

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u>B-5704</u>
W.B.S. No.	<u>45658.1.1</u>
Federal Project No.	<u>BRSTP-1718(8)</u>

A. Project Description:

The proposed project involves replacing Harnett County Bridge No. 246 on SR 1718 (Erwin Road/East Denim Drive) over the Black River (see **Figures 1-4**). Bridge No. 246 is 114 feet long, with three spans carrying one 10-foot travel lane in each direction and has a one-foot shoulder on each side.

The proposed project is included in the 2016-2025 North Carolina *State Transportation Improvement Program* (STIP). The project is scheduled for right-of-way acquisition and construction in fiscal years 2017 and 2018, respectively, in the draft 2017-2027 STIP.

The estimated costs are as follows:

Construction Cost	\$1,200,000
Right-of-way Acquisition*	\$150,000
Total Project Cost	\$1,350,000

*Based on the draft 2017-2027 STIP

The total cost for the project included in both the federally approved 2016-2025 and the draft 2017-2027 STIP is \$1,350,000. This total includes \$150,000 for right of way acquisition and \$1,200,000 for construction.

The replacement structure for Bridge No. 246 will be approximately 130 feet long and will consist of three spans. The structure will be a 39-foot wide, cored slab bridge. It will have a clear roadway width of approximately 31 feet, which will include two 11-foot travel lanes and a 4-foot 11-inch offset on one side and a 4-foot 2.5-inch offset on the other side to accommodate bicycles. A 5.5-foot sidewalk will also be provided on one side. The proposed bridge will include a two-bar metal rail on the side with the sidewalk and a 42-inch rail on the other side. The typical sections and preliminary roadway design are included in **Figures 5 and 6**.

SR 1718 will be widened to two 11-foot lanes with six-foot grassed shoulders (four-foot paved) within the project limits. A small amount of additional right-of-way will be required at the proposed bridge crossing. The typical section is shown in **Figure 5**.

Traffic will be maintained by an off-site detour during construction (see **Figure 1**). The roadway will be designed with a 50 mph design speed. The roadway grade of the new structure will be approximately the same as the existing structure.

B. Purpose and Need:

The purpose of the proposed project is to replace an obsolete bridge.

NCDOT Bridge Management Unit records indicate Bridge No. 246 has a sufficiency rating of 57.46 out of a possible 100 for a new structure.

Bridge No. 246 is considered functionally obsolete due to a deck geometry appraisal rating of 2 out of 9, according to Federal Highway Administration (FHWA) standards.

Bridge No. 246, built in 1923 and reconstructed in 1952, is a three-span bridge. The superstructure consists of reinforced concrete deck girders. The vertical end bents are full height concrete abutments and the interior bents are constructed of reinforced concrete post and web piers. The bridge roadway deck is situated approximately 17 feet above the river bed. A normal water depth of approximately one foot was observed at the existing bridge. The current 100-year water surface elevation at this crossing of the Black River does not overtop the existing roadway.

Components of the concrete superstructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The bridge is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

Currently (2013), approximately 6,200 vehicles per day cross Bridge No. 246. By the year 2035, it is expected that 9,600 vehicles per day will cross the bridge. The structure has posted weight limits of 23 tons (single vehicles) and 29 tons (truck tractor semi trailers).

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
 - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
 - b. Widening roadway and shoulders without adding through lanes
 - c. Modernizing gore treatments
 - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
 - e. Adding shoulder drains
 - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
 - g. Providing driveway pipes
 - h. Performing minor bridge widening (less than one through lane)
 - i. Slide Stabilization
 - j. Structural BMP's for water quality improvement

2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
 - a. Installing ramp metering devices
 - b. Installing lights
 - c. Adding or upgrading guardrail
 - d. Installing safety barriers including Jersey type barriers and pier protection
 - e. Installing or replacing impact attenuators

