

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u><b>B-4598</b></u>
W.B.S. No.	<u><b>38426.1.2</b></u>
Federal Project No.	<u><b>BRZ-1324(5)</b></u>

A. Project Description:

The proposed project will replace Pamlico County Bridge No. 16 on SR 1324 (Florence Road) over a fork of the Bay River (Mason Creek). The project is included in the approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). Currently, bridge No. 16 is 61 feet long. The replacement structure will be a bridge approximately 112 feet long providing a minimum of 33.5 feet of clear deck width. The bridge will include two 12-foot lanes and 3.5-foot minimum offsets to the bridge rail. The bridge length is based on preliminary design information and is set by hydraulic requirements to span the existing stream plus a minimum 10-foot natural buffer on each side, between the top of bank and the end bent slope protection. The roadway grade of the new structure will be raised approximately 1-foot from the grade of the existing structure. The total length of the project is approximately 575 feet.

The approach roadway will extend approximately 210 feet from the west end of the new bridge and 250 feet from the east end of the new bridge. The approaches will be widened to include a 28-foot pavement width, providing two 12-foot lanes and a minimum of 2-foot paved shoulder. Paved shoulder width will vary in areas with guardrail. The roadway will be designed as a Rural Local Route using NCDOT Sub-Regional Tier Design Guidelines for Bridge Projects, 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. 16 has a sufficiency rating of 29.46 out of a possible 100 for a new structure.

Bridge No. 16 was built in 1966 and is considered functionally obsolete due to a Structural Evaluation appraisal of 3 out of 9, according to Federal Highway Administration (FHWA) standards.

The substructure of Bridge No. 16 is composed of timber elements that are forty-nine years old. Timber components have a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. Timber components of Bridge No. 16 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.

Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. Both the east and west approaches of the bridge are cracked due to settlement. Longitudinal cracks are prevalent both to the right and left of the center line. There are various cracks along the concrete substructure which have previously been repaired with patching. The existing structure is currently posted with a weight limit of 26 tons for single vehicle and 30 tons for truck tractor semitrailer. Replacement of the bridge will provide a more robust structure to handle vehicle loads and geometrically superior horizontal lane clearances, resulting in a safer structure for normal 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 & Approach Slabs	\$ 362,000
Roadway Approaches	\$ 291,000
Structure Removal	\$ 31,000
Utility Construction	\$ 25,000
Misc. & Mob.	\$ 143,000
Eng. & Contingencies	\$ 123,000
<b>Total Construction Cost</b>	<b>\$ 975,000</b>
Right-of-way Costs	\$ 9,000
Utility Relocation Costs	\$ 23,000
<b>Total Project Cost</b>	<b>\$ 1,007,000</b>

**Estimated Traffic:**

Current (2015)	-	1,000 vpd
Future (2035)	-	1,300 vpd
TT-STs	-	1 %
Duals	-	9 %

**Accidents:**

The Traffic Safety Unit has evaluated an area expanding 500 feet from each side of the existing structure. Crash data was analyzed throughout a ten year period elapsing from December 1, 2001 through November 30, 2011 in which 5 total crashes were reported. None were associated with the geometry of the bridge or its approach roadways. The Safety Review does however note that “the structure has a less than acceptable alignment suggesting a speed reduction, does not meet currently acceptable standards for bridge railing, and there is no approach railing.”

**Design Exceptions:**

Two design exceptions have been made to minimize impacts on the surrounding environmental features.

- Horizontal Stopping Sight Distance (SSD) exception throughout the project limits.
- Superelevation exception throughout the project limits.

**Pedestrian and Bicycle Accommodations:**

The current Pamlico County Comprehensive Transportation Plan does not specify planned bicycle improvements along Florence Road. However, Florence Road is listed within the Croatan Regional Bicycle Plan as a local bike route and a shared use facility. Per request of the NCDOT Bicycle and Pedestrian Transportation Division, design plans include a 3 foot 6 inch minimum offset, between the outside of the travel lane and the bridge rail parapet, on the bridge structure. A variable width (2-foot to 7-foot) paved shoulder, which extends approximately

210 feet from the end of the west approach slab and approximately 250 feet from the end of the east approach slab, also can accommodate bicycles. The structure will provide 2 bar metal railing, as appropriate for bicycle use.

### **Bridge Demolition:**

Bridge No. 16 includes a substructure composed of steel, timber and concrete and a superstructure composed of asphalt and prestressed concrete channels. All remnant piles from the existing bridge or previous bridges will be removed from Mason Creek during construction of this project. In the event that a pile cannot be removed completely, the pile shall be cutoff at the mud line. Appropriate measures shall be taken to ensure that any debris associated with the demolition of the previous bridge shall be mitigated throughout all phases of demolition and construction.

### **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 Florence Road and the limited connectivity to other routes in the vicinity. A permanent road closure would result in approximately 6 minutes of additional travel time (5.14 miles additional travel) per trip for each road user.

**Rehabilitation** – Bridge No. 16 was constructed in 1966 and the timber materials within the bridge are reaching the end of their average useful life span of 50 years. Rehabilitation would require replacing the timber components which would constitute effectively replacing the entire substructure of the bridge.

