

Iredell County  
Bridge No. 38 on US 21/NC 115  
over Third Creek  
Federal Aid Project No. BRSTP-0021(15)  
W.B.S. No. 40159.1.1  
S.T.I.P. No. B-4982

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

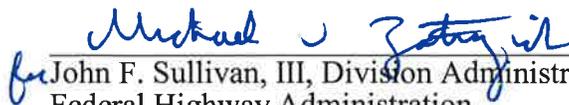
FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

6/30/15  
DATE  
*FOR*   
Richard W. Hancock, PE,  
Manager, Project Development & Environmental Analysis Unit

7-2-15  
DATE  
*for*   
John F. Sullivan, III, Division Administrator  
Federal Highway Administration



**Iredell County  
Bridge No. 38 on US 21/NC 115  
over Third Creek  
Federal Aid Project No. BRSTP-0021(15)  
W.B.S. No. 40159.1.1  
S.T.I.P. No. B-4982**

CATEGORICAL EXCLUSION

Documentation Prepared By:  
Stantec Consultant Services



6/25/2015  
DATE

  
\_\_\_\_\_  
Ryan L. White, PE  
Project Manager

Documentation Prepared For:  
North Carolina Department of Transportation

6/25/15  
DATE

  
\_\_\_\_\_  
Angela M. Sanderson  
Project Development Engineer

07/01/15  
DATE

  
\_\_\_\_\_  
Stacy B. Oberhausen, PE, CPM  
Project Development Group Supervisor



**PROJECT COMMITMENTS:**

**Iredell County  
Bridge No. 38 on US 21/NC 115  
Over Third Creek  
Federal Aid Project No. BRSTP-0021(15)  
W.B.S. No. 40159.1.1  
S.T.I.P. No. B-4982**

**Roadway Design/Program Development Branch – Cost Sharing**

The proposed bridge will be widened to include 11.5-foot wide offsets to accommodate future bike lanes and sidewalks per the request of the City of Statesville. NCDOT will enter a cost-share agreement with the City of Statesville for the additional bridge width.

**GeoEnvironmental Section – Impacts to Underground Storage Tanks (UST's)**

If design indicates potential impacts to any of the UST sites, preliminary site assessments for soil and groundwater contamination will be performed prior to right of way purchase.

**Hydraulic Unit – FEMA Coordination**

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

**Division Construction-FEMA**

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

**Natural Environment Section– Northern Long-eared bat**

Construction authorization will not be requested until Endangered Species Act compliance is satisfied for the Northern Long-eared bat.



**Iredell County**  
**Bridge No. 38 on US 21/NC 115**  
**over Third Creek**  
**Federal Aid Project No. BRSTP-0021(15)**  
**WBS No. 40159.1.1**  
**S.T.I.P. No. B-4982**

**INTRODUCTION:** The replacement of Bridge No. 38 in Iredell County is included in the 2012-2018 North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP). The project location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal “Categorical Exclusion”.

**I. PURPOSE AND NEED STATEMENT**



Looking north along US 21/NC 115

NCDOT Structures Management Unit records indicate that Bridge No. 38 has a sufficiency rating of 27.3 out of a possible 100 for a new structure. According to the Federal Highway Administration (FHWA) standards, Bridge No. 38 is considered structurally deficient due to superstructure and substructure condition ratings of 3 and 4 of 9, respectively. Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The posted weight limit on the bridge is 30 tons for single vehicles and 32 tons for truck-tractor semi-trailers. Replacement of the bridge will result in safer traffic operations.

**II. EXISTING CONDITIONS**

The project is located along US 21/NC 115 in Statesville (see Figure 1). Development within the project study area is a mix of residential and commercial development (see Figure 2). US 21/NC 115 is classified as a minor arterial in the Statewide Functional Classification System and it is not part of the National Highway System.

On the north and southbound approaches to the bridge, US 21/NC 115 consists of two 12-foot lanes with 6-foot wide grass shoulders. The existing bridge is on a tangent. The roadway is situated approximately 21.0 feet above the creek bed.

Bridge No. 38 is a three-span structure that consists of a reinforced concrete deck on reinforced concrete deck girders and steel I-beams with reinforced concrete abutments and has an overall length of 126 feet. The clear roadway width is 31.6 feet. The posted weight limit on this bridge is 30 tons for single vehicles and 32 tons for truck-tractor semi-trailer (TTST). The original bridge was constructed in 1921. The bridge was reconstructed in 1939.

The City of Statesville has a 12-inch water line attached to the bridge. A 3-inch force water main runs parallel to US 21/NC 115 and connects to a 30-inch verified clay pipe in the southeast quadrant of the project corridor. There are city-owned aerial power lines that parallel US 21/NC 115 along the northern side of the project corridor. Fiber-optic cables are located in the northwest quadrant of the project corridor.



The 2010 traffic volumes of 9,700 vehicles per day (VPD) are expected to increase to 20,400 VPD by the year 2035 (see Figures 4A and 4B). The projected volume includes one percent truck-tractor semi-trailer (TTST) and four percent dual-tired vehicles (DT). The posted speed limit is 45 miles per hour in the project study area. Fifty school buses cross the bridge daily on their morning and afternoon routes.

The April 2015 *Traffic Engineering Accident Analysis System Strip Analysis Report for B-4982* indicates that there were three accidents reported in the vicinity of Bridge No. 38 between April 1, 2010 and March 31, 2015. One crash was during evening/night conditions and the other two were during wet conditions. Based on the recent accident history, there does not appear to be an identifiable crash pattern or obvious safety hazards in the vicinity of the structure.

This section of US 21/NC 115 is not part of a designated bicycle route nor is it listed in the STIP as needing incidental bicycle accommodations. Sidewalks do not exist on the existing bridge and there is no indication of pedestrian usage on or near the bridge.

### **III. ALTERNATIVES**

#### **A. Recommended Alternative (Alternative 3)**

The Alternative Selection Meeting (ASM) was held on August 14, 2014. During the meeting, Alternative 3 was selected as the “Recommended” alternative due to the lower number of relocations and lower project costs. Additionally, Alternative 3 has strong public support per responses received during the public meeting held on April 8, 2014.

Alternative 3, the “Recommended” Alternative (see Figure 3) will involve the construction of a 3-lane, 3-span, 150-foot long bridge over Third Creek. The new bridge and approach roadways will be widened to the east of the existing bridge using staged construction. The replacement bridge will be constructed in phases to allow traffic to continue to utilize US 21/NC 115 throughout the duration of construction. The new structure will be designed using AASHTO guidelines with a design speed of 50 miles per hour (mph). The proposed structure will have a 59-foot face to face width between the bridge rails, with two 12-foot wide through lanes, a 12-foot wide center turn lane, and 11.5-foot offsets. The width of the proposed bridge will accommodate future bike lanes and sidewalks, which are consistent with the resolution provided by the City of Statesville (see Appendix A). The approach roadway will be 52 feet

wide and will consist of two 12-foot wide through lanes, a 12-foot wide center turn lane, and two, 8-foot wide shoulders (4-foot paved). The approach roadway will transition back to the existing two-lane typical section beyond the project limits. NCDOT will enter into a cost-share agreement with the City of Statesville to cover the cost of the additional bridge width.

## **B. Alternatives Eliminated from Further Consideration**

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 21/NC 115.

“Rehabilitation” of Bridge No. 38 is not feasible due to its age and deteriorated condition. The bridge was originally constructed in 1921 and reconstructed in 1939. Temporary repairs completed in 2012 include the welding of plates to the web and flanges of all of the steel I-beams at the bridge piers. Currently, there is spalling on the concrete pier caps and bridge piers, exposing steel reinforcement to the elements. There is considerable cracking on the concrete abutments and pier caps. The steel I-beams are experiencing substantial rusting, scaling and pitting.



In comments received during the project scoping process, the City of Statesville requested a four-lane replacement bridge with a four-lane approach roadway and bicycle and pedestrian accommodations. The existing bridge does not have guardrail on the approaches and adding guardrail with the typical section requested by the City of Statesville would create issues re-tying driveways within the project study area. As such, the four-lane typical section was eliminated from consideration and a three-lane bridge with three-lane approaches was carried forward as the “Recommended” typical section.

