

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	B-4830
W.B.S. No.	38600.1.1
Federal Project No.	<u>BRSTP-0097(34)</u>

A. Project Description:

The purpose of this project is to replace Wake County Bridge No. 20 on NC 97 over Moccasin Creek. Bridge No. 20 is 84 feet long. The replacement structure will be a bridge approximately 105 feet long providing a minimum 30 feet, 10 inch clear deck width. The bridge will include two 11-foot lanes and 4 foot, 5 inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

The approach roadway will extend approximately 250 feet from the west end of the new bridge and 200 feet from the east end of the new bridge. The approaches will be widened to include a 22 foot pavement width providing two 11 foot lanes. Six-foot grass shoulders with 2 foot full depth paved shoulders will be provided on each side (9 foot shoulders where guardrail is included). The roadway will be designed as a Rural Major Collector route using Sub-Regional Tier guidelines with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (See Figure 1).

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 20 has a sufficiency rating of 40.7 out of a possible 100 for a new structure.

The bridge is considered functionally obsolete due to a clear roadway width of 20 feet with no offsets on a primary NC route. The bridge was built in 1932 with a superstructure of reinforced concrete girders and a substructure of reinforced concrete full height abutments.

Reinforced concrete components of Bridge No. 20 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore the bridge is approaching the end of its useful life.

Bridge No. 20 carries 2,922 vehicles per day with 3,530 vehicles per day projected for the future. The substandard clear roadway width is becoming increasingly unacceptable and replacement of the bridge will result in safer traffic operations.

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 31 tons for single vehicles and 35 tons for truck-tractor semi-trailers. The bridge is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

C. Proposed Improvements:

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

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
 - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
 - b. Widening roadway and shoulders without adding through lanes
 - c. Modernizing gore treatments
 - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
 - e. Adding shoulder drains
 - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
 - g. Providing driveway pipes
 - h. Performing minor bridge widening (less than one through lane)
 - i. Slide Stabilization
 - j. Structural BMP's for water quality improvement
2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
 - a. Installing ramp metering devices
 - b. Installing lights
 - c. Adding or upgrading guardrail
 - d. Installing safety barriers including Jersey type barriers and pier protection
 - e. Installing or replacing impact attenuators
 - f. Upgrading medians including adding or upgrading median barriers
 - g. Improving intersections including relocation and/or realignment
 - h. Making minor roadway realignment
 - i. Channelizing traffic
 - j. Performing clear zone safety improvements including removing hazards and flattening slopes
 - k. Implementing traffic aid systems, signals, and motorist aid
 - l. Installing bridge safety hardware including bridge rail retrofit
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
 - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
 - b. Rehabilitating or replacing bridge decks

- c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
 - d. Replacing a bridge (structure and/or fill)
4. Transportation corridor fringe parking facilities.
 5. Construction of new truck weigh stations or rest areas.
 6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
 7. Approvals for changes in access control.
 8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
 9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
 10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
 11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
 12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.
 13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
 14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

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

Structure	\$ 384,000
Roadway Approaches	\$221,000
Structure Removal	\$24,000
Misc. & Mob.	\$121,000
Eng. & Contingencies	\$125,000
Total Construction Cost	\$ 875,000
Right-of-way Costs	\$155,000
Total Project Cost	\$1,030,000

Estimated Traffic:

Current	-	2,922 vpd
Year 2030	-	3,530 vpd
TTST	-	1%
Dual	-	3%

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

Pedestrian and Bicycle Accommodations: This portion of NC 97 is not a part of a designated bicycle route nor is it listed in the 2015 State Transportation Improvement Program (STIP) as a bicycle project. Permanent and/or temporary bicycle or pedestrian accommodations are not required for this project.

Bridge Demolition: Bridge No. 20 includes a superstructure of reinforced concrete girders and a substructure of reinforced concrete full height abutments. At the preliminary plan review meeting, the idea of using the existing abutments in replacing the bridge by retaining them to minimize disturbance to the stream was discussed and agreed upon by all units including the NCDOT Division Environmental Officer. The existing length to avoid in order to keep the abutments in place is 93.5 feet. The proposed bridge will be 105 feet, lengthened an equal amount on each end to construct the end bent caps. The existing abutments will be cut down to an elevation that is 1 foot to 2 feet below the proposed superstructure.