**Off-site Detour** – Bridge No. 16 will be replaced on the existing alignment. Traffic will be detoured off-site (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 off-site detour. The off-site detour for this project would include NC 55, SR 1322 (Trent Road), SR 1321 (Straight Road), and SR 1329 (Sanders Road). The majority of traffic on this portion of Florence Road is through traffic. The detour for the average road user would result in approximately 6 minutes of additional travel time (5.14 miles additional travel). Up to a 3 month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone, the detour is acceptable. Florence/Whortonsville Volunteer Fire Department in conjunction with their surrounding mutual aid departments indicated they respond to roughly 70 calls annually. They have stressed the importance of minimizing construction time. The Pamlico County Schools Transportation Director has also indicated that the detour, during the time period between mid-August thru mid-June, would have a high impact (3 buses/ 6 trips per day) on the Pamlico Schools Transportation Department and also stressed the importance of minimizing construction time.

NCDOT Division 2 has indicated the condition of all roads, bridges and intersections on the off-site detour are acceptable without improvement and concur with the use of the detour.

**On-site Detour** – An on-site detour was not evaluated due to the presence of an acceptable off-site detour.

**Staged Construction** – Staged construction was not considered because of the need to raise the roadway grade by approximately 1 foot and due to the presence of an acceptable off-site detour.

**New Alignment** – A new alignment alternative was not evaluated due to the presence of two Coastal Area Management Act (CAMA) Areas of Environmental Concern (AEC) within the project study area. A new alignment alternative would increase the impacts to these AEC's, and given the presence of an acceptable off-site detour these additional impacts would be unwarranted.

#### **Other Agency Comments:**

The North Carolina Department of Environmental and Natural Resources – Division of Marine Fisheries (NCDMF) indicated that Mason Creek is designated as a Primary Nursery Area (PNA). The NCDMF requests that all in water work be performed outside of the April 1 to September 30 PNA moratorium. Working outside of this period will minimize and avoid impacts of elevated turbidity levels that will have adverse impacts to resident area larval fishes.

The United States Fish and Wildlife Service had no specific concerns regarding this project; however, they provided a list of general conservation measures to avoid or minimize impacts to fish and wildlife resources.

#### **Public Involvement:**

A letter was sent by the NCDOT Project Development and Environmental Analysis Unit to all property owners directly affected by this project. Two property owners contacted NCDOT, following receipt of the letter, to inquire about the status of the project and the next steps for the project development process. Neither property owner specifically commented on, or noted issues with the project.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions, such as this bridge replacement project.

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

(14) Will the project require any stream relocations or channel changes?             **X**

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES NO

(15) Will the project induce substantial impacts to planned growth or land use for the area?             **X**

(16) Will the project require the relocation of any family or business?             **X**

(17) Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?             **X**

(18) If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?            **X**

(19) Will the project involve any changes in access control?             **X**

(20) Will the project substantially alter the usefulness and/or land use of adjacent property?             **X**

(21) Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?             **X**

(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)?            **X**

(23) Is the project anticipated to cause an increase in traffic volumes?             **X**

(24) Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?            **X**

(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?            **X**

(26) Is there substantial controversy on social, economic, or environmental grounds concerning the project?             **X**

(27) Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?            **X**

- (28) Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?   X
- (29) Will the project affect any archaeological remains which are important to history or pre-history?   X
- (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)?   X
- (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 March 9, 2015, the U.S. Fish and Wildlife Services (USFWS) and National Oceanic and Atmospheric Administration (NOAA) lists eight federally protected species for Pamlico County (see Table 1). 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 current best available information as per referenced literature and USFWS correspondence.

**Table 1: Federally protected species listed for Pamlico County**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alligator mississippiensis</i>	American alligator	T (S/A)	Yes	Not Required
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	E	No	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	Yes	No Effect
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	E	No	No Effect
<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic sturgeon	E	No	No Effect
<i>Calidris canutus rufa</i>	Rufa red knot	T	No	No Effect
<i>Trichechus manatus</i> *	West Indian manatee	E	Yes	MANLAA
<i>Lysimachia asperulaefolia</i>	Rough-leaved loosestrife	E	No	No Effect

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

MANLAA – May Affect, Not Likely to Adversely Affect

\* Historic

### **American alligator**

USFWS optimal survey window: year round (only warm days in winter)

Habitat Description: In North Carolina, alligators have been recorded in nearly every coastal county, and many inland counties to the fall line. The alligator is found in rivers, streams, canals, lakes, swamps, and coastal marshes. Adult animals are highly tolerant of salt water, but the young are apparently more sensitive, with salinities greater than 5 parts per thousand considered harmful.

