Jamie J. Lancaster, P.E.
Environmental Analysis Unit
NC Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for Proposed improvements to I-40/I-77 interchange improvements including I-40 from west of SR 2003 to SR 2158 and I-77 from south SR 2321 to south SR 2171 in Iredell County, TIP I-3819B, NCDWR Project No. 2019-1006v4.

Dear Mr. Lancaster:

Attached hereto is a modification of Certification No. WQC004203 issued to The North Carolina Department of Transportation (NCDOT) dated November 19, 2019, revised January 30, 2020; modified February 12, 2021 and December 9, 2021.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

DocuSigned by:

Amy Chapman

9C9886312DCD474...

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

Attachments

Electronic copy only distribution:

Monte Matthews, US Army Corps of Engineers, Raleigh Field Office
Michael Turchy, NCDOT EAU
Holland Youngman, US Fish and Wildlife Service
Amanetta Somerville, US Environmental Protection Agency
Andrea Leslie, NC Wildlife Resources Commission
File Copy



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

**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act
with ADDITIONAL CONDITIONS**

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 This certification authorizes the NCDOT to impact additional linear feet of jurisdictional streams in Iredell County as shown in the table below. The project shall be constructed pursuant to the modification dated received December 30, 2022. The additional authorized impacts are as described below:

Stream Impact Changes in the Yadkin-PeeDee River Basin

| Site | Permanent Perennial Channel Impacts(lf) | Permanent Perennial Bank Stabilization (lf) | Temp Perennial Channel Impacts (lf) | DWR Mitigation Required (lf) |
|---------------|---|---|-------------------------------------|------------------------------|
| Site 22 | 430 455 | 0 90+ | 0 | 0 |
| Site 22A | 0 | 20 | 0 | 0 |
| Site 22B | 25 | 25 | 0 | 25 |
| Site 23 | 0 | 78 0 | 20 33 | 0 |
| TOTAL: | 25 | 123 | 20 | 25 |

The application provides adequate assurance that the discharge of fill material into the waters of the **Yadkin-PeeDee 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 Sections 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.

This approval is only valid for the purpose and design that you submitted in your modified application dated received December 30, 2022. All the authorized activities and conditions of certification associated with the original Water Quality Certification and subsequent modifications dated November 19, 2019, revised January 30, 2020; modified February 12, 2021, and December 9, 2021.

Should your project change, you are required to 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 any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). 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 Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.



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


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

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

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 12th day of January 2023

DIVISION OF WATER RESOURCES

DocuSigned by:


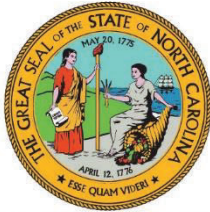
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Richard E. Rogers, Jr., Director

WQC No 004203

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director



NORTH CAROLINA
Environmental Quality

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 _____

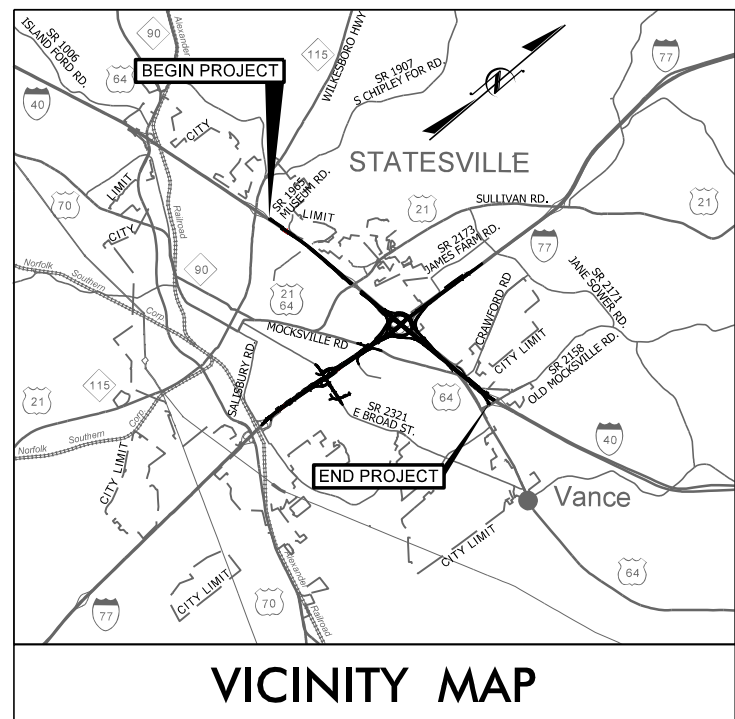


| | | | |
|-----------------|-----------------------------|--------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | I-3819BU-6039 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 34192.1.2 | IMS-40-2(124) | P.E. | |
| 34192.3.2 | N/A | DESIGN BUILD | |
| | | | |
| | | | |
| | | | |