Alternatives Discussion:

No Build – The no build alternative would result in eventually closing the road which is unacceptable given the volume of traffic served by NC 97.

Rehabilitation – Reinforced concrete components of Bridge No. 20 are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore the bridge is approaching the end of its useful life.

Offsite Detour – Bridge No. 20 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project would include NC 39, US 264A and SR 1166 (Brantley Road). The majority of traffic on the road is through traffic. The detour for the average road user would result in 13 minutes additional travel time (5.3 miles additional travel). Up to a 6 month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate the preference of an offsite detour but with now stronger evaluation of other project variables. In this case, the impact on emergency responders is minimized because the bridge crosses the county line, but the response jurisdictions stop at the county line. NCDOT Division 5 has indicated that the condition of all roads, bridges and intersections along the detour are acceptable without improvement and concur with the use of the detour.

Onsite Detour – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

Staged Construction – Staged construction was not considered because of the availability of an acceptable offsite detour.

New Alignment – Given that the alignment for NC 97 is acceptable, a new alignment was not considered as an alternative.

Public Involvement:

A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

ECOLOGICAL

- (1) Will the project have a substantial impact on any unique or important natural resource?

YES

NO

X

- | | | | |
|-----|--|-------------------------------------|--------------------------|
| (2) | Does the project involve habitat where federally listed endangered or threatened species may occur? | <input checked="" type="checkbox"/> | _____ |
| (3) | Will the project affect anadromous fish? | <input type="checkbox"/> | <u> X </u> |
| (4) | If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated? | <u> X </u> | <input type="checkbox"/> |
| (5) | Will the project require the use of U. S. Forest Service lands? | <input type="checkbox"/> | <u> X </u> |
| (6) | Will the quality of adjacent water resources be adversely impacted by proposed construction activities? | <input type="checkbox"/> | <u> X </u> |
| (7) | Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)? | <input type="checkbox"/> | <u> X </u> |
| (8) | Will the project require fill in waters of the United States in any of the designated mountain trout counties? | <input type="checkbox"/> | <u> X </u> |
| (9) | Does the project involve any known underground storage tanks (UST's) or hazardous materials sites? | <input type="checkbox"/> | <u> X </u> |

PERMITS AND COORDINATION

YES NO

- | | | | |
|------|--|-------------------------------------|--------------|
| (10) | If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)? | <input type="checkbox"/> | <u> X </u> |
| (11) | Does the project involve Coastal Barrier Resources Act resources? | <input type="checkbox"/> | <u> X </u> |
| (12) | Will a U. S. Coast Guard permit be required? | <input type="checkbox"/> | <u> X </u> |
| (13) | Could the project result in the modification of any existing regulatory floodway? | <input checked="" type="checkbox"/> | _____ |
| (14) | Will the project require any stream relocations or channel changes? | <input type="checkbox"/> | <u> X </u> |

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES NO

- | | | | |
|------|---|--------------------------|--------------|
| (15) | Will the project induce substantial impacts to planned growth or land use for the area? | <input type="checkbox"/> | <u> X </u> |
|------|---|--------------------------|--------------|

- | | | | |
|------|---|--------------------------|--------------------------|
| (16) | Will the project require the relocation of any family or business? | <input type="checkbox"/> | <u>X</u> |
| (17) | Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population? | <input type="checkbox"/> | <u>X</u> |
| (18) | If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor? | <u>X</u> | <input type="checkbox"/> |
| (19) | Will the project involve any changes in access control? | <input type="checkbox"/> | <u>X</u> |
| (20) | Will the project substantially alter the usefulness and/or land use of adjacent property? | <input type="checkbox"/> | <u>X</u> |
| (21) | Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness? | <input type="checkbox"/> | <u>X</u> |
| (22) | Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)? | <u>X</u> | <input type="checkbox"/> |
| (23) | Is the project anticipated to cause an increase in traffic volumes? | <input type="checkbox"/> | <u>X</u> |
| (24) | Will traffic be maintained during construction using existing roads, staged construction, or on-site detours? | <u>X</u> | <input type="checkbox"/> |
| (25) | If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility? | <u>X</u> | <input type="checkbox"/> |
| (26) | Is there substantial controversy on social, economic, or environmental grounds concerning the project? | <input type="checkbox"/> | <u>X</u> |
| (27) | Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project? | <u>X</u> | <input type="checkbox"/> |
| (28) | Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places? | <input type="checkbox"/> | <u>X</u> |
| (29) | Will the project affect any archaeological remains which are important to history or pre-history? | <input type="checkbox"/> | <u>X</u> |
| (30) | Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)? | <input type="checkbox"/> | <u>X</u> |
| (31) | Will the project result in any conversion of assisted public | | |

recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?