Biological Conclusion: **No Survey Required**

### **Kemp's ridley sea turtle**

USFWS optimal survey window: April - August

Habitat Description: Kemp's ridley sea turtle is the smallest of the sea turtles that visit North Carolina's coast, and has been sighted in most coastal counties. While the majority of this sea turtle's nesting occurs in Mexico, the species is known to nest on North Carolina beaches infrequently. Kemp's ridley sea turtle can lay eggs as many as three times during the April to June breeding season. Kemp's ridley sea turtles prefer beach sections that are backed up by extensive swamps or large bodies of open water having seasonal narrow ocean connections and a well-defined elevated dune area. The species prefers neritic (nearshore) areas with sandy or muddy bottoms.

Biological Conclusion: **No Effect**

Suitable habitat for the Kemp's ridley sea turtle does not exist in the study area. A review of NCNHP records, updated October 2015, indicates there are no known Kemp's ridley sea turtle occurrences within 1.0 mile of the study area.

### **Red-cockaded woodpecker**

USFWS Recommended Survey Window: year round; November-early March (optimal)

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine, for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, and which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 mile.

Biological Conclusion: **No Effect**

Suitable habitat for the RCW does exist in the study area. A few pine trees are of sufficient age to provide suitable nesting habitat; however these were found in low density. Each tree of suitable age within the study area was surveyed; no evidence of RCW use, past or present, was identified. Additionally, suitable foraging habitat was also present in the study area; though, no additional suitable nesting habitat was found within 0.5 mile of the study area. A review of NCNHP records, updated October 2015, indicates there are no known RCW occurrences within 1.0 mile of the study area.

### **Shortnose sturgeon**

USFWS optimal survey window: surveys not required; assume presence in appropriate waters

Habitat Description: The short-nosed sturgeon is a small species of fish, which occurs in the lower sections of large rivers and in coastal marine habitats. The short-nosed sturgeon prefers deep channels with a lower salinity than seawater. It feeds benthically on invertebrates and plant material and is most active at night. The short-nosed sturgeon requires large fresh water rivers that are unobstructed by dams or pollutants to reproduce successfully. It is an anadromous species that spawns upstream in the spring and spends most of its life within close proximity of the river's mouth. At least two entirely freshwater populations have been recorded, in South Carolina and Massachusetts.

#### **Biological Conclusion: No Effect**

Based on personal communication with Kevin Hart from NCDMF, suitable habitat for shortnose sturgeon does not exist in the study area. A review of NCNHP records, updated October 2015, indicates there are known shortnose sturgeon occurrences (> 30 years) on Mason Creek within 1.0 mile of the study area.

### **Atlantic sturgeon**

USFWS Recommended Survey Window: Not required; assume presence in appropriate waters

Habitat Description: Atlantic sturgeon occurs in most major river systems along the eastern seaboard of the United States. The species prefers the near-shore marine, estuarine, and riverine habitat of large river systems. It is an anadromous species that migrates to faster-moving, upriver freshwater areas to spawn in the spring, but spends most of its life in saltwater. Large freshwater rivers that are unobstructed by dams or pollutants are imperative to successful reproduction. Distribution information by river/waterbody is lacking for the rivers of North Carolina; however, records are known for most counties.

#### **Biological Conclusion: No Effect**

Based on personal communication with Fritz Rhode from NOAA Fisheries, suitable habitat for Atlantic sturgeon does not exist in the study area. A review of NCNHP records, updated October 2015, indicates there are no known Atlantic sturgeon occurrences within 1.0 mile of the study area.

### **Red knot**

USFWS Optimal Survey Window: Spring and Fall

Habitat Description: The red knot is a robin-sized shorebird that annually migrates from its breeding grounds in the Canadian Arctic to southern Argentina. The red knot makes a 9,000+ mile journey to winter at the tip of South America, throughout the Caribbean, and along US coasts from Texas to North Carolina. In North Carolina the species can be seen during the spring and fall as the red knots travel north for breeding and then back for wintering. During migration, red knots gather in huge flocks, stopping along coastal areas to recharge their energy reserves for their flight to wintering grounds. Red knots feed on mollusks, marine worms, and

horseshoe crab eggs. Near Delaware Bay, their migration stopover coincides with the horseshoe crab's annual spawning, which provides an ample source of protein for the migrating birds. Red knot habitat along the North Carolina coast is closely tied to beach and shoreline habitat also used by piping plover.

**Biological Conclusion: No Effect**

Suitable habitat for red knot is not present in the study area; there are no tidal flats, rocky shores, or beaches. A review of the October 2015 NCNHP database indicates there are no occurrences within 1.0 mile of the study area.

**West Indian manatee**

USFWS optimal survey window: year round

**Habitat Description:** West Indian manatees have been observed in all the NC coastal counties. West Indian manatees are found in canals, sluggish rivers, estuarine habitats, salt water bays, and as far offshore as 3.7 miles. They utilize freshwater and marine habitats at shallow depths of 5 to 20 feet. In the winter, between October and April, manatees concentrate in areas with warm water. During other times of the year, habitats appropriate for the West Indian manatee are those with sufficient water depth, an adequate food supply, and in proximity to freshwater. West Indian manatees require a source of freshwater to drink. West Indian manatees are primarily herbivorous, feeding on any aquatic vegetation present, but they may occasionally feed on fish.

