

**Union County  
Bridge No. 71 on US 601  
over Clear Creek  
W.B.S. No. 46086.1.1  
S.T.I.P. No. B-5371**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS



1/7/16  
DATE

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FOR Richard W. Hancock, PE  
Manager, Project Development & Environmental Analysis Unit

1-11-16  
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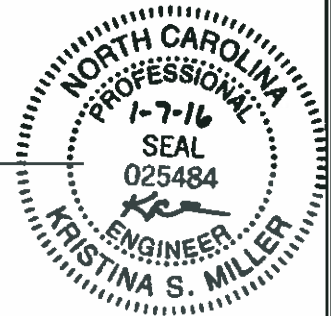
**CATEGORICAL EXCLUSION**

Documentation Prepared by RK&K  
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1-7-16  
DATE

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## **Project Commitments**

### **Division Construction – As-Built Plans to the Hydraulics Unit**

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

### **Hydraulic Unit – FEMA Coordination**

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine the status of the project with regard to the 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).

### **Division Office Bridge Program – Emergency Services and School Buses**

Although use of an off-site detour is not planned during construction of this project, Division 10 will notify the Union County EMS, Sheriff's Department, and School System, if interruptions in US 601 traffic patterns are anticipated, to minimize impacts to emergency response services and school transportation.

### **NC State Surveyors Office – USGS and NCGS Monuments**

If the USGS and NCGS monuments are impacted as part of the project, they will be replaced by the North Carolina Geodetic Survey Office.

### **Roadway Design**

Later stages of design will evaluate if it is cost effective to further minimize the distance between the existing and the proposed alignments in an effort to reduce the amount of permanent property acquisition.

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## Appendices

### Appendix A: Agency Correspondence

- January 11, 2013 US Fish and Wildlife Service
- October 13, 2015 US Department of Agriculture, Natural Resource Conservation Service
- March 18, 2013 NC Division of Water Resources
- October 22, 2013 Union County Planning Department
- March 22, 2013 No Archaeological Survey Required Form (13-03-0041)
- March 22, 2013 Historic Architecture and Landscapes Form (13-03-0041)

### Appendix B: Public Involvement Materials

- Postcard
- Public Meeting Handout
- Local Officials Meeting Agenda Handout
- Public Meeting Minutes
- Summary of Public Comments
- Addendum to the Summary of Public Comments

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**INTRODUCTION:** Bridge No. 71 is included in the North Carolina Department of Transportation (NCDOT) 2016-2025 State Transportation Improvement Program (STIP). The project location is shown in **Figures 1 and 2**. No substantial environmental impacts are anticipated. The project is classified as a “Categorical Exclusion.”

**I. PURPOSE AND NEED STATEMENT**

Based on the December 8, 2014 Structure Safety Report for Bridge No. 71, the bridge is currently in fair condition, but has a sufficiency rating of 34 out of a possible 100. The original bridge was built in 1929 and then reconstructed in 1968. The current bridge is structurally deficient<sup>1</sup> due to ratings of 3 on the superstructure and rating of 3 on the structure evaluation<sup>2</sup>. The bridge is approaching the end of its useful life and is in need of replacement.

Concrete structures, such as the ones used on Bridge No. 71, have a decreased life expectancy when concrete is exposed to chloride from salt treatments related to snow and ice. This chloride intrusion causes deterioration of structures and is evident in the noted spalling sections of the bridge. Superstructure and substructure components of Bridge No. 71 have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. However, the bridge does not have a posted weight limit at this time. Due to the heavy traffic volumes, the substandard components are becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

**II. EXISTING CONDITIONS**

The project is located in northern Union County, just south of the Cabarrus County line and within the Town of Fairview’s municipal limits. The bridge is approximately 15 miles north of Monroe and approximately 20 miles east of Charlotte. The bridge and US 601 (Concord Highway) experience high truck traffic volumes as it connects Monroe to Interstate 85 in Concord (Cabarrus County). The land surrounding the bridge is predominantly flat with rural characteristics, including large tracts of fenced pastures, agricultural crops, and low-density single family homes.

US 601 is classified as a minor arterial in the Statewide Functional Classification System. (See Figure 1). US 601 travels north and south through North Carolina, connecting Mt. Airy to Monroe and beyond.

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<sup>1</sup> “Structurally deficient” means that while the bridge remains safe, it requires repairs and was built to design standards no longer used for bridges.

<sup>2</sup> Bridge Inspection Evaluation codes: “Critical” is 0-3; “Poor” is 4; “Fair” is 5-6; and “Good” is 7-9.

At the existing bridge site, US 601 is a two-lane roadway, with 12-foot lanes and 12.5-foot shoulders (3.5 feet of which are paved).

Bridge No. 71 currently is an 85-foot long bridge with two spans and a clear roadway width of 36 feet. It consists of a reinforced concrete deck on I-beams. The bridge deck is situated approximately 18 feet above the creek bed, and the normal depth of water is approximately two feet. The existing low chord is approximately 13 feet above the normal water surface.

Duke Energy and General Telephone have aerial transmission lines along the west side of US 601 that cross over Clear Creek (parallel to the west side of the bridge) that provide service to homes in the area. In addition, General Telephone, Bell South, and MCNC have fiber optic cables that run along the west side of US 601. There are no signs of water, sewer, gas, or underground power lines in the area. There are two geodetic survey monuments (NCGS and USGS) located on the east side of US 601. The NCGS monument is a disc on concrete, leveled with the road, and located approximately 10 feet from the end of the metal guardrail, south of the bridge. The USGS monument is a disc located on the northeast corner of the wing wall of the bridge, approximately 146 feet from the end of the metal guardrail. NCDOT has marked and flagged the location of these monuments and will replace them.

The average daily traffic (ADT) on US 601 is 6,300 vehicles per day (vpd) in year 2013, with 11 percent truck traffic. Future ADT of 12,200 vpd is anticipated in year 2035. The posted speed limit is 55 miles per hour (mph) in the project area.

Union County Public School System indicated on March 26, 2013 that there would be a high impact on school transportation if the bridge is closed. There are three school buses that use US 601 each weekday, for a total of 12 daily trips across the bridge during the traditional school calendar. NCDOT will coordinate with the school system on construction activities along this route, if interruptions to traffic patterns are anticipated.

There were five accidents reported in the vicinity of Bridge No. 71, between Brief Road and Barrier Farm Road, during a recent five-year period (November 1, 2009 to October 31, 2014). However, four of the five accidents occurred at Brief Road, south of the project limits. One of the five accidents occurred just south of Barrier Farm Road within the project limits, roughly 360 feet from the bridge. It was a “rear end, slow down or stop” type accident. Accident data does not appear to indicate problems with the existing US 601 alignment within the project limits.

US 601 is not part of a designated bicycle route. There are no sidewalks or pedestrian pathways located along the project limits.

Although many railways exist in Charlotte and surrounding towns, there are no railways near the project. The nearest rail line is approximately 3 miles north in Midland and runs perpendicular to US 601. Several small private airports/airfields are located south of Fairview and are not near the project.

On March 26, 2013, Mr. Tim Adams, Union County Operations Manager of the local emergency management system (EMS), stated that the overall impact on emergency response services would

be moderate if the bridge was closed to traffic. US 601 is a major highway, important for response of emergency vehicles. Existing roadways are narrow and inefficient for use as off-site detour routes that could cause response delays as well as safety concerns.

### III. ALTERNATIVES

#### A. Project Description

The recommended new alignment structure will be a bridge approximately 140 feet long, built at approximately the same elevation and located immediately east of the existing bridge. The proposed bridge length is based on the preliminary design and is set by hydraulic requirements. The replacement bridge will have a clear roadway width of 40 feet to provide for two 12-foot lanes with 8-foot shoulders on each side. The approach roadway will also consist of two 12-foot lanes and 8-foot shoulders. The design speed is 60 mph for the permanent replacement (posted at 55 mph). (See **Figure 3** for typical section diagrams.)

#### B. Alternative 1

**Alternative 1** – Alternative 1, shown on **Figure 4A**, involves replacement of the structure with a 90-foot long bridge along the existing roadway alignment using an on-site detour to maintain traffic during construction. Improvements to the approach roadway would be required for a distance of approximately 150 feet to the south and 260 feet to the north. The on-site detour would be approximately 40 feet east of the existing bridge and would have two 12-foot lanes with six-foot shoulders (two of the six feet would be paved) on the roadway. The on-site detour structure would be 120 feet long bridge with a clear roadway width of 32 feet. The roadway approaches for the on-site detour extend approximately 810 feet to the south and 830 feet to the north.

#### C. Alternative 2 (Preferred Alternative)

**Alternative 2** – Alternative 2, shown on **Figure 4B**, involves replacement of the structure on a new alignment with a new bridge that is approximately 140 feet long. During construction, the existing US 601 roadway and bridge are used to maintain traffic. The new bridge would be located immediately east of the existing bridge. The roadway approaches for the new alignment extend approximately 1,060 feet to the south and 700 feet to the north.

This alternative fully addresses the need for the project and meets the purpose to provide a safer structure, consistent with current design standards. Alternative 2 is NCDOT's Preferred Alternative because it costs less than Alternative 1 and impacts are similar. During later stages of design, NCDOT will evaluate if it is cost effective to further minimize the distance between the existing and the proposed alignments in an effort to reduce the amount of permanent property acquisition.

#### D. Alternatives Eliminated from Further Consideration

The No Build or Do Nothing Alternative would eventually necessitate the closure of the bridge. This alternative would not be acceptable to the public and would not meet the purpose of the project. Also, rehabilitation of the existing structure would not be feasible due to its age and deteriorated condition.

Due to the project location and surrounding area, there are no feasible off-site detours. Traffic volumes were recorded at 6,300 vpd in 2013, with high percentages of truck use (9% Duals, 11% TTST). When construction is scheduled to begin in 2018, traffic is estimated to be approximately 7,600 vpd with a 2035 design year volume of 12,200 vpd. The nearest potential off-site detour route was rejected because it would increase travel times, delay emergency response, and would include roadways that are more narrow than US 601, specifically: Brief Road, Hopewell Church Road, and Drake Road. This potential off-site detour would take approximately eight minutes to travel and is roughly four miles long. Union County EMS and the public school system commented that a bridge closure and rerouting of traffic off-site would result in moderate to high impacts to the community. Furthermore, there is a one-lane bridge located on Hopewell Church Road that would not accommodate the traffic volumes, particularly truck traffic, utilizing US 601.

**Alternatives Located to the West of US 601** – Alternatives located along the west side of US 601 were rejected because of undesirable roadway alignment (i.e. reverse curves) and the additional impacts they would cause to a jurisdictional stream and wetland as well as increased utility disruption and costs.

#### IV. ESTIMATED COSTS

Approximate costs (based on 2015 prices) are shown in **Table 1**.

**Table 1: Estimated Costs**

Description	Alternative 1 Replace in place using an on-site detour	Alternative 2 New alignment
Structure	\$360,000	\$560,000
Roadway Approaches and related items	\$330,800	\$670,600
Detour Structure	\$307,200	\$0
Detour Roadway Approaches, and related items	\$437,400	\$0
Structure Removal	\$53,200	\$53,200
Miscellaneous and Mobilization (Structures, Utility, and Preliminary Roadway)	\$300,400	\$246,200
Engineering And Contingencies	\$311,000	\$220,000
Total Construction Cost (items above)	\$2,100,000	\$1,750,000
Right of Way Costs	\$13,000	\$32,500
Right of Way Utility Costs	\$23,400	\$23,400
<b>Total</b>	<b>\$2,236,400</b>	<b>\$1,805,900</b>

#### V. NATURAL ENVIRONMENT

The crossing of Clear Creek is located within the Yadkin-Pee Dee and has a drainage area of 22.3 square miles. The current water quality Best Usage Classification assigned this stream by the North Carolina Division of Water Resources (NCDWR) is Class C. This stream was listed on the

2012 North Carolina 303(d) list, but was removed in the 2014 Final 303(d) List. NCDOT's *Best Management Practices for Protection of Surface Waters* (March 1997) will be followed throughout the design and construction of the project. A State Stormwater Permit (SSP) is not anticipated for this project.

### A. Physical Characteristics

The study area lies in the piedmont physiographic region of North Carolina (see **Figure 2**). Topography in the vicinity is comprised of gently rolling hills with narrow, level floodplains along streams. Elevations in the study area range from 464 to 516 feet above sea level. Land use in the vicinity consists primarily of agriculture, with interspersed areas of commercial development, residential development and forestland along stream corridors.

#### 1. Water Resources

Water resources in the study area are part of the Yadkin-Pee Dee River basin [U.S. Geological Survey (USGS) Hydrologic Unit 03040105]. Three streams were identified in the study area and are shown on **Table 2**. The location of each water resource is shown in **Figure 5**. The physical characteristics of these streams are provided in **Table 3**.

**Table 2: Water Resources in the Study Area**

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
Clear Creek	Clear Creek	13-17-17	C
UT to Clear Creek	SA	13-17-17	C
UT to Clear Creek	SB	13-17-17	C

**Table 3: Physical Characteristics of Water Resources**

Map ID	Bank Height (ft)	Bankful Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Clear Creek	35-40	35-40	36-60	Sand, silt, gravel, cobble	Fast	Turbid
SA	1-2	1-3	1-2	Sand, silt	Moderate	Slightly Turbid
SB	1-2	1-3	1-2	Sand, silt	Moderate	Slightly Turbid

Clear Creek has been designated a Class C water from its source to Rocky River. There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I, II) within 1.0 mile downstream of the study area. Clear Creek and other streams within 1.0 mile of the study area are not listed on the 2014 Final 303(d) list of Impaired Waters for North Carolina.

The closest benthic samples have been taken in the Rocky River near its confluence with Long Branch at NC 138 (Aquadale Road) approximately 25 miles downstream in Stanly County, where the river was given a rating of "Good/Fair" on June 3, 1991. Fish surveys have not been conducted on Clear Creek.

## B. Biotic Resources

### 2. Terrestrial Communities

Two terrestrial communities were identified in the study area: maintained/disturbed and piedmont/mountain bottomland forest. **Figure 6** shows the location and extent of these terrestrial communities in the study area. Terrestrial communities in the study area may be impacted by the project construction as a result of grading and paving of portions of the study area. The anticipated area of impact to terrestrial communities by Alternatives 1 and 2 are shown in Table 4.

**Table 4: Terrestrial Communities**

Community	Coverage (acres)	Area of Impact for Alternative 1 (acres)*	Area of Impact for Alternative 2 (acres)*
Maintained/Disturbed	3.7	<0.1	0.2
Piedmont/Mountain Bottomland Forest	4.5	0.4	0.4
<b>Total</b>	<b>8.2</b>	<b>0.4</b>	<b>0.7**</b>

\*The area of impact is based on the preliminary roadway design slope stake lines plus a 25-foot offset minus the existing ROW.

\*\* 0.7 is rounded up from 0.67 acres. The hundredths place is not shown in the table; and therefore, the math appears incorrect.

## C. Jurisdictional Topics

### 1. Surface Waters and Wetlands

Three jurisdictional streams were identified in the study area and are shown in **Table 5**. The location of these streams is shown on **Figure 5**. A section of SB is characterized by ephemeral flow and the ephemeral/intermittent classification change point can be seen on **Figure 5**. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. Approximately 185 linear feet of stream channel is expected to be impacted by Alternative 1 and 56 linear feet of stream channel is expected from Alternative 2.

One jurisdictional wetland was identified within the project study area. Wetland classification and quality rating data are presented in **Table 6**. The wetland in the study area is within the Yadkin Pee-Dee River basin (USGS Hydrologic Unit 03040105). Wetland WA is included within the piedmont/mountain bottomland forest community. No impact is anticipated to this wetland by Alternatives 1 and 2.