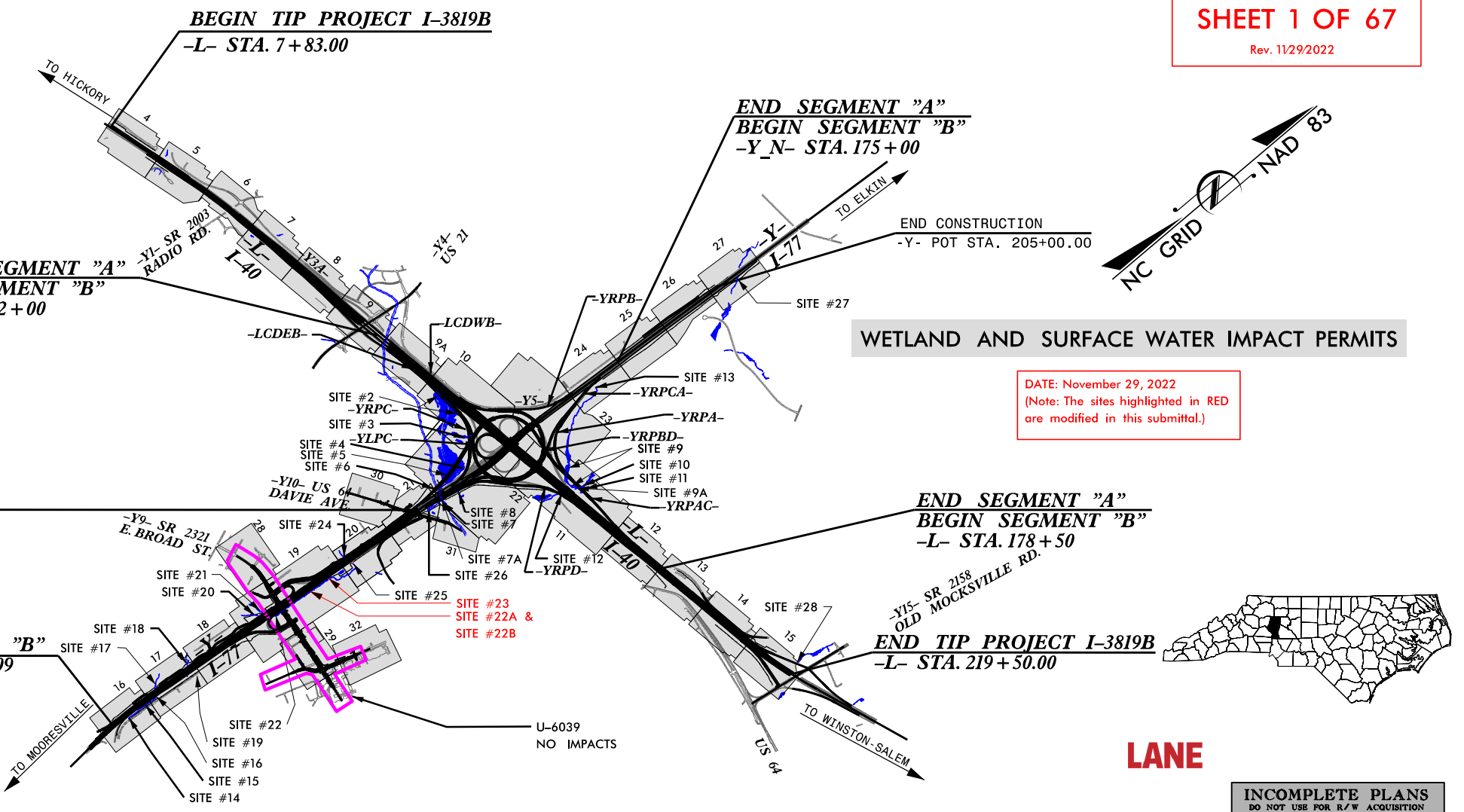
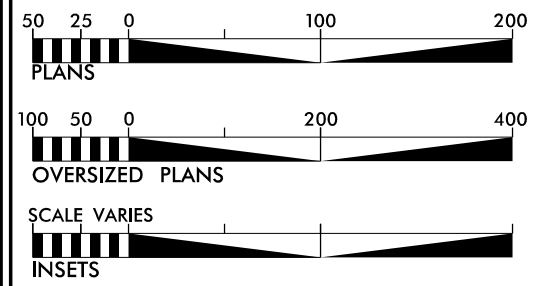
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
IREDELL COUNTY