**Biological Conclusion: May Affect, Not Likely to Adversely Affect**

Suitable habitat for West Indian manatee does exist in the study area. Mason creek is of sufficient size to support West Indian manatee. A review of NCNHP records, updated October 2015, indicates there are known West Indian manatee occurrences within 1.0 mile of the study area. Construction activities will adhere to the recommendations outlined in Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters (2003 USFWS).

**Rough-leaved loosestrife**

USFWS optimal survey window: mid-May-June

**Habitat Description:** Rough-leaved loosestrife, endemic to the Coastal Plain and Sandhills of North and South Carolina, generally occurs in the ecotones or edges between longleaf pine uplands and pond pine pocosins in dense shrub and vine growth on moist to seasonally saturated sands and on shallow organic soils overlaying sand (spodosolic soils). Occurrences are found in such disturbed habitats as roadside depressions, maintained power and utility line rights-of-way, firebreaks, and trails. The species prefers full sunlight, is shade intolerant, and requires areas of disturbance (e.g., clearing, mowing, and periodic burning) where the overstory is minimal. It can, however, persist vegetatively for many years in overgrown, fire-suppressed areas. Blaney, Gilead, Johnston, Kalmia, Leon, Mandarin, Murville, Torhunta, and Vacluse are some of the soil series that the plant occurs on.

**Biological Conclusion: No Effect**

Suitable habitat for rough-leaved loosestrife does not exist in the study area. A review of NCNHP records, updated October 2015, indicates there are no known rough-leaved loosestrife occurrences within 1.0 mile of the study area.

Although the northern long-eared bat (NLEB) is not currently listed in Pamlico County, the USFWS has developed a programmatic conference opinion (PCO) in conjunction with the FHWA, the US Army Corps of Engineers (USACE) and NCDOT, for the NLEB (*Myotis septentrionalis*) 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.” Since the NLEB has been officially listed as a threatened species, FHWA and USACE are requesting 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 administered projects with a federal nexus in Divisions 1-8, which includes Pamlico County.

**Bald and Golden Eagle Protection Act**

Habitat for the bald eagle primarily consists of mature forest in close proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within 1.0 mile of open water. Suitable nesting and foraging habitat for the bald eagle is present within 1.0 mile of the study area. However, during a February 9, 2016 survey, no bald eagles or bald eagle nests were observed within the study area or within 660 feet on all sides of the study area. Additionally, a review of NCNHP records, updated October 2015, revealed no known occurrences of this species within 1.0 mile of the project study area.

**Response to Question 4:**

Three jurisdictional wetlands were identified within the study area (Figure 2). Wetland classification and quality rating data are presented in Table 2. All wetlands in the study area are within the Neuse River Basin (USGS Hydrologic Unit 03020105). These wetland sites are included within the mixed pine hardwood forest and salt marsh. Anticipated impacts shown in Table 2 are based on slope stake limit to slope stake limit, plus an additional 25-foot beyond slope stakes.

**Table 2: Jurisdictional characteristics of wetlands in the study area**

Map ID	NC WAM Classification	Hydrologic Classification	DWQ Wetland Rating	Anticipated Impacts (acre)
WA	Salt Marsh	Riparian	Not Rated*	0.52
WB	Bottomland Hardwood Forest	Riparian	61	0.00
WC	Bottomland Hardwood Forest	Riparian	61	0.01
			<b>Total</b>	<b>0.53</b>

\* The NCDWQ Wetland Rating System was intended for use with freshwater wetlands only

A Nationwide Permit (NWP) No. 23 will likely be applicable for the proposed project. Other permits that may apply include a NWP No. 33 for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The USACE holds the final discretion as to what permit will be required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources (NCDWR).

Two (2) Coastal Area Management Act (CAMA) Areas of Environmental Concern (AEC) were identified in the study area. Mason Creek is a designated Estuarine Water and Public Trust Water, and a CAMA coastal marsh is present at wetland site WA (Figure 2). A CAMA major development permit from the North Carolina Division of Coastal Management (NCDWM) will be required for all impacts to designated AECs within the study area.

Mason Creek has been identified by the North Carolina Division of Marine Fisheries (NCDMF) as a Primary Nursery Area. As a result, an in-water construction moratorium will be in effect from April 1 to September 30 of any given year.

Streamside riparian zones within the study area are protected under provisions of the Neuse River Buffer Rules administered by NCDWR. Potential impacts to protected stream buffers are provided in Table 5 and buffer zones are shown in Figure 3.

The NCDOT has attempted to avoid and minimize impacts to streams and wetlands to the greatest extent practicable, in selection of a preferred alternative and during the project design.

**Response to Question 7:**

Water resources in the study area are part of the Neuse River Basin (U.S. Geological Survey [USGS] Hydrologic Unit 03020105). One stream, Mason Creek was identified in the study area (Table 3). The location of this stream is shown in Figure 2. The physical characteristics of this stream are provided in Table 4.