**Table 5: Water Resources in the Study Area**

Map ID	Length in Study Area (feet)	Classification	Compensatory Mitigation Required	River Basin Buffer	Length of Stream Channel Impacted by Alternative 1* (feet)	Length of Stream Channel Impacted by Alternative 2* (feet)
Clear Creek	227	Perennial	Yes	Not Subject	0	0
SA	77	Intermittent	Yes	Not Subject	53	56
SB	325	Intermittent	Yes	Not Subject	132**	0
SB	213	Ephemeral	No	Not Subject	0	0
<b>Total</b>	<b>842</b>	--	--	--	<b>185</b>	<b>56</b>

\*The area of impact is based on the preliminary roadway design slope stake lines plus a 25-foot offset.

\*\*Impacts to SB are expected to be avoided once the 25-foot offset is eliminated.

**Table 6: Wetlands in the Study Area**

Map ID	NCWAM Classification	Hydrologic Classification	NCDWR Wetland Rating	Total in Study Area (acre)	Area of Impact by Alternative 1 (acre)*	Area of Impact by Alternative 2 (acre)*
WA	Bottomland Hardwood Forest	Riparian	35	0.08	0.00	0.00
<b>Total</b>				<b>0.08</b>	<b>0.00</b>	<b>0.00</b>

\*The area of impact is based on the preliminary roadway design slope stake lines plus a 25-foot offset.

#### D. Permits

Because the project has been designated as a Categorical Exclusion for the purposes of National Environmental Policy Act (NEPA) documentation, a Nationwide Permit (NWP) No. 23 will likely be applicable. 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 or rehabilitation. The U.S. Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required then a Section 401 Water Quality Certification (WQC) from the NCDWR will be needed.

Union County is not one of the twenty counties under the jurisdiction of the Coastal Area Management Act (CAMA). Therefore, no CAMA Areas of Environmental Concern (AEC) exist in the study area. A CAMA permit from the North Carolina Division of Coastal Management (NCDCM) will not be required.



This project is not located in a Wildlife Resources Commission designated trout county; no construction moratoria would be required for work within the study area.

There are no buffer rules administered by NCDWR for the Yadkin-Pee Dee River Basin. Therefore, these streams are not subject to buffer rule protection.

Bridge replacement or construction over navigable waters used for commerce or that have a maintained navigation channel may require United States Coast Guard (USCG) authorization pursuant to 33 CGF 114-115. Clear Creek is not classified as navigable waters; therefore USCG authorization is not required.

The NCDOT has attempted to avoid and minimize impacts to streams and wetlands to the greatest extent practicable in choosing and designing the Preferred Alternative. If on-site mitigation is not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP).

## E. Federally Protected Species

### 1. Federally Threatened and Endangered Species

As of March 25, 2015, the United States Fish and Wildlife Service (USFWS) lists three federally protected species as Endangered for Union County (**Table 7**). A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area. Habitat requirements for each species are based on the best available information from referenced literature and/or USFWS.

**Table 7. Federally Protected Species listed for Union County**

Scientific Name	Common Name	Federal Status*	Habitat Present	Biological Conclusion
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	E	Yes	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect
<i>Lasmigona decorata</i>	Carolina heelsplitter	E	No**	No Effect

\* E- Endangered

\*\* No – Based on site surveys after the 2013 Natural Resources Technical Report, in an email dated November 12, 2015, NCDOT-NES confirmed that Clear Creek's quality was such that habitat for the Carolina heelsplitter was not present.

### Schweinitz's sunflower

USFWS Optimal Survey Window: late August-October

*Habitat Description:* Schweinitz's sunflower is endemic to the Piedmont of North and South Carolina. The few sites where this rhizomatous perennial herb occurs in relatively natural vegetation are found in Xeric Hardpan Forests. The species is also found along roadside rights-of-way, maintained power lines and other utility rights-of-way, edges of thickets and old pastures, clearings and edges of upland oak-pine-hickory woods and Piedmont longleaf pine forests, and other sunny or semi-sunny habitats where disturbances (such as mowing, clearing, grazing, blow downs, storms, and frequent fire) help create open or partially open areas for sunlight. It is intolerant of full shade and excessive competition from other vegetation. Schweinitz's sunflower occurs in a variety of soil series, including Badin, Cecil, Cid, Enon, Gaston, Georgeville, Iredell, Mecklenburg, Misenheimer, Secrest, Tatum, Uwharrie, and Zion, among others. It is generally

found growing on shallow sandy soils with high gravel content; shallow, poor, clayey hardpans; or shallow rocky soils, especially those derived from mafic rocks.

**Biological Conclusion: No Effect**

Suitable habitat for Schweinitz's sunflower is present in the study area along roadside shoulders. Surveys were conducted on October 20, 2015 but no specimen were found. Therefore, a biological conclusion of "No Effect" was determined.

**Michaux's sumac**

USFWS optimal survey window: May-October

*Habitat Description:* Michaux's sumac, endemic to the inner Coastal Plain and lower Piedmont, grows in sandy or rocky, open, upland woods on acidic or circumneutral, well-drained sands or sandy loam soils with low cation exchange capacities. The species is also found on sandy or submesic loamy swales and depressions in the fall line Sandhills region as well as in openings along the rim of Carolina bays; maintained railroad, roadside, power line, and utility rights-of way; areas where forest canopies have been opened up by blowdowns and/or storm damage; small wildlife food plots; abandoned building sites; under sparse to moderately dense pine or pine/hardwood canopies; and in and along edges of other artificially maintained clearings undergoing natural succession. In the central Piedmont, it occurs on clayey soils derived from mafic rocks. The plant is shade intolerant and, therefore, grows best where disturbance (such as mowing, clearing, grazing, and periodic fire) maintains its open habitat.

**Biological Conclusion: No Effect**

Suitable habitat for Michaux's sumac is present in the study area along roadside shoulders and edges of agriculturally maintained open areas. Surveys were conducted on October 20, 2015 and no specimen were found. Therefore, a biological conclusion of "No Effect" was determined.

**Carolina heelsplitter**

USFWS optimal survey window: year round

*Habitat Description:* The Carolina heelsplitter was historically known from several locations within the Catawba and Pee Dee River systems in North Carolina and the Pee Dee and Savannah River systems, and possibly the Saluda River system, in South Carolina. In North Carolina, the species is now known only from a handful of streams in the Rocky and Catawba River systems. The species exists in very low abundances, usually within six feet of shorelines, throughout its known range. The general habitat requirements for the Carolina heelsplitter are shaded areas in large rivers to small streams, often burrowed into clay banks between the root systems of trees, or in runs along steep banks with moderate current. The more recent habitat where the Carolina heelsplitter has been found is in sections of streams containing bedrock with perpendicular crevices filled with sand and gravel, and with wide riparian buffers.

**Biological Conclusion: No Effect**

NCDOT surveyed for the Carolina heelsplitter on August 6, 2013. Given relatively poor habitat quality, lack of any live native mussel taxa, and the isolation of this surveyed stream from known

species occurrences, the biological conclusion associated with this project for the Carolina heelsplitter is “No Effect.”

## **VI. HUMAN ENVIRONMENT**

### **A. Section 106 Compliance Guidelines**

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federal funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings. No sites listed on or eligible for the National Register of Historic Places are located within the area of potential effect for the proposed project. As noted below, no additional surveys were required for the proposed project.

#### **1. Historic Architecture**

NCDOT-Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, State Historic Preservation Office, Office of State Archaeology (OSA) and the Advisory Council on Historic Preservation, reviewed the proposed project and determined that no surveys are required (see form dated March 22, 2013 in Appendix A).

#### **2. Archaeology**

NCDOT-Human Environment Unit, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation, reviewed the proposed project and determined that no surveys are required (see form dated March 22, 2013 in Appendix A).

### **B. Community Impacts**

Census data does not indicate a notable presence of minority or low-income populations meeting the criteria for Environmental Justice, nor was a notable presence of minority or low-income populations observed during project site visits. The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population. Benefits and burdens resulting from the project are equitably distributed throughout the community (NCDOT, 2013).

Census data does not indicate Limited English Proficiency (LEP) populations meeting the US Department of Justice LEP Safe Harbor threshold or a notable presence within the study area (NCDOT, 2013).

The bridge replacement project will have minor impacts to local residences and businesses, primarily related to temporary impacts during construction. Alternative 1 requires an estimated 0.4 acre of temporary construction easement whereas Alternative 2 requires an estimated 0.7 acre of permanent right of way acquisition from two properties that front the southeast side of US 601 and are adjacent to Clear Creek. The temporary on-site detour of Alternative 1 and the permanent

realignment of Alternative 2 place US 601 traffic roughly 40 feet closer to one residence. Although Alternative 1's impacts are temporary, occurring during construction, both alternatives change some views from/of the home due to removal of a portion of a tree line located within the existing NCDOT right of way. (The existing tree line is located along the south side of the home, roughly perpendicular to US 601 and somewhat parallel to Clear Creek.) In addition, the proposed project impacts fencing used by the same residence for cattle and horses. The fence will either be moved as part of the project or the property owner will be compensated for the impact.

Two gravel driveways and Barrier Farms Road are located within the project limits. The gravel driveways provide access to a mobile home, a single family home, and Gerald Clontz Trucking Company. Barrier Farms Road provides access to several single family homes, agricultural crops and pastures. Access will be maintained during construction.

As noted previously, the proposed project will utilize existing US 601 to accommodate traffic during construction. Use of an off-site detour is not anticipated. Union County EMS noted concern for emergency response services due to increased response times if the bridge is closed and the Union County Public Schools Transportation Department noted similar concerns with 12 total trips per day crossing the bridge.

No impact to public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. However, according to Mr. Joe Lesch, the Senior Transportation Planner for Union County, US 601 at Clear Creek is designated as a boulevard that needs improvements. The general "boulevard" concept includes four lanes, a median and bike lanes. However, this section of US 601 is rural in nature, located on the northern edge of the Town of Fairview and Union County, where heavy truck traffic is present. It is not a designated bicycle route and bike lanes are not proposed. The Charlotte Regional Transportation Planning Organization's (CRTPO) Draft Comprehensive Transportation Plan (May 6, 2015) labels US 601 as a boulevard needing improvements throughout Union County.

This area of Union County is predominantly rural with agricultural uses. Based on the Union County online GIS data viewer, a Voluntary Agricultural District was noted just outside the project study area off of Barrier Farm Road. For Alternative 1, approximately 0.4 acre of impact is anticipated to prime farmland soils for the use of a temporary construction easement. For Alternative 2, approximately 0.7 acre of impact is anticipated to prime farmland soils that will be converted directly to non-farming uses. See the Farmland Conversion Impact Rating Form (AD-1006 (03-02)) and correspondence from Natural Resources Conservation Service in Appendix A for additional information.

### **C. Noise and Air Quality**

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis and project level Carbon Monoxide (CO) and Particulate Matter (PM) 2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of existing facility, or any other factor that would

cause an increase in emissions impacts relative to the No Build Alternative. Therefore, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. Consequently, this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise. The permanent replacement structure is located approximately 40 feet east of the existing bridge. The proposed project does not include a substantial horizontal or vertical alternation from the existing alignment. No traffic noise analysis is required to meet the requirements of the NCDOT Traffic Noise Abatement Policy and 23 CFR 772.<sup>3</sup>

## VII. GENERAL ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current NCDOT standards and specifications.

No resources protected under Section 4(f) of the Department of Transportation Act of 1966 or Section 6(f) of the Land and Water Conservation Act of 1965 are located in the project study area.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section and a field reconnaissance survey on June 3, 2013, revealed no sites with a Recognized Environmental Concern (REC) within the project limits. RECs include hazardous materials associated with underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas, among other potential contaminants.

Union County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). According to the NC Floodplain Mapping Program, 100-year base flood elevations were established in a Limited Detailed Flood Study. The Hydraulics Unit will coordinate with NC Floodplain Mapping Program (FMP), to determine the status of the project with regard to applicability of NCDOT's Memorandum Agreement (dated February 5, 2015), or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to FEMA-regulated streams. Therefore, NCDOT-Division 10 shall submit sealed as-built

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<sup>3</sup> *Substantial Horizontal Alternation* = A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition. *Substantial Vertical Alternation* = A project that removes shielding, therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor (NCDOT Traffic Noise Abatement Policy, 2011).

construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and road embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

## VIII. COORDINATION AND AGENCY COMMENTS

NCDOT has sought input from the following agencies as a part of project development: USACE, FHWA, Environmental Protection Agency, NC Department of Environment and Natural Resources, USFWS, NC Wildlife Resource Commission, NC Division of Parks and Recreation, and Union County.

The USFWS provided general recommendations for replacing structures that cross streams, recommending the use of clear-spanning bridge structures to accommodate the active channel width. They also recommend that a biological survey for the Georgia aster, Michaux's sumac, and Schweinitz's sunflower be completed prior to construction. NCDOT's Natural Environment Section will ensure all protected species surveys and concurrence (if applicable) will be resolved prior to construction authorization. NCDWR recommended the implementation of *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) due to Clear Creek being on the 303(d) list for 2012; however, it is no longer listed based on the 2014 Final 303(d) List. They also requested that road design plans provide treatment of storm water runoff through best management practices as detailed in the most recent version of the *NCDWR Stormwater Best Management Practices*. They also noted two eroding drainage ditches at the site that require maintenance. Because Clear Creek was removed from the 2014 Final 303(d) List, NCDOT will follow their standard procedures of best management practices.

In an email dated October 22, 2013, the Senior Transportation Planner, Mr. Joe Lesch, with Union County, stated that US 601 is designated as a boulevard that needs improvement on the draft CTP (May 2015). He asked that the future cross section of four travel lanes with a median and bike lanes be accommodated by the new bridge. Due to the high volume of truck traffic and lack of bicycle route connectivity, no bike lanes were incorporated into the typical section for the proposed bridge. Currently, there are no STIP Projects that widen US 601. If US 601 is widened to a multi-lane section in the future, the proposed project may be utilized for two travel lanes in one direction.

Coordination with Local Officials is summarized in Section IX-Public Involvement.

## IX. PUBLIC INVOLVEMENT

There is no substantial controversy on social, economic, or environmental grounds concerning the project.

On May 6, 2015, postcards were mailed out to approximately 40 study area residents to inform them of the project, solicit feedback, and invite them to the May 28, 2015 public meeting at Fairview Elementary School from 5:00pm to 7:00pm. In addition, NCDOT posted an advertisement in the local newspaper and submitted a press release for public notification of the project and public meeting. These media sources included The Enquirer Journal (May 10, May 17, May 22, May 24, and May 27, 2015), and The Charlotte Observer (May 10, May 17, May 20, May 24, and May 28, 2015). Spanish translations of this information were included in *Hola Noticias*, *La Noticia*, and *Que Pasa* in May 2015.

Approximately 30 local officials were notified by mail of the Local Officials' Informational Meeting at Fairview Elementary School from 4:00pm to 5:00pm on May 28, 2015. The public meeting and local officials' informational meeting were held to present the preliminary designs, answer questions, and obtain input.

Approximately ten study area residents attended the public meeting. Most discussions and comments concerned the amount of permanent right of way acquisition needed for Alternative 2 (approximately 0.7 acre) and why the new alignment was not located along the west side of US 601 or closer to the existing bridge on the east side. These options were discussed in Section III.C. Alternatives Eliminated from Further Study. The attendees included residents directly impacted by the project that have lived in the area for many years. Most attendees favored Alternative 1 because the majority of impacts would be temporary due to the on-site detour. Two written comments were received, which favored Alternative 1.