There are no alternate routes to support the current traffic through the project corridor. Thus, utilizing an off-site detour and complete closure of US 21/NC 115 at the bridge location was eliminated from consideration.

In addition to the “Recommended Alternative”, three additional “Build Alternatives” were evaluated and are described in further detail below.

### Alternative 1

Alternative 1 involved the replacement of the structure along the existing roadway alignment with a 3-lane bridge. Improvements to the approach roadways would be required for a distance of approximately 416 feet to the south and 432 feet to the north of the new structure. The new structure would be 150 feet long and have a clear face to face width between the bridge rails of 47 feet. This alternative would be designed using AASHTO guidelines with a design speed of 50 miles per hour. A temporary detour structure located east of the existing bridge would serve as an on-site detour. Alternative 1 was not selected due to its higher number of relocations (two residential and one business) and total project costs.

#### Alternative 2

Alternative 2 involves the replacement of the structure along the existing roadway alignment with a 3-lane bridge. Improvements to the approach roadways would be required for a distance of approximately 416 feet to the south and 432 feet to the north of the new structure. The new structure would be 150 feet long and have a clear face to face width between the bridge rails of 47 feet. This alternative would be designed using AASHTO guidelines with a design speed of 50 miles per hour. A temporary detour structure located west of the existing bridge would serve as an on-site detour. Alternative 2 was not selected due to its higher number of relocations (three residential and one business) and total project costs.

#### Alternative 4

Alternative 4 involves the replacement of the existing structure with a 3-lane bridge widened to the west of the existing alignment using staged construction. This alternative would be designed using AASHTO guidelines with a design speed of 50 mph. The proposed structure would be approximately 150 feet long and have a deck width of 55 feet, accommodating two 12-foot wide through lanes, a 12-foot wide center turn-lane, and two, 11.5-foot offsets to accommodate bicyclists and pedestrians. Alternative 4 was not selected due to its higher number of relocations (three residential and one business) and total project costs.

### IV. ESTIMATED COSTS

The estimated costs, based on 2015 prices, are as follows:

**Table 1: Construction Cost Estimates**

	Alternative 1	Alternative 2	Alternative 3 (Recommended)	Alternative 4
Structure	\$763,000	\$763,000	\$1,141,000	\$1,141,000
Roadway Approaches	\$520,000	\$575,000	\$430,000	\$453,000
Detour Traffic Control	\$277,000	\$277,000	N/A	N/A
Structure Removal	\$72,000	\$72,000	\$120,000	\$120,000
Utility Relocation Costs	\$211,000	\$225,000	\$209,000	\$215,000
Misc. & Mob.	\$432,000	\$460,000	\$415,000	\$425,000
Eng. & Contingencies	\$325,000	\$328,000	\$385,000	\$345,000
<b>Total Construction Cost</b>	<b>\$2,600,000</b>	<b>\$2,700,000</b>	<b>\$2,700,000</b>	<b>\$2,700,000</b>
Right-of-way Costs	\$1,232,500	\$1,414,500	\$1,081,500	\$1,244,000
<b>Total Project Cost</b>	<b>\$3,832,500</b>	<b>\$4,114,500</b>	<b>\$3,781,500</b>	<b>\$3,944,000</b>

## V. NATURAL ENVIRONMENT

The following paragraphs summarize the *Natural Resources Technical Report for The Replacement of Bridge 38 on US 21/NC 115 Over Third Creek* (NCDOT 2010b).

### Physical Characteristics

The study area is located in the upper piedmont plateau of North Carolina. The topography of the project study area consists of hills and floodplains with elevations ranging from 794 to 883 feet above sea level. The surrounding land use consists of light residential and commercial development along the highway.

### Water Resources

The project study area falls within the Yadkin-Pee Dee River Basin [U.S. Geological Survey (USGS) Hydrological Unit 03040102]. Third Creek is the only stream within the study area and its characteristics are provided in Tables 2 and 3. None of the water resources in the study area or within 1.0 mile of the study area are designated as Outstanding Resource Waters (ORW), High Quality Waters (HQW), or water supply watersheds (WS-1 or WS-II). Also, Third Creek is not listed on the North Carolina Final 2014 303(d) list of impaired waters.

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

	Map ID	NCDWQ Index Number	Best Usage Classification
Third Creek	Third Creek	12-108-20-4	C

**Table 3: Physical Characteristics of Water Resources in the Study Area**

	Bank Height (ft)	Bankful Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Third Creek	6 -10	30	12 – 24	Boulder, Cobble, Gravel	Moderate	Turbid

### Biotic Resources

Two terrestrial communities were identified in the study area: maintained/disturbed and Piedmont/Mountain Levee Forest. Table 4 summarizes the acreage of each type of biotic community in the study area.

**Table 4: Biotic Resources**

Community	Coverage (ac.)
Maintained/Disturbed	5.9
Piedmont/Mountain Levee Forest	1.0
<b>Total</b>	<b>6.9</b>

### Jurisdictional Topics

Third Creek is the only jurisdictional stream identified in the study area and its characteristics are shown in Table 5. USACE and NCDWQ stream delineation forms are included in Appendix C of the *Natural Resources Technical Report for The Replacement of Bridge 38 on US 21/NC 115 Over Third Creek*. Third Creek is part of the Yadkin-Pee Dee River Basin (U.S. Geological Survey Hydrologic Unit 03040102). Third Creek has been designated as warm water streams for the purposes of mitigation.

**Table 5: Jurisdictional Characteristics of Water Resources in the Study Area**

Map ID	Length (ft)	Classification	Compensatory Mitigation Required	River Basin Buffer
Third Creek	329	Perennial	Yes	Not Subject

There are no stream impacts associated with the “Recommended” alternative. No jurisdictional wetlands were identified in the study area.

### Permits

A Nationwide Permit (NWP) 23 will be applicable for the proposed project. A NWP 33 may apply for temporary construction activities such as stream dewatering or the construction of work bridges. If a Section 404 permit is required, then a Section 401 Water Quality Certification from NCDWQ will be needed as well.

### Wetland and Stream Mitigation

NCDOT will attempt to avoid and minimize impacts to streams to the greatest extent practicable during the final design and construction of the “Recommended” alternative. This includes constructing retaining walls or utilizing steeper slopes, where practicable to keep construction impacts out of streams. On-site stream mitigation opportunities will be investigated as designs of the “Recommended” alternative are progressed. If on-site mitigation is not feasible,



mitigation will be provided by the NC Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP).

**Federally Protected Species**

The three United States Fish and Wildlife Service (USFWS) federally protected species listed for Iredell County as of April 9, 2015 are shown in Table 6.

**Table 6: Federally Listed Threatened and Endangered Species**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Glyptemys muhlenbergii</i>	Bog turtle	T(S/A)	No	Not Required
<i>Myotis septentrionalis</i>	Northern long-eared bat	E	Yes	Unresolved
<i>Hexastylis naniflora</i>	Dwarf-flowered heartleaf	T	No	No Effect

E – Endangered

T – Threatened

T(S/A) – Threatened due to similarity of appearance

**Northern Long-eared bat (*Myotis septentrionalis*)**

**Endangered**

**Family: Vespertilionidae**

**Federally Listed: 2015**

**Biological Conclusion: Unresolved**

In North Carolina, the Northern long-eared (NLEB) bat occurs in the mountains, with scattered records in the piedmont and coastal plain. The species is not known to be a long-distance migrant and caves and subterranean mines are extremely rare in eastern North Carolina. During the summer, the NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. The NLEB has also been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, on bridges, and in bat houses.

Suitable habitat for the NLEB does exist in the study area.

Construction authorization will not be requested until Endangered Species Act compliance is satisfied for the Northern Long-eared bat.

**VI. HUMAN ENVIRONMENT**

**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 (federally 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.

### **Historic Architecture**

In correspondence dated March 19, 2010, the NCDOT Historic Architecture Section stating that there are no properties listed or eligible for listing on the National Register (NR) of Historic Places within the project's area of potential effects (APE). The correspondence also states that no historic architecture surveys are required. The form is attached in the Appendix A.

### **Archaeology**

In correspondence dated August 20, 2010, the NCDOT Archaeology Section states that there are no NR listed archaeological sites within the project's APE, subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the NR, and there are no NR-eligible or listed archaeological sites present or affected by the project. The form is attached in the Appendix A.