**Table 3: Water Resources in the study area**

Stream Name	Map ID	DWQ Index Number	Best Usage Classification
Mason Creek	Mason Creek	27-150-9	SC; Sw, NSW, HQW

**Table 4: Physical characteristics of water resources in the study area**

Map ID	Bank Height (ft)	Bankfull Width (ft)	Water Depth (ft)	Channel Substrate	Velocity	Clarity
Mason Creek	<1	95	6	Sand	Tidal	Clear

Mason Creek is classified as a Primary Nursery Area (PNA) and High Quality Waters (HQW), and is subject to the NCDWQ Neuse River Basin riparian buffer rules (anticipated impacts to buffer zones are quantified in Table 5 and shown in Figure 3). Therefore, *Design Standards in Sensitive Watersheds* will be implemented during project construction. No waters classified as Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), or Outstanding Resource Waters (ORW) occur within 1.0 mile of study area.

**Table 5: Estimated Neuse River buffer zone impacts**

Neuse River Basin Riparian Buffer	Estimated Impacts* (acre)
Buffer Zone 1	0.033
Buffer Zone 2	0.004

\* Based on slope stake limits plus 25-foot additional buffer.

No waters listed on the North Carolina 2014 Final 303(d) list of impaired waters for sedimentation occur within 1.0 mile of the study area.

There are no benthic monitoring stations within 1.0 mile of the study area.

Mason Creek is classified as a Primary Nursery Area (PNA) and High Quality Waters (HQW), and is subject to the NCDWQ Neuse River Basin riparian buffer rules. Therefore, *Design Standards in Sensitive Watersheds* will be implemented during project construction.

G. CE Approval

TIP Project No.	<u>B-4598</u>
W.B.S. No.	<u>38426.1.2</u>
Federal Project No.	<u>BRZ-1324(5)</u>

Project Description:

The proposed project will replace Pamlico County Bridge No. 16 on SR 1324 (Florence Road) over a fork of the Bay River (Mason Creek). The project is included in the approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). Currently, bridge No. 16 is 61 feet long. The replacement structure will be a bridge approximately 112 feet long providing a minimum of 33.5 feet of clear deck width. The bridge will include two 12-foot lanes and 3.5-foot minimum offsets to the bridge rail. The bridge length is based on preliminary design information and is set by hydraulic requirements to span the existing stream plus a minimum 10-foot natural buffer on each side, between the top of bank and the end bent slope protection. The roadway grade of the new structure will be raised approximately 1-foot from the grade of the existing structure. The total length of the project is approximately 575 feet.

The approach roadway will extend approximately 210 feet from the west end of the new bridge and 250 feet from the east end of the new bridge. The approaches will be widened to include a 28-foot pavement width, providing two 12-foot lanes and a minimum of 2-foot paved shoulder. Paved shoulder width will vary in areas with guardrail. The roadway will be designed as a Rural Local Route using NCDOT Sub-Regional Tier Design Guidelines for Bridge Projects, 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:  
4/11/16  
Date

[Signature]  
Eastern Project Development Section Head  
Project Development & Environmental Analysis Unit

4-6-2016  
Date

[Signature]  
Project Development Group Supervisor  
Project Development & Environmental Analysis Unit

4/6/2016  
Date

[Signature]  
Project Development Engineer  
Project Development & Environmental Analysis Unit

4-6-16  
Date

[Signature]  
Consultant Project Manager  
AECOM Technical Services of North Carolina, Inc. (AECOM)



4-6-16

For Type II(B) projects only:

4-26-16  
Date

[Signature]  
John F. Sullivan, III, PE, Division Administrator  
Federal Highway Administration

## PROJECT COMMITMENTS

**Proposed Replacement of  
Bridge Number 16  
On SR 1324 (Florence Road)  
Over a Fork of the Bay River (Mason Creek)  
Pamlico County, North Carolina  
Federal Aid Project No. BRZ-1324(5)  
WBS No. 38426.1.2  
TIP Project No. B-4598**

### **Division 2 Construction, Resident Engineer's Office – Offsite Detour**

In order to have time to adequately reroute school busses, Pamlico County Schools will be contacted at (252) 745-4171 at least one month prior to road closure.

Pamlico County Emergency Services will be contacted at (252) 745-4131 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

### **Project Development and Environmental Analysis Unit – NES, Division 2**

Suitable habitat for West Indian manatee exists in the study area. A review of NCNHP records, updated October 2015, indicates there are known West Indian manatee occurrences within 1.0 mile of the study area. Construction activities will adhere to the recommendations outlined in *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters (2003 USFWS)*.

### **Project Development and Environmental Analysis Unit – NES, Division 2**

Two Coastal Area Management Act (CAMA) Areas of Environmental Concern (AEC) were identified in the study area. Mason Creek is a designated Estuarine Water and Public Trust Water, and a CAMA coastal marsh is present at wetland site WA. A CAMA major development permit from the NC Division of Coastal Management (NCDQM) will be required for all impacts to designated AECs within the study area. A CAMA major development permit will be acquired prior to construction.

### **All Design Groups, Division 2 Resident Construction Engineer**

Mason Creek has been identified by the NC Division of Marine Fisheries (NCDMF) as a Primary Nursery Area. As a result, an in-water construction moratorium will be in effect from April 1 to September 30 of any given year.