LOCATION: I-40/I-77 INTERCHANGE INCLUDING I-40 FROM WEST OF SR 2003 (RADIO RD.) TO SR 2158 (OLD MOCKSVILLE RD.) & I-77 FROM SOUTH OF SR 2321 (EAST BROAD ST.) TO SOUTH OF SR 2171 (JANE SOWERS RD.)
TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, RETAINING WALLS, NOISE WALLS, AND TRAFFIC CONTROL

PERMIT DRAWING
SHEET 1 OF 67
Rev. 11/29/2022



VICINITY MAP
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF STATESVILLE AND THE TOWNSHIP OF BETHANY



WETLAND AND SURFACE WATER IMPACT PERMITS

DATE: November 29, 2022
(Note: The sites highlighted in RED are modified in this submittal.)

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

PROJECT: I-3819BU-6039
PROJECT: 34192.1.2

GRAPHIC SCALES

SEE ABOVE

DESIGN DATA

| | | |
|----------------------------|----------------|--------|
| | I-40 | I-77 |
| ADT 2018 = | 57,300 | 62,900 |
| ADT 2040 = | 72,500 | 77,500 |
| DHV = | 5,800 | 6,200 |
| D = | 55 % | 55 % |
| T = | 16 % * 19 % ** | |
| V = | 60 MPH | 60 MPH |
| * TTST 13 + DUAL 3 (I-40) | | |
| ** TTST 16 + DUAL 3 (I-77) | | |
| CLASSIFICATION: | INTERSTATE | |

PROJECT LENGTH

| | | |
|---------------------------------------|---|-------|
| LENGTH ROADWAY TIP PROJECT I-3819B | = | 3.885 |
| LENGTH STRUCTURES TIP PROJECT I-3819B | = | 0.124 |
| TOTAL LENGTH OF TIP PROJECT I-3819B | = | 4.009 |

Prepared in the Office of:
WSP
1001 Morehead Square Dr., Suite 610, Charlotte, NC 28203
NC LIC NO. F-0165

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 30, 2018
LETTING DATE: OCTOBER 30, 2018