### **Community Impacts**

The following information summarizes the findings from the *B-4982 Iredell County Community Impact Assessment* (NCDOT 2010a). No adverse community impacts are anticipated. Right-of-way will be acquired along all four quadrants of the project study area. In particular, because the project will realign the road and widen the bridge eastward, the Timber Specialists and the Third Creek Supply, will have temporary and permanent right of way impacts along their frontage with US 21/NC 115. The project will result in right of way impacts to four properties along the northwestern side of the project area, including the Welcome Baptist Church. The installation of guardrail along the southern approach will block access to Foggy Bottom Lane, resulting in two residential relocations.



The project is consistent with the Iredell County 2030 Horizon Plan and is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The project will have temporary access impacts to properties immediately adjacent to the bridge. The access from Watercrest Drive will be permanently closed and residents will have access to US 21/NC 115 via Teri Sha Lane. Access to Foggy Bottom Lane will be permanently removed due to the installation of guardrail along the southern approach. Staged

construction will be utilized, thus construction activities will have minimal impacts to the traveling public, the fifty school buses that cross the bridge daily, or EMS and fire rescue response times.

Census Tract 603, Block 4, which includes the northern project area, is 39 percent African-American. This is considerably higher than Iredell County's percentage of African-Americans, which is only 14 percent. A mobile home park is located in the northwestern quadrant of the project area along Teri Sha Lane. Southeast of the project, Census Block 612, Block Group 3 has a Spanish-speaking population that meets the United States Department of Justice Limited English Proficiency criteria. However, the project will not have a disproportionately high or adverse human health and environmental effect on any minority or low-income population.

Based on coordination with Local Offices (Planning, Iredell County Schools, and EMS) the project is expected to have a Low Impact on local public services.

There are no farms or other agricultural-related operations within the project study area; therefore, completion of form NRCS-CPA-106 was not required.

No adverse effects on public facilities or services are anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

## **Noise & Air Quality**

### **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 (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the 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 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 Impacts**

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.

## **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.

According to the *B-4982 Iredell County Community Impact Assessment*, the bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section and noted in the *B-4982 Geotechnical Report for Planning* (NCDOT 2009) identified three (3) sites that may contain petroleum underground storage tank (UST) within the project limits. An additional concern is a structure that is used to store pesticides and herbicides. The four potential geo-environmental concern locations are identified in Figure 2. The four sites are anticipated to present low geoenvironmental impacts of the project. If further design indicates potential impacts to any of the UST sites, a preliminary site assessment for soil and groundwater contamination will be performed prior to right of way acquisition.

Iredell County is a participant in the National Flood Insurance Program, which is regulated by the Federal Emergency Management Agency (FEMA). There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential. However, NCDOT will coordinate with the NC Floodplain Mapping Program 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 Letter of Map Revision (LOMR). Also, because Third Creek is a FEMA-regulated stream, sealed as-built construction plans will be submitted to NCDOT's Hydraulics Unit upon completion of construction to certify that the drainage structures and roadway embankments located within the 100-year floodplain were built as shown in the plans.

The Federal Highways Administration has determined that a U.S. Coast Guard Permit is not required for this project.

## **VIII. COORDINATION & AGENCY COMMENTS**

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Environment & Natural Resources, U.S. Fish & Wildlife Service, N.C. Wildlife Resource Commission, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, and the Iredell County Planning Department.

The **U.S. Environmental Protection Agency (EPA)** noted that Third Creek is listed on the North Carolina Division of Water Quality's (NCDWQ) draft 2008 list of impaired waters due to aquatic life impairments from turbidity violations. They also recommend that NCDOT commit to enhanced construction stormwater controls to avoid contributing sediment and other sources of turbidity to Third Creek. EPA notes their preference for structures to span the waterbody and that effort should be made to do so and avoid other wetlands and aquatic resources. EPA also notes their preference for bridges to be replaced in the same location with road closures, off-site detours, or road closures and if an on-site detour is required, that it be designed to avoid impacts to wetland and aquatic resources. The EPA also requested that bridge piers not be placed in the streams, if possible, and that deck drains should not discharge directly into the streams, ensuring that stormwater is pre-treated prior to discharge into a stream or wetland.

**Response:** Third Creek was not included on the NCDWQ 2014 list of impaired waters. However, NCDOT will implement *Best Management Practices for the Protection of Surface Waters* to ensure that construction activities have limited impacts to Third Creek.

**Response:** The proposed bridge will be constructed in phases at its current location which will eliminate the need to construct an on-site detour.

**Response:** The proposed bridge will be 150 feet long, spanning the active channel width, and not resulting in direct stream impacts. No wetlands were identified within the project study area.

The **City of Statesville** requests that pedestrian and bicycle accommodations are incorporated into the project.

**Response:** The proposed structure will have a 59-foot face to face width between the bridge rails, with two 12-foot wide through lanes, a 12-foot wide center turn lane, and two, 11.5-foot wide offsets to accommodate future bike lanes and sidewalks.

No other resource agency or local planning authority comments were received for this project.

## **IX. PUBLIC INVOLVEMENT**

A newsletter was mailed out in August 2010 to residents and business owners in the project area to announce the initiation of project development and environmental studies for the replacement of Bridge Number 38.

A public meeting was conducted on April 8, 2014 at the Statesville City Hall. Fifteen citizens attended the meeting. All four preliminary design alternatives were presented. Most citizens favored Alternative 3 as the "Recommended" alternative.

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

## **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 federal “Categorical Exclusion” due to its limited scope and lack of substantial environmental consequences.

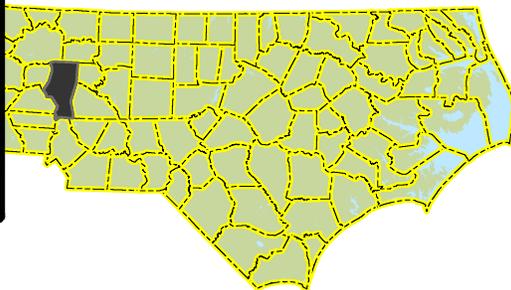
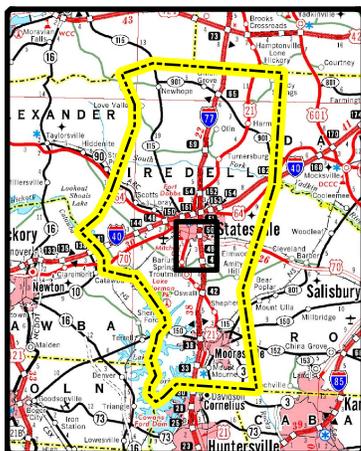
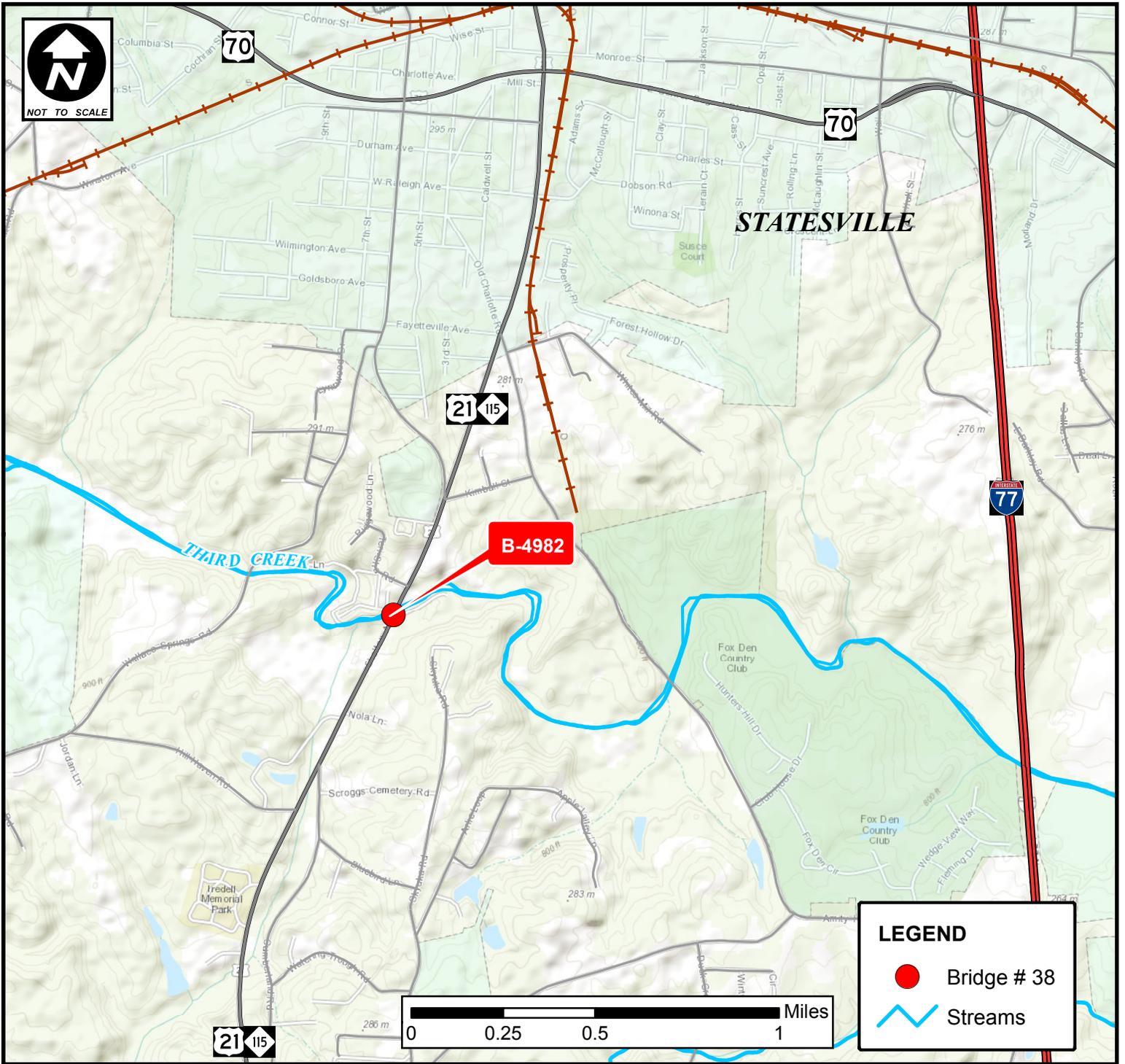
## References