- f. Upgrading medians including adding or upgrading median barriers
 - g. Improving intersections including relocation and/or realignment
 - h. Making minor roadway realignment
 - i. Channelizing traffic
 - j. Performing clear zone safety improvements including removing hazards and flattening slopes
 - k. Implementing traffic aid systems, signals, and motorist aid
 - l. Installing bridge safety hardware including bridge rail retrofit
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
- a. Rehabilitating, reconstructing, or replacing bridge approach slabs
 - b. Rehabilitating or replacing bridge decks
 - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
 - d. Replacing a bridge (structure and/or fill)
4. Transportation corridor fringe parking facilities.
5. Construction of new truck weigh stations or rest areas.
6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7. Approvals for changes in access control.
8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

Estimated Traffic:

Current Year (2013)	-	6,200 vpd
Design Year (2035)	-	9,600 vpd
TTST	-	1%
Dual	-	2 %

Accidents: NCDOT Traffic Safety Unit evaluated a five year period (December 2007 – November 2012) and found three accidents occurring within 500 feet of Bridge No. 246.

Design Exceptions: There are no anticipated design exceptions for this project.

Pedestrian and Bicycle Accommodations: This portion of SR 1718 is recognized as an important pedestrian corridor connecting the City of Dunn to the Town of Erwin. As specified in the City of Dunn Pedestrian Plan and the Harnett County Comprehensive Transportation Plan, the City proposes to develop the Black River Trail. The proposed alignment is along the Black River’s edge, crossing SR 1718 just east of Bridge No. 246, with an alternative alignment shown along SR 1719 (Powell Avenue). The proposed Black River Trail is prioritized into the City’s long-term phasing schedule. This project is not funded and is not anticipated to begin construction in the near future.

NCDOT coordinated with the City of Dunn and the Town of Erwin on the possibility of accommodating the Black River Trail greenway during the design and construction of the replacement structure. Due to funding, the municipalities could not participate in the cost share.

Bridge Demolition: Bridge No. 246 is constructed entirely of concrete and steel. Based on standard demolition practices, bridge removal is not expected to leave debris in the water.

Utilities: A large power transmission line crosses SR 1718. An aerial telephone line is located along the north shoulder of SR 1718 within the project limits. An aerial power line and aerial cable TV line are located on the south side of the roadway. On the west end of the project there is evidence of a water line along the north shoulder of SR 1718 and sanitary sewer located on the south shoulder. A sanitary sewer lift station is located approximately 550 feet west of Bridge No. 246. There is no evidence of gas utilities at or near the project. The utility conflict is rated as high.

Alternatives Discussion:

No Build – The no build alternative would result in eventually closing the road, which is unacceptable given the volume of traffic and residential locations served by SR 1718.

Rehabilitation – Bridge No. 246 was originally constructed in 1923 and reconstructed in 1952. The concrete materials within the bridge is reaching the end of its useful life. Rehabilitation would require replacing the concrete components, effectively replacing the bridge.

Offsite Detour – Bridge No. 246 will be replaced along the existing roadway alignment. NCDOT *Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects* consider multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include SR 1735 (Antioch Church Road), SR 1815 (Lucas Road), and County Avenue. The detour for the average motorist would result in additional travel of approximately 1.5 miles. The duration of construction is expected to be 9 months on this project.

New Alignment/Onsite Detour – Constructing the proposed bridge on new alignment would result in substantially higher stream and wetland impacts, as the existing bridge and roadway approaches are surrounded by wetlands in all four quadrants. This would also increase the estimated costs by requiring a longer bridge and/or mitigation. Given that the alignment for SR 1718 is acceptable, a new alignment was not considered a viable alternative.

Permit Requirements: A Nationwide Permit (NWP) 23 will likely be applicable for this project. A NWP No. 33 may also apply for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction and rehabilitation. The US Army Corps of Engineers holds the final discretion as to what permit will be required. If a Section 404 permit is required, then a Section 401 Water Quality Certification (WQC) from the NC Division of Water Resources will also be required.

Agency Comments:

No substantive comments regarding this project were received from other agencies.

Public Involvement:

A project initiation and notification letter was sent out to each adjacent property owner in February of 2013. NCDOT staff conducted several site visits. No comments were received. It was determined that a newsletter and workshop were not necessary.