### **Contracts Unit – Length of Construction**

In order to address specific requests from the School Transportation Director and EM Coordinator/Fire Marshal for Pamlico County, NCDOT will set the **minimum** reasonable contract time to reduce the period of road closure.

**Roadway Design Unit, Division 2**

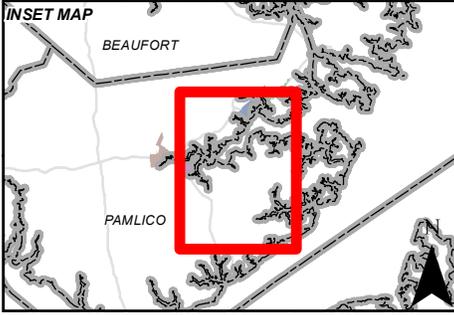
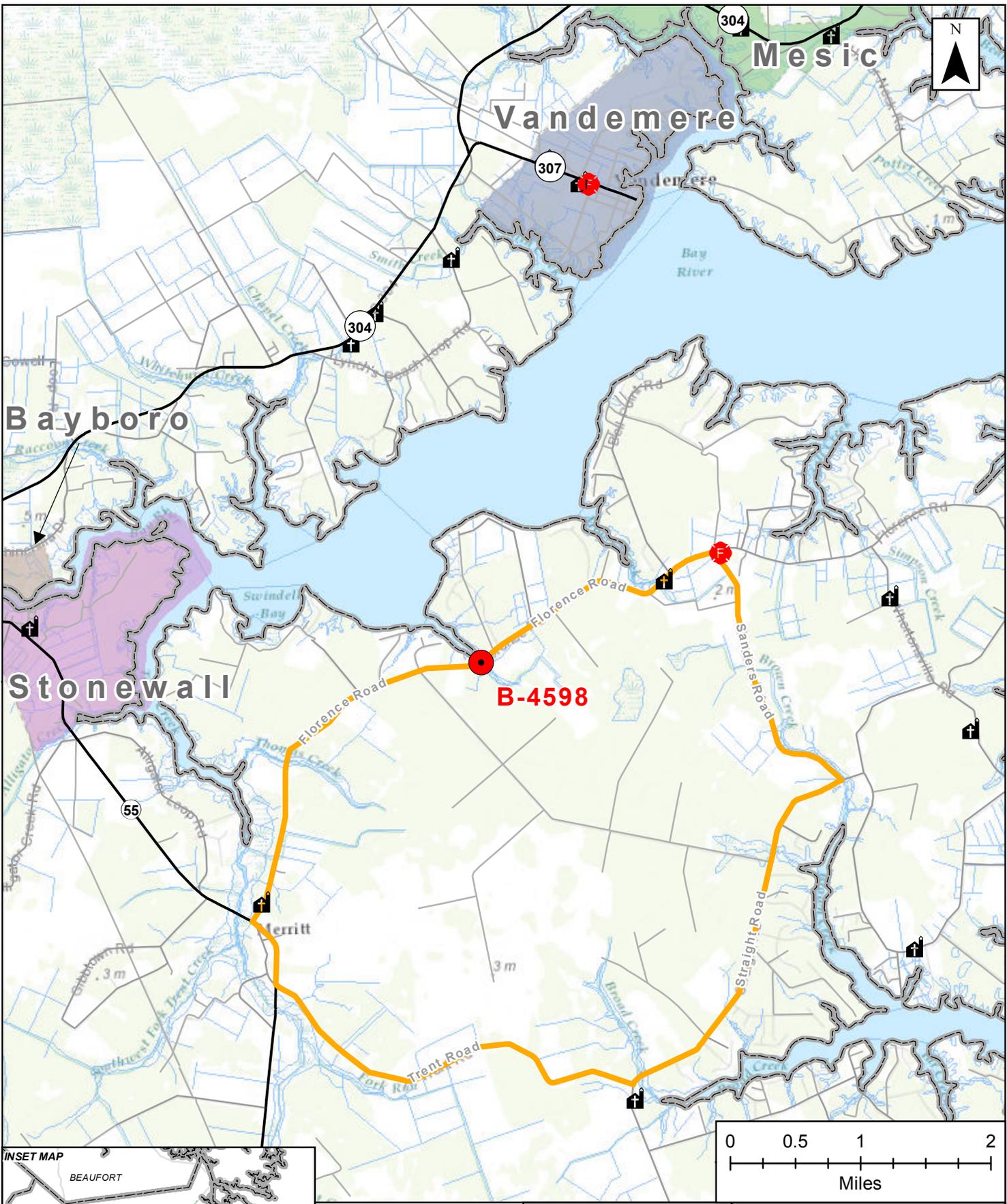
Mason Creek is classified as a Primary Nursery Area (PNA) and High Quality Waters (HQW), and is subject to the NCDWQ Neuse River Basin riparian buffer rules. Therefore, *Design Standards in Sensitive Watersheds* will be implemented during project construction.