North Carolina Department of Transportation (NCDOT). 2009 *B-4982 Geotechnical Report for Planning*. North Carolina Department of Transportation Geotechnical Unit. Raleigh, NC..

North Carolina Department of Transportation (NCDOT) 2010a *B-4982 Iredell Community Impact Assessment*. North Carolina Department of Transportation Public Involvement and Community Studies, Raleigh, NC.

North Carolina Department of Transportation (NCDOT). 2010b. *Natural Resources Technical Report for The Replacement of Bridge 38 on US 21/NC 115 Over Third Creek*. North Carolina Department of Transportation Natural Environment Section. Raleigh, NC.

North Carolina Department of Transportation (NCDOT). 2015. *Traffic Engineering Accident Analysis System Strip Analysis Report for B-4982*. North Carolina Department of Transportation, Transportation Mobility and Safety Branch. Garner, NC.



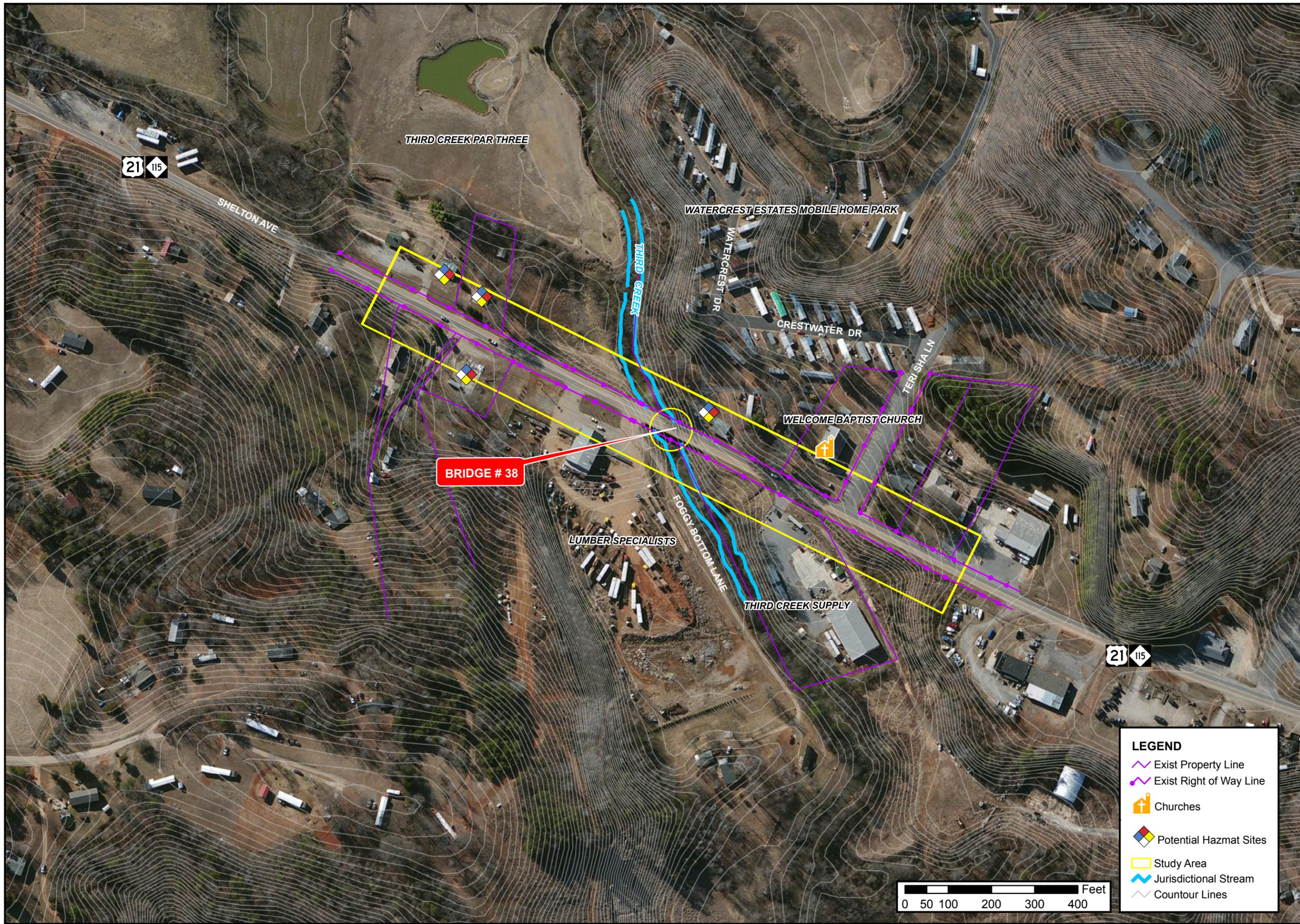

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH**

---

**REPLACE BRIDGE # 38 ALONG US 21/NC 115 OVER THIRD CREEK**  
 IREDELL COUNTY  
 TIP PROJECT B-4982

---

**FIGURE 1: VICINITY MAP**



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

**PROJECT STUDY AREA MAP  
REPLACE BRIDGE #38 ALONG  
US 21/NC 115 OVER THIRD CREEK**



County: IREDELL

Div: 12 TIP#: B-4982

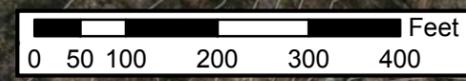
WBS: 40159.1.1

Date: June 2015

**Figure  
2**

**LEGEND**

- Exist Property Line
- Exist Right of Way Line
- Churches
- Potential Hazmat Sites
- Study Area
- Jurisdictional Stream
- Countour Lines





**LEGEND**

- Exist Right of Way Line
- Property Lines
- ROW and Easements**
- Prop Easement Construction
- Prop Right of Way
- Proposed Improvements**
- Prop Slope Stakes
- Prop Roadway
- Prop Roadway Bridge
- Environmental Features**
- Jurisdictional Stream
- Churches
- Potential Hazmat Sites
- Countour Lines