E. Threshold Criteria

<u>ECOLOGICAL</u>	<u>YES</u>	<u>NO</u>
(1) Will the project have a substantial impact on any unique or important natural resource?	<input type="checkbox"/>	<u>X</u>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	<u> </u>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u>X</u>
(4) If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	<u> </u>	<input checked="" type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<u>X</u>
(6) Will the quality of adjacent water resources be adversely impacted by proposed construction activities?	<input type="checkbox"/>	<u>X</u>
(7) Does the project involve waters classified as Outstanding Water Resources (OWR) and/or High Quality Waters (HQW)?	<input type="checkbox"/>	<u>X</u>
(8) Will the project require fill in waters of the United States in any of the designated mountain trout counties?	<input type="checkbox"/>	<u>X</u>
(9) Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?	<input type="checkbox"/>	<u>X</u>
 <u>PERMITS AND COORDINATION</u>		
(10) If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?	<input type="checkbox"/>	<u>N/A</u>
(11) Does the project involve Coastal Barrier Resources Act resources?	<input type="checkbox"/>	<u>X</u>
(12) Will a U. S. Coast Guard permit be required?	<input type="checkbox"/>	<u>X</u>
(13) Could the project result in the modification of any existing regulatory floodway?	<input checked="" type="checkbox"/>	<u> </u>
(14) Will the project require any stream relocations or channel changes?	<input type="checkbox"/>	<u>X</u>

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

	<u>YES</u>	<u>NO</u>
(15) Will the project induce substantial impacts to planned growth or land use for the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(16) Will the project require the relocation of any family or business?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(17) Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(18) If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(19) Will the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(20) Will the project substantially alter the usefulness and/or land use of adjacent property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(21) Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(22) Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(23) Is the project anticipated to cause an increase in traffic volumes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(24) Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(25) If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(26) Is there substantial controversy on social, economic, or environmental grounds concerning the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(27) Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(28) Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(29) Will the project affect any archaeological remains which are important to history or pre-history?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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|------|---|--------------------------|--------------|
| (30) | Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)? | <input type="checkbox"/> | <u> X </u> |
| (31) | Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended? | <input type="checkbox"/> | <u> X </u> |
| (32) | Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers? | <input type="checkbox"/> | <u> X </u> |

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2:

Although not listed for Harnett County, the US Fish and Wildlife Service has developed a programmatic biological opinion in conjunction with the Federal Highway Administration, the US Army Corps of Engineers, and NCDOT for the northern long-eared bat (*Myotis septentrionalis*) in eastern North Carolina. The programmatic biological opinion covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for the northern long-eared bat for the NCDOT program is “May Affect, Likely to Adversely Affect.” The programmatic biological opinion provides incidental take coverage for northern long-eared bat and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Harnett County.

Response to Question 4:

Approximately 0.12 acres of wetlands will be impacted as a result of the project. The proposed bridge replacement incorporates wider shoulders than the existing bridge and roadway and will change the fill slope from 2:1 to 3:1, the maximum allowable slope given the soil type in the project area. The bridge will be replaced in place, with an off-site detour. All practicable measures to reduce wetland impacts have been evaluated.

Response to Question 13:

Harnett County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Based on the most current information available from the NC Floodplain Mapping Program (FMP), this stream crossing is in a designated flood hazard zone which is within a re-delineated flood study reach, having a regulated 100-year floodway. The proposed bridge replacement will provide equivalent or greater conveyance than that of the existing bridge. The Hydraulics Unit will coordinate with the FMP to determine status of the project with regard to applicability of NCDOT’s Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

G. CE Approval

TIP Project No.	<u>B-5704</u>
W.B.S. No.	<u>45658.1.1</u>
Federal Project No.	<u>BRSTP-1718(8)</u>

Project Description:

The purpose of this project is to replace Harnett County Bridge No. 246 on SR 1718 (Erwin Road/East Denim Drive) over the Black River (see **Figures 1-4**). Bridge No. 246 is 114 feet long, with three spans carrying one 10-foot travel lane in each direction and has a one-foot shoulder on each side.