CHRISTOPHER D. DAVIS, P.E.
PROJECT ENGINEER

ERIC W. SECKINGER, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

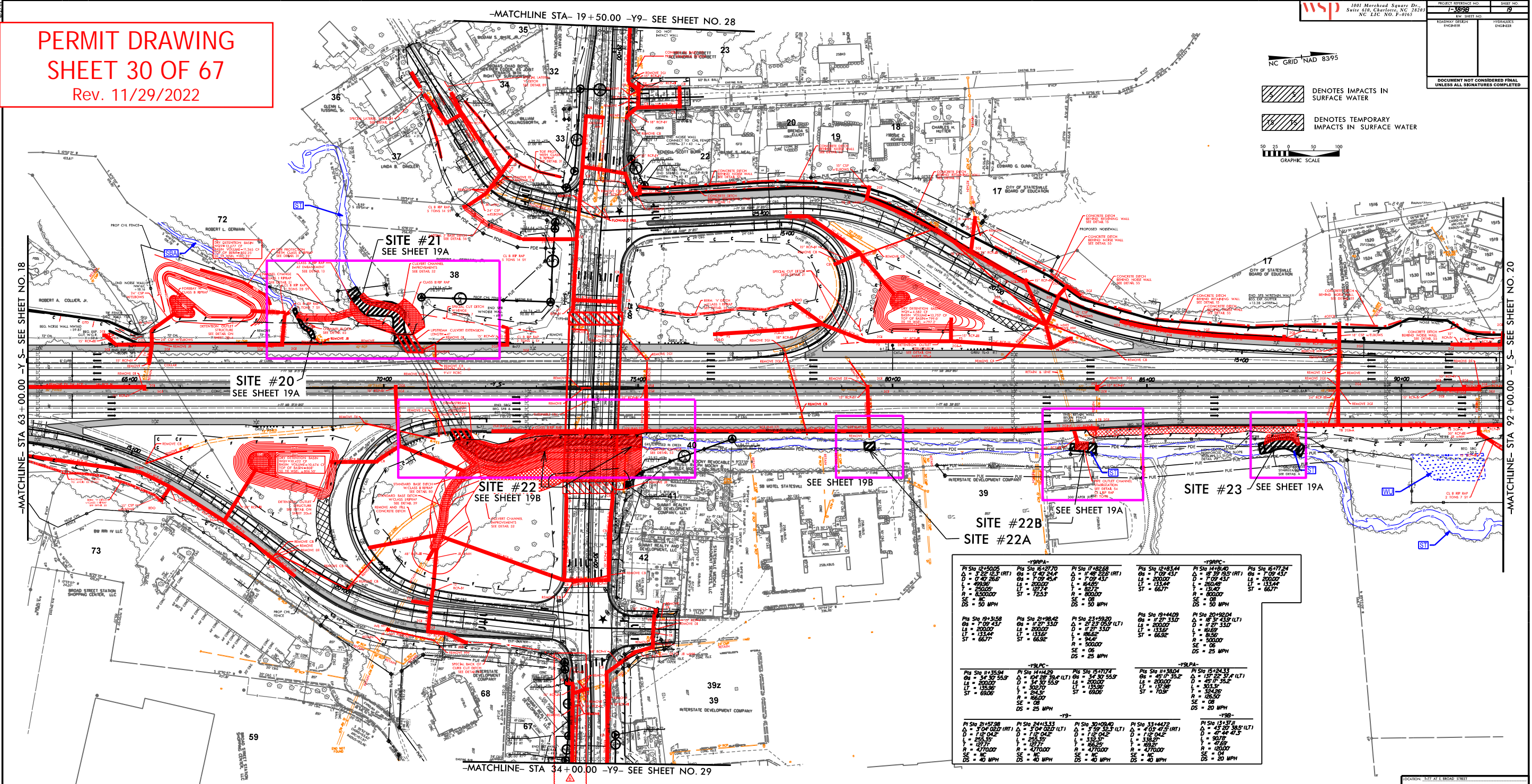
STATE HIGHWAY DESIGN ENGINEER

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PERMIT DRAWING
SHEET 30 OF 67
 Rev. 11/29/2022

PROJECT REFERENCE NO. 17-30991
 SHEET NO. 30
 1801 Merckhead Square Dr.,
 Suite 310, Charlotte, NC 28203
 NC LIC. NO. F-0165

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



NC GRID NAD 8395

DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50 25 0 25 50 100
 GRAPHIC SCALE

| | | | | | |
|--|--|--|--|--|--|
| -Y9PC- Pk Sta 12+50.00 $\Delta = 3^{\circ}22'12.5"$ (RT) $Os = 0^{\circ}49'26.5"$ $L = 49.36'$ $D = 250.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9PA- Pk Sta 15+27.70 $\Delta = 0^{\circ}40'24.4"$ $Os = 7^{\circ}09'45.4"$ $L = 200.00'$ $ST = 72.53'$ | -Y9PC- Pk Sta 17+02.68 $\Delta = 1^{\circ}46'22.6"$ (RT) $Os = 0^{\circ}49'43.1"$ $L = 49.36'$ $D = 250.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9PC- Pk Sta 18+33.44 $\Delta = 1^{\circ}09'43.1"$ $Os = 7^{\circ}09'43.1"$ $L = 200.00'$ $ST = 133.44'$ | -Y9PC- Pk Sta 19+44.09 $\Delta = 1^{\circ}09'43.1"$ $Os = 7^{\circ}09'43.1"$ $L = 200.00'$ $ST = 66.77'$ | -Y9PC- Pk Sta 20+92.04 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 25$ MPH |