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

**ALTERNATIVE 3 (RECOMMENDED)**  
(STAGED CONSTRUCTION - WIDENING TO THE EAST)  
**REPLACE BRIDGE #38 ALONG**  
**US 21/NC115 OVER THIRD CREEK**



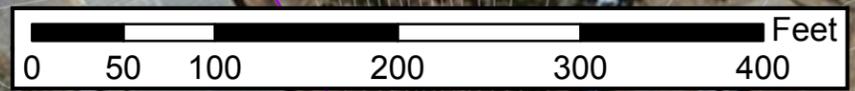
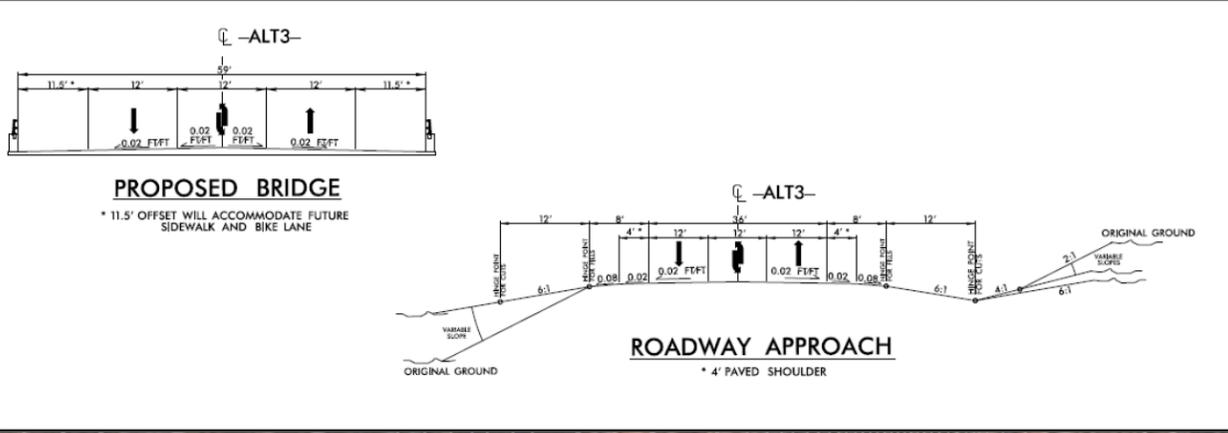
County: IREDELL

Div: 12 TIP#: B-4982

WBS: 40159.1.1

Date: JUNE 2015

**Figure**  
**3**



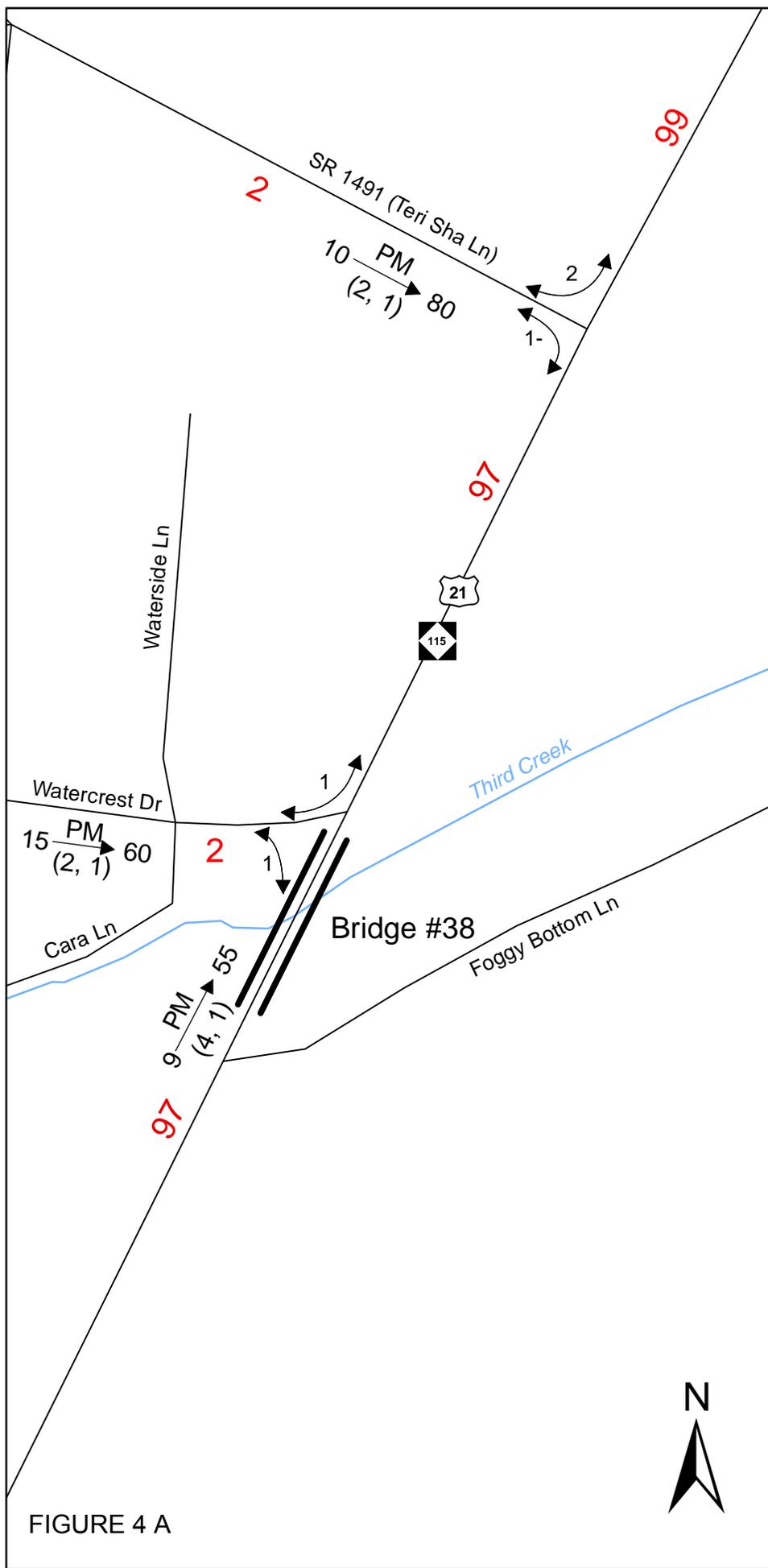
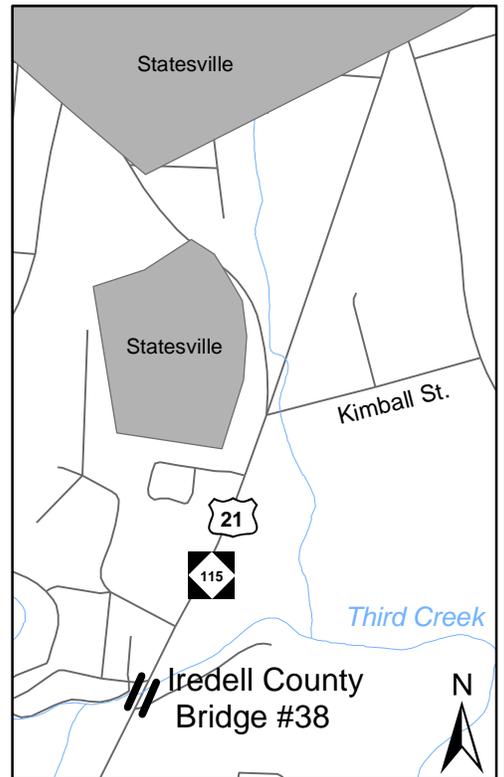