Two local representatives, the Mayor of Fairview and the Union County Department of Public Works Director, participated in the Local Officials' Informational Meeting. They asked questions to gain more knowledge about the project. In addition, they were interested in receiving feedback from the public meeting. They did not raise any objections and seemed supportive of the bridge replacement overall.

## **X. CONCLUSION**

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.

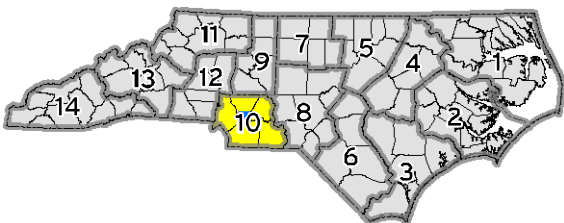
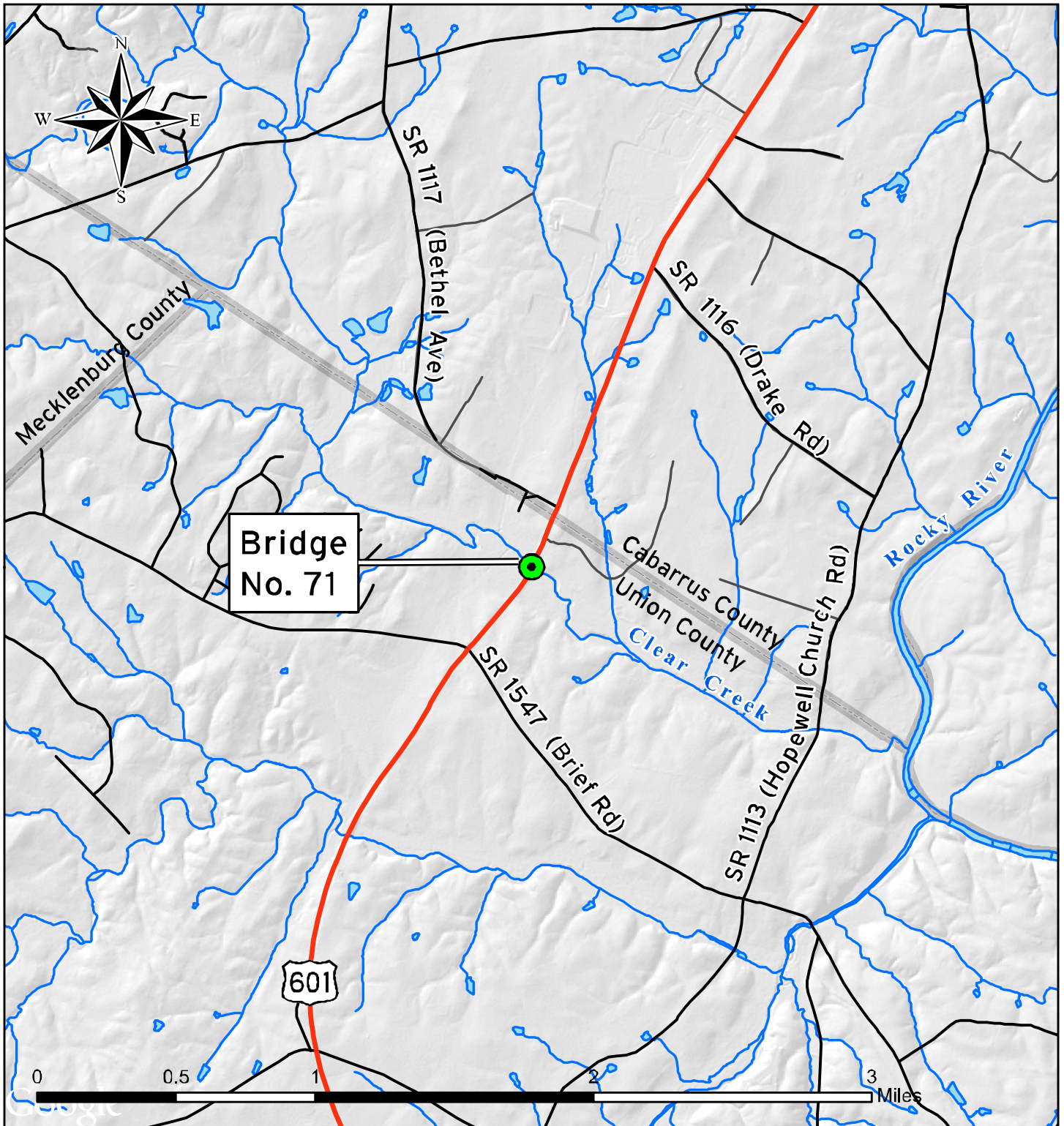
## **XI. REFERENCES**

- Charlotte Regional Transportation Planning Organization (CRTPO). May 6, 2015. *Draft Comprehensive Transportation Plan*.
- CRTPO. December 4, 2014. *Draft 2016-2025 CRTPO Transportation Improvement Program Projects Identified During the Release of the Draft STIP*
- North Carolina Department of Environment and Natural Resources (NCDENR). August 24, 2014. *2012 North Carolina 303(d) List – Category 5*.
- NCDENR. December 19, 2014. *2014 North Carolina 303(d) List – Category 5 Final*.
- North Carolina Department of Transportation (NCDOT). February 2015. *DRAFT: NC Strategic Transportation Corridors Network*.
- NCDOT. July 13, 2011. *NCDOT Traffic Noise Abatement Policy*
- NCDOT (HNTB). June 3, 2013. *Community Impact Assessment: B-5371 Union County*.
- NCDOT-GeoEnvironmental Section. June 10, 2013. *GeoEnvironmental Report for Planning*.
- NCDOT-Geotechnical Engineering Section. May 8, 2013. *Geotechnical Report for Planning*.
- NCDOT-Hydraulic Unit. July 1, 2013. *Preliminary Hydraulics Information for the Proposed Replacement of Bridge No. 71 on US 601 over Clear Creek*.
- NCDOT-Bridge Maintenance Unit. December 8, 2014. *Bridge Inspection Report for Bridge No. 890071*.
- NCDOT. Go!NC GIS Online Maps. April 10, 2015. *North Carolina Statewide Functional Classification System*. Retrieved from <http://ncdot.maps.arcgis.com/>
- NCDOT-Natural Environment Section. July 2013. *Natural Resources Technical Report*.
- Union County. Mr. Joe Lesch, Senior Transportation Planner, personal (email) communication on October 22, 2013 and personal (telephone) communication on June 24, 2015.
- Union County. Mr. Tim Adams, Operations Manager of Emergency Management Services, personal communication on March 26, 2013 via Community Impact Assessment survey.
- Union County. *Multimodal Transportation Plan Update 2014*.
- United States Fish and Wildlife Service. March 25, 2015. *Endangered, Threatened and Candidate Species and Federal Species of Concern by County in North Carolina, Union County, NC*.



United States Department of Agriculture, Natural Resources Conservation Service. Farmland Conversion Impact Rating for Corridor Type Projects Form AD-1006 (03-02).

## **FIGURES**



NORTH CAROLINA DEPARTMENT OF  
TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS BRANCH


**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

VICINITY MAP

FIGURE 1






 NORTH CAROLINA DEPARTMENT OF  
 TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT DEVELOPMENT &  
 ENVIRONMENTAL ANALYSIS UNIT

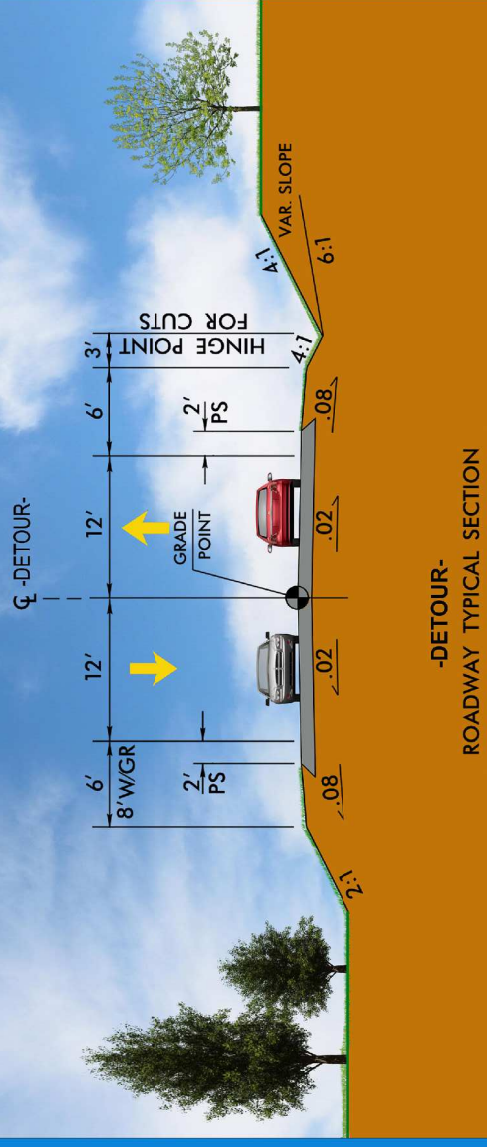
**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

**PROJECT STUDY AREA**

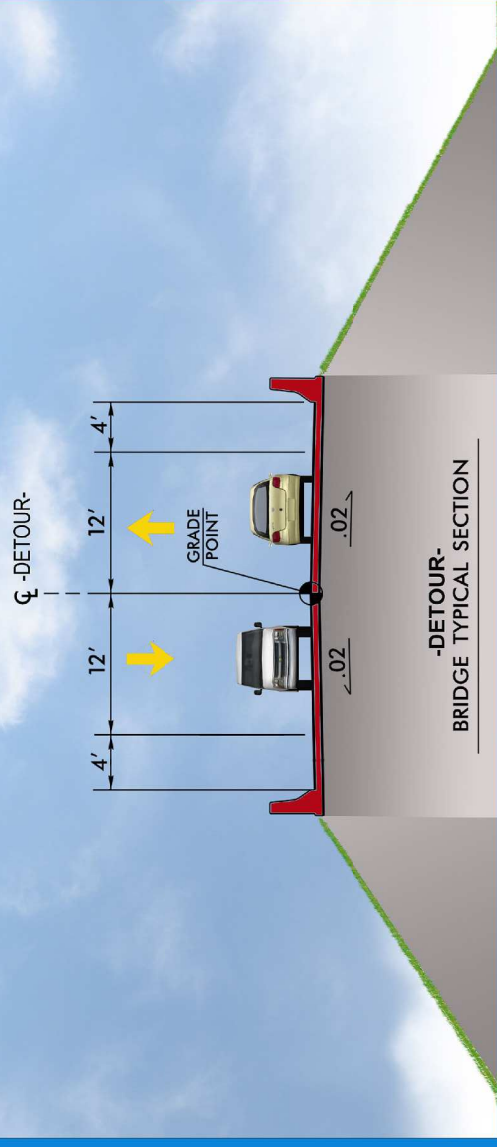
SOURCE: USGS 7.5 MINUTE QUADRANGLE, MIDLAND, NC FIGURE 2



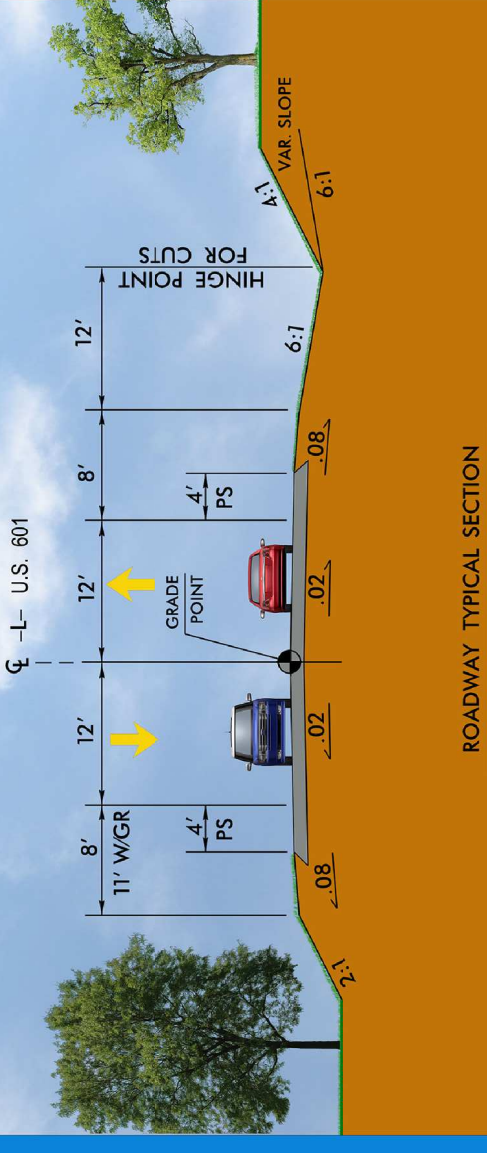
**ALTERNATIVE 1**



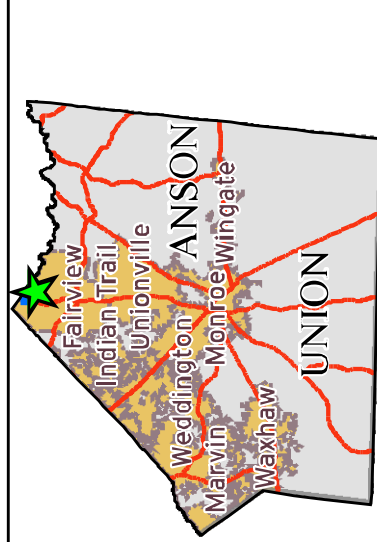
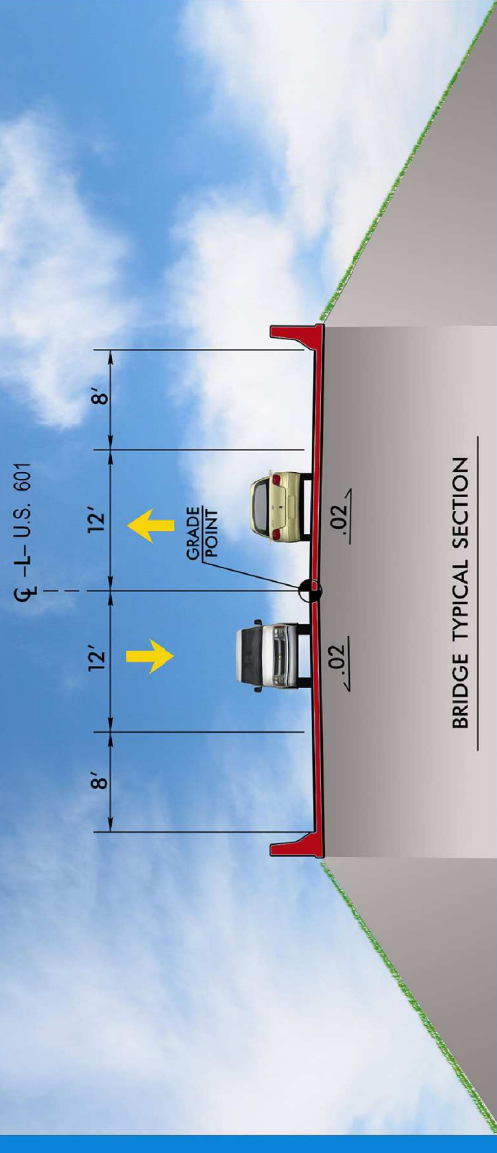
**ALTERNATIVE 1**