| -Y9PC- Pk Sta 19+31.58 $\Delta = 1^{\circ}09'43.1"$ $Os = 7^{\circ}09'43.1"$ $L = 200.00'$ $ST = 66.77'$ | -Y9PC- Pk Sta 21+98.42 $\Delta = 1^{\circ}09'43.1"$ $Os = 7^{\circ}09'43.1"$ $L = 200.00'$ $ST = 66.77'$ | -Y9PC- Pk Sta 23+59.20 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 25$ MPH | -Y9PC- Pk Sta 19+44.09 $\Delta = 1^{\circ}09'43.1"$ $Os = 7^{\circ}09'43.1"$ $L = 200.00'$ $ST = 66.77'$ | -Y9PC- Pk Sta 20+92.04 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 25$ MPH | |
| -Y9PC- Pk Sta 11+35.94 $\Delta = 3^{\circ}22'12.5"$ (RT) $Os = 0^{\circ}49'26.5"$ $L = 49.36'$ $D = 250.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9PC- Pk Sta 14+14.29 $\Delta = 0^{\circ}40'24.4"$ (LT) $Os = 7^{\circ}09'45.4"$ $L = 200.00'$ $ST = 72.53'$ | -Y9PC- Pk Sta 15+70.74 $\Delta = 3^{\circ}22'12.5"$ (LT) $Os = 0^{\circ}49'26.5"$ $L = 49.36'$ $D = 250.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9PC- Pk Sta 16+38.04 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 20$ MPH | -Y9PC- Pk Sta 15+24.31 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 20$ MPH | |
| -Y9- Pk Sta 21+57.58 $\Delta = 1^{\circ}09'43.1"$ (RT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9- Pk Sta 24+13.13 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9- Pk Sta 30+09.40 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9- Pk Sta 33+44.72 $\Delta = 1^{\circ}09'43.1"$ (RT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 40$ MPH | -Y9- Pk Sta 15+24.31 $\Delta = 1^{\circ}09'43.1"$ (LT) $Os = 1^{\circ}09'43.1"$ $L = 45.69'$ $D = 200.00'$ $R = 8500.00'$ $SE = 04'$ $DS = 20$ MPH | |