X

- (32) Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?

X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2:

As of September 22, 2010, the United States Fish and Wildlife Service (USFWS) list five federally protected species for Wake and Franklin Counties. A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area (See Figure 2). Habitat requirements for each species are based on the current best available information from referenced literature and/or USFWS.

Michaux's sumac and Red-cockaded woodpecker

Biological Conclusion: No Effect

Marginal habitat for Michaux's sumac is present in the study area along roadside shoulders at the wood edge, mostly on the Franklin County side of the project. Surveys were conducted by NCDOT biologists throughout areas of suitable habitat on May 21, 2012. No individuals of Michaux's sumac were observed. A review of NCNHP records, updated May 1, 2012, indicates no known occurrences within 1.0 mile of the study area.

Biological Conclusion: No Effect

Suitable habitat for the red cockaded woodpecker does not exist in the study area. Where pine trees occur in the mixed pine-hardwood forest, they do not make up 50% or more of the stand and therefore do not provide suitable habitat. A review of NCNHP records (updated February 2012) indicates no known RCW occurrence within 1.0 mile of the study area.

Dwarf wedgemussel

Biological Conclusion: May Affect, Not Likely to Adversely Affect

A mussel survey was conducted at the project site on May 1, 2012. The survey extended 100 meters upstream and 400 meters downstream of NC 97. No dwarf wedgemussels were observed and habitat quality for the species was poor. However, the dwarf wedgemussel has historically been found approximately five miles downstream. Based on the mussel survey results and other available information, the United States Department of the Interior Fish and Wildlife Service concurs with the conclusion that the proposed bridge replacement project

may affect, but is not likely to adversely affect the dwarf wedgemussel. The requirements of Section 7(a)(2) of the ESA have been satisfied. See attached USFWS concurrence.

Tar River spiny mussel

Biological Conclusion: No Effect

No Tar River spiny mussel habitat exists within or near the surveyed reach; therefore, the biological conclusion associated with this project for the Tar River spiny mussel is "No effect."

The US Fish and Wildlife Service has developed a programmatic conference opinion (PCO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT, for the northern long-eared bat (NLEB) in eastern North Carolina. The PCO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect".

Once the NLEB is officially listed as a protected species, FHWA and USACE will request that USFWS convert the PCO to a programmatic biological opinion (PBO). The PBO will provide incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wake County, where TIP B-4830 is located.

Response to Question 13:

This project is expected to qualify for an MOA, see commitment sheet.

G. CE Approval

TIP Project No.	<u>B-4830</u>
W.B.S. No.	<u>38600.1.1</u>
Federal Project No.	<u>BRSTP-0097(34)</u>

Project Description:

The purpose of this project is to replace Wake County Bridge No. 20 on NC 97 over Moccasin Creek. Bridge No. 20 is 84 feet long. The replacement structure will be a bridge approximately 105 feet long providing a minimum 30 feet, 10 inch clear deck width. The bridge will include two 11-foot lanes and 4 foot, 5 inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

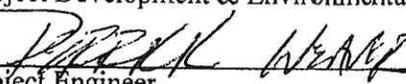
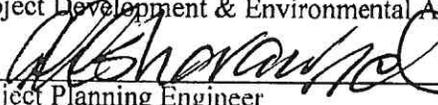
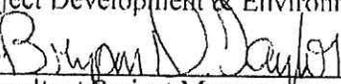
The approach roadway will extend approximately 250 feet from the west end of the new bridge and 200 feet from the east end of the new bridge. The approaches will be widened to include a 22-foot pavement width providing two 11-foot lanes. Six-foot grass shoulders with 2 foot full depth paved shoulders will be provided on each side (9-foot shoulders where guardrail is included). The roadway will be designed as a Rural Major Collector route using Sub-Regional Tier guidelines with a 60 mile per hour design speed.

