TOPSAIL ISLAND BRIDGE REPLACEMENT
(Bridge No. 16 over the Intracoastal Waterway)
Surf City, Pender County

Federal Aid Project No. BRSTP-50(10)
WBS No. 40233.1.1
TIP Project No. B-4929

FINDING OF NO SIGNIFICANT IMPACT
AND PROGRAMMATIC SECTION 4(F) EVALUATION

US Department of Transportation
Federal Highway Administration

and

North Carolina Department of Transportation

Submitted Pursuant to 42 USC 4332(2)(c)

APPROVED:

1/14/15 FOR
Date **Richard W. Hancock, PE, Unit Head**
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation

1/15/2015
Date for **John F. Sullivan III, PE, Division Administrator**
Federal Highway Administration

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PROJECT COMMITMENTS

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NCDOT Roadway Design Unit:

- The North Carolina Department of Transportation (NCDOT) will continue efforts to reduce Coastal Area Management Act (CAMA) wetland total impacts during final design, not to exceed 0.1 acre.

NCDOT Structures Management Unit:

- NCDOT Structures Management Unit will design bridge pier locations so that at least a 120-foot wide area of Submerged Aquatic Vegetation (SAV) habitat is spanned. Further design measures will be explored to avoid any other bottom-disturbing activities in the SAV habitat area.

NCDOT Division Construction:

- NCDOT will adhere to *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* for this project.
- For Primary Nursery Area (PNA) protection, all bottom-disturbing activities will occur outside the in-water work moratorium of April 1 to September 30.
- In the vicinity of SAV habitat, a temporary work bridge will be constructed on the south side of the Preferred Alternative to avoid impacts to SAV habitat.
- NCDOT will grade the old roadbed of Roland Avenue in the vicinity of the existing bridge to match the surrounding elevation and consider abandoning the right-of-way currently used for the bridge approaches to the Town of Surf City.
- NCDOT will repave and restripe Roland Avenue on the island between the proposed cul-de-sac on Roland Avenue (near the existing bridge) and NC 210 (New River Drive). NCDOT will construct a 10-foot paved multi-use path on the southwest side of Roland Avenue from the proposed cul-de-sac on Roland Avenue to just south of the intersection of Roland Avenue and NC 210. The multi-use path will connect with the existing boardwalk bridge to Soundside Park and the multi-use path along the proposed bridge (Alternative 17).

NCDOT Project Development and Environmental Analysis Unit:

- NCDOT Project Development and Environmental Analysis Unit (PDEA) will complete photography and archiving records of the existing bridge, in coordination with the State Historic Preservation Office (SHPO), as specified in the Section 106 Memorandum of Agreement (included in **Appendix D**).

PROJECT COMMITMENTS (CONTINUED)

TOPSAIL ISLAND BRIDGE REPLACEMENT
(Bridge No. 16 over the Intracoastal Waterway)
Surf City, Pender County

Federal Aid Project No. BRSTP-50(10)
WBS No. 40233.1.1
TIP Project No. B-4929

NCDOT Natural Environment Section:

- NCDOT Natural Environment Section (NES) will conduct additional SAV surveys before and after construction using methodologies (to be described in detail in future correspondence) recommended by the North Carolina Department of the Environment and Natural Resources (NCDENR) - Division of Coastal Management (NCDCM).
- NCDOT NES will coordinate appropriately with the National Oceanic and Atmospheric Administration (NOAA) – National Marine Fisheries Service (NMFS) regarding the Atlantic sturgeon and loggerhead sea turtle prior to submittal of the 404 permit application, in compliance with Section 7 of the Endangered Species Act (ESA).
- Based on feedback from the Preliminary Public Notice and coordination with the United States Coast Guard (USCG), a USCG Permit is anticipated. The proposed bridge must provide the following clearances underneath the bridge: a vertical clearance of 65 feet above mean high water (MHW) and a horizontal clearance of 120 feet. NCDOT NES will coordinate with NCDOT Structures Management Unit, upon completion of their design, to obtain the Advanced Approval for the project.

NCDOT Local Programs Management Office

- NCDOT will provide 100% funding for the multi-use path along Roland Avenue. The Town of Surf City will be responsible for maintenance of the multi-use path along Roland Avenue after construction. NCDOT Local Programs Management Office will facilitate a formal municipal agreement between the Town of Surf City and NCDOT regarding maintenance of this path.

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US Fish and Wildlife Service (February 28, 2012)
US Army Corps of Engineers (March 21, 2012)
US Environmental Protection Agency (April 13, 2012)
National Oceanic and Atmospheric Administration (August 22, 2012)
NCDENR – Division of Water Resources, Public Water Supply Section (February 29, 2012)
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NCDENR – Division of Water Quality (Resources) (March 19, 2012)
NCDENR – Division of Coastal Management (March 20, 2012)
NCDENR – Office of Conservation, Planning, and Community Affairs (March 29, 2012)
Town of Surf City (October 5, 2010) Resolution in support of high-level bridge
Town of Surf City (February 5, 2014) Resolution in support of 3-legged roundabout
Town of Surf City (April 15, 2014) e-mail in support of Alt 17 with impacts to Soundside Park
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Appendix E: Guidelines for Avoiding Impacts to the West Indian Manatee

1. TYPE OF ACTION

This Finding of No Significant Impact (FONSI) is a Federal Highway Administration (FHWA) administrative action. The North Carolina Department of Transportation (NCDOT) and FHWA have determined that the Preferred Alternative for this project (Alternative 17) will not cause a significant adverse impact to the human or natural environment. This FONSI is based on the October 24, 2011 Environmental Assessment (EA), which was independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. After the EA was distributed, NCDOT held a Corridor Public Hearing on December 8, 2011 in Surf City, North Carolina. After considering comments from the Corridor Public Hearing and State and Federal agencies, the Preferred Alternative was selected on December 19, 2012. NCDOT held a Design Public Hearing on July 29, 2014 in Surf City, North Carolina. Inter-agency coordination and public involvement following the publication of the EA further confirmed that an Environmental Impact Statement (EIS) is not required.