The replacement structure for Bridge No. 246 will be approximately 130 feet long and will consist of three spans. The structure will be a 39-foot wide, cored slab bridge. It will have a clear roadway width of approximately 31 feet, which will include two 11-foot travel lanes and offsets of 4-foot 11-inch offset on one side and 4-foot 2.5-inch offset on the other side to accommodate bicycles. A 5.5-foot sidewalk will also be provided on one side. The typical sections and preliminary roadway design are included in **Figures 5 and 6**.

Traffic will be maintained by an off-site detour during construction (see **Figure 1**). The roadway will be designed with a 50 mph design speed. The roadway grade of the new structure will be approximately the same as the existing grade.

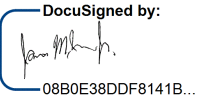
Categorical Exclusion Action Classification:

<u> </u>	TYPE II(A)	NO BOXES Checked
<u> X </u>	TYPE II(B)	ANY BOX is Checked

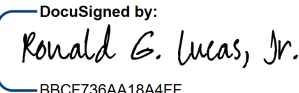
Prepared By:

3/22/2017 | 3:41 PM EDT 
Date Meredith H. Van Duyn, PE, Project Manager
RS&H Architects-Engineers-Planners, Inc.

Approved:

3/22/2017 | 5:26 PM EDT 
Date James A. McInnis, Jr., PE, Project Engineer
NCDOT Project Development and Environmental Analysis

For Type II(B) Projects:

3/23/2017 | 8:05 AM EDT 
Date FOR John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

PROJECT COMMITMENTS:

**Harnett County
Bridge No. 246 on SR 1718 (Erwin Road/East Denim Drive)
Over Black River
Federal-Aid Project BRSTP-1718(8)
WBS No. 45658.1.1
TIP Project B-5704**