**ALTERNATIVES 1 & 2**



**ALTERNATIVES 1 & 2**



DESIGN DATA	-L-	-DET-
DESIGN SPEED	50 MPH	50 MPH
ADT (2018)	7,443	7,441
ADT (2045)	13,805	13,805
DUAL	9%	9%
FFS	11%	11%
DHY	10%	10%
DIE	55%	55%
FUNCTIONAL CLASSIFICATION	MAJOR ARTERIAL	MAJOR ARTERIAL
MIN. RADIUS	1330'	833'
MAX GRADE	6%	6%
SAG VERT. CURVE	136'	96'
CREST VERT. CURVE	107'	84'
SE MAX	.04	.06
REGIONAL TIER DESIGN		

**ALTS 1 & 2**

**ALT 1**



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**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

**TYPICAL SECTIONS FOR ALTERNATIVES 1 & 2**

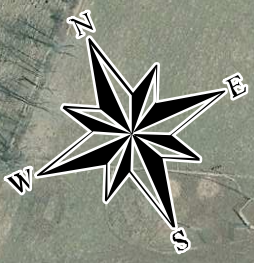
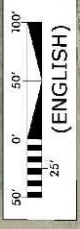


**PRELIMINARY PLAN**  
DO NOT USE FOR CONSTRUCTION

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

**DESIGN DATA**

Functional Class.	=	Minor Arterial
2018 ADT	=	7,641 VPD
2035 ADT	=	12,200 VPD
Design Speed (-L-)	=	60 mph
Design Speed (-Det-)	=	50 mph
Max. Superelevation	=	0.06



**BEGIN PROJECT B-5371**  
**-DET- STA. 11+12.66**  
**ALTERNATIVE 1**  
**ON - SITE DETOUR**

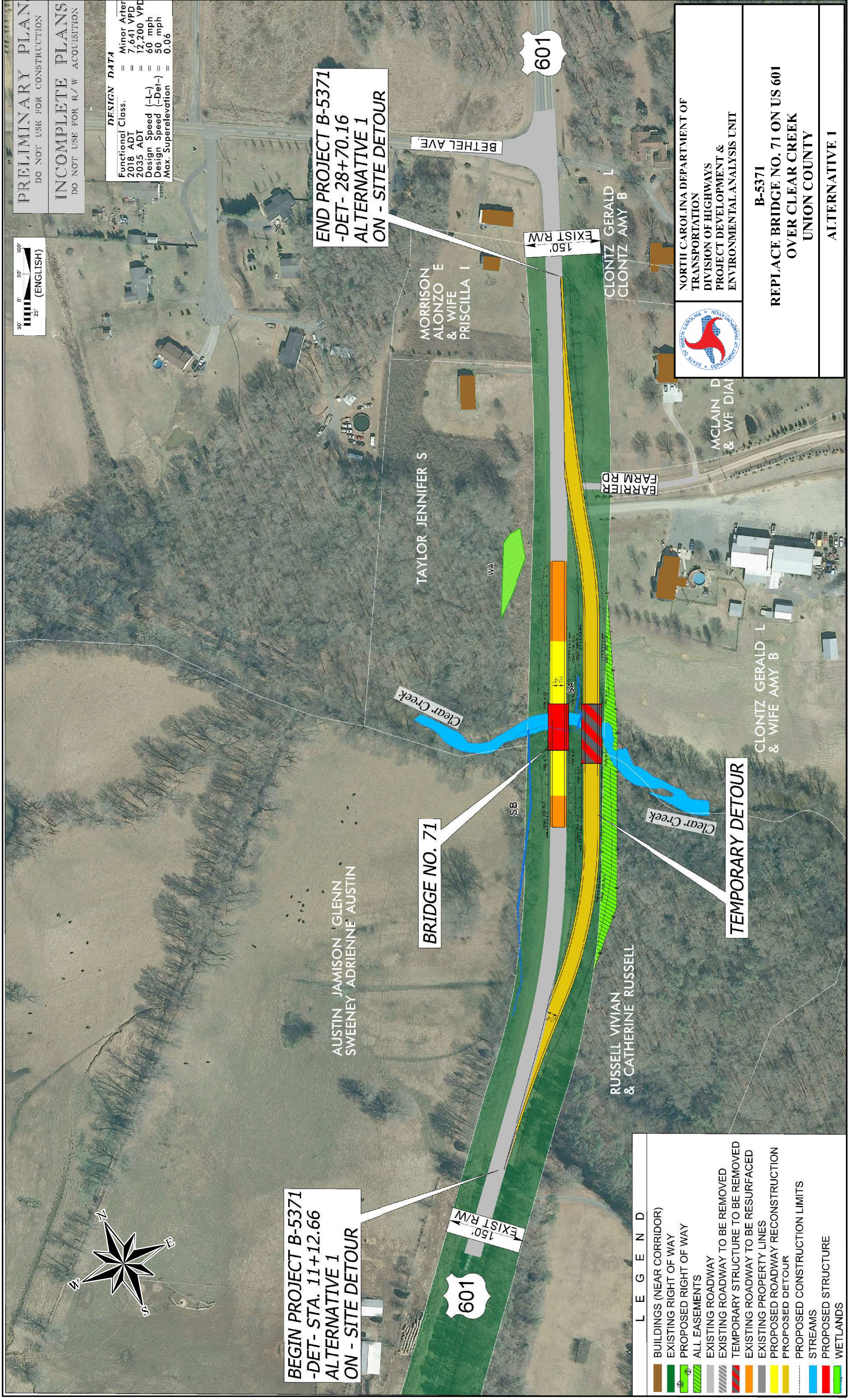

**END PROJECT B-5371**  
**-DET- 28+70.16**  
**ALTERNATIVE 1**  
**ON - SITE DETOUR**

**BRIDGE NO. 71**

**TEMPORARY DETOUR**

**LEGEND**

[Brown Box]	BUILDINGS (NEAR CORRIDOR)
[Green Box]	EXISTING RIGHT OF WAY
[Yellow Box]	PROPOSED RIGHT OF WAY
[Green Box with Circle]	ALL EASEMENTS
[Grey Box]	EXISTING ROADWAY
[Grey Box with Diagonal Lines]	EXISTING ROADWAY TO BE REMOVED
[Red Box]	TEMPORARY STRUCTURE TO BE RESURFACED
[Orange Box]	EXISTING ROADWAY TO BE RESURFACED
[Grey Box with Diagonal Lines]	EXISTING PROPERTY LINES
[Yellow Box]	PROPOSED ROADWAY RECONSTRUCTION
[Yellow Box]	PROPOSED DETOUR
[Dashed Line]	PROPOSED CONSTRUCTION LIMITS
[Blue Line]	STREAMS
[Red Box]	PROPOSED STRUCTURE
[Green Box]	WETLANDS

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
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**PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT**

**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

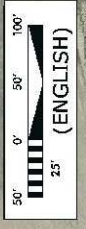
**ALTERNATIVE 1**

**FIGURE 4A**



**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION



**DESIGN DATA**

Functional Class.	=	Minor Arterial
2018 ADT	=	7,641 VPD
2035 ADT	=	12,200 VPD
Design Speed (-L-)	=	60 mph
Max. Superelevation	=	0.06

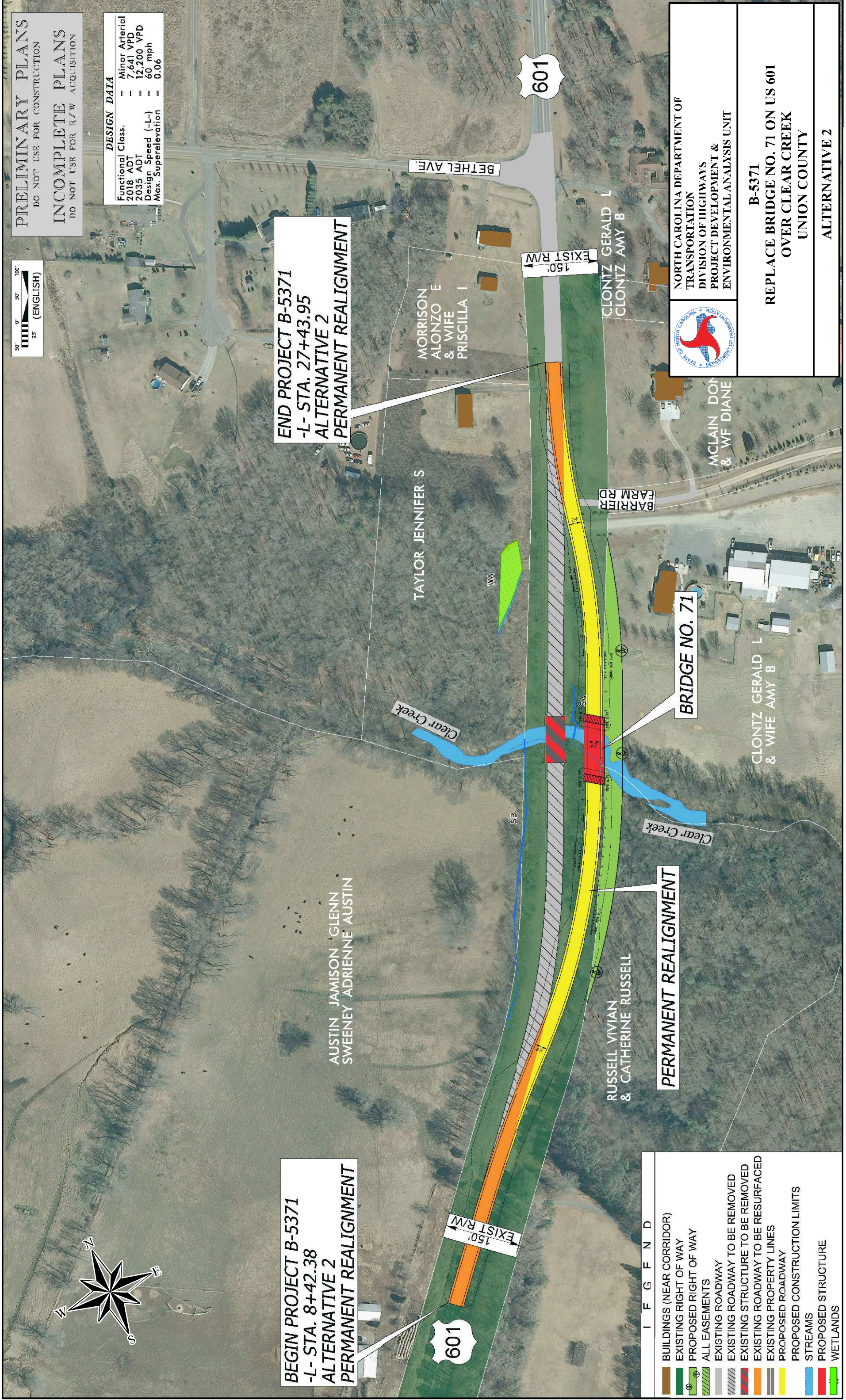


**BEGIN PROJECT B-5371**  
-L- STA. 8+42.38  
ALTERNATIVE 2  
PERMANENT REALIGNMENT

**END PROJECT B-5371**  
-L- STA. 27+43.95  
ALTERNATIVE 2  
PERMANENT REALIGNMENT

**LEGEND**

[Brown hatched]	BUILDINGS (NEAR CORRIDOR)
[Green hatched]	EXISTING RIGHT OF WAY
[Light green hatched]	PROPOSED RIGHT OF WAY
[Green with circle]	ALL EASEMENTS
[Grey hatched]	EXISTING ROADWAY
[Red hatched]	EXISTING ROADWAY TO BE REMOVED
[Orange hatched]	EXISTING STRUCTURE TO BE REMOVED
[Yellow hatched]	EXISTING ROADWAY TO BE RESURFACED
[Grey outline]	EXISTING PROPERTY LINES
[Yellow outline]	PROPOSED ROADWAY
[Yellow outline]	PROPOSED CONSTRUCTION LIMITS
[Blue line]	STREAMS
[Red line]	PROPOSED STRUCTURE
[Green line]	WETLANDS



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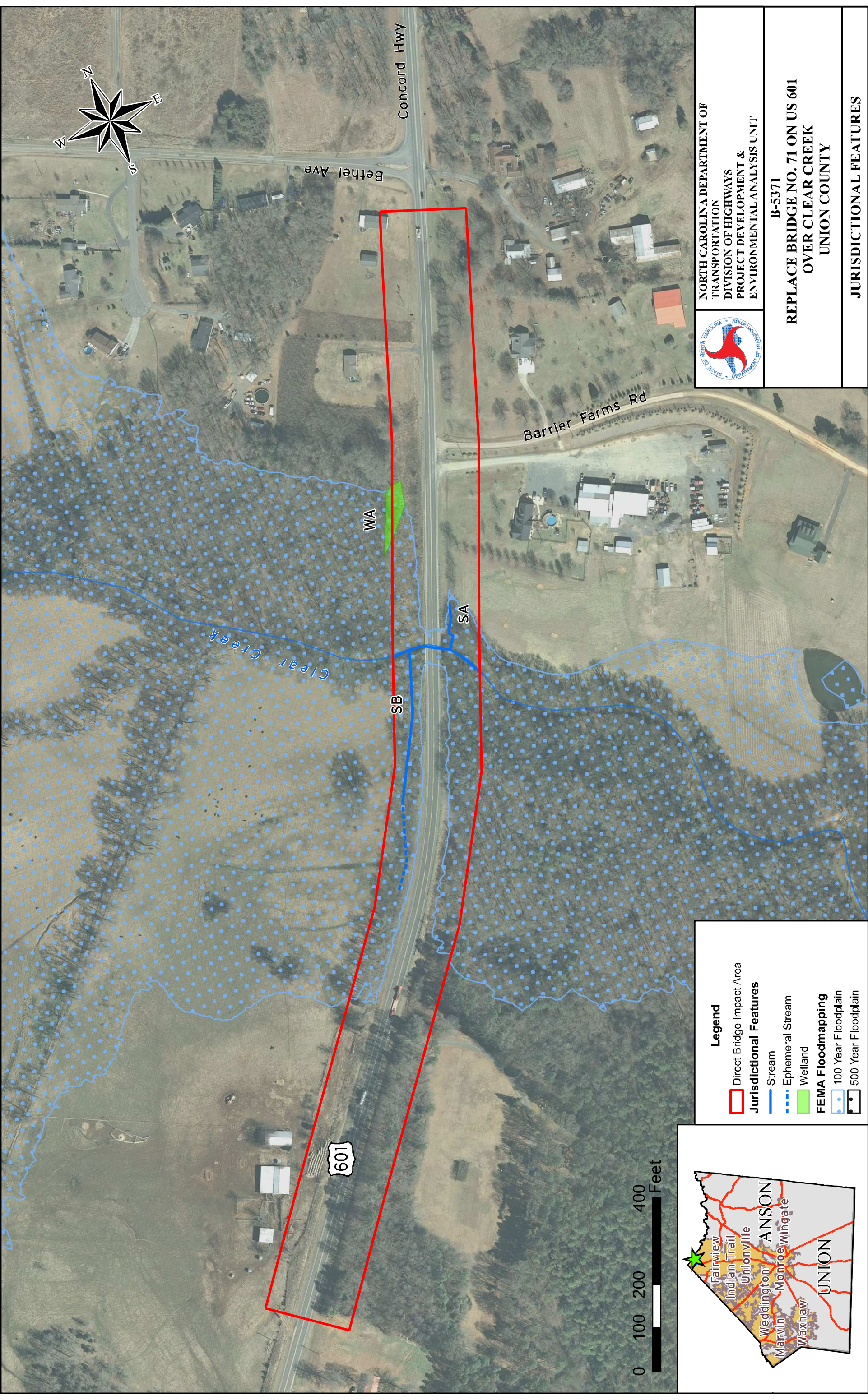
**B-5371**