2. DESCRIPTION OF PROPOSED ACTION

The NCDOT proposes to replace the existing moveable swing Topsail Island Bridge (Bridge No. 16) along NC 50 and NC 210 over the Intracoastal Waterway in Pender County, North Carolina. Project vicinity and study area maps are shown in **Figures 1 and 2**. (All figures are included in **Appendix A**.) This project is included in the current (2012-2020) *NCDOT State Transportation Improvement Program* (STIP) as B-4929. Right-of-way acquisition is scheduled to begin in Federal Fiscal Year (FFY) 2015, and construction is scheduled to begin in FFY 2017. A current cost estimate is included in **Table 1**.

Table 1. Cost Estimate for Alternative 17

Item	Cost Estimate for Alternative 17
Construction Cost	$44,600,000
Right-of-Way Cost	$8,125,000
Utility Relocation Cost*	$2,500,000
Wetland/Stream Mitigation*	$187,000
Total Project Cost	**$55,412,000**

* Updated following distribution of the EA

Bridge No. 16 was inspected in 2012, and the corresponding report indicates that the bridge is in fair condition with a sufficiency rating of 13 out of 100 possible points. The bridge is classified as functionally obsolete and structurally deficient with load restrictions of 19 tons for single vehicles and 25 tons for truck tractors with semi-trailers. Replacement of the bridge entails removal and replacement of an existing swing span bridge currently providing access to Topsail Island. Bridge No. 16 is one of only two access points onto Topsail Island and is located within the municipal limits of the Town of Surf City.

Topsail Island Bridge No. 16 (Pender County)

The second bridge onto the island is a high-level fixed span and is located approximately seven miles north, in the Town of North Topsail Beach.

3. PURPOSE AND NEED AND DEFINED STUDY AREA

The Section 404/NEPA Merger Team (previously defined in the B-4929 EA) for this project concurred at all major milestones, including the Purpose and Need Statement and Study Area Defined (Concurrence Point 1), selection of Detailed Study Alternatives (Concurrence Point 2), bridging decisions and alignment review (Concurrence Point 2A), selection of the Least Environmentally Damaging Practicable Alternative (LEDPA; Concurrence Point 3), and Avoidance and Minimization (Concurrence Point 4A). Signed B-4929 Merger Team Concurrence forms are included in **Appendix B.**

The Merger Team met on August 20, 2009 to discuss the project's Purpose and Need and Study Area Defined for Concurrence Point 1 (CP 1). The project's existing conditions, study area, project need, and purpose were presented to the participating agencies. Subsequent to the presentation and discussion, the Merger Team reached a consensus and signed the formal CP 1 form, defining the Purpose and Need and Study Area as follows:

- **Purpose of Proposed Action -** Improve bridge safety and functionality
- **Need for Proposed Action -** Structurally deficient, functionally obsolete bridge
- **Study Area -** See **Figure 1 (Appendix A)**

4. ALTERNATIVES CONSIDERED

4.1 Preliminary Study Alternatives

NCDOT evaluated numerous design alternatives for this project, including a No Build Alternative, several nontraditional alternatives, and 20 Build Alternatives, including construction of a new moveable or high-level fixed bridge either in the same location, to the north, or to the south of the existing bridge.

Below is a summary of alternatives considered, along with a description of the evaluation process utilized in the selection of the Preferred Alternative.

4.1.1 No Build Alternative

The No Build Alternative serves as a basis of comparison between not replacing the bridge and the associated impacts with the other study alternatives. If the bridge is not replaced, it is expected that the moveable sections of the bridge will be in disrepair within a few years, resulting in closure and detouring of vehicle traffic to the North Topsail Bridge, located approximately seven miles to the north.

The No Build Alternative results in no new construction costs; no impacts to streams, wetlands, or other natural or cultural resources; and no residential or business relocations. However, this alternative results in increased maintenance cost for a period of a few years prior to complete bridge closure. The eventual closure will delay emergency services, delay travel to and from the island, and cause detrimental impacts to the local economy. The No Build Alternative does not meet the purpose of the proposed project to improve bridge safety.

4.1.2 Repair and Rehabilitate Existing Bridge Alternative

Bridge No. 16 was constructed in 1955 with a design load of HS-15, which is much lower than the current standards (design load of HS-25). It is comprised of a 250-foot through truss swing span and six reinforced concrete deck girder approach spans, each 35 feet long.

As stated in the EA, NCDOT's State Bridge Management Unit (SBMU) completed an evaluation on November 1, 2010 of the repair/rehabilitation alternative for Bridge No. 16 and recommended that the repair/rehabilitation alternative be dropped from consideration for the following reasons:

- The repair/rehabilitate alternative will cost approximately $13.5 million and will only extend the bridge life by 25 years; however, annual maintenance will be required after the tenth year.
- Even after repairs, the repaired and rehabilitated bridge will remain "functionally obsolete" and be classified as "fracture critical" (i.e. if a tension-bearing component of the bridge structure fractures for any reason, the bridge could collapse) due to the condition of the truss swing span. Therefore, the repaired and rehabilitated bridge does not meet the purpose of the proposed project to improve bridge safety.
- These repairs are expected to improve the bridge's sufficiency rating only to 28 out of a possible 100 points, which is substantially below the required 80 to qualify for Federal Highway Bridge Program funds.
- During rehabilitation, the bridge would be out of service for approximately nine months, requiring a temporary detour bridge that would result in additional costs.

4.1.3 Alternative Modes of Travel

Currently, there is no fixed route transit service in the study area. Were alternative modes of transportation (such as bus or rail) to be provided in the future, between the mainland and island, these transportation modes neither meet the purpose of this project, nor provide an efficient means of travel to and from Topsail Island. A ferry system, in lieu of a bridge crossing, is impractical given the large amount of traffic volumes crossing the bridge. A ferry system does not meet the purpose of the project, to improve bridge functionality.

4.1.4 Traffic Management Alternatives

No traffic management alternatives, including Travel Demand Management (TDM) and Transportation Systems Management (TSM), exist that alone would reduce or manage the volume of traffic to a level where a bridge crossing would not be required.