NOTE: AT THE DIRECTION OF NCDOT, JS LINES HAVE BEEN MODIFIED ALONG SITES 21, 22, AND 23 TO FOLLOW THE SURVEYED TOPOGRAPHY. NO RIPRAP WILL BE PLACED IN THE STREAM BED ALONG AREAS OF BANK STABILIZATION.



LOCATION: 127 AT E BROAD STREET

PROJECT NO.: 17-30991 COUNTY: MEADE

DESIGNED BY: C. GIBBS

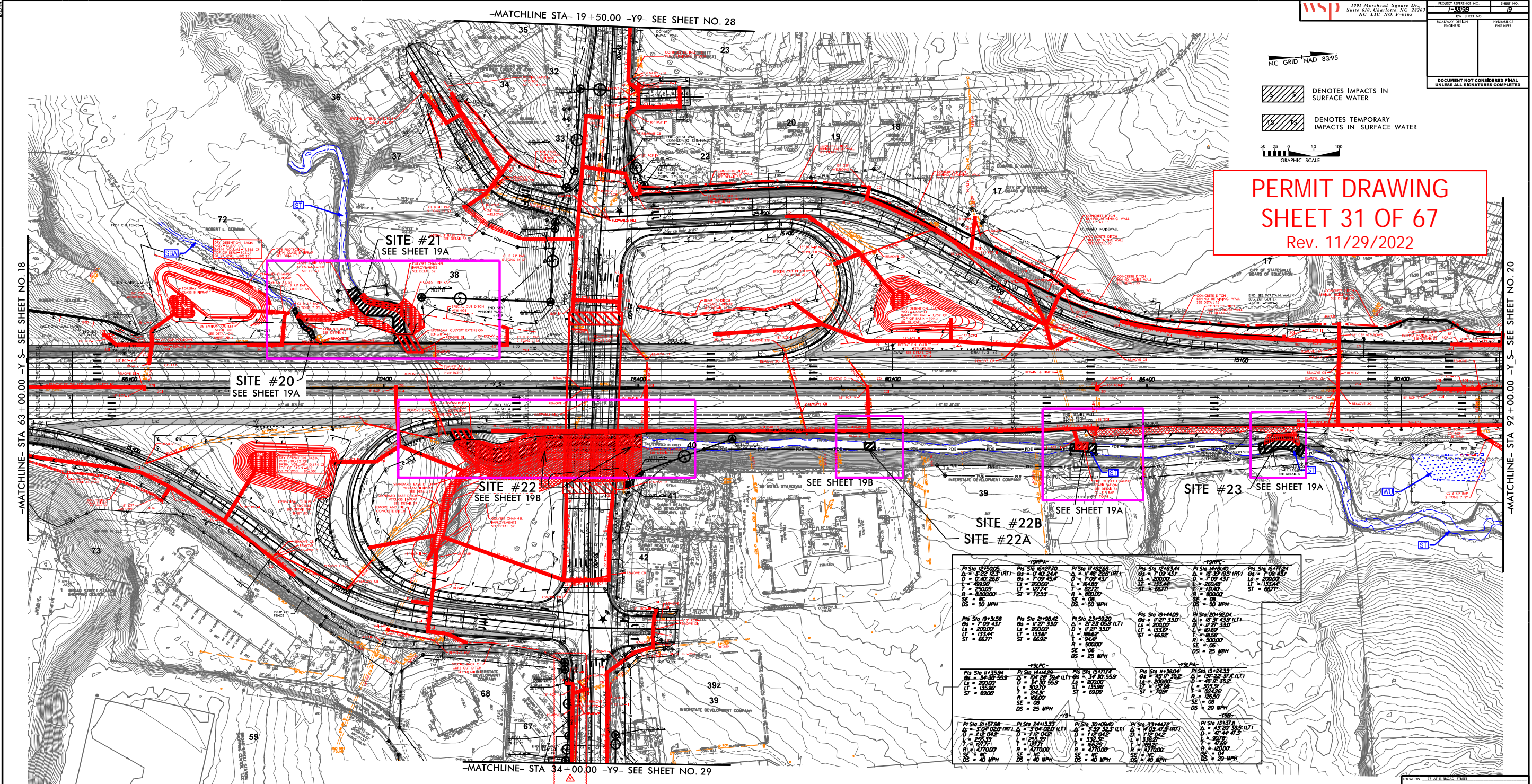
CHECKED BY: L. ANDREWS DATE: 6-20-2022

NC GRID NAD 8395

 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50 75 100
 GRAPHIC SCALE

PERMIT DRAWING
SHEET 31 OF 67
 Rev. 11/29/2022



| | | | | | |
|---|---|---|---|---|---|
| -Y9PC- Pk Sta 12+50.00 Δ = 3°25'12.3" (RT) D = 0'45.240' L = 69.98' T = 25.00' R = 6500.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+19.70 Δ = 0°42'24.4" D = 200.00' L = 7.09'43.4" T = 133.28' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 17+02.68 Δ = 1°40'28.8" (RT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 12+83.44 Δ = 1°09'43.1" D = 7'09'43.1" L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 14+18.40 Δ = 8°39'18.5" (RT) D = 7'09'43.1" L = 200.00' T = 133.28' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+17.84 Δ = 7°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH |
| -Y9PC- Pk Sta 19+31.58 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 21+98.42 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 23+59.20 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 19+44.09 Δ = 1°09'43.1" D = 7'09'43.1" L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 20+22.04 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 14+18.40 Δ = 8°39'18.5" (RT) D = 7'09'43.1" L = 200.00' T = 133.28' R = 200.00' SE = 0° DS = 50 MPH |
| -Y9PC- Pk Sta 11+35.94 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 14+18.40 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+17.84 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 11+38.04 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+24.33 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+24.33 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH |
| -Y9PC- Pk Sta 21+98.42 Δ = 1°09'43.1" D = 200.00' L = 133.28' T = 66.77' R = 200.00' SE = 0° DS = 40 MPH | -Y9PC- Pk Sta 24+13.73 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 40 MPH | -Y9PC- Pk Sta 30+09.60 Δ = 1°09'43.1" (RT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 40 MPH | -Y9PC- Pk Sta 33+44.71 Δ = 1°09'43.1" (RT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 40 MPH | -Y9PC- Pk Sta 15+24.33 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH | -Y9PC- Pk Sta 15+24.33 Δ = 1°09'43.1" (LT) D = 1'09'43.1" L = 4.95' T = 80.73' R = 8000.00' SE = 0° DS = 50 MPH |

NOTE: AT THE DIRECTION OF NCDOT, JS LINES HAVE BEEN MODIFIED ALONG SITES 21, 22, AND 23 TO FOLLOW THE SURVEYED TOPOGRAPHY. NO RIPRAP WILL BE PLACED IN THE STREAM BED ALONG AREAS OF BANK STABILIZATION.