**Roadway Design Unit, Division 2**

All remnant piles from the existing bridge or any previous bridges will be removed from Mason Creek during construction of this project. In the event that a pile cannot be removed completely, the pile will be cutoff at the mud line.

**Roadway Design Unit, Bicycle and Pedestrian Division**

The current Pamlico County Comprehensive Transportation Plan does not specify planned bicycle improvements along Florence Road. However, Florence Road is listed within the Croatan Regional Bicycle Plan as a local bike route and a shared use facility. Per request of the NCDOT Bicycle and Pedestrian Transportation Division, design plans include a 3 foot 6 inch minimum offset, between the outside of the travel lane and the bridge rail parapet, on the bridge structure. A variable width (2-foot to 7-foot) paved shoulder, which extends approximately 210 feet from the end of the west approach slab and approximately 250 feet from the end of the east approach slab, also can accommodate bicycles. The structure will provide 2 bar metal railing, as appropriate for bicycle use.



Legend	
	Fire Station
	Church
	NC Highway
	State Road
	Local Route
	Detour
	School
	Streams
	Bayboro
	Mesic
	Stonewall
	Vandemere

**Vicinity Map**

Replace Bridge Number 16  
 Florence Road (SR 1324)  
 Pamlico County, North Carolina

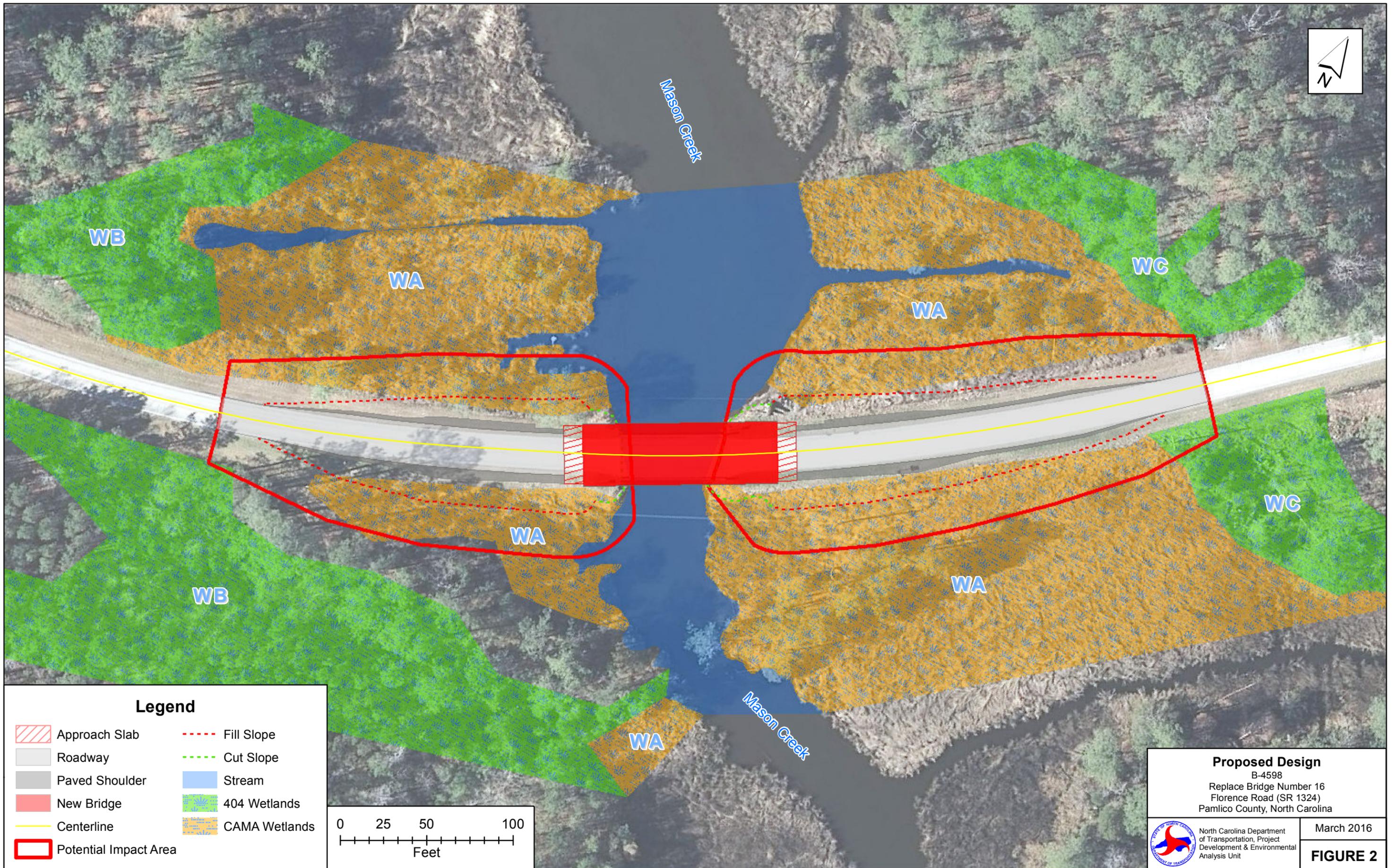
*TIP Project B-4598*

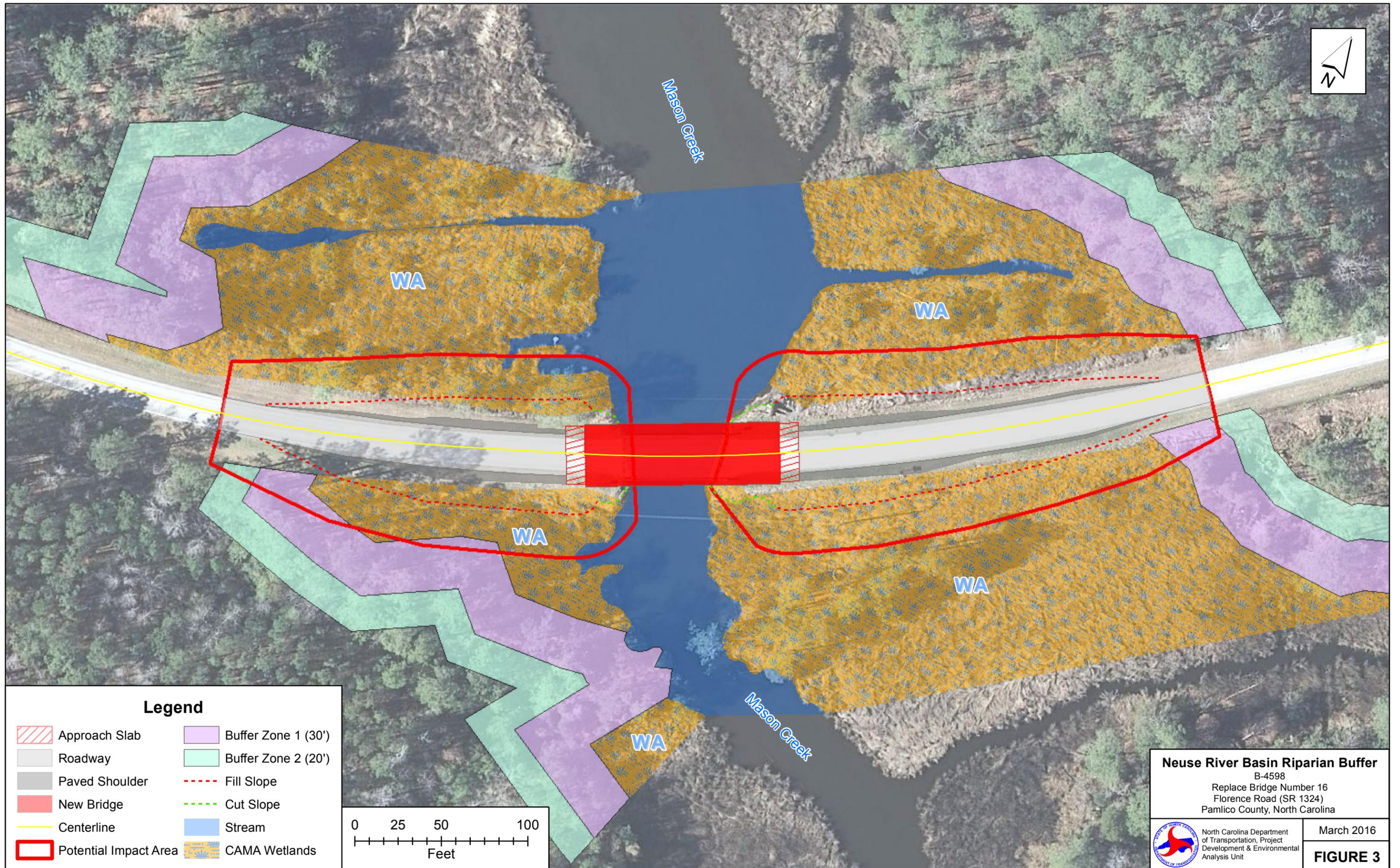
**March 2016**

**FIGURE 1**

**Legend**

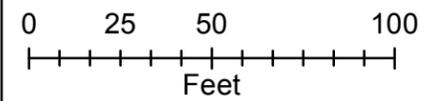
North Carolina Department of Transportation, Project Development & Environmental Analysis Unit





**Legend**

- |   |   |
|---|---|
|  Approach Slab         |  Buffer Zone 1 (30') |
|  Roadway               |  Buffer Zone 2 (20') |
|  Paved Shoulder        |  Fill Slope          |
|  New Bridge            |  Cut Slope           |
|  Centerline            |  Stream              |
|  Potential Impact Area |  CAMA Wetlands       |



<p><b>Neuse River Basin Riparian Buffer</b>          B-4598          Replace Bridge Number 16          Florence Road (SR 1324)          Pamlico County, North Carolina</p>	
	<p>North Carolina Department          of Transportation, Project          Development &amp; Environmental          Analysis Unit</p>
<p>March 2016</p>	
<p><b>FIGURE 3</b></p>	