4.1.5 Build Alternatives

Initially, eighteen Build alternatives (described in detail in the EA and shown in **Figure 2**) were developed. These Build alternatives included three types of bridge replacement: a low-level moveable, a mid-level moveable, and high-level fixed. Moveable bridge vertical navigational clearances (VNC) ranged from 15 to 30 feet. The fixed span bridge had a VNC of 65 feet.

After initial screening, Alternatives 1, 8, 9, and 12 were eliminated for the reasons listed in **Table 2**.

Table 2. Alternatives Eliminated During Initial Screening

Alternative	Reason(s) Eliminated
1	• Similar to Alternative 3 with less benefit • High right-of-way impacts • Longer bridge length with higher costs • Substantial alterations to travel pattern changes to/from North Topsail Beach
8	• High vertical clearance requires high amount of property impacts • Requirement for off-site detour during construction (additional costs and impacts) • Detrimental changes in travel patterns and access to local businesses
9	• Permanent Section 4(f)* impacts associated with Soundside Park
12	• Similar to Alternative 14 with less benefit • High right-of-way impacts

* Section 4(f) of the USDOT Act of 1966 protects publicly owned parks, historic properties of local, regional, or national significance, waterfowl impoundments, and wildlife refuges.

The remaining 14 alternatives were presented during an October 21, 2010 public meeting. Two additional alternatives (Alternative 5R and Alternative 17, described in the EA and included in **Figure 2**) were developed immediately following the public meeting resulting in a new total of 16 alternatives. In an effort to simplify presentation and aid in decision-making, the 16 alternatives were grouped into three categories as follows:

- **Northern Alternatives Group**: Alternatives 2, 3, 4, 5, and 5R. All alternatives in this grouping replace the existing bridge with a high-level fixed bridge providing a 65-foot VNC.
- **Central Alternatives Group**: Alternatives 5A, 6, 7, and 10A. All alternatives in this grouping replace the existing bridge with a moveable bridge. Alternative 6 is a low-level moveable bridge alternative having a VNC of 15 feet. Alternatives 5A, 7, and 10A are mid-level moveable bridge alternatives providing a VNC of 30 feet.
- **Southern Alternatives Group**: Alternatives 10, 11, 13, 14, 15, 16, and 17. All alternatives in this grouping replace the existing bridge with a high-level fixed bridge providing a 65-foot VNC.

4.2 Detailed Study Alternatives Carried Forward

Functional Designs showing preliminary impacts and qualitative cost analyses were prepared for the 16 feasible design alternatives (**Figure 2**). These findings were presented to the Merger Team members on December 14, 2010, at the CP 2 meeting. Based on the information provided, including a summary of the public meeting held on October 21, 2010, the Merger Team eliminated nine of the 16 feasible design alternatives for reasons listed in **Table 3.**

Table 3. Alternatives Eliminated at Concurrence Point 2

Alternative	Reason(s) Eliminated
2	• Low public support • Similar to Alternative 4 but with higher project costs and bridge length • Farther from the existing alignment and Central Business District than Alternative 4
3	• Low public support • Constructability and drainage concerns • Higher project costs and bridge length than Alternatives 4 and 5
5A	• Low public support • Public prefers high-level bridge alternative in this location
10	• Section 4(f) impact to Soundside Park (would span/bisect the park)*
10A	• Low public support • Section 4(f) impact to Soundside Park (would span/bisect the park)*
13	• Low public support • Constructability and drainage concerns • Anticipated high project costs and bridge length
14	• Low public support • Anticipated high project costs and bridge length
15	• Low public support • Anticipated high project costs and bridge length
16	• Low public support • Constructability and drainage concerns • Anticipated high project costs and bridge length

* Impacts exceed threshold criteria of a *de minimis* finding (FHWA memo, January 24, 2011, included in **Appendix D**).

The remaining seven alternatives (as shown in **Figure 3**) were selected as the Detailed Study Alternatives to be carried forward:

- **Northern Alternatives Group:** Alternatives 4, 5, and 5R (high-level fixed bridges)
- **Central Alternatives Group:** Alternatives 6 and 7 (low-level and mid-level moveable bridges, respectively)
- **Southern Alternatives Group:** Alternatives 11 and 17 (high-level fixed bridges)

4.3 Alternatives 6 and 7 Constructability

Replacing the on-site detours for Alternatives 6 and 7 with an off-site detour was discussed with emergency services personnel, Town officials, and the public. The off-site detour option includes use of the North Topsail Bridge, approximately seven miles north of the project site and would require approximately 30 to 45 minutes of additional travel time. This off-site detour was rejected by all stakeholders due to public safety concerns, economic impacts, and unreasonable travel times.

During the Corridor Public Hearing, several local residents requested a re-evaluation of the on-site detour route and potential impacts associated with Alternatives 6 and 7. Subsequently, the Project Team evaluated options to

minimize these impacts. On March 29, 2012, NCDOT held a Constructability Review meeting with skilled contractors having previous experience constructing moveable bridges. During this meeting, some of the attendees indicated that moving the detour bridge closer to the existing bridge would result in substantial increases to construction costs and duration.

The Project Team developed a new detour alignment for Alternative 6, minimizing the distance between the detour and proposed bridge. On June 7, 2012, NCDOT met with FHWA to present the revised Alternative 6 detour alignment. FHWA reviewed the preliminary plans and concluded that the revised detour remains an adverse impact to Soundside Park due to the proximity of construction and direct impacts to facilities within the park.

For Alternative 7, the Project Team reviewed options of relocating the detour alignment closer to the proposed bridge, potentially reducing impacts to Soundside Park. However, it was determined that traffic operations could not be maintained due to the bifurcated profiles (roadways at different heights) associated with this mid-level replacement. Therefore, Soundside Park impacts remain adverse.

Furthermore, the most favored alternatives were those with the least anticipated environmental impacts. A majority of the comments received at the Pre-Hearing open house and Corridor Public Hearing were in favor of Alternative 17. A summary of public involvement following distribution of the EA is included in **Section 7**.

