6750 Tryon Road
Cary, NC 27518
P: 919.836.4800
F: 919.851.1918
CALYXengineers.com

MEMO

To:	Tyler Stanton NCDOT Natural Environment Section
From:	Mark Mickley Project Manager; CALYX
cc:	Joanna Rocco; AECOM
Date:	August 15, 2017
Re:	Essential Fish Habitat Assessment for the Proposed Cape Fear Crossing Project in New Hanover and Brunswick Counties; TIP Project U-4738

The attached Essential Fish Habitat (EFH) Assessment provides pertinent information on EFH with respect to the 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (PL 94-265). Please contact me at (919) 858-1797 or mmickley@calyxengineers.com if you have any questions.

Cc: File 2013049.00

ESSENTIAL FISH HABITAT DESIGNATION

The 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (PL 94-265) set forth requirements for the National Marine Fisheries Service (NMFS), regional fishery management councils (FMC), and other Federal agencies to identify and protect important marine and anadromous fish habitat. These amendments established procedures for the identification of Essential Fish Habitat (EFH) and a requirement for interagency coordination to further the conservation of Federally managed fisheries.

ASSESSMENT

Table 1 lists the fish species that may occur in the study area, managed under MSFCMA (species listed by NMFS for the Cape Fear River, Brunswick River, and Alligator Creek including the life stages known to occur).

Table 1. Fish species listed by NMFS to occur in the project area

Species	Life Stage
Bluefish	Juvenile, Adult
Coastal pelagics (select species)	All
Snapper-grouper complex (select species)	All

Cape Fear River

There are currently twelve (12) design alternatives under consideration for the proposed project. All 12 alternatives involve crossing the Cape Fear River with a new bridge. Alternatives F and P would involve replacing the existing Cape Fear Memorial Bridge with a new 3,456-foot long by 146-foot wide bridge at approximately the same location.

Alternatives C, G, Q, and MA all cross the Cape Fear River on new location to terminate at Independence Boulevard. Respective bridge sizes for these alternatives are as follows:

- C, G, Q – 16,353-foot long by 96-foot wide
- MA – 16,403-foot long by 96-foot wide

Alternatives B, J, T, and NA all cross the Cape Fear River on new location to terminate at Shipyard Boulevard. Respective bridge sizes for these alternatives are as follows:

- B, J, T – 15,705-foot long by 96-foot wide
- NA – 15,842-foot long by 96-foot wide

Alternatives VA and VF cross the Cape Fear River on new location from Eagle Island to terminate at US 421 just north of the Port of Wilmington. These alternatives propose a bridge that is 4,951 feet long by 96 feet wide.

Brunswick River

There are currently four design alternatives under consideration for the proposed project with the potential to impact the Brunswick River. Alternatives F, P, VF, and VA all propose to replace the existing bridges with two 815-foot long by 24-foot wide bridges on the same location. Widening of the existing bridges is not anticipated to result in any channel impacts, but could result in impacts to approximately 0.35 acres of coastal marsh.

Alligator Creek

There are currently four design alternatives under consideration for the proposed project with the potential to impact the Alligator Creek. Alternatives F, P, VF, and VA all propose to widen the existing westbound bridge by replacing it with a 255-foot long by 40-foot wide bridge. The eastbound bridge would be replaced with a 315-foot long by 40-foot wide bridge. In addition, Alternatives VA and VF would add an additional 260-foot long by 40-foot wide bridge immediately to the south of the eastbound bridge. No impacts are proposed for Alternatives F and P, however, Alternatives VA and VF could result in 1.86 acres of impact to coastal marsh.

CONCLUSION

The bridges for each alternative have not yet been designed, but it is likely that each new bridge would have bents installed in coastal marshes and the streambed. Best Management Practices for the protection of surface waters will be implemented and strictly adhered to, although it is not anticipated that any impacts other than those from the piles themselves will occur. If an alternative is chosen that results in fill impacts to coastal marsh, the NCDOT will provide compensatory mitigation for such impacts. Given the very small size of the potential impacts in relation to the size of the identified waterbodies and their water column, no significant impacts to EFH are anticipated. On an individual project basis, these impacts are considered to be minimal.

Currently, an Environmental Impact Statement (EIS) is being prepared for the project which will provide further information on the proposed alternatives and potential related impacts. However, as detailed in the discussions above, none of the proposed alternatives are expected to have more than a minimal effect on EFH.