NCDOT Division 6

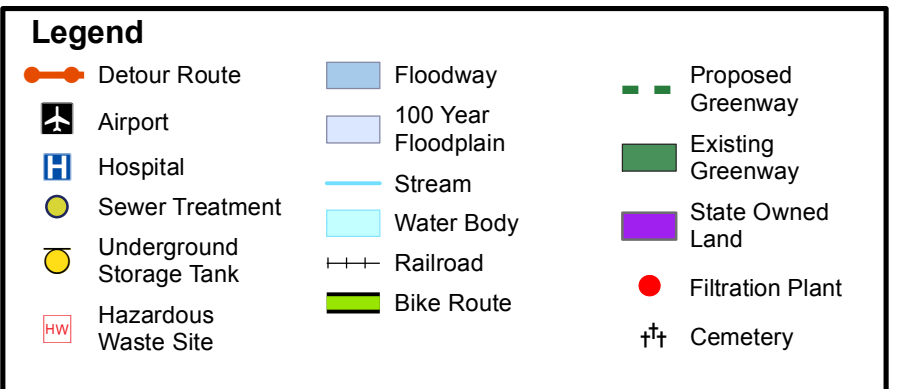
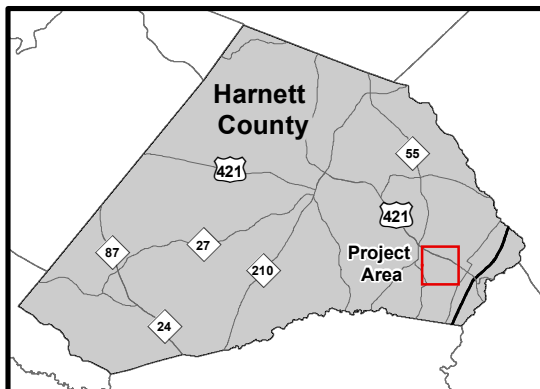
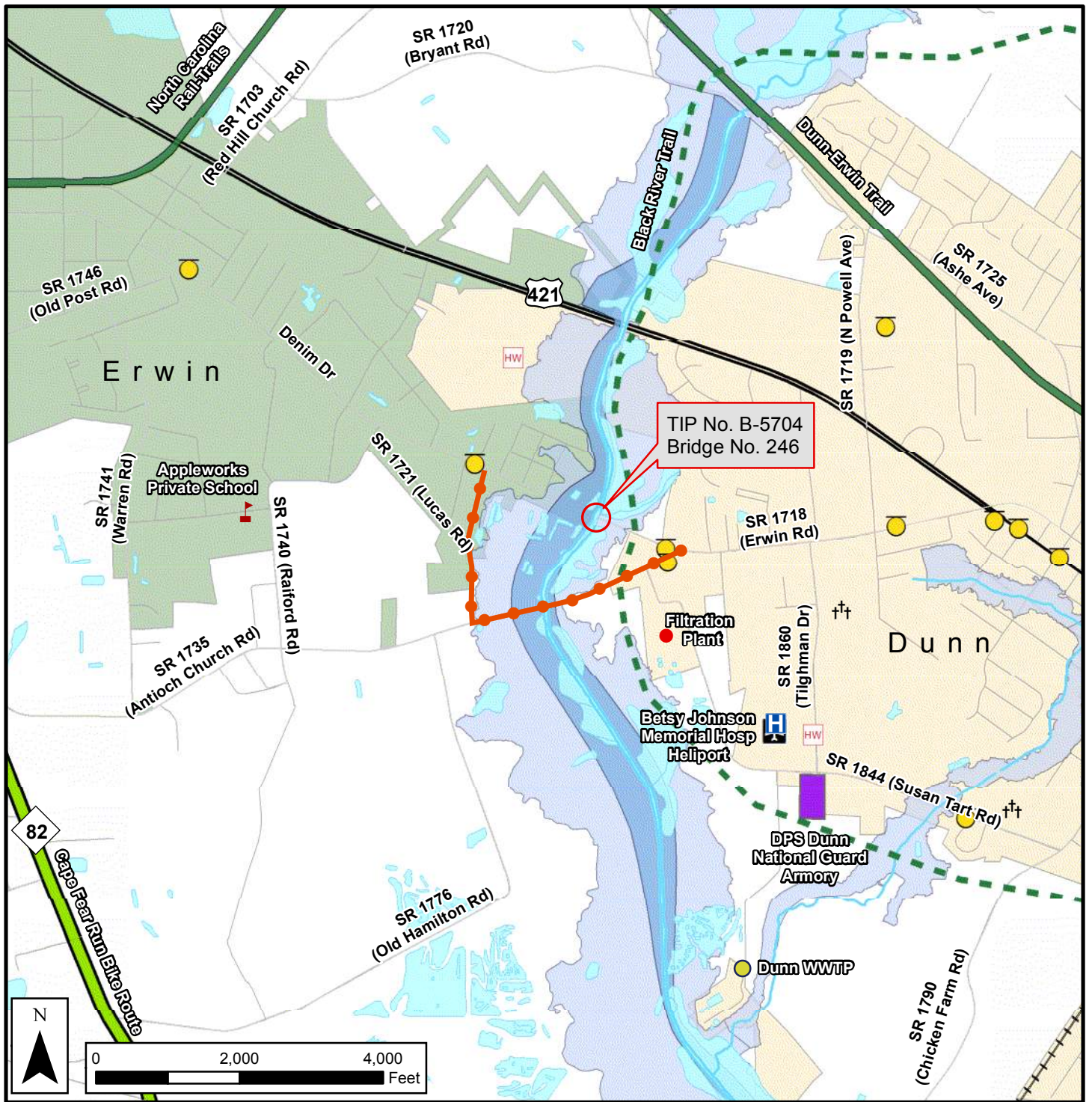
The Division will coordinate with Harnett County Public Schools and local emergency response officials at least one month prior to road closure to allow time for alternate route planning.