**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

**ALTERNATIVE 2**

**FIGURE 4B**



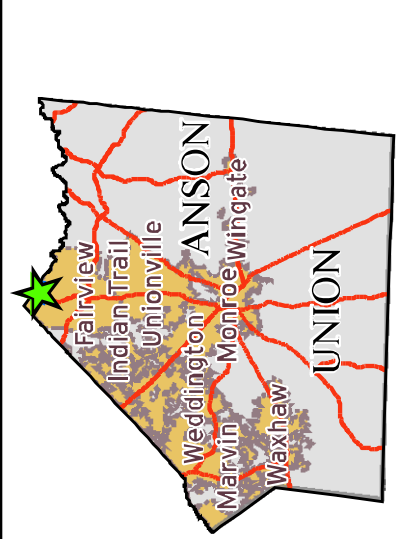


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**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

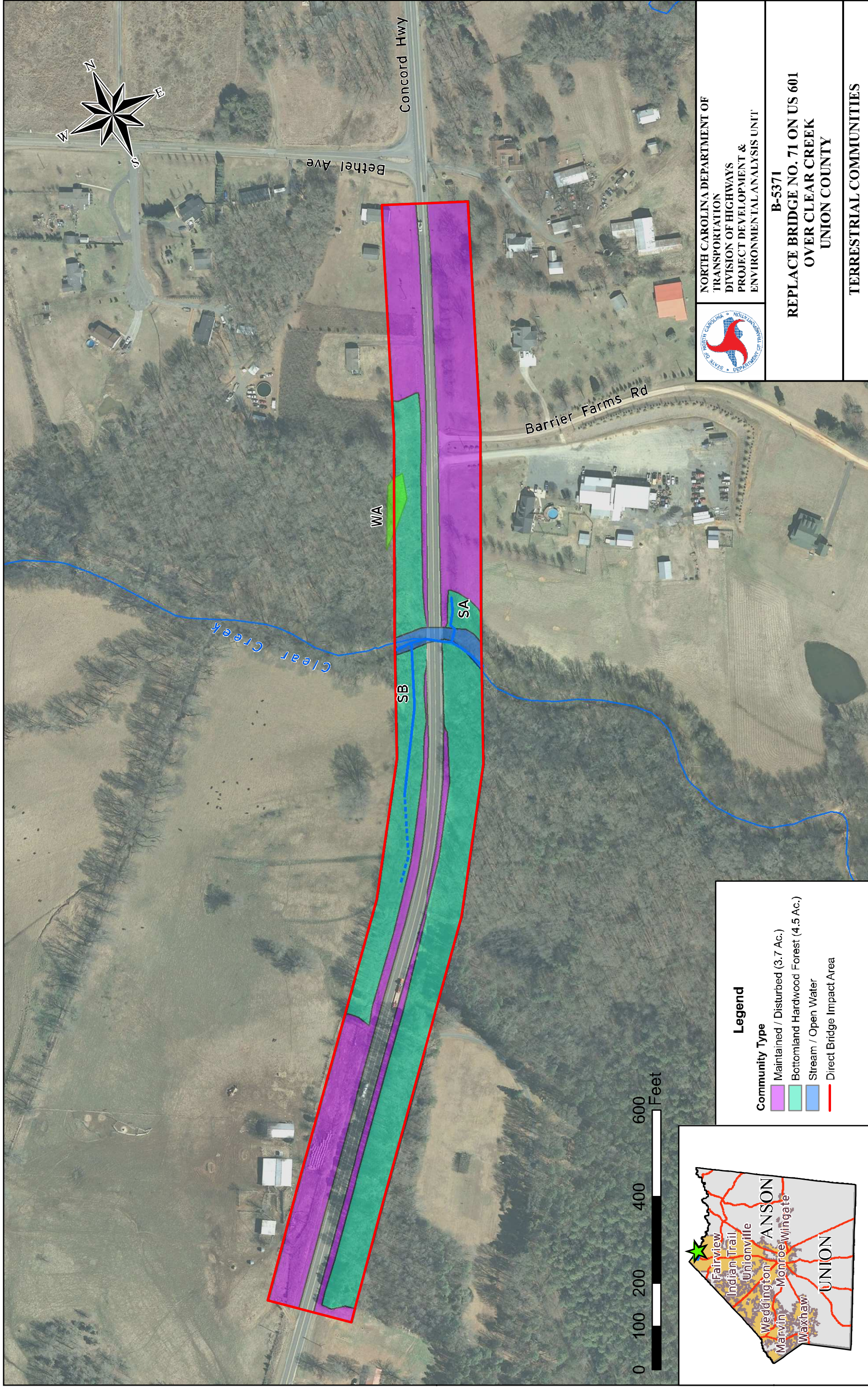
**JURISDICTIONAL FEATURES**

- Legend**
- Direct Bridge Impact Area
  - Stream
  - Ephemeral Stream
  - Wetland
  - FEMA Floodmapping
  - 100 Year Floodplain
  - 500 Year Floodplain



**FIGURE 5**





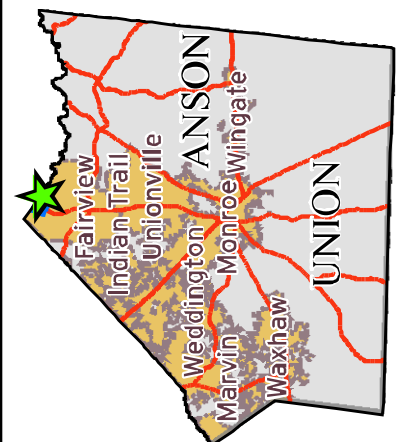
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PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS UNIT

**B-5371**  
**REPLACE BRIDGE NO. 71 ON US 601**  
**OVER CLEAR CREEK**  
**UNION COUNTY**

**TERRESTRIAL COMMUNITIES**

**Legend**

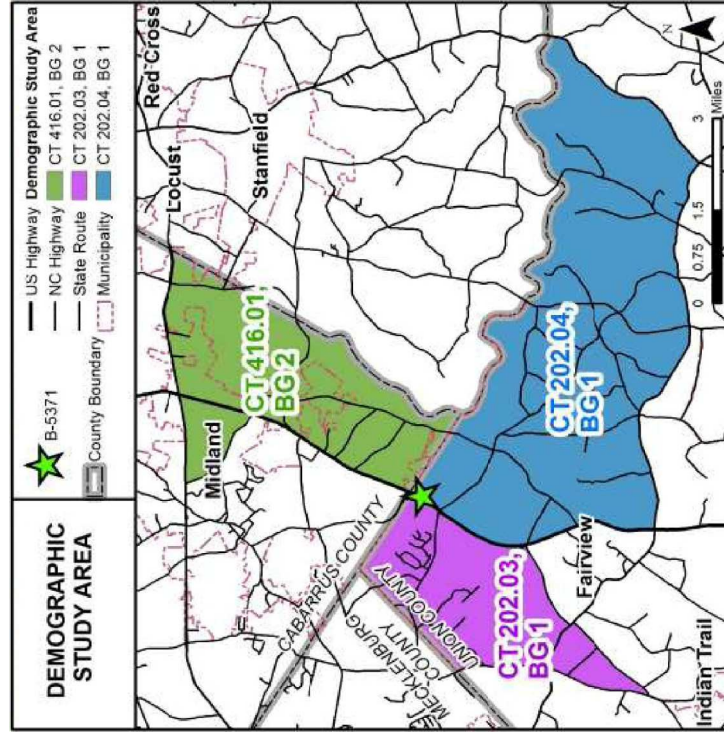
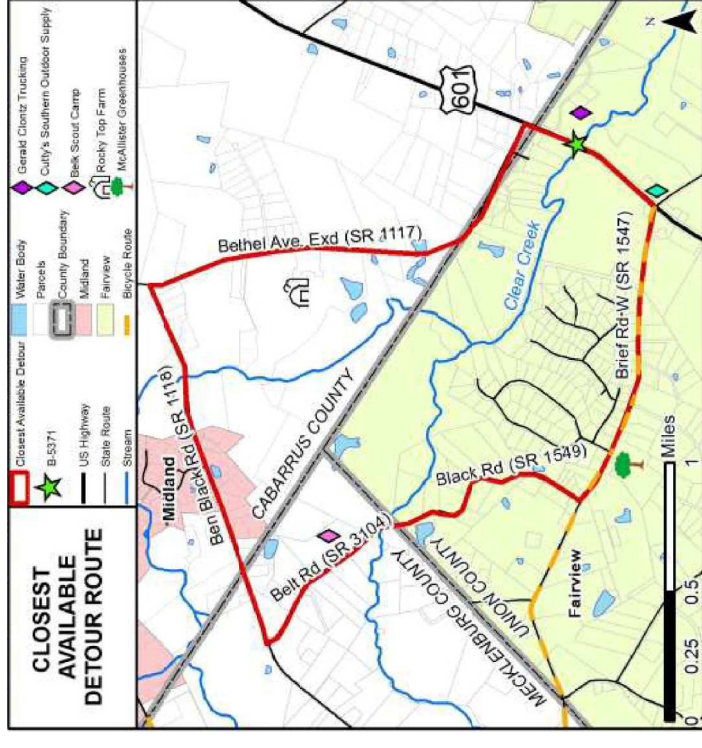
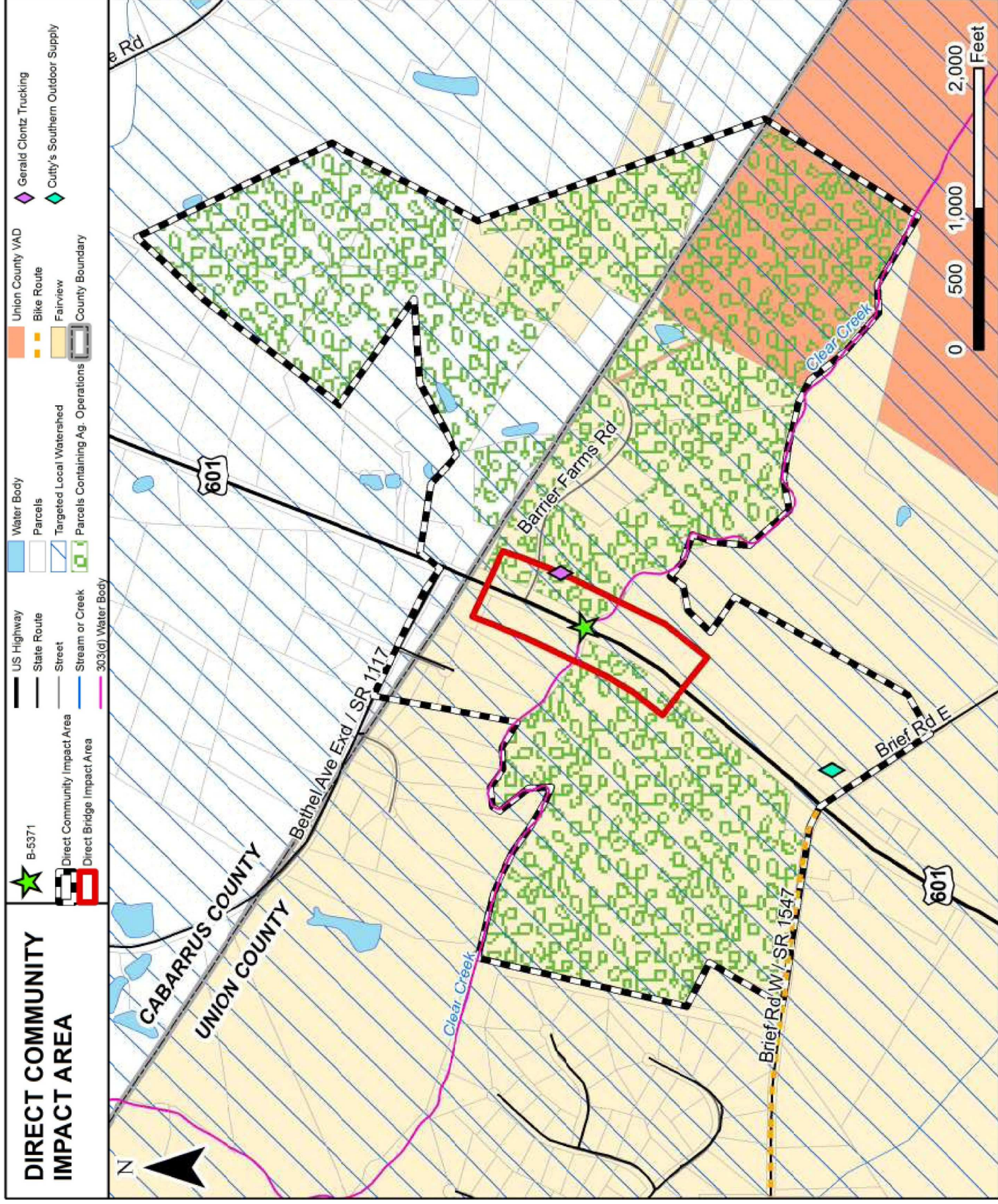
- Community Type**
- Maintained / Disturbed (3.7 Ac.)
  - Bottomland Hardwood Forest (4.5 Ac.)
  - Stream / Open Water
  - Direct Bridge Impact Area



**FIGURE 6**



# COMMUNITY CONTEXT MAP



NORTH CAROLINA DEPARTMENT OF  
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PROJECT DEVELOPMENT &  
ENVIRONMENTAL ANALYSIS UNIT

B-5371

REPLACE BRIDGE NO. 71 ON US 601  
OVER CLEAR CREEK  
UNION COUNTY

COMMUNITY FEATURES

FIGURE 7



## Figure 8a: Photographs of B-5371



**Picture 1:** Looking north along US 601 from Bridge No. 71.



**Picture 2:** Looking south along US 601 from Bridge No. 71.



**Picture 3:** Looking north along US 601 at the driveway and Barrier Farm Road.



**Picture 4:** Looking north along US 601.



## Figure 8b: Photographs of B-5371



**Picture 5:** Looking at Clear Creek from the road shoulder on US 601.



**Picture 6:** Looking at Clear Creek from the road shoulder on US 601.



**Picture 7:** Looking south along US 601 and across Bridge No. 71.

**APPENDIX A:  
Agency Correspondence**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Asheville Field Office  
160 Zillicoa Street  
Asheville, North Carolina 28801

January 11, 2013

Ms. Dionne C. Brown  
Bridge Project Planning Engineer  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Ms. Brown:

Subject: Information Request, State Transportation Improvement Project Numbers B-5369, B-5370, B-5371, B-5373, B-5374, and B-5792

On December 12, 2012, we received your letter (via email) requesting information on the subject projects to aid in initial project evaluation. We submit the following comments and recommendations in accordance with the provisions of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. §§1531-1543); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. §§661-667e); the National Environmental Policy Act (42 U.S.C. §4321 et seq.); the Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§1536, 1538); the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d); and the Clean Water Act (33 U.S.C. §1251 et seq.).