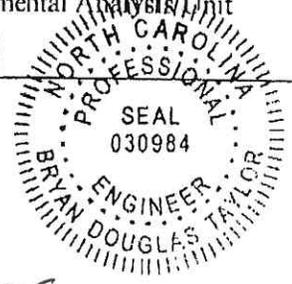
Traffic will be detoured off-site during construction (See Figure 1).

Categorical Exclusion Action Classification:

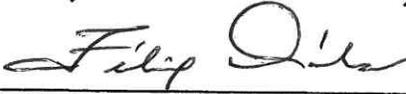
 TYPE II(A)
 X TYPE II(B)

Approved:

<u>4/6/15</u> Date	 Project Development Section Head Project Development & Environmental Analysis Unit
<u>4/6/15</u> Date	 Project Engineer Project Development & Environmental Analysis Unit
<u>4/6/15</u> Date	 Project Planning Engineer Project Development & Environmental Analysis Unit
<u>4/6/15</u> Date	 Consultant Project Manager Stewart, Inc.



For Type II(B) projects only:

<u>4/6/15</u> Date	for  John F. Sullivan, III, PE, Division Administrator Federal Highway Administration
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PROJECT COMMITMENTS

Replacement of Bridge No. 20 on
NC 97 over Moccasin Creek Wake County
WBS No. 38600.1.1
Federal-Aid Project BRSTP-0097(34)
TIP Project B-4830

All commitments developed during the project development and design phase have been incorporated into the design. Current status, changes, or additions to the project commitments as shown in the environmental document for the project are listed below.

Hydraulic Unit and Division 5:

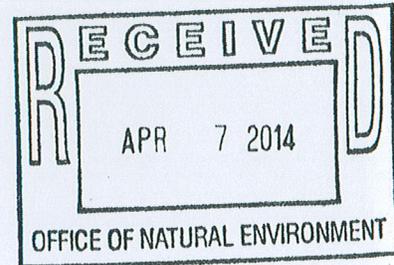
- The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).
- This project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



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

April 1, 2014



Richard W. Hancock, P.E.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

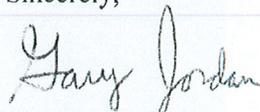
This letter is in response to your letter of March 28, 2014 which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation that the replacement of Bridge No. 20 on NC 97 over Moccasin Creek in Wake/Franklin County (TIP No. B-4830) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*). These comments are provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a mussel survey was conducted at the project site on May 1, 2012. The survey extended 100 meters upstream and 400 meters downstream of NC 97. No dwarf wedgemussels were observed and habitat quality for the species was poor. However, the dwarf wedgemussel has historically been found approximately five miles downstream.

Based on the mussel survey results and other available information, the Service concurs with your conclusion that the proposed bridge replacement may affect, but is not likely to adversely affect the dwarf wedgemussel. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under Section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,