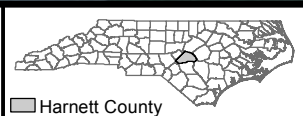
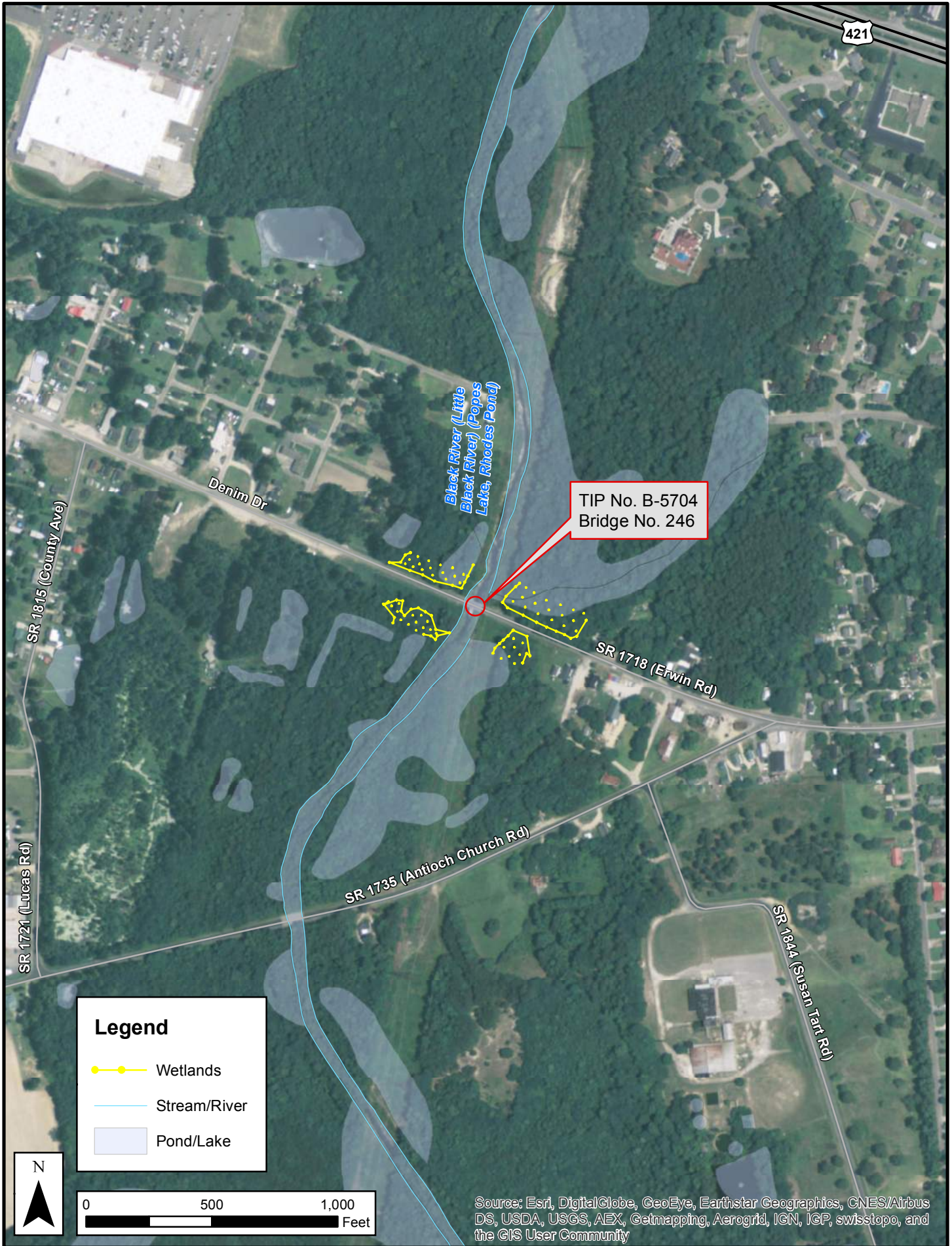
Dunn Emergency Services: Gary Whitman, Chief: 910.892.1211
Erwin Fire Department: Ricky Blackmon, Chief: 910.897.8141
Harnett County Schools: 910.893.8151 x443