4.4 Bridging Decisions and Alignment Review

The Merger Team combined the CP 2A and 3 meetings on August 16, 2012 and discussed Bridging Decisions and Alignment Review (CP 2A) and selected the LEDPA (CP 3). A summary of the public involvement activities, natural resources, and potential impacts of each alternative carried forward from CP 2 were presented.

During the CP 2A discussion, it was shown that Alternatives 6 and 7 (low- and mid-level moveable bridges, respectively) will result in adverse impacts to Soundside Park, a resource protected by Section 4(f). Furthermore, a majority of comment cards received during and immediately following the Pre-Hearing open house and Corridor Public Hearing (December 8, 2011) indicated a strong preference for a high-level bridge. Therefore, Alternatives 6 and 7 were eliminated at CP 2A as shown in **Table 4**.

Table 4. Detailed Study Alternatives Eliminated at CP 2A

Detailed Study Alternative	Reason(s) Eliminated
6 and 7	• Adverse impacts to Soundside Park (protected by Section 4(f)) • Reduced public support for low- and mid-level alternatives

4.5 Detailed Study Alternatives Eliminated

Alternatives 4, 5, 5R, 11, and 17 were carried forward for further discussion in the CP 3 meeting. Alternatives 4, 5, 5R, and 11 were eliminated during the CP 3 meeting for the reasons listed in **Table 5.**

Table 5. Detailed Study Alternatives Eliminated at CP 3

Detailed Study Alternative	Reason(s) Eliminated
4	• Low public support • Island tie-in located farther away from the existing Central Business District
5	• Low public support • Impacts to Beach House Marina
5R	• Low public support • Higher number of relocations
11	• Low public support • Island tie-in located farther away from the existing Central Business District

The result of the CP 3 discussions was the Merger Team's selection of Alternative 17 as the LEDPA/Preferred Alternative (**Figure 2 and 3** and discussed in detail in **Section 5**). The selection was contingent upon the following commitments agreed to by NCDOT:

- NCDOT will continue efforts to reduce Coastal Area Management Act (CAMA) wetland total impacts during final design, not to exceed 0.1 acre (see **Project Commitments Page**).
- NCDOT will design bridge pier locations so that at least a 120-foot wide area of SAV habitat is spanned. Further design measures will be explored to avoid any other bottom-disturbing activities in the SAV habitat area.

5. LEDPA/PREFERRED ALTERNATIVE

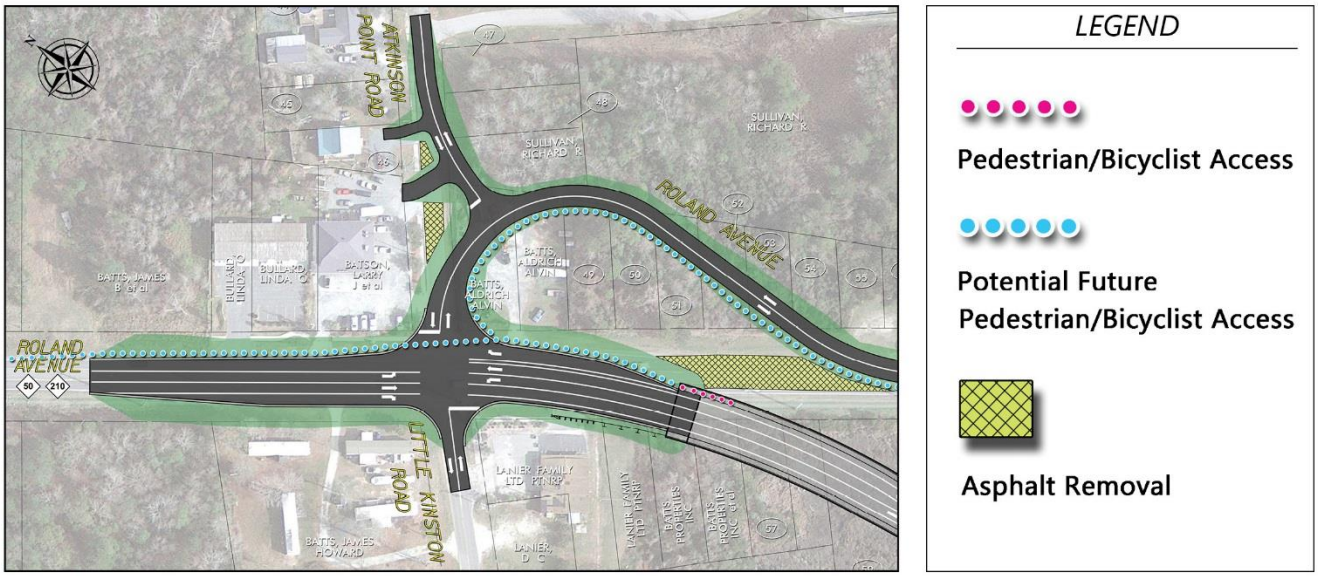
Comments from local officials, residents, and business owners were taken into consideration during the alternatives analysis process. A summary of public involvement activities following distribution of the EA is included in **Section 7**, with a summary of comments from the Corridor and Design Public Hearings included in **Appendix C.** Alternative 17 has been selected as the LEDPA/Preferred Alternative and is shown in **Figure 3** (alignment) **and Figure 4** (typical sections).

Alternative 17 is a high-level fixed-span bridge located approximately 1,100 feet south of the existing bridge beginning on the mainland side just west of Atkinson Point Road and ending on the island side at Topsail Drive (NC 50). The new island tie-in is located approximately 300 feet south of Roland Avenue. Alternative 17 skirts the southern boundary of Soundside Park and will not result in an adverse impact to this property.