LOCATION: 127 AT E BROAD STREET

DP NO. 1-3818 COUNTY: MEADE

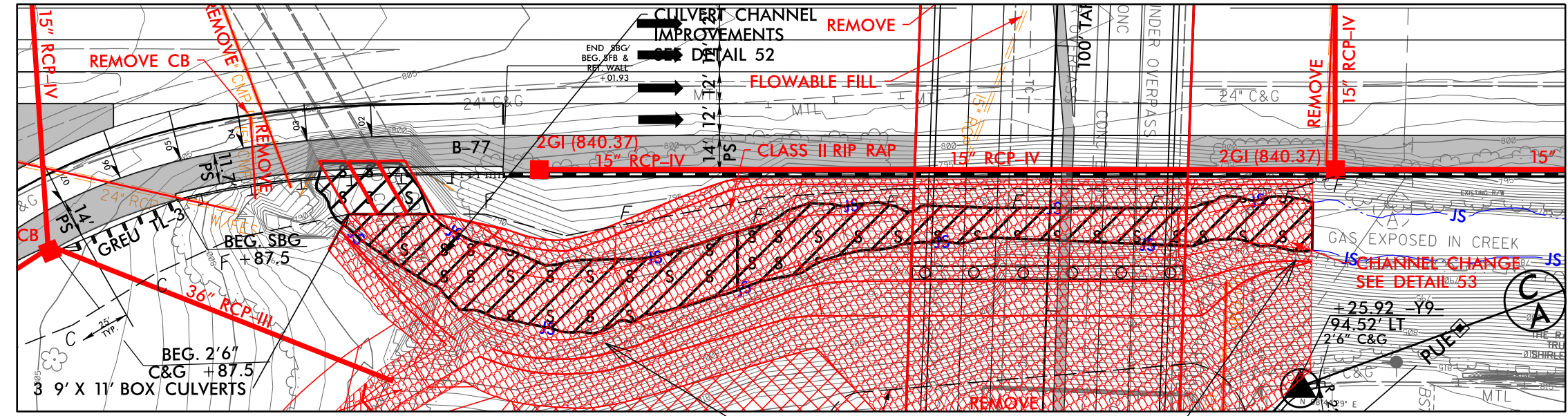
DESIGNED BY: C. GARDNER

CHECKED BY: L. ANDREWS DATE: 6-5-2017

| | |
|--|---------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| 1-3819B | 19B |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

NOTE: AT THE DIRECTION OF NCDOT, JS LINES HAVE BEEN MODIFIED ALONG SITES 21, 22, AND 23 TO FOLLOW THE SURVEYED TOPOGRAPHY. NO RIPRAP WILL BE PLACED IN THE STREAM BED ALONG AREAS OF BANK STABILIZATION.

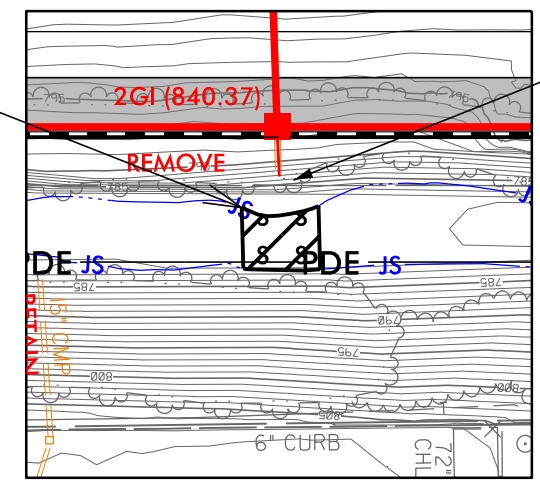
INSET



PERMIT DRAWING
SHEET 35 OF 67
 Rev. 11/29/2022

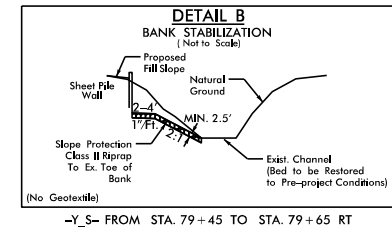
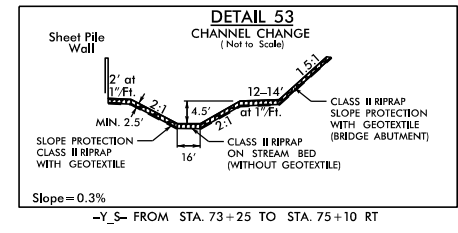
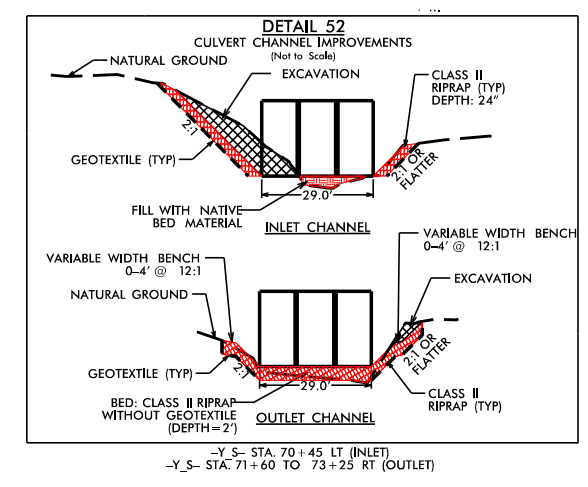
SITE #22