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

NCDOT Hydraulics Unit

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

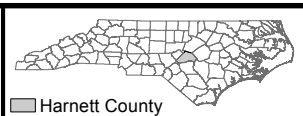
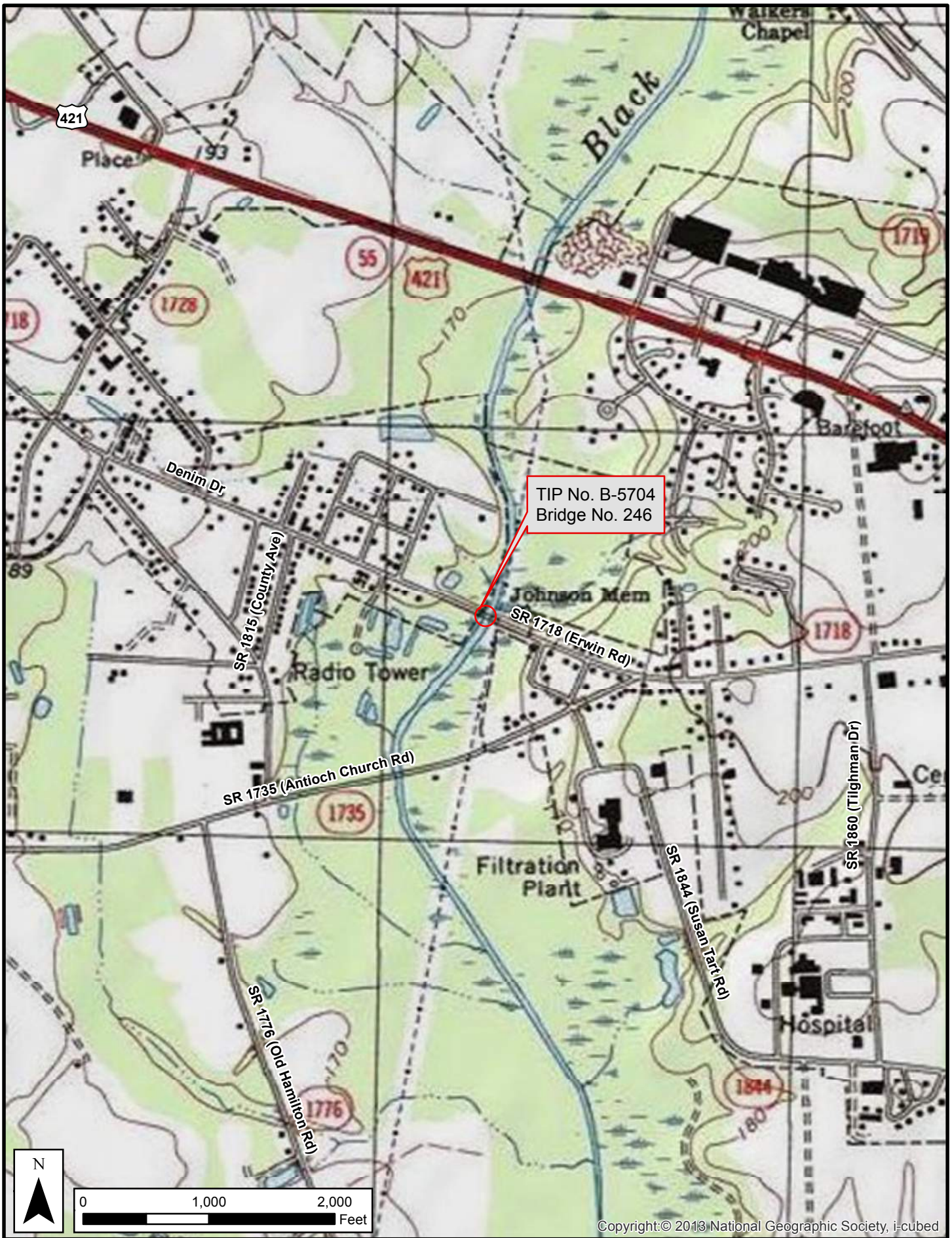