FIGURE 4 A



**2010** AVERAGE ANNUAL DAILY TRAFFIC

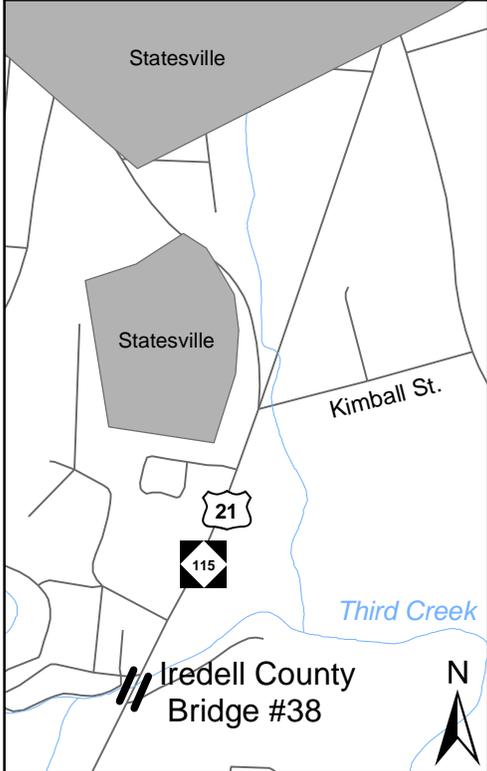
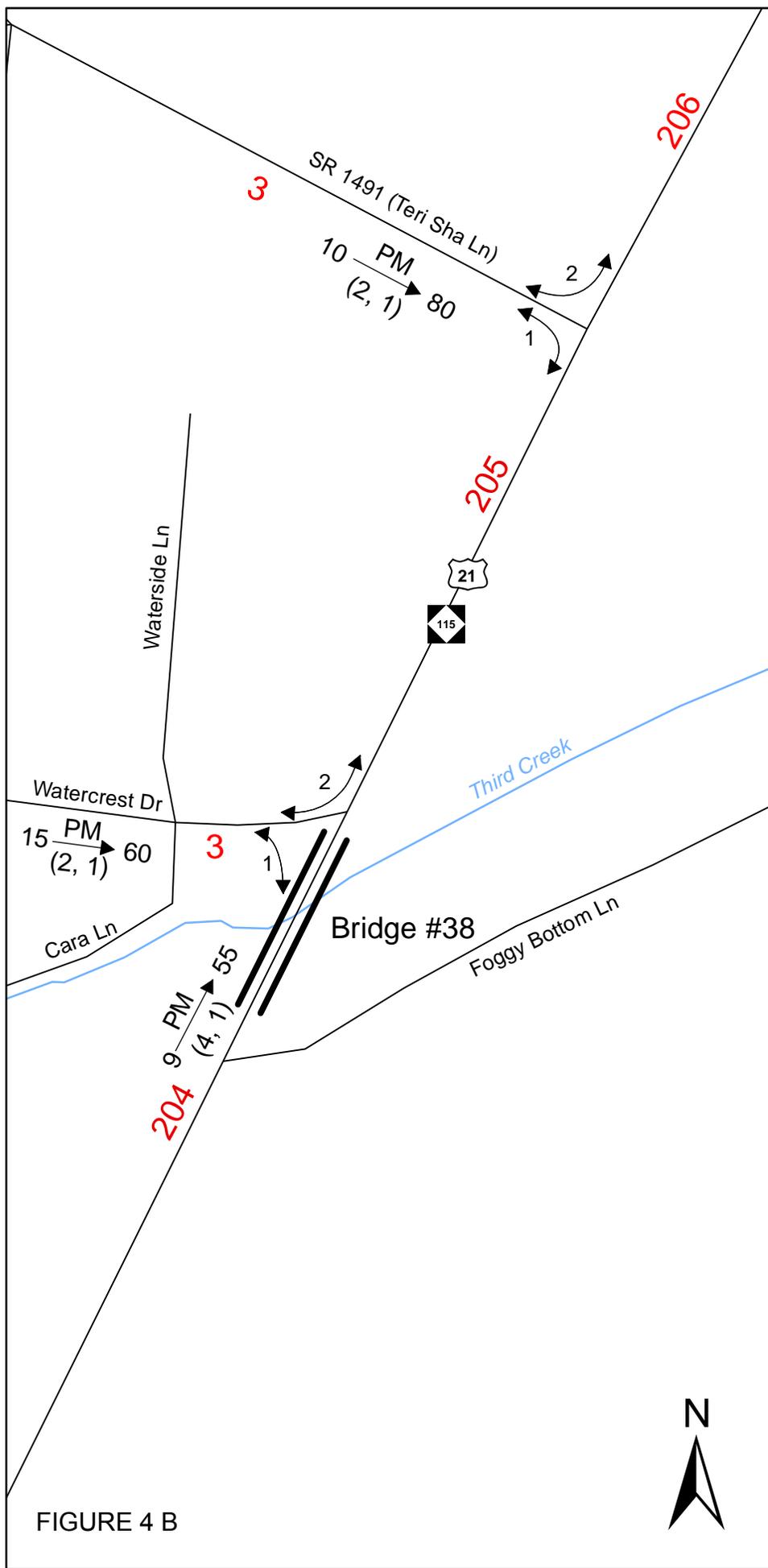
**BASE YEAR - NO BUILD**

**SHEET 1 - 1**

**LEGEND**

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- DHV Design Hourly Volume
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

<b>TIP: B-4982</b>	<b>WBS: 40159.1.1</b>
<b>COUNTY: Iredell</b>	<b>DIVISION: 12</b>
<b>DATE: May 13, 2010</b>	
<b>PREPARED BY: David Keilson</b>	
<b>LOCATION: US 21 / NC 115 Bridge #38 over Third Creek near Watercrest Ln.</b>	
<b>PROJECT: Replace Bridge #38 on US 21 / NC 115</b>	