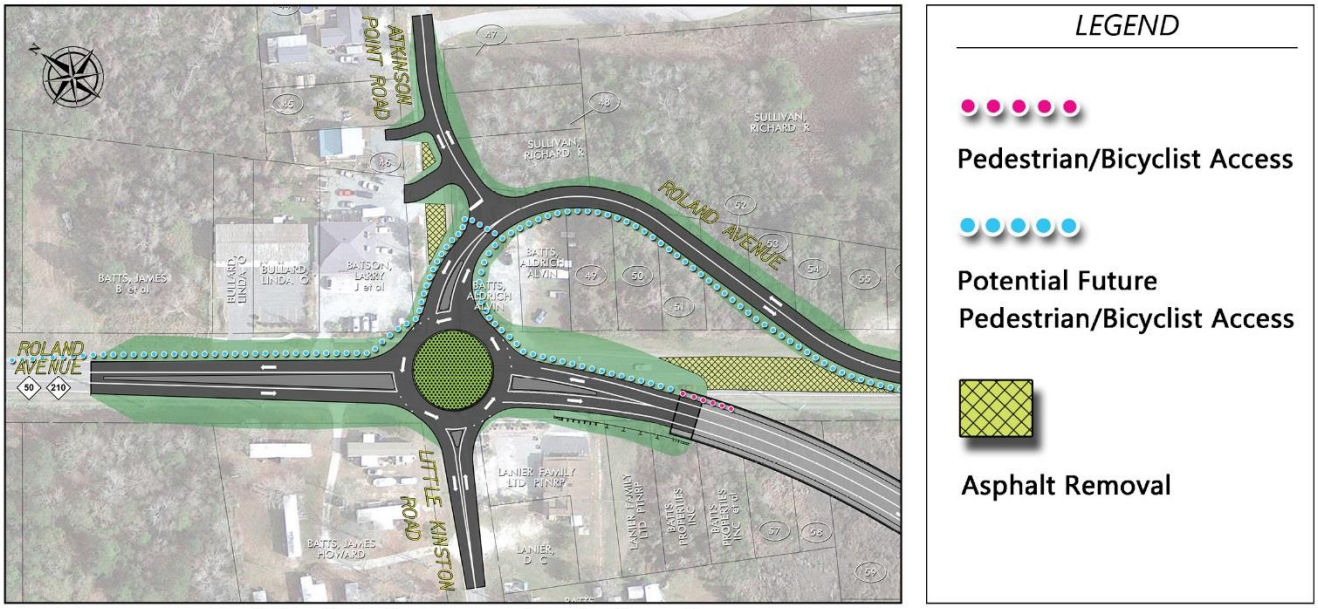
The recommended bridge typical section includes a 10-foot multi-use path on the north side of the bridge, separated from the travel lanes by a concrete barrier, a 7.5-foot bicycle lane/shoulder in each direction, and a 12-foot travel lane in each direction. The 39-foot roadway width carrying the bicycle and travel lanes allows for an alternate evacuation configuration for emergencies/hurricanes (two lanes off of the island, one lane onto the island).

5.1 Mainland Tie-In Intersection

Operational improvements were studied at each tie-in intersection and preferences discussed with the public through meetings held with a selected Steering Committee, formed at the request of local officials and citizens (see **Section 8.1**). Two mainland tie-in options were presented to the Steering Committee at the Little Kinston Road/Atkinson Point Road intersection, including a traditional four-legged intersection (Mainland Option #1) and a roundabout design (Mainland Option #2), shown in exhibits on the following page. The Steering Committee was concerned with safety and traffic flow of the traditional four-legged intersection. The Committee concluded that the roundabout improves traffic safety and operations while also providing a gateway appearance for traffic approaching the bridge and entering the island. Mainland Option #2 (roundabout) was preferred and selected by the Project Team (shown in **Figure 5**).



Mainland Tie-in Intersection Option #1



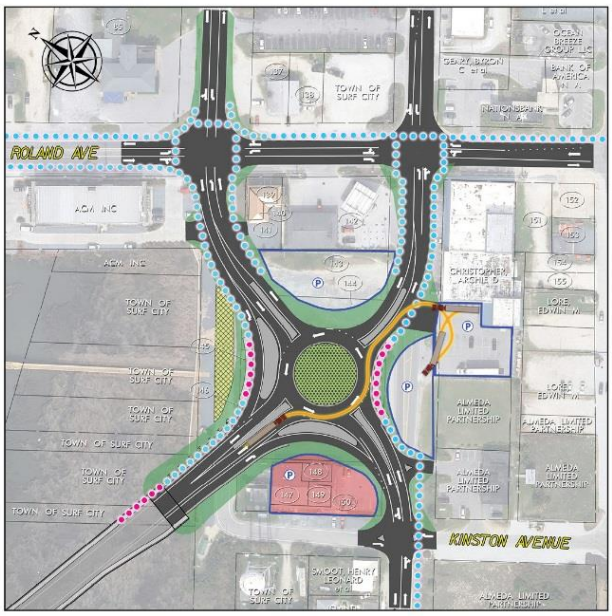
Mainland Tie-in Intersection Option #2

5.2 Island Tie-In Intersection

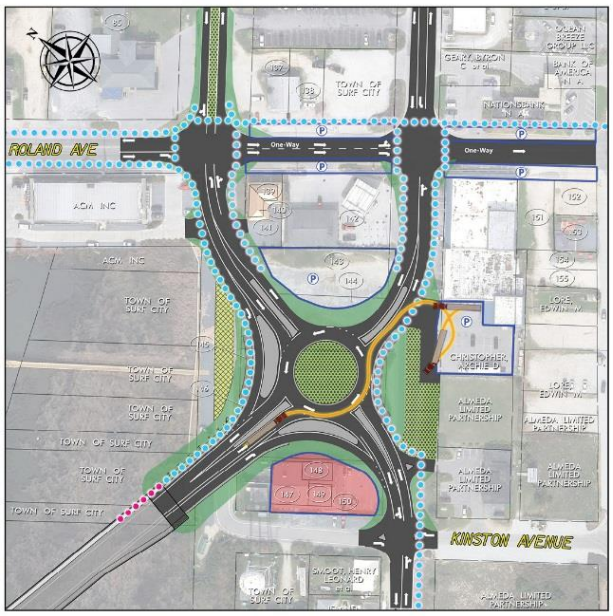
Four island tie-in options (shown in exhibits following) were presented to the Steering Committee for the New River Drive (NC 210)/Topsail Drive (NC 50) intersection, including:

- Island Option #1 – four-legged roundabout
- Island Option #2 – four-legged roundabout with one-way traffic flow along Roland Avenue
- Island Option #3 - four-legged roundabout with one-way traffic flow along New River Drive and N. Topsail Drive
- Island Option #4 - three-legged roundabout

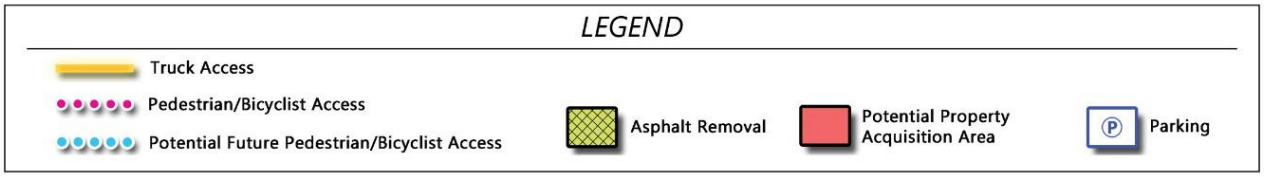
The Steering Committee was concerned with business and parking impacts associated with Island Option #1, as well as poor traffic flow associated with the existing traffic signal. The Steering Committee also was concerned with traffic flow and access due to the one-way streets associated with Island Option #3. Therefore, Island Options #1 and #3 were eliminated in early discussion. Both Island Options #2 and #4 were supported by the Steering Committee. The Town of Surf City passed a resolution on February 5, 2014 (included in **Appendix D**) stating their preference for Island Option #4 (three-legged roundabout, **Figure 6**), which provides safety, enhanced traffic operations, and constructability benefits while reducing business impacts. Island Option #4 was selected by the Project Team.

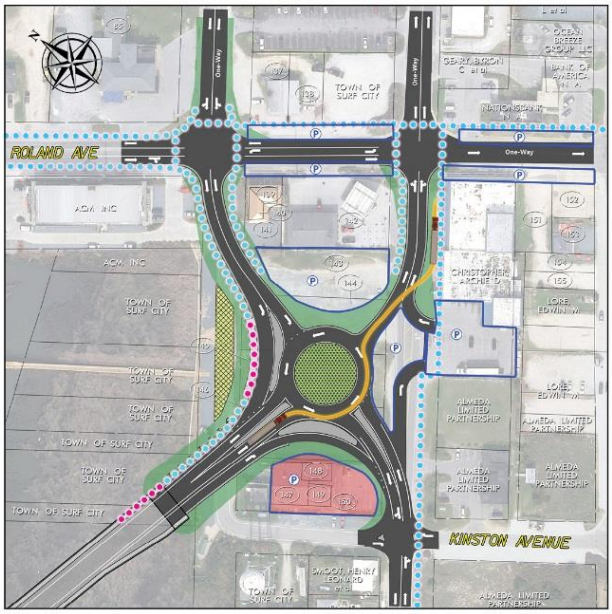


Island Tie-in Intersection Option #1

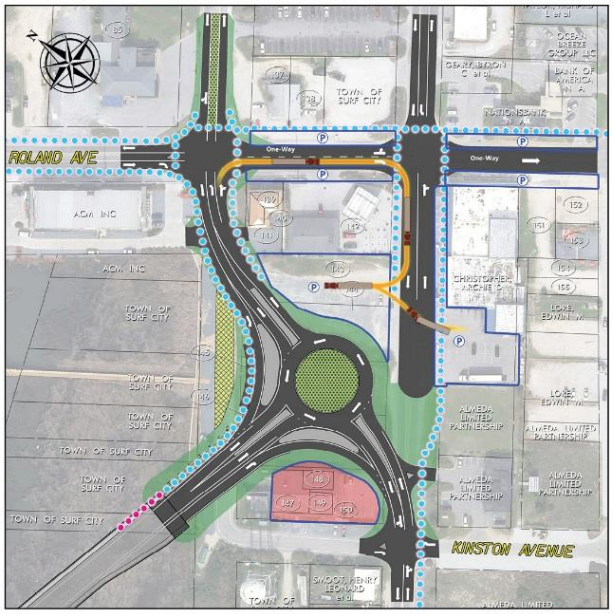


Island Tie-in Intersection Option #2





Island Tie-in Intersection Option #3



Island Tie-in Intersection Option #4

6. SUMMARY OF PROJECT IMPACTS

Following is a summary of the impacts of Alternative 17, the LEDPA/Preferred Alternative. These impacts are also listed in **Table 6**.

Table 6. Impact Matrix for Preferred Alternative (Alternative 17)

Resources	Alternative 17 Impact
Human Environment	
Community Facilities Impacted	-
Churches	-
Total Residential Relocations (number)	1
Total Business Relocations (number)	1
Low Income/Minority Residential/Business Impacts	-
Physical Environment	
Section 4(f) Resources	
Soundside Park property impacts – permanent (ac)	0.4
Bridge No. 16 (also recognized as a Historic Architecture Resource)	Adverse Effect
Farmlands	-
Archaeological Sites	-
Known or Potential Hazardous Materials Sites (number/Level of Impact)	3/Low
Superfund Sites	-
Natural Environment	
Ponds	-
Stream Crossings (number)*	1
Wetlands: Non-riparian / CAMA (acres)	0.8/0.02
Federally Protected Species	MA/NLAA**

* The stream will be bridged; therefore, no permanent stream impacts are anticipated.

** MA/NLAA – May Affect, Not Likely to Adversely Affect the following species: West Indian Manatee (*Trichechus manatus*), Loggerhead sea turtle (*Caretta caretta*), and Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus)*

6.1 Natural Resources

6.1.1 Biotic Resources

Alternative 17 will impact 9.0 acres of maintained/disturbed area, 0.02 acre of salt marsh, and 0.8 acre of pine flatwoods (a total of 9.82 acres of terrestrial community impacts).

6.1.2 Waters of the United States

Two jurisdictional streams are located within the Project Study Area: Topsail Sound and an unnamed tributary to Topsail Sound (**Figure 7**). Alternative 17 will span Topsail Sound and is located south of the unnamed tributary. No permanent stream impacts are anticipated.