Replacement of Bridge No. 246
Carrying SR 1718 (Erwin Rd)
over Black River

TIP No. B-5704
Division: 6

Figure: 2
Aerial Map



Replacement of Bridge No. 246
Carrying SR 1718 (Erwin Rd)
over Black River

TIP No: B-5704
Division: 6

Figure: 3
Topo Map



Bridge No. 246 approach facing East



Bridge No. 246 approach facing West



Bridge No. 246 facing North



Bridge No. 246 facing South



Bridge No. 246 bridge signage



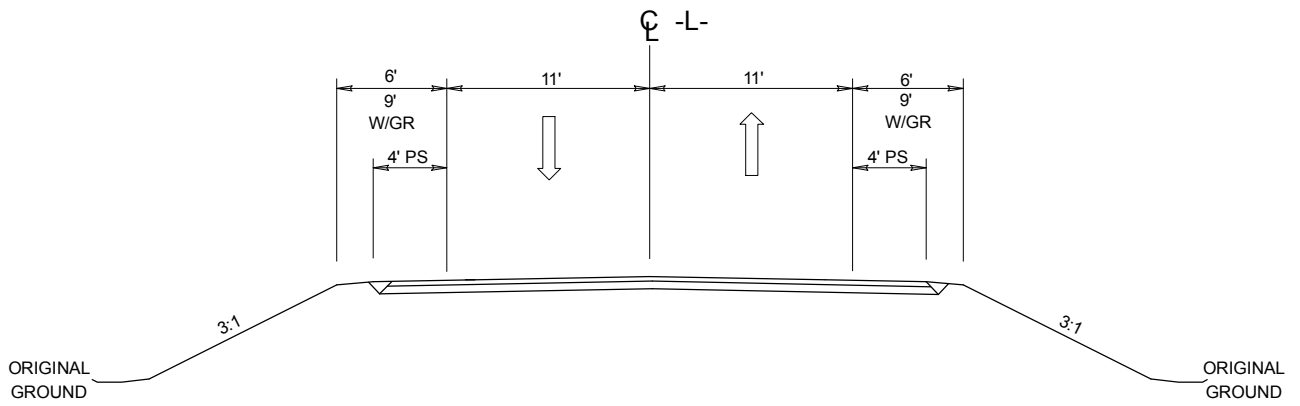
Bridge No. 246 identification plate



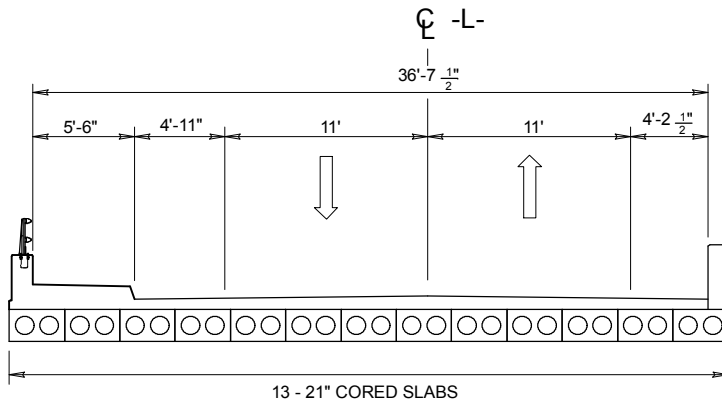
Replacement of Bridge No. 246
Carrying SR 1718 (Erwin Rd)
over Black River

TIP No. B-5704
Division: 6

Figure: 4
Project
Area Photos



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



Replacement of Bridge No. 246
Carrying SR 1718 (Erwin Rd)
over Black River

TIP No: B-5704

Division: 6

Figure: 5
Typical
Sections





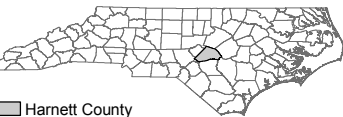
Legend

- ▭ Proposed Structures
- ✦✦ Delineated Wetlands
- Slope Stakes
- - - Existing Right-of-Way
- - - Proposed Right-of-Way
- Proposed Guardrail
- Proposed Edge of Pavement
- - - Existing Utilities
- Stream

N



0 50 100 200
Feet

Preliminary Roadway Design		
		 Harnett County
TIP No. B-5704 Division 6 Replacement of Bridge No. 246 Carrying SR 1718 (Erwin Rd) over Black River		
		Figure 6
		December 2016

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USC Community