INSET



BANK STABILIZATION MAY BE NEEDED AFTER EXISTING PIPE IS REMOVED. USE DETAIL B AS NEEDED*.

SITE #22A



NC GRID NAD 8395



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



11/29/2022
 C:\projects\19B\19B.dwg
 11/29/2022 10:58:00 AM
 jones@wsp.com

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) |
| 18 | 47+50-Y- | 54" RCP Extension | | | | | | < 0.01 | | 39 | | |
| 18 | 47+50-Y- | Stream Bed Stabilization | | | | | | < 0.01 | < 0.01 | 33 | 10 | |
| 19 | 46+00-Y- | Roadway Fill | | | | | | < 0.01 | | 34 | | |
| 20 | 68+50-Y- | New Channel | | | | | | < 0.01 | < 0.01 | 13 | 10 | |
| 20 | 68+50-Y- | Roadway Fill | | | | | | < 0.01 | | 48 | | |
| 21 | 70+20-Y- | 3@9'X11" RCBC Extension | | | | | | 0.02 | | 39 | | |
| 21 | 69+20-70+20-Y- | Stream Bed Stabilization | | | | | | 0.08 | < 0.01 | 137 | 21 | |
| 22 | 71+30-71+90-Y- | 3@9'X11" RCBC Extension | | | | | | 0.02 | | 45 | | |
| 22 | 71+90-72+89-Y- | Stream Bed Stabilization | | | | | | 0.08 | | 160 | | |
| 22 | 72+89-75+10-Y- | New Channel | | | | | | 0.08 | | 225 | | |
| 22A | 79+45-79+65-Y- | Stream Bank Stabilization | | | | | | < 0.01 | | 20 | | |
| 22B | 83+50-83+59-Y- | Stream Bank Stabilization | | | | | | < 0.01 | | 9 | | |
| 22B | 83+59-83+84-Y- | Stream Bed Stabilization | | | | | | < 0.01 | | 25 | | |
| 22B | 83+84-84+00-Y- | Stream Bank Stabilization | | | | | | < 0.01 | | 16 | | |
| 23 | 87+21-88+09-Y- | Stream Bank Stabilization | | | | | | 0.03 | < 0.01 | 78 | 20 | |
| 24 | 93+75-Y- | 66" RCP Extension | | | | | | < 0.01 | < 0.01 | 49 | 10 | |
| 25 | 94+50-Y- | 66" RCP Extension | | | | | | < 0.01 | | 10 | | |
| 25 | 94+50-Y- | Stream Bed Stabilization | | | | | | < 0.01 | < 0.01 | 21 | 21 | |
| 26 | 116+70-120+10-Y- | Roadway Fill | 0.09 | | | 0.04 | | | | | | |
| 27 | 210+00-Y- | 60" RCP Extension | | | | | | < 0.01 | | 29 | | |
| 27 | 210+00-Y- | Stream Bed Stabilization | | | | | | < 0.01 | < 0.01 | 19 | 10 | |
| 28 | 24+00-Y15RPB- | Stream Bed Stabilization | | | | | | < 0.01 | < 0.01 | 16 | 11 | |
| SHEET 66 SUBTOTAL | | | 0.98 | 2.64 | 0.00 | 0.29 | 0.00 | 0.16 | 0.07 | 1462 | 356 | 0.00 |
| SHEET 67 SUBTOTAL | | | 0.09 | 0.00 | 0.00 | 0.04 | 0.00 | 0.38 | 0.03 | 1065 | 113 | 0.00 |
| PROJECT TOTALS*: | | | 1.07 | 2.64 | 0.00 | 0.33 | 0.00 | 0.54 | 0.10 | 2527 | 469 | 0.00 |

*Rounded totals are sum of actual impacts for entire project area

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 11/29/2022
 IREDELL
 TIP NO. I-3819B
 WBS NO.
 SHEET 67 OF 67