**2035** AVERAGE ANNUAL DAILY TRAFFIC  
**HORIZON YEAR - BUILD**  
**SHEET 2 - 1**

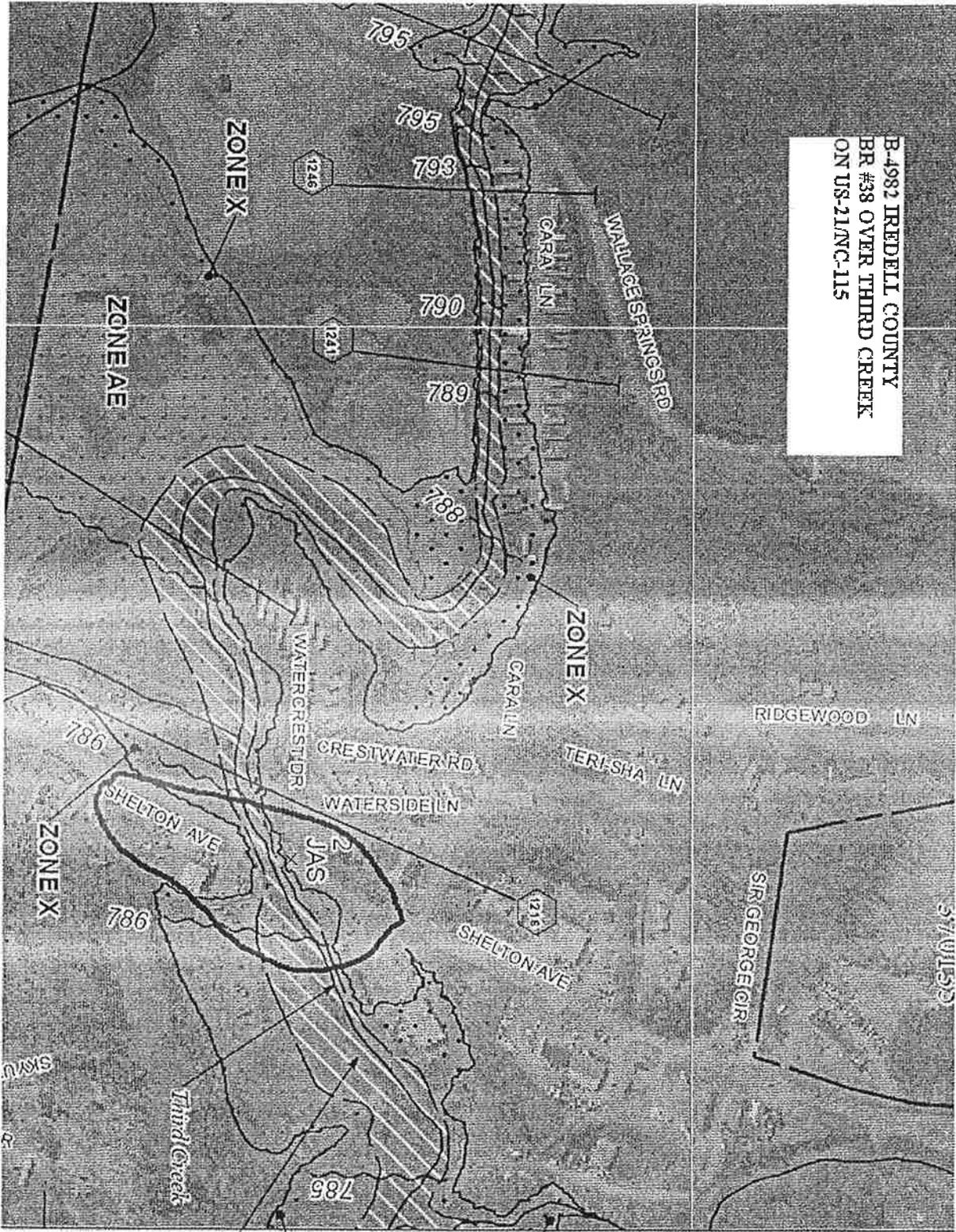
**LEGEND**

DHV  $\xrightarrow{\text{PM}}$   $\xrightarrow{\text{D}}$   
 (d,t)

### No. of Vehicles Per Day (VPD) in 100s  
 1- Less than 50 VPD  
 X Movement Prohibited  
 - - - - Roadway  
 DHV Design Hourly Volume  
 PM PM Peak Period  
 D Peak Hour Directional Split  
 → Indicates Direction of D  
 (d,t) Duals, TT-STs (%)

<b>TIP: B-4982</b>	<b>WBS: 40159.1.1</b>
<b>COUNTY: Iredell</b>	<b>DIVISION: 12</b>
<b>DATE: May 13, 2010</b>	
<b>PREPARED BY: David Keilson</b>	
<b>LOCATION: US 21 / NC 115 Bridge #38 over Third Creek near Watercrest Ln.</b>	
<b>PROJECT: Replace Bridge #38 on US 21 / NC 115</b>	

FIGURE 4 B



B-4982 IREDELL COUNTY  
 BR #38 OVER THIRD CREEK  
 ON US-21/NC-115

35

.JOINS PANFI 4743

FIGURE 5

**APPENDIX A**  
**CORRESPONDENCE**

---

## NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT FORM

### PROJECT INFORMATION

*Project No:* B-4982 *County:* Iredell  
*WBS No:* 40159.1.1 *Document:* CE  
*F.A. No:* *Funding:*  State  Federal

*Federal (USACE) Permit Required?*  Yes  No *Permit Type:*

*Project Description:* Replace Bridge No. 38 on US 21/NC 115 over Third Creek. Area of Potential Effects (A.P.E.) is large "study area," an approximately 60-meter (200-foot) wide corridor that extends along US 21/NC 115 approximately 213 meters (700 feet) in each direction from the bridge.

### SUMMARY OF FINDINGS

*The North Carolina Department of Transportation (NCDOT) reviewed the subject project and determined:*

#### Archaeology

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- No subsurface archaeological investigations are required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

### SUMMARY OF CULTURAL RESOURCES REVIEW

*Brief description of review activities, results of review, and conclusions:*

There are no previously recorded archaeological sites in the study area, and the study area has not been previously surveyed for archaeological sites or reviewed by the State Historic Preservation Office (HPO). Archaeological reconnaissance conducted on 1/6/2010 identified landforms with low archaeological potential in southeast, northwest and northeast quadrants, and moderate to high potential in the southwest quadrant. The northwest quadrant consists of a driveway, road and a building. The northeast quadrant consists of an excavated area next to the bridge, and a driveway and parking lot (Third Creek Supply) farther north. The southeast quadrant consists of several driveways and buildings. The Iredell County soil survey identifies the soils in the project area as Cecil sandy loam (eroded), somewhat poorly-drained Chewacla soil, mixed alluvial lands, and well-drained Congaree soils.

Archaeological survey was conducted in the southeast quadrant on 6/15/2010. The project area from the stream south for 120 meters is a gentle slope up to a house and yard. The soil survey describes the soil in this quadrant as "mixed alluvial land" next to the stream and Congaree soils to the south. The soil from the the south is Cecil fine sandy loam (10-15% slopes), eroded. Excavated 3 shovel tests along the west side of the road. None contained any artifacts (see attached Table). See attached photographs and maps.

### SUPPORT DOCUMENTATION

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from survey.

Signed:



Caleb Smith  
Cultural Resources Specialist, NCDOT

8/20/2010  
Date

---

Representative, HPO

Date

*HPO/OSA Comments:*

09-11-0017

**NO SURVEY REQUIRED FORM****PROJECT INFORMATION**

*Project No:* B-4982 *County:* Iredell  
*WBS No:* 40159.1.1 *Document:* CE  
*F.A. No:* BRS11-0021 (15) *Funding:*  State  Federal  
*Federal (USACE) Permit Required?*  Yes  No *Permit Type:*

*Project Description:* Replace Bridge No. 38 over Third Creek on US 21, NC 115, South Statesville vic.

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

Review of HPO quad maps, historic designations roster, and indexes was undertaken on March 8, 2010. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects.

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

An aerial map provided by the project engineer shows a several large industrial buildings with large parking lots which are not likely to be considered historic resources. However, because some residential buildings and a church appeared to be of borderline integrity, the CRP made a site check on March 16, 2010, en route to other projects in the Statesville vicinity. Once on site, it was clear there was nothing eligible for the National Register in the APE.

**SUPPORT DOCUMENTATION**

See attached: Map(s), Previous Survey Info, Photos, Correspondence, Photocopy of notes from county survey.