for Pete Benjamin
Field Supervisor

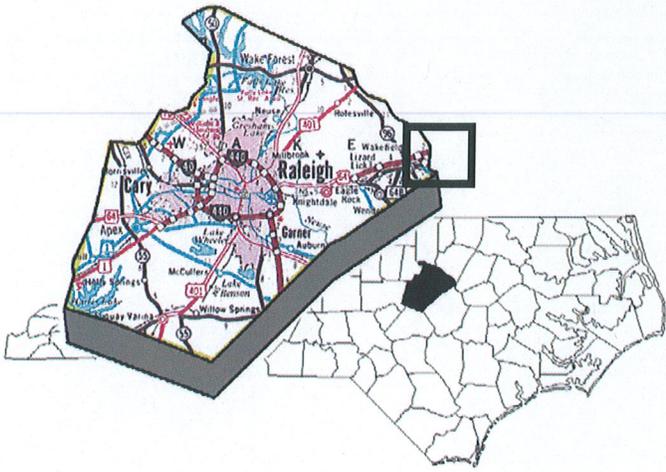
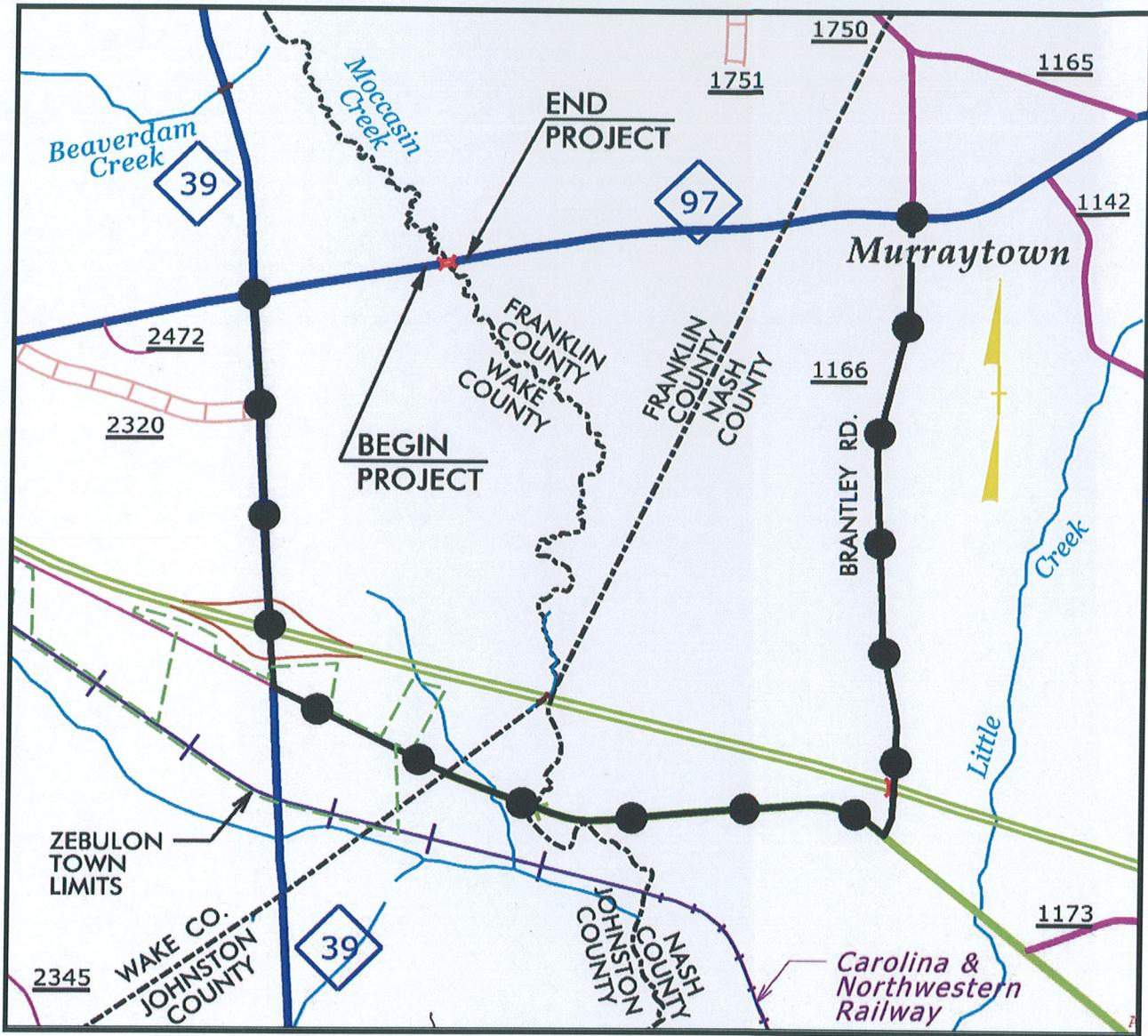
Electronic copy: Eric Alsmeyer, USACE, Wake Forest, NC
Travis Wilson, NCWRC, Creedmoor, NC
Felix Davila, FHWA, Raleigh, NC



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

WAKE COUNTY
REPLACE BRIDGE NO. 20 ON SR NC 97
OVER MOCASSIN CREEK
B-4830

FIGURE 2



STUDIED DETOUR ROUTE —●—●—●—●—



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

**WAKE COUNTY
REPLACE BRIDGE NO. 20 ON NC 97
OVER MOCCASIN CREEK
B-4830**

Figure 1