Two ponds are located within the Project Study Area (Figure 5-8 of the EA). Alternative 17 will not impact either pond.

At the time of the distribution of the EA, it was anticipated that Alternative 17 would impact 0.4 acre of CAMA wetlands and 0.8 acre of non-riparian wetlands (measured from slope stakes plus 25 feet). During the CP 3 and 4A meetings, the Merger Team requested and NCDOT committed to reduce the CAMA wetland impacts to 0.1 acre or less.

As a result of design measures, the potential impacts to CAMA wetlands with consideration of 15-foot buffers are anticipated to be 0.02 acre total (0.01 acre mainland, 0.01 acre island) and are shown in **Figure 8**. These efforts result in a considerably lower impact than agreed to at the Merger Meeting for CP 4A.

6.1.3 Rare and Protected Species

As of December 11, 2014, the United States Fish and Wildlife Service (USFWS) lists fourteen federally protected species for Pender County (**Table 7**). The following is the habitat assessment and biological conclusion:

Table 7. Federally Protected Species listed for Pender County

Scientific Name	Common Name	Federal Status*	Habitat Present	Biological Conclusion **
Alligator mississippiensis	American alligator	T (S/A)	Yes	Not required
Charadrius melodus	Piping plover	T	No	No Effect
Picoides borealis	Red-cockaded woodpecker	E	Yes	No Effect
Acipenser brevirostrum	Shortnose sturgeon	E	No	No Effect
Acipenser oxyrinchus oxyrinchus	Atlantic sturgeon	E	Yes	MA/NLAA
Trichechus manatus	West Indian manatee	E	Yes	MA/NLAA
Caretta caretta	Loggerhead sea turtle	T	Yes	MA/NLAA
Chelonia mydas	Green sea turtle	T	No	No Effect
Thalictrum cooleyi	Cooley's meadowrue	E	Yes	No Effect
Carex lutea	Golden sedge	E	Yes	No Effect
Schwalbea Americana	American chaffseed	E	Yes	No Effect
Amaranthus pumilus	Seabeach amaranth	T	No	No Effect
Lysimachia asperulaefolia	Rough-leaved loosestrife	E	Yes	No Effect
Calidris canutus rufa	Rufa red knot	T	No	No Effect

* E – Endangered; T – Threatened; T(S/A) – Threatened due to similarity of appearance
** MA/NLAA – May Affect/Not Likely to Adversely Affect

Suitable habitat for the West Indian manatee and the loggerhead sea turtle does exist in the Project Study Area. However, a review of North Carolina Natural Heritage Program (NCNHP) records, updated in August 2011, indicates there are no known West Indian manatee or loggerhead sea turtle occurrences within 1.0 mile of the Project Study Area. Construction activities will adhere to the *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* (included in **Appendix E**). NCDOT NES

will coordinate appropriately with the NOAA-NMFS regarding the loggerhead sea turtle prior to submittal of the 404 permit application, in compliance with Section 7 of the ESA (see **Project Commitments Page**).

Atlantic sturgeon

USFWS/National Marine Fisheries Service (NMFS) Recommended Survey Window: surveys not required; assume presence in appropriate waters.

Habitat Description: Atlantic sturgeons are anadromous; adults spawn in freshwater in the spring and early summer and migrate into estuarine and marine waters where they spend most of their lives. In some southern rivers a fall spawning migration may also occur. They spawn in moderately flowing water (46-76 cm/s) in deep parts of large rivers. Sturgeon eggs are highly adhesive and are deposited on bottom substrate, usually on hard surfaces (e.g. cobble). It is likely that cold, clean water is important for proper larval development. Once larvae begin migrating downstream they use benthic structure (especially gravel matrices) as refuges. Juveniles usually reside in estuarine waters for months to years. Subadults and adults live in coastal waters and estuaries when not spawning, generally in shallow (10-50 m depth) nearshore areas dominated by gravel and sand substrates. Long distance migrations away from spawning rivers are common.

Biological Conclusion: May Affect – Not Likely to Adversely Affect

Suitable habitat for Atlantic sturgeon consisting of estuarine and riverine habitat of large river systems exists in the project study area (Intracoastal Waterway). Additionally, in personal communication with Fritz Rohde, NOAA-NMFS, on October 8, 2014, Mr. Rohde agreed there is potential habitat for Atlantic sturgeon in the project area. A review of NCNHP data, updated October 2014, indicates occurrences of Atlantic sturgeon in the project area. Atlantic sturgeon was last observed in the project area in 2012. NCDOT will coordinate appropriately with NOAA-NMFS regarding Atlantic sturgeon prior to submittal of the 404 permit application, in compliance with Section 7 of the ESA (see **Project Commitments Page**).

Rufa Red Knot

A USFWS proposal for listing the rufa red knot as a threatened species was published in the Federal Register in September 2013. The listing became effective on December 11, 2014 and includes Pender County. Per correspondence with Gary Jordan (USFWS) on November 18, 2014 (included in **Appendix D**), since there is no beach habitat or mudflats, the proposed project will result in No Effect to the rufa red knot.

6.1.4 Submerged Aquatic Vegetation

Surveys for SAV were conducted from June through September 2013 in the study corridor. These surveys indicate that SAV habitat is sparse in the study corridor, but becoming more prominent. A report summarizing the survey procedure and findings was presented to the Merger Team as part of the CP 4A meeting. Complete avoidance of impacts to SAV habitat is not possible (**Figure 9**), but minimization and mitigation efforts are discussed in **Section 9**, and a commitment to span SAV habitat is included in the **Project Commitments Page**.

6.1.5 Essential Fish Habitat

NCDOT has committed to impacting no more than 0.1 acre of coastal tidal marsh and spanning the potential SAV habitat area. In addition, the proposed bridge height and the north-south orientation of the bridge helps in reducing potential shading impacts to Essential Fish Habitat (EFH). The new bridge structure will require footings

to be placed within Topsail Sound; however, the existing bridge footings and fender system will be removed. NCDOT believes the proposed project will likely result in a negligible net effect on available EFH.