**General Recommendations for Replacing Structures that Cross Rivers and Streams** - We generally recommend the use of clear-spanning bridge structures designed, at a minimum, to accommodate the active channel width. Use of culverts is discouraged. Properly sized spanning structures will provide for the passage of aquatic species and accommodate the movement of debris and bed material. Furthermore, spanning structures usually: (1) can be constructed with minimal in-stream impacts, (2) do not require stream-channel realignment, and (3) retain the natural streambed conditions; and the horizontal and vertical clearances may be designed to allow for human and wildlife passage beneath the structures. If possible, bridge supports (bents) should not be placed in the streams. Bents can collect debris during flood events, resulting in the scouring of bridge foundations. In-stream bents can also result in hydrologic changes, such as bedload scour or deposition, which may adversely affect in-stream habitat. Deck drains of the spanning structures should not discharge directly into the streams; instead, they should drain through a vegetated area before entering the streams. Removal of vegetation in riparian areas should be minimized. Armoring of the bank with riprap should be minimized. The reseeding of disturbed areas should be performed promptly after grading, and seed mixes should consist of

native vegetation in order to prevent the spread of invasive plant species. New structures should be constructed without the use of in-stream causeways or work pads whenever possible. When causeways are necessary, using the largest washed stone practicable for the application will prevent unnecessary damage to in-stream habitat and will facilitate complete removal. We recommend that all equipment be refueled and receive maintenance outside of the riparian zone. Refueling and maintenance should take place in designated refueling sites that are provisioned to quickly contain any spills of fuel, lubricants, and other fluids.

**Migratory Birds** - The MBTA (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds (including the bald eagle), their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. To avoid impacts to migratory birds, we recommend conducting a visual inspection of the bridges and any other migratory bird nesting habitat within the project area during the migratory bird nesting season of March through September. If migratory birds are discovered nesting in the project impact area, including on the existing bridges, the North Carolina Department of Transportation (NCDOT) should avoid impacting the nests during the migratory bird nesting season (March through September). If birds are discovered nesting on the bridges during years prior to the proposed construction date, the NCDOT, in consultation with us, should develop measures to discourage birds from establishing nests on the bridges by means that will not result in the take of the birds or eggs, or the NCDOT should avoid construction and demolition activities during the nesting period.

**Bald Eagle** - The bald eagle has been removed from the federal list of endangered and threatened species due to its recovery. However, this species continues to be afforded protection by the Eagle Act (16 U.S.C. 668-668d) and the MBTA (16 U.S.C. 703-712). The Eagle Act, enacted in 1940 and amended several times, prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald eagles, including their parts, nests, or eggs. "Take" is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means "To agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment." In addition to immediate impacts, these definitions also cover impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present if, upon an eagle's return, such alterations agitate or bother the eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits and causes injury, death, or nest abandonment.

If any active nests are located within a half mile of the project sites, we request that work at the sites be restricted from mid-January through July in order to prevent adverse impacts to the bald eagle. This will prevent disturbance of the eagles from the egg-laying period until the young fledge, which encompasses their most vulnerable times. We ask that you consult with this office before construction begins to confirm that the eagles have left the nest. Once this has been confirmed, construction may begin.

**B-5369 - Bridge No. 53 on SR 2114 over Cold Water Creek in Cabarrus County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Cabarrus County is available on the U.S. Fish and Wildlife Service (USFWS) website at <http://www.fws.gov/nc-es/es/countyfr.html>.

A review of available information indicates that the project area is within the municipal area of the Town of Concord. We are unaware of any listed species within the vicinity of the project area. The surrounding area appears to be suburban and probably does not have the habitat requirements for listed species. We request that the NCDOT follow the above-listed recommendations to avoid further disruption to the natural environment.

**B-5370 – Bridge No. 444 on SR 1506 over East Fork Stewarts Creek in Union County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Union County is available on the USFWS website at <http://www.fws.gov/nc-es/es/countyfr.html>. A review of available information indicates that the project site is within the municipal limits of the Town of Unionville. The project area appears to be disturbed by agricultural and suburban land use, but the area around the bridge has standing timber that may provide habitat for the Georgia aster (*Symphyotrichum georgianum*), a federal species of concern; Michaux's sumac (*Rhus michauxii*), a federally endangered species; and Schweinitz's sunflower (*Helianthus schweinitzii*), a federally endangered species. These species can tolerate minor disturbance and often thrive in areas where human activities limit competition with other plant species. We recommend that a biologist survey for these species prior to construction.

**B-5371 - Bridge No. 71 on US 601 over Clear Creek in Union County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Union County is available on the USFWS website at <http://www.fws.gov/nc-es/es/countyfr.html>. A review of available information indicates that the project site appears to be disturbed by agricultural and suburban land use, but the area around the bridge has standing timber that may provide habitat for the Georgia aster (*Symphyotrichum georgianum*), a federal species of concern; Michaux's sumac (*Rhus michauxii*), a federally endangered species; and Schweinitz's sunflower (*Helianthus schweinitzii*), a federally endangered species. These species can tolerate minor disturbance and often thrive in areas where human activities limit competition with other plant species. We recommend that a biologist survey for these species prior to construction.

**B-5373 – Bridge No. 44 on SR 1435 over Long Creek in Stanly County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Stanly County is available on the USFWS website at <http://www.fws.gov/nc-es/es/countyfr.html>. A review of available information indicates that Long Creek harbors a population of the Carolina creekshell (*Villosa vaughaniana*), a federal species of concern and listed as endangered in North Carolina. The Carolina creekshell is also a species associated with the Carolina heelsplitter (*Lasmigona decorata*), a federally endangered species recorded from adjacent Union County. We recommend that a biologist conduct a survey in Long Creek to look for any listed mussel species. Stanly County is also known to harbor the Schweinitz's sunflower (*Helianthus schweinitzii*), a federally endangered species. We recommend that a biologist survey the action area for this species.

**B-5374 – Bridge No. 448 on SR 2153 over Buffalo Creek in Union County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Union County is available on the USFWS website at <http://www.fws.gov/nc-es/es/countyfr.html>. Our records indicate that this project is in close proximity to known



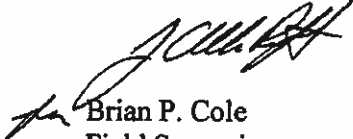
populations of the Georgia aster (*Symphotrichum georgianum*), a federal species of concern, which is commonly associated with the Schweinitz's sunflower (*Helianthus schweinitzii*), a federally endangered species. We recommend that a biologist survey the action area for these species.

**B-5792 – Bridge No. 342 on NC 16 over Andrew Terrance and Irwin Creek in Mecklenburg County** - A full list of federally endangered and threatened species and federal species of concern with known occurrences in Mecklenburg County is available on the USFWS website at <http://www.fws.gov/nc-es/es/countyfr.html>. A review of available information indicates the project site is within the municipal area of the City of Charlotte. This area appears to be heavily affected by urban development. We request that the NCDOT follow the above-listed recommendations to avoid further disruption to the natural environment.

If you have questions about these comments, please contact Mr. Jason Mays of our staff at 828/258-3939, Ext. 226. In any future correspondence concerning these projects, please reference our log numbers with your project numbers as follows:

<u>NCDOT</u> <u>Project Nos.</u>	<u>USFWS</u> <u>Log Nos.</u>
• B-5369	4-2-13-056
• B-5370	4-2-13-057
• B-5371	4-2-13-058
• B-5373	4-2-13-059
• B-5374	4-2-13-060
• B-5792	4-2-13-061

Sincerely,

  
Brian P. Cole  
Field Supervisor

cc:

Ms. Liz Hair, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006  
Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129  
Ms. Polly Lespinasse, Mooresville Regional Office, North Carolina Division of Water Quality, 610 East Center Avenue, Suite 301, Mooresville, NC 28115



United States Department of Agriculture  
Natural Resources Conservation Service  
4407 Bland Road, Suite 117  
Raleigh, North Carolina 27609

Milton Cortés, Assistant State Soil Scientist  
Telephone No.: (919) 873-2171  
Fax No.: (919) 873-2157  
E-mail: milton.cortes@nc.usda.gov

October 13, 2015

Ms. Elizabeth Workman-Maurer  
Senior Planner  
RK&K  
900 Ridgefield Dr., Suite 350  
Raleigh, NC 27609

Ms. Workman-Maurer

The following information is in response to your review request asking for information on replacement Bridge Tip No 5371, Union Co. NC, according to the new information provided. This letter supersedes any previous evaluation and determination in regards to the Bridge Tip No 5371 replacement, Union Co. NC. NCDOT recently changed their preferred alternative from Alternative 1 to Alternative 2 (which is the new alignment adjacent to the existing roadway/bridge).

Projects are subject to Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide or local importance. "Farmland" does not include land already in or committed to urban development or water storage. Farmland "already in" urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as "urbanized area" (UA) on the Census Bureau Map, or as urban area mapped with a "tint overprint" on the USGS topographical maps, or as "urban-built-up" on the USDA Important Farmland Maps. See over for more information.

Alternative 2 meets one or more of the above criteria for Farmland. Farmland area will be affected or converted. Enclosed is the Farmland Conversion Impact Rating form AD1006 with PARTS II, IV and V completed by NRCS. The corresponding agency will need to complete the evaluation, according to the Code of Federal Regulation 7CFR 658, Farmland Protection Policy Act.

Alternative 1 is exempt. Temporary construction easement, stays within the existing Right-of-Way limits. No acres are converted indirectly.

If you have any questions, please contact me at number above.

Sincerely,

*Milton Cortes*

Milton Cortés  
Assistant State Soil Scientist

*Helping People Help the Land*

An Equal Opportunity Provider and Employer



**FARMLAND CONVERSION IMPACT RATING**

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres:            %		Amount of Farmland As Defined in FPPA Acres:            %		
Name of Land Evaluation System Used	Name of State or Local Site Assessment System		Date Land Evaluation Returned by NRCS		
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		<b>Maximum Points</b>	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100			
Total Site Assessment (From Part VI above or local site assessment)		160			
<b>TOTAL POINTS (Total of above 2 lines)</b>		260			
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:



North Carolina Department of Environment and Natural Resources

Division of Water Quality

Charles Wakild, P. E.  
Director

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

MEMORANDUM

To: Dionne C. Brown, NCDOT

From: Alan Johnson, NC Division of Water Quality, MRO

Date: March 18, 2013

Subject: Scoping comments on proposed bridge replacement projects

Reference your correspondence dated December 12, 2012, in which you requested comments for the referenced projects:

Project	Stream Name	River Basin	Stream Classification(s)	303(d) Listing
B-5369	Cold Water Crk	Yadkin-Pee Dee	C, 303d	Turbidity, Ecological /Biological Integrity
B-5370	East Fork Stewarts Crk	Yadkin-Pee Dee	WS III	
B-5374	Buffalo Crk	Yadkin-Pee Dee	C	
B-5373	Long Crk	Yadkin-Pee Dee	C, 303d	Copper, Ecological /Biological Integrity
B-5371	Clear Crk	Yadkin-Pee Dee	C, 303d	Turbidity
B-5792	Irwin Crk	Catawba	C, 303d	Copper, Lead, Zinc

Project Specific Comments:

- Streams Classified as 303d waters of the State: It is recommended that the most protective sediment and erosion control BMPS be implemented in accordance with the *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) to reduce the risk to further impairment to the affected stream. It is also requested that road design plans provide treatment of storm water runoff through best management practices as detailed in the most recent version of the NCDWQ *Stormwater Best Management Practices*
- B-5369: Rock/gravel substrate. Stream bank is relatively stable. Due to height of bridge, vegetation exist underneath and is not shaded out providing stability.
- B-5371: There are two eroding drainage ditches at this site that requires maintenance. One located in the northeast quadrant, the other in the southwest quadrant.

General Project Comments:

- The use of rip rap should be minimized for stream stabilization where soft measures can be performed. The use of heavy coir fiber/coconut matting and coir fiber logs is encouraged for areas that may need only "temporary" stabilization. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that

precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

2. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
3. The construction of floodway benches/storm water benches is highly recommended to reduce scouring and erosion of the stream banks and which also allows for wildlife passage.
4. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification (if required), the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical.
5. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
6. Stormwater shall not be discharge directly to the stream. Bridge deck drains shall not directly discharge in the stream. Stormwater shall be directed across the bridge and pre-treated through site appropriate means (grass swales, preformed scour holes, vegetated buffers, etc.) before entering the stream.
7. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.
8. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

Thank you for requesting our input at this time. If you have any questions or require additional information, please contact me at 704-669-1699 or [alan.johnson@ncdenr.gov](mailto:alan.johnson@ncdenr.gov).

cc: Sonia Corrillo, Wetland Unit  
Lyn Hardison, Environmental Assist. Officer,  
Washington Regional Office  
File Copy

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.

**PROJECT INFORMATION**

Project No: **B-5371** County: **Union**  
 WBS No: **46086.1.1** Document: **MCS**  
 F.A. No: **BRSTP-0601(21)** Funding:  State  Federal

Federal Permit Required?  Yes  No Permit Type: **None listed on submittal**

*Project Description: Replacement of Bridge No. 71 over Cleur Creek on US601 (Concord Parkway) in Union County, North Carolina. The archaeological Area of Potential Effects (APE) measures 600ft. in length (300ft from each bridge end-point) by 150ft. in width (75ft laterally from each side of the US601 center-line).*

**SUMMARY OF CULTURAL RESOURCES REVIEW*****Brief description of review activities, results of review, and conclusions:***

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Monday, March 4, 2013. This endeavor served to gauge the cultural resource potential of the project area based on factors associated with local archaeological and historical site profiles. No previously documented archaeological sites were situated within the project's APE or adjacent.

Historic structure locations reveal patterns of settlement and occupancy across a landscape. These important resources often contain archaeological deposits which aid in disclosing muted histories and forgotten details of past lives. For this reason, examination of National Register of Historic Places (NRHP), State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the NCSHPO website is crucial in establishing the location of noteworthy historic occupations related to a perspective construction impact area. A cross-check of these mapped resources concluded that no meaningful historic properties were located inward of or directly proximal to the APE. In general, this work established an absence of NRHP listed properties, prevailing unassessed archaeological sites, or other cultural resources necessitating evaluation within the project APE.

Further, topographic, historic, and NRCS soil survey maps (ChA primarily), and historical/archaeological reference materials were inspected to appraise environmental, cultural, and other determinants that may have resulted in past occupation within the project limits. Aerial photographs (NCDOTSDV) were examined and the Google Street View map application was utilized for the assessment of hydrological, agricultural, modern, and other erosive disturbances which may characterize the APE. Finally, construction design data and the bridge inspection report were reviewed for determining the character and extent of potential impacts to the actual construction impact zone.

***Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:***

The majority of the project APE is typified by Chewacla silt loam, a frequently flooded and somewhat poorly drained alluvium derived from igneous and metamorphic rock. A review of other archaeological sites documented in this section of Union County demonstrate that rarely are prehistoric occupations associated with this marginal soil type. The APE also lacks a well-drained landform which would have further hampered perspective settlement or occupation in the direct vicinity of the project area.

Overall, unfavorable environmental considerations, road construction/maintenance and other contemporary impacts, and the absence of proximal historic/archaeological occupations point to a very low potential for documenting cultural resources within the APE corridor limits. Since the project is unlikely to affect any undisturbed areas containing NRHP eligible archaeological deposits, no further input or consultation.

**SUPPORT DOCUMENTATION**

See attached:  Map(s)     Previous Survey Info     Photos     Correspondence  
 Photocopy of County Survey Notes    Other:

**FINDING BY NCDOT ARCHAEOLOGIST**

NO ARCHAEOLOGY SURVEY REQUIRED

*Scott Helmer*

*3/22/2013*

13-03-0041



## HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

### PROJECT INFORMATION

<b>Project No:</b>	B-5371	<b>County:</b>	Union
<b>WBS No.:</b>	46086.1.1	<b>Document Type:</b>	
<b>Fed. Aid No:</b>		<b>Funding:</b>	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
<b>Federal Permit(s):</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Permit Type(s):</b>	unknown
<b>Project Description:</b> Replace Bridge No 71 on US 601 over Cleur Creek			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

**Description of review activities, results, and conclusions:**

Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on March 22, 2013. Based on this review there are no NR, DE, LL, SL, or SS in the project area. There are no historic structures within the APE of this project. There is c. 1991 one house in the APE but it is not 50 years of age. There are no National Register eligible structures in the APE of this project.

**Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:**

Using HPO GIS website and the Union County GIS Tax Data website provides reliable information regarding the structures in the APE. These combined utilities are considered valid for the purposes of determining the likelihood of historic resources being present.

### SUPPORT DOCUMENTATION

Map(s)     Previous Survey Info.     Photos     Correspondence     Design Plans



**FINDING BY NCDOT ARCHITECTURAL HISTORIAN**

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

*Shelby Spillers*

NCDOT Architectural Historian

*Mar 22, 2013*

Date



## Brown, Dionne C

---

**From:** Joseph Lesch <joseph.lesch@co.union.nc.us>  
**Sent:** Tuesday, October 22, 2013 9:02 AM  
**To:** Brown, Dionne C  
**Subject:** RE: Start of Study for NCDOT Division 10 Bridge Projects

Ms. Brown,

Back in December I forwarded comments on the Union County bridge projects to the Mecklenburg-Union MPO which were then supposed to be sent to NCDOT as comments under the MPO letterhead. I assume you received those but if not I'm including the comments

I sent to Bob Cook with MUMPO in December.

- B-5370 Replace bridge #444 on SR 1506 (Price Dairy Road) – This is a non-thoroughfare road located within the Town of Unionville. It currently has substandard lane widths of approximately 9'.
- B-5371 Replace bridge #71 on US 601 over Clear Creek – US 601 is designated as a boulevard that needs improvement on the draft CTP. The future cross section of 4 lanes with a median and bike lanes should be accommodated in the new bridge.
- B-5374 Replace bridge #448 on SR 2153 (Trinity Church Road) – This road is designated as a minor thoroughfare in the Union County CTP dated February, 2012. It is identified as needs improvement and calls for a 2 A cross section (12' wide lanes and wide paved shoulders posted at 55 mph). The bridge should accommodate this cross section.

Let me know if you have any questions.

Thank you,  
Joe Lesch  
Senior Transportation Planner  
Union County  
704-283-3690

---

**From:** Brown, Dionne C [<mailto:dcbrown@ncdot.gov>]  
**Sent:** Monday, October 21, 2013 8:38 AM  
**To:** [dstoogenke@rockyriverrpo.org](mailto:dstoogenke@rockyriverrpo.org); [pconrad@mblsolution.com](mailto:pconrad@mblsolution.com); [rwcook@ci.charlotte.nc.us](mailto:rwcook@ci.charlotte.nc.us); Cindy Coto; [alucas@stanlycountync.gov](mailto:alucas@stanlycountync.gov); [mlegg@cityofkannapolis.com](mailto:mlegg@cityofkannapolis.com); [cwalton@charlottenc.gov](mailto:cwalton@charlottenc.gov); [mkdowns@cabarruscounty.us](mailto:mkdowns@cabarruscounty.us); [ELong@fairviewnc.gov](mailto:ELong@fairviewnc.gov)  
**Cc:** Williams, John L  
**Subject:** FW: Start of Study for NCDOT Division 10 Bridge Projects

Hello All,

I have made initial contact with you back in Dec 2012 about any comments you may have regarding the bridge replacements in your area. Please take a look at the mapping and respond to this e-mail with any concerns. If you don't have any concerns, please respond with that as well.

After this e-mail, phone calls will be made to get your comments.

Please respond by Nov. 15, 2013.

Thank You,  
Dionne C. Brown, P.E.

---

**From:** Brown, Dionne C  
**Sent:** Wednesday, December 12, 2012 2:06 PM  
**To:** [michael.batuzich@dot.gov](mailto:michael.batuzich@dot.gov); [militscher.chris@epamail.epa.gov](mailto:militscher.chris@epamail.epa.gov); Strong, Brian; [amy.chapman@ncdenr.gov](mailto:amy.chapman@ncdenr.gov); [jason\\_mays@fws.gov](mailto:jason_mays@fws.gov); [scott.c.mclendon@usace.army.mil](mailto:scott.c.mclendon@usace.army.mil); [sarah.e.hair@usace.army.mil](mailto:sarah.e.hair@usace.army.mil); ['dstoogenke@rockyriverrpo.org](mailto:'dstoogenke@rockyriverrpo.org); [pconrad@mblsolution.com](mailto:pconrad@mblsolution.com); ['rwcook@ci.charlotte.nc.us](mailto:'rwcook@ci.charlotte.nc.us)'; ['cindy.coto@co.union.nc.us](mailto:'cindy.coto@co.union.nc.us)'; ['alucas@stanlycountync.gov](mailto:'alucas@stanlycountync.gov)'; ['mlegg@cityofkannapolis.com](mailto:'mlegg@cityofkannapolis.com)'; ['cwalton@charlottenc.gov](mailto:'cwalton@charlottenc.gov)'; ['mkdowns@cabarruscounty.us](mailto:'mkdowns@cabarruscounty.us)'; ['jcollett@collett.biz](mailto:'jcollett@collett.biz)  
**Cc:** Williams, John L  
**Subject:** Start of Study for NCDOT Division 10 Bridge Projects

Hello All,

Attached you will find a start of study letter and mapping for bridge replacement projects in Division 10.

Ms. Dionne C. Brown  
Bridge Project Planning Engineer  
Project Development and Environmental Analysis- Bridge Section  
919-707-6171  
[dcbrown@ncdot.gov](mailto:dcbrown@ncdot.gov)

---

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

**APPENDIX B:  
Public Involvement Materials**

**Important Information -  
Please read!**

Zahid Baloch, PE  
NCDOT—PD&EA Unit  
1548 Mail Service Center  
Raleigh, NC 27699-1548



**Bridge No. 71 Replacement Project over Clear Creek (TIP No. B-5371)**



## Public Meeting To Be Held

The North Carolina Department of Transportation (NCDOT) will hold a public meeting regarding the proposed bridge replacement project over Clear Creek on U.S. 601 in Union County.

The purpose of the project is to provide a safer and more durable structure at this location. The replacement will be in its existing location with an on-site detour or in a new location just east of the existing location.

The purpose of this meeting is for NCDOT representatives to share project information, answer questions, and receive public comments. Written comments or questions can be submitted at the meeting or by June 15, 2015 to Zahid Baloch (contact information is below). Interested citizens may attend at any time during the meeting hours. Note: There will be no formal presentation. Project maps are available online at:

<http://www.ncdot.gov/projects/publicmeetings/>.

NCDOT will provide auxiliary aids and services under the Americans with Disabilities Act for disabled persons who want to participate in this meeting. Anyone requiring special services should contact Anamika Laad at [alaad@ncdot.gov](mailto:alaad@ncdot.gov) or 919-707-6072 as early as possible so that arrangements can be made. NCDOT will provide interpretive services upon request for persons who do not speak English, or have a limited ability to read, speak or understand English. Kindly request it prior to the meeting by calling 1-800-481-6494.

## Bridge No. 71 Replacement Project

*Replace Bridge No. 71 over Clear Creek  
on U.S. 601 in Union County*

*State Transportation Improvement Program  
Project No. B-5371*

### Meeting Details

**Thursday May 28, 2015  
5:00pm - 7:00pm**

Fairview Elementary  
School, 110 Clontz Rd.,  
Monroe, NC

### Project contact:

**Zahid Baloch, PE**  
NCDOT—PD&EA Unit  
1548 Mail Service Center  
Raleigh, NC 27699-1548  
Phone: 919-707-6012  
Email: [zbaloch@ncdot.gov](mailto:zbaloch@ncdot.gov)



# Bridge No. 71 Replacement Project

State Transportation Improvement Program (STIP) Project No. B-5371

## Welcome!

The North Carolina Department of Transportation (NCDOT) appreciates your attendance at this meeting.

Project team members are available to provide information on this project, answer questions, and receive any comments you may have.

Comment forms are included in this handout and can be filled out tonight or returned by mail or e-mail by **June 11, 2015** to the address shown on the form.

## Project Managers

NCDOT

**Zahid Baloch, PE**

Project Planning Engineer

Phone: (919) 707-6012

Fax: (919) 250-4224

Email: zbaloch@ncdot.gov

**Consultant: RK&K**

**Kristina Miller, PE**

Phone: (919) 878-9560

Fax: (919) 790-8382

Email: kmiller@rkk.com

## Purpose of Tonight's Meeting

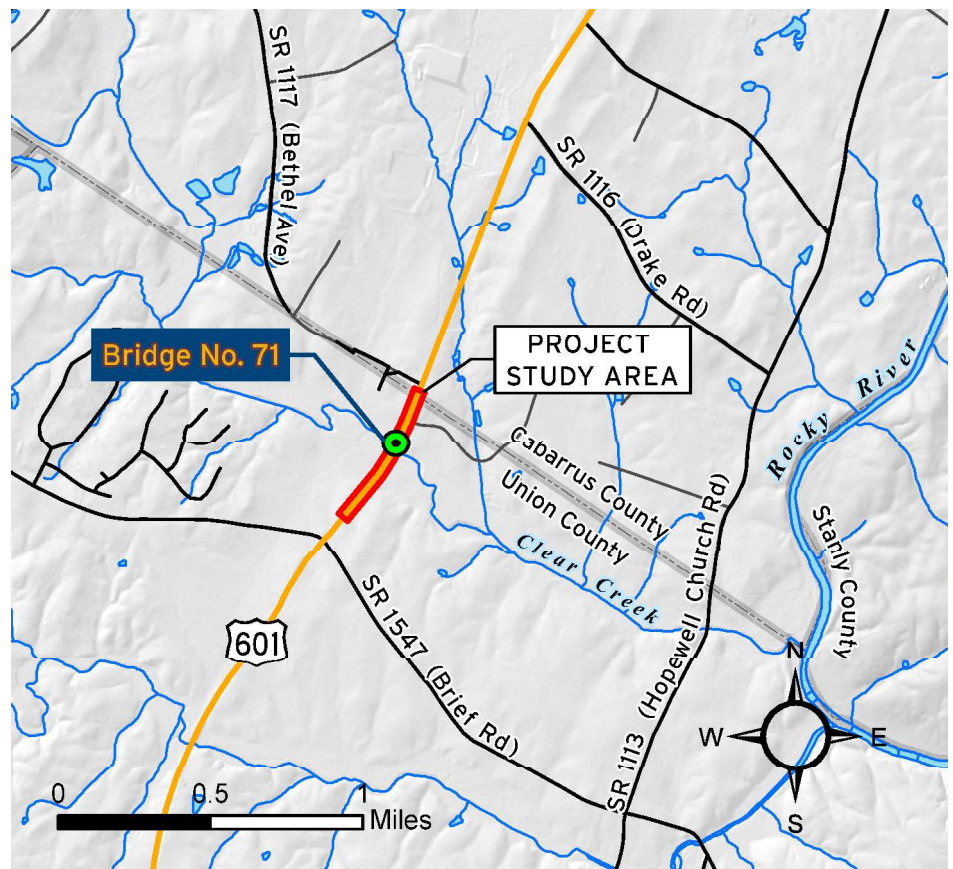
- ❖ Introduce the project and the project team.
- ❖ Discuss the need for the proposed project.
- ❖ Present study alternatives.
- ❖ Discuss any concerns and answer questions.
- ❖ Receive your comments.

## Project Description and Purpose

The NCDOT is proposing to replace Bridge No. 71 on U.S. 601 over Clear Creek in Union County. The purpose of the project is to provide a safer and more durable structure at this location to accommodate existing and future traffic volumes along U.S. 601.

## Project Study Area and Potential Impacts

The figure below shows the location of Bridge No. 71 on U.S. 601 over Clear Creek as well as the project study area. There are several driveways and the intersection of Barrier Farm Road within the potential area of impact. Access will be maintained during construction.





## Project Purpose

The purpose of the project is to provide a safer and more durable structure at this location to accommodate existing and future traffic volumes along U.S. 601.

## Tentative Schedule\*

- Environmental Document—August 2015
- Right of Way Acquisition - June 2017
- Construction - June 2018

\*The tentative schedule is shown above. A number of factors can affect a project schedule; and therefore, schedules are subject to change. Note: Pamphlets summarizing Right Of Way Procedures are at the sign-in table.

## Width of Replacement Bridge

The existing width on the bridge includes 11-foot travel lanes and 7-foot shoulders. The proposed project's typical cross-section is shown below with 12-foot travel lanes and 8-foot shoulders. The proposed right of way width is estimated at approximately 150 feet and temporary easements will be required for construction along the right of way limits.

## Estimated Cost

The project is included in the State Transportation Improvement Program (STIP) as Project No. B-5371.

- \$230,000—Right of Way Acquisition
- \$1,800,000—Construction (ALT 1)
- \$1,450,000—Construction (ALT 2)

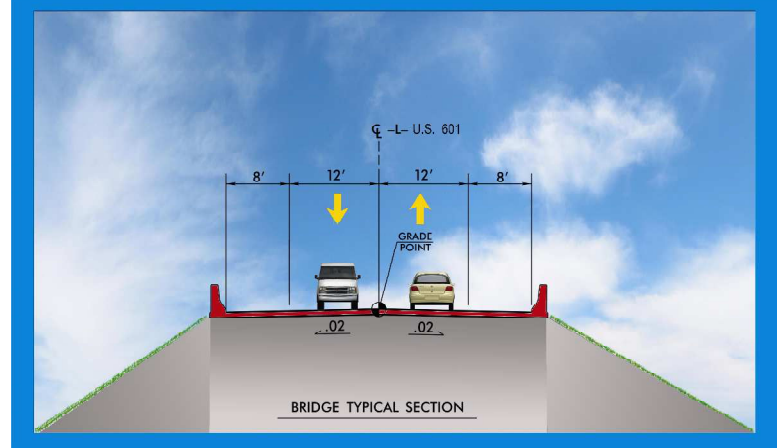
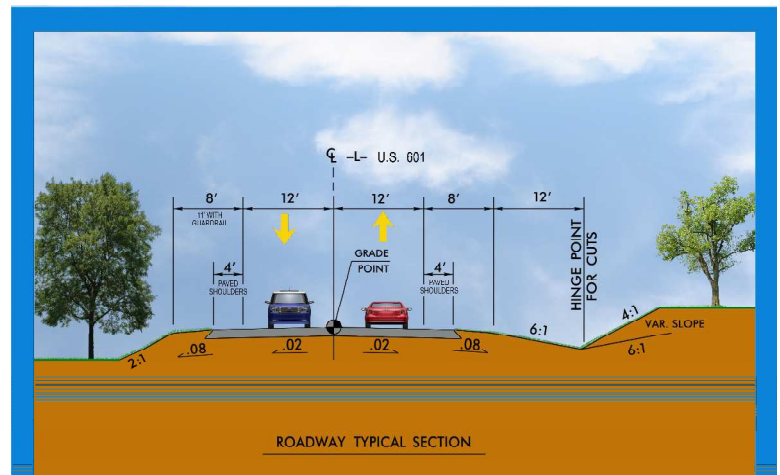
The estimated costs will be updated in the environmental document based on the preliminary design for the alternatives.

## Study Alternatives

Two study alternatives were developed to address the transportation needs and achieve the purpose noted in the blue box to the left. The study alternatives may be revised based on comments from the public, local officials, and resource/regulatory agencies. Because of the potential for design modifications during the planning process, the maps on display are subject to change. Once comments are addressed, NCDOT will identify a Preferred Alternative in the environmental document.

**Alternative 1** - replaces Bridge No. 71 in its existing location (see attached figure). Traffic will be maintained on U.S. 601 with an on-site detour located approximately 40 feet to the east of the existing location.