**FINDING BY NCDOT CULTURAL RESOURCES PROFESSIONAL**

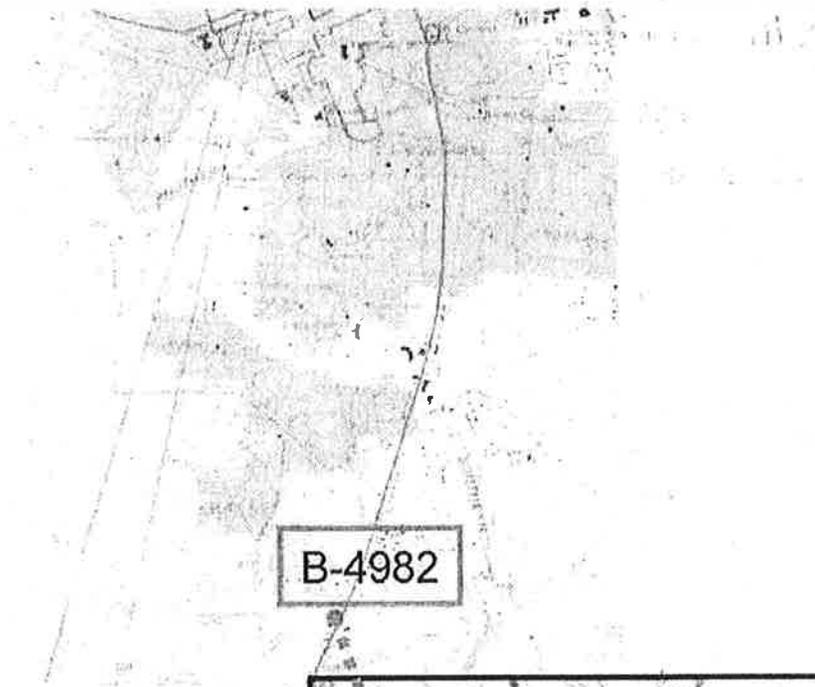
NO SURVEY REQUIRED

*Penne Sandbeck*

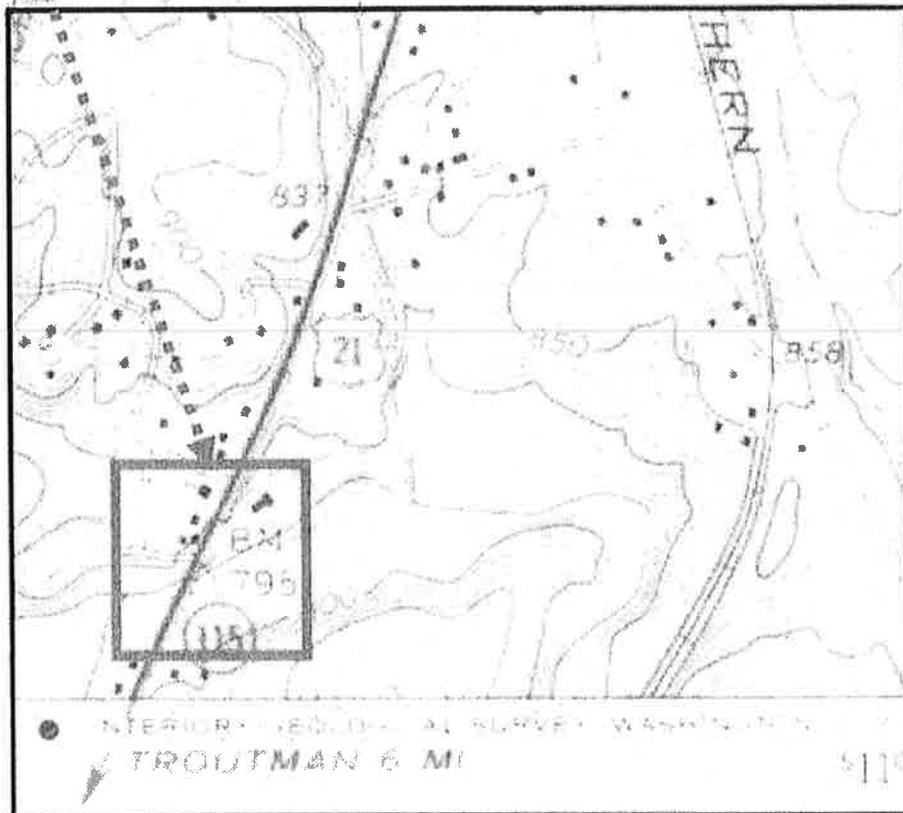
*3-19-2010*

NCDOT Cultural Resources Specialist

Date



B-4982



**B-4982 (PA 09-11-0017):** Replace Bridge No. 38 over Third Creek on US 21/NC 115  
West Statesville, vic.  
Iredell County / Division 12

Detail of NCDOT Copy of NC-HPO annotated USGS Quad Map (West Statesville)  
Project Area Delineated in Orange; **No Historic Resources Present**

## Lockhart, Natalie N

---

**From:** Matthews.Kathy@epamail.epa.gov  
**Sent:** Friday, September 04, 2009 9:37 AM  
**To:** Lockhart, Natalie N  
**Subject:** Fw: Comments on several bridge projects

----- Forwarded by Kathy Matthews/RTP/USEPA/US on 09/04/2009 09:36 AM -----

**From:** Kathy Matthews/RTP/USEPA/US  
**To:** nlockhart@ncdot.gov  
**Cc:** polly.lespinasse@ncdenr.gov, brian.wrenn@ncdenr.gov, Steven.W.Lund@usace.army.mil, david.k.baker@usace.army.mil  
**Date:** 09/04/2009 09:34 AM  
**Subject:** Comments on several bridge projects

---

Natalie,

I have reviewed the scoping letters, vicinity maps, and aerial photographs for the following bridge projects:

B-4981  
B-5150  
B-5110  
B-5155  
B-5142  
B-4982  
B-4405  
B-4480  
B-4481  
B-4950

I have the following comments for your consideration:

**For B-5150, B-5155, B-5142, and B-4405:**

1. In general, for all bridge replacements, EPA prefers structures that span the waterbody. Efforts should be made if possible to also span or avoid any wetlands or other aquatic resources in the project area.
2. EPA also generally prefers the replacement of a bridge in the same location, either with road closure and off-site detour, or staged construction. If a temporary on-site detour is required, it should be designed to avoid impacts to wetlands or other aquatic resources.
3. Bridge supports should not be placed in the stream, if possible.
4. Bridge deck drains should not discharge directly into the stream, and stormwater should be pre-treated prior to discharge to a stream or wetland.

**For B-4982:**

1. Third Creek is listed on the North Carolina Division of Water Quality's (NCDWQ) draft 2008 list of impaired

9/4/2009

recognize that formal or significant informal human use should be considered in the decision to remove approach fills or causeways.

4. Bridge supports should not be placed in the stream, if possible.

5. Bridge deck drains should not discharge directly into the stream, and stormwater should be pre-treated prior to discharge to a stream or wetland.

Thank you for the opportunity to comment on these projects. If you have any questions or comments, don't hesitate to contact me. Have a good weekend,

Kathy Matthews  
USEPA - Region 4 Wetlands & Marine Reg. Section  
109 T.W. Alexander Dr.  
Durham, NC 27711  
MAIL CODE: E143-04

phone 919-541-3062  
cell 919-619-7319

October 22, 2009

Natalie Lockhart  
NCDOT– PDEA  
1598 Mail Service Center  
Raleigh, NC 27699-1582

RE: B-4982 Bridge Replacement

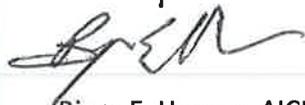
Dear Ms. Lockhart:

I met with Statesville staff to review the plans for B-4982– replacement of Bridge No. 38 on US 21– NC 115 in Iredell County. The City Council passed a resolution commenting on the project, which largely relates to a plan they approved for the corridor.

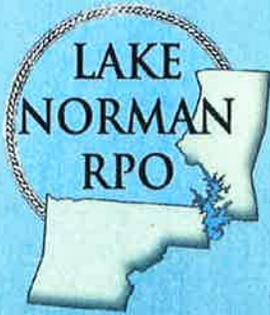
This project is found within the study area for the Statesville Comprehensive Transportation Plan. This plan update is being conducted by David Keilson with the NCDOT-Transportation Planning Branch. The current Thoroughfare Plan for Statesville was completed in 1997 and did not recommend any widening to US 21/ NC 115 in this area. I would ask that you contact him for any input on the status of that Plan update.

Feel free to contact me with any questions.

Sincerely,



Bjorn E. Hansen, AICP  
RPO Staff Contact



1300 Baxter Street,  
Suite 450  
P. O. Box 35008  
Charlotte, NC 28235

(704) 372-2416  
FAX (704) 347-4710  
www.lakenormanrpo.org  
www.centralina.org

#### OFFICERS

Michael Johnson  
TAC Chairman

Bob Austell  
TAC Vice-chairman

Andrew Bryant  
TCC Chairman

Elinor Hiltz  
TCC Vice-chairman

§

Serving Cleveland,  
Gaston, Iredell and  
Lincoln Counties



#### Attachments

cc: David Keilson, NCDOT-TPB  
Bob Mosher, NCDOT-DBPT  
Sherry Ashley, City of Statesville

**A RESOLUTION REQUESTING SIDEWALKS, BICYCLE LANES, WIDENING, AND LANDSCAPING FOR B-4982 BRIDGE REPLACEMENT NO. 38 ON US 21-NC 115.**

WHEREAS, the City of Statesville recently completed a Streetscape and Land Use Plan for the Highway 115 (Shelton Avenue) Corridor that encourages US 21-NC 115 as a gateway into the City of Statesville: and

WHEREAS, this plan recommends redevelopment of this corridor; and

WHEREAS, the new Streetscape and Land Use Plan recommends a new cross section for the corridor (see attached) that accommodates pedestrian access with a sidewalk and a 12' Greenway;

WHEREAS, the widening of US 21/NC 115 has been proposed to be widened to a four lane facility as part of the adoption of the 1995 Thoroughfare Plan;

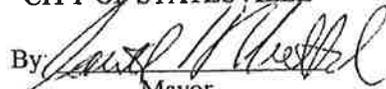
NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Statesville, North Carolina, that:

1. Sidewalks/Bicycle Lanes be accommodated with the replacement.
2. Widen to accommodate future cross section.
3. Landscaping be installed at head ends of bridge.

Adopted this 19th day of October, 2009.



CITY OF STATESVILLE

By:   
Mayor

ATTEST:

  
City Clerk

PROJECT TWO- NC 115 ROADWAY, STREETSCAPE & GREENWAY IMPROVEMENT PROJECT