6.2 Human Environment/Cultural Resources

6.2.1 Section 4(f) Resources

Bridge No. 16

Pender County Bridge No. 16 is eligible for the National Register of Historic Places as an early and intact example of a riveted Warren through truss, swing span bridge. It is protected under Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966. Although moved from Sunset Beach to its current location in 1954, Pender County Bridge No. 16 remains in operable condition and retains circa 1930 gearing and mechanical systems. The historic boundary for the bridge includes the 254-foot long Warren through truss, operator's house, and concrete tee beam approach spans.

All of the Detailed Study Alternatives including Alternative 17 have an adverse effect on Bridge No. 16 because it will be removed from its existing location. FHWA consulted with the North Carolina State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation in compliance with Section 106 of the National Historic Preservation Act. A Memorandum of Agreement (MOA) was signed, outlining measures to be carried out, and is included in **Appendix D**. Bridge No. 16 has been documented in accordance with the MOA and will be included in the Historic Bridges of North Carolina website. Coordination with SHPO is ongoing (see **Project Commitments Page**). The existing Bridge No. 16 will become property of the contractor if no other agreement is worked out prior to construction. NCDOT has previously coordinated with the local municipalities and Pender County about potentially obtaining the existing bridge, but it was cost-prohibitive. A copy of the Section 4(f) Programmatic Evaluation is included in **Appendix D**.

Soundside Park

Soundside Park, a public park owned by the Town of Surf City and located adjacent to Bridge No. 16, is also protected by Section 4(f). The park, open to the public year-round, has 45 parking spaces, boat access ramps, picnic facilities, a performance stage, a children's playground, bathroom facilities, and a boardwalk. Public support was overwhelming for alternatives terminating on the island at the existing NC 50/210 intersection, including Alternative 17, in order to easily access the park. The EA reported that estimated permanent impacts from Alternative 17 to Soundside Park were approximately 0.2 acre. With subsequent revisions to the proposed alignment to reduce business impacts (discussed further in **Section 8**), it is estimated that Alternative 17 will result in approximately 0.4 acre of permanent impacts to Soundside Park (**Figure 10**). The impacted area is undeveloped and marshy with no recreational facilities present. Park access will remain unchanged under Alternative 17, and there will be no temporary or permanent impacts to the park facilities. The Town of Surf City has expressed support of Alternative 17 and acceptance of the impacts to Soundside Park. The Town of Surf

City provided comments in an email dated April 15, 2014 (included in **Appendix D**). After agency and public review of the EA and subsequent public involvement, the FHWA has made a determination that the use of 0.4 acres of Soundside Park is minor and considered a *de minimis* impact as defined by 23 CFR 774.17. Therefore, a Section 4(f) evaluation is not required for the acquisition of land from Soundside Park, consistent with 23 CFR 774.3(b)

6.2.2 Archaeological Sites

In a letter dated September 11, 2007 (included in the Appendix of the EA), the North Carolina Department of Cultural Resources stated that there are no known archaeological sites within the Project Study Area and that it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places would be affected by the project. It was recommended that no archaeological investigation be conducted in connection with this project. Therefore, no archaeological investigations were conducted.

6.2.3 Relocations

Alternative 17 likely will require the relocation of one business (currently a vacant building) and one residence (a mobile home), both on the mainland side. No schools or community facilities (other than Soundside Park, discussed previously) will be directly impacted. Impacts may be further reduced during final design.

Following the distribution of the EA, the alignment for Alternative 17 was modified slightly as described in more detail in **Section 8**.

6.2.4 Social Effects

No notably adverse community impacts are anticipated with this project, and no Environmental Justice populations appear to be affected; thus, impacts to minority and low-income populations do not appear to be disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community, and no denial of benefit is expected. Public involvement activities have ensured full and fair participation of all potentially affected communities in the transportation decision-making process.

6.2.5 Economic Effects

Following selection of the LEDPA, the island tie-in roundabout was shifted north to avoid impacts to three businesses. As a result, Alternative 17 will not require the relocation of any businesses on the island. One business impact on the mainland side (currently a vacant building) is anticipated due to a revision to the alignment because of utility issues (discussed further in **Section 8.2**). NCDOT will offer relocation assistance to property owners that will be directly impacted by this project as part of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (1970, as amended in 1987).

A Steering Committee comprised of local residents and business owners was formed at the request of citizens and the Towns of Surf City, Topsail Beach, and North Topsail Beach. The members of the Steering Committee were recommended by the local officials. Three Steering Committee meetings were held on April 23, June 24, and November 12, 2013.

Before each Steering Committee meeting, the NCDOT also met with representatives of the Town of Topsail Beach, the Town of Surf City, and the Town of North Topsail Beach. During these meetings, the NCDOT provided a project update, answered questions, and gathered input from attendees. This input along with the input received from the

Steering Committee members was used to further refine tie-in intersection options and the proposed typical sections.

The proposed project will affect businesses through changes in access and pass-by travel patterns. During the Steering Committee meetings, improvements to pedestrian and bicyclist access along Roland Avenue were discussed. Due to the reduction of vehicle traffic and pass-by trips along Roland Avenue through the Central Business District, the Town of Surf City requested a multi-use path along Roland Avenue. This addition to the project will be implemented as mitigation to encourage multi-modal users in this area.

NCDOT will repave and restripe Roland Avenue on the island between the proposed cul-de-sac on Roland Avenue (near the existing bridge) and NC 210 (New River Drive). NCDOT will construct a 10-foot paved multi-use path on the southwest side of Roland Avenue from the proposed cul-de-sac on Roland Avenue to just south of the intersection of Roland Avenue and NC 210. The multi-use path will connect with the existing boardwalk bridge to Soundside Park and the multi-use path along the proposed bridge (Alternative 17). (See also **Section 8.3** and the **Project Commitments Page**.) The multi-use paths to be provided as part of the project support the Town of Surf City's pedestrian access goals described in the *Topsail Area Comprehensive Transportation Plan*. A depiction of the proposed typical section on Roland Avenue is shown in **Figure 4**.

NCDOT will provide 100% funding for the multi-use path along Roland Avenue. The Town of Surf City will be