**Alternative 2** - replaces Bridge No. 71 with a new bridge location approximately 40 feet east of its existing location (see attached figure). Traffic will be maintained on U.S. 601 at the existing location while the new bridge is constructed. This alternative will result in a change to the roadway alignment.





# Bridge No. 71 Replacement Project

State Transportation Improvement Program Project No. B-5371

## Project Comment Sheet

-Please Print-

Name:

Address (including zip code):

Email:

Public involvement is an important part of the NEPA Planning Process and NCDOT encourages your involvement on transportation projects. Our project team appreciates your time. We will consider your suggestions and address your concerns. Please consider answering the items below and feel free to attach additional pages if more space is needed to fully explain your thoughts.

- 1) Do you have comments or questions that were not answered tonight?
- 2) Do you prefer one alternative over the other?
- 3) Do you have suggestions for improving the alternatives?

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Please complete the comment sheet tonight or mail it by **June 11, 2015** to a project contact:  
 Zahid Baloch at NCDOT-PDEA, 1548 Mail Service Center, Raleigh, NC 27699-1548  
 or zbaloch@ncdot.gov or 919-250-4224 (fax)  
 Kristina Miller at RK&K, 900 Ridgefield Drive, Suite 350, Raleigh, NC 27609-3960  
 or kmiller@rkk.com or 919-790-8382 (fax)



Your Return Address:

Place  
Postage  
Stamp  
Here

**RK&K**  
**Ms. Kristina Miller, PE**  
**900 Ridgefield Drive, Suite 350**  
**Raleigh, NC 27609-3960**

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Please fold this paper in half and seal at the top if a separate envelope is not used for mailing. Thank you.

# TITLE VI PUBLIC INVOLVEMENT FORM

Completing this form is **completely** voluntary. You are not required to provide the information requested in order to participate in this meeting.

<b>Meeting Type:</b> Public Meeting	<b>Date:</b> May 28, 2015
<b>Location:</b> Fairview Elementary School, 110 Clontz Road, Monroe, NC	
<b>STIP No.:</b> B-5371	
<b>Project Description:</b> Replace Bridge No. 71 on U.S. 601 over Clear Creek in Union County, NC	

In accordance with Title VI of the Civil Rights Act of 1964 and related authorities, the North Carolina Department of Transportation (NCDOT) assures that no person(s) shall be excluded from participation in, denied the benefits of, or subjected to discrimination under any of the Department's programs, policies, or activities, based on their race, color, national origin, disability, age, income, or gender.

**Completing this form helps meet our data collection and public involvement obligations under Title VI and NEPA, and will improve how we serve the public.** Please place the completed form in the designated box on the sign-in table, hand it to an NCDOT official or mail it to the PDEA-Human Environment Section, 1598 Mail Service Center, Raleigh, NC 27699-1598.

All forms will remain on file at the NCDOT as part of the public record.

<b>Zip Code:</b> _____	<b>Gender:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female
<b>Street Name:</b> _____	<b>Age:</b> <input type="checkbox"/> Less than 18 <input type="checkbox"/> 45-64 <input type="checkbox"/> 18-29 <input type="checkbox"/> 65 and older <input type="checkbox"/> 30-44
<b>Total Household Income:</b> <input type="checkbox"/> Less than \$12,000 <input type="checkbox"/> \$47,000 – \$69,999 <input type="checkbox"/> \$12,000 – \$19,999 <input type="checkbox"/> \$70,000 – \$93,999 <input type="checkbox"/> \$20,000 – \$30,999 <input type="checkbox"/> \$94,000 – \$117,999 <input type="checkbox"/> \$31,000 – \$46,999 <input type="checkbox"/> \$118,000 or greater	<b>Have a Disability:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Race/Ethnicity:</b> <input type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> Asian <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Other (please specify): _____	<b>National Origin:</b> (if born outside the U.S.) <input type="checkbox"/> Mexican <input type="checkbox"/> Central American: _____ <input type="checkbox"/> South American: _____ <input type="checkbox"/> Puerto Rican <input type="checkbox"/> Chinese <input type="checkbox"/> Vietnamese <input type="checkbox"/> Korean <input type="checkbox"/> Other (please specify): _____

How did you hear about this meeting? (newspaper advertisement, flyer, and/or mailing) \_\_\_\_\_

For more information regarding Title VI or this request, please contact the NCDOT Title VI Section at (919) 508-1808 or toll free at 1-800-522-0453, or by email at [slipscomb@ncdot.gov](mailto:slipscomb@ncdot.gov), or by fax at (919) 212-5785.

Thank you for your participation!

Your Return Address:

Place  
Postage  
Stamp  
Here

**Ms. Anamika Laad**  
**NCDOT - PDEA**  
**Human Environment Section**  
**1598 Mail Service Center**  
**Raleigh, NC 27699-1598**

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Please fold this paper in half and seal at the top if a separate envelope is not used for mailing. Thank you.



# Bridge No. 71 Replacement Project

State Transportation Improvement Program (STIP)  
Project No. B-5371

## Local Officials Informational Meeting STIP Project No. B-5371

May 28, 2015

**PROJECT DESCRIPTION:** STIP Project No. B-5371 is to replace Bridge No. 71 on U.S. 601 over Clear Creek in Union County, NC

**OBJECTIVE OF MEETING:** The purpose of the meeting is to solicit input about the study area, purpose of the project, and preliminary alternatives. Our project study team would like to discuss any questions or concerns you have about the project.

### AGENDA:

- ❖ Location & Study Area
- ❖ Need for the Project
- ❖ Study Alternatives
- ❖ Potential Impacts
- ❖ Costs/Next Steps/Schedule
- ❖ Questions & Comments

Thank you for your time and input for the Bridge No. 71 Replacement Project.

**Public Meeting Minutes**

Location: Fairview Elementary School – Library

Time: 5pm to 7pm

Meeting Date: May 28, 2015

**Project Team:**

Ken Hill – NCDOT- Right of Way Unit  
Lee Ainsworth – NCDOT - Division 10  
John Conforti, REM – NCDOT - PDEA  
Anamika Laad – NCDOT – Public Involvement  
Verrol McLeary – NCDOT - Public Involvement  
Matt Lamy – RK&K  
Kristina Miller – RK&K  
Elizabeth Workman-Maurer – RK&K

**Public Meeting Participants:**

1. Alonzo and Priscilla Morrison, 15998 Bethel Ave., Midland, NC, [aemorrison10@hotmail.com](mailto:aemorrison10@hotmail.com), 704-996-5454
2. Luke and Catherine Russell, 9828 Concord Hwy, Midland, NC, 704-572-1255
3. Don and Diane McLair, 104 Barrier Farm Road, 704-753-4955
4. Gerald and Amy Clontz, 9924 Concord Highway, Midland, NC, [clontzcotrkg@aol.com](mailto:clontzcotrkg@aol.com), 980-722-7466
5. Michael and Louise Black, 201 E. Hwy 218, Monroe, NC, [malamute10@frontier.com](mailto:malamute10@frontier.com), 704-753-1081

**Purpose:**

The purpose of the meeting was to introduce the project to the public, answer questions, address any concerns, and collect public comments. RK&K displayed four sets of large aerial maps showing Alternatives 1 and 2, typical sections for the permanent roadway and detour, children's table, and welcome boards. The handout included an agenda, cost estimates, alternatives, vicinity map, comment sheet, and Title VI questionnaire. A sign in sheet at the entrance table collected information from all attendees. Approximately ten residents attended the public meeting.

**Public Meeting Discussions:**

Alternative 1 seemed to be supported by the property owners and residents that attended the meeting. Most of the residents were concerned about the effects on the Clontz property. One comment suggested moving the new alignment closer to the existing bridge to minimize impacts to the Clontz property.

The Union County/Cabarrus County line is located just south of Brief Road and there is a change in pavement at that location which exacerbates truck traffic noise. Residents requested that this "bump" be leveled as part of this project to lessen noise and vibration in the area. Meeting participants also noted that there is a problem with motorists speeding through this area along U.S. 601.

Mr. and Ms. Clontz were concerned about how much property they would lose with Alt. 2. They questioned the impact to the tree line and fencing for the cattle and horses. The tree line is in existing NCDOT ROW and will likely be removed with either alternative. Their fence will either be moved or they will be compensated for the impact.

Meeting participants asked why an alignment on the west side of U.S. 601 was not included as an alternative. There is a delineated wetland and ephemeral/intermittent stream, as well as overhead power and telephone lines on the west side. Outside of the wetland delineation is a large unsurveyed forested wetland (described by the neighbors). While some people asked about the use an off-site detour, others were glad to hear that an off-site detour was rejected. An off-site detour option would route traffic on smaller, narrower roads with a one-lane bridge. The one-lane bridge is posted at 32 tons for SV and 37 tons for TTST.

NCDOT explained that it would be approximately six months to construct the project. Traffic going in and out of Barrier Farm Road and the Clontz Trucking Company would be maintained during construction. The grade of the existing area is similar to the grade of the temporary on-site detour and new alignment.

A few meeting participants questioned the 150-foot existing right of way limits (location and width) and specifically wondered why it was not symmetric throughout the study area.

The majority of meeting participants arrived and departed the meeting between 5:00pm and 6:00pm. There were no attendees from the public between 6:15pm and 7:00pm.

**Local Officials Informational Meeting Minutes**

Location: Fairview Elementary School – Library

Time: 4pm to 5pm

Meeting Date: May 28, 2015

**Project Team:**

Ken Hill – NCDOT- Right of Way Unit  
Lee Ainsworth – NCDOT - Division 10  
Anamika Laad – NCDOT – Public Involvement  
Verrol McLeary – NCDOT - Public Involvement  
Matt Lamy – RK&K  
Kristina Miller – RK&K  
Elizabeth Workman-Maurer – RK&K

**Attendees:**

1. Libby Long, Mayor of Fairview, 117 Hwy 218 West, Monroe, NC, [elong@fairviewnc.gov](mailto:elong@fairviewnc.gov), 704-753-1006
2. Richard McMillan, Union County Department of Public Works (DPW), 500 N. Main Street, Suite 600, Monroe, NC 28112, [Richard.mcmillan@unioncountync.gov](mailto:Richard.mcmillan@unioncountync.gov), 704-296-4215

**Purpose:**

The purpose of the meeting was to introduce the project to the local officials, answer questions and address any concerns. RK&K displayed four sets of large aerial maps showing Alternatives 1 and 2, typical sections for the permanent roadway and detour, and welcome boards. The handout included an agenda, cost estimates, alternatives, vicinity map, comment sheet, and Title VI questionnaire. An agenda and powerpoint presentation provided basic information about the project. A sign in sheet at the entrance table collected information from all attendees. Two representatives attended the local officials informational meeting.

**Discussions:**

The Mayor of Fairview, Ms. Libby Long, asked about the time to construct the project and chances of the project being delayed. If all goes well, it is currently estimated that the project should take approximately 6 months to construct. The project is included in the Draft STIP and is not expected to be delayed from the current schedule with construction starting in June 2018.

Ms. Long asked if the project team had heard from any of the property owners adjacent to the bridge and any concerns regarding the trucking company. The project team noted that they hoped to hear from residents and the trucking company owner at the public meeting (later that same day). In follow-up to this inquiry, Ms. Long asked if she could receive a copy of the Public Meeting & Comment Summary. It will be attached to this meeting summary and an update will be provided after the June 11, 2015 public comment period concludes.

Ms. Long asked if the proposed bridge would be higher than the existing bridge. For both alternatives, the new bridge would be at a similar elevation to the existing bridge.

Ms. Long asked what type of utilities were located along the west side of U.S. 601 and if any sewer lines were planned to be extended to this area. The existing utilities include overhead telephone and power lines. Mr. McMillian stated that there were no future plans at this time for Union County to extend sewer lines to this area and he was not aware of any joint plans with Cabarrus County for an extension. Ms. Long mentioned her concerns about another project (the bridge crossing Goose Creek) and asked about any similar protected species/environmental implications for this project. It was explained that the Carolina heelsplitter as well as other protected species were not a concern to this project. The mussel and plants were not found during biological surveys. Recently added to the protected list in Union County, is the Northern long-eared bat (NLEB), in which NCDOT will perform surveys prior to construction. This is a project commitment in the Categorical Exclusion document.

Union County DPW Director, Mr. Richard McMillian, questioned the impacts to U.S. 601 in terms of access for emergency response. Some areas adjacent to the project must be accessed by U.S. 601 going from Union County, crossing the Cabarrus County line, and re-entering Union County – such as communities along Brief Road. There are not currently a high volume of EMS calls along U.S. 601 in this area.

Action Items:

- **RK&K** (Elizabeth Workman-Maurer) will include the Draft Public Meeting & Comment Summary as an attachment to this Meeting Summary and will distribute the final after the June 11, 2015 comment period.
- **Local Officials** – Any additional comments on the project/alternatives are requested by June 11, 2015.



## Summary of Public Comments

From the B-5371 Public Meeting  
Location: Fairview Elementary School – Library  
Time: 5pm to 7pm  
Meeting Date: May 28, 2015

### Summary:

Two written comments were received by June 11, 2015. Both comments were in favor of Alternative 1 although neither party was totally satisfied with the alternatives presented. Both parties live within adjacent to the project.

Date: 5/30/15

Name: Catherine Russell

Address: 9832 Concord Hwy., Midland, NC 28107

Received by: USPS mail

Comment: Ms. Russell noted that Alternative 2 would add a severe curve to a truck-traveled road. She also disagrees that there are any wetlands to the west side of US 601 and that an alternative should be considered on the west side. If a western alternative were available, she would prefer it. However, since it is not, Ms. Russell prefers Alternative 1, using a temporary detour and replacing the bridge in its current location. Her property deed states that her property line is 50 feet from the centerline of US 601, not 75 feet (totaling 150 feet) as indicated on the public meeting maps.

Date: 6/10/15

Name: Gerald and Amy Clontz

Address: 9924 Concord Hwy., Midland, NC 28107

Received by: Email [clontztrkg@aol.com](mailto:clontztrkg@aol.com)

Comment: The Clontz household prefers Alternative 1, using a temporary detour and replacing the bridge in its current location. The property owners noted that they would lose trees, pasture land, and fencing. They would prefer that the road was closed during construction and traffic could be re-routed. Trucks could use NC 27 to I-485 to NC 218. Cars could use a variety of routes.

### Additional Information:

Verbal comments from the public meeting questioned the distance between the existing bridge and new bridge (Alternative 2). It was requested to decrease the distance between the new bridge and existing bridge which in turn decreases the amount of ROW needed as well as decreases impacts to the Clontz property. The Division 10 office noted that the Alt. 2 horizontal alignment is probably very close to where it would be located in final design because the slope stake on the east side of the creek is relatively close to the wing wall of the existing bridge. Final surveys are needed to get a more accurate

measure on the proximity of the existing wing walls. The Roadway Design Unit agreed and added that if the proposed alignment was moved 10'-15' closer to the existing bridge, the construction costs and ROW costs are likely going to be relatively the same. Right of way cost savings by bringing the alignment closer to the existing bridge would potentially be offset by the cost of shoring and traffic maintenance.

On June 6, 2015, NCDOT established Alternative 1 as the Preferred Alternative. This will be documented in the CE.

## **Addendum to the Summary of Public Comments**

From the B-5371 Public Meeting

Meeting Date: May 28, 2015

Addendum Date: December 14, 2015

On June 6, 2015, NCDOT established Alternative 1 as the Preferred Alternative. However, after considering construction cost differences, bridge length recommendations, and the potential to move Alternative 2 closer to the existing alignment to lessen permanent impacts, NCDOT decided to change the Preferred Alternative to Alternative 2 on September 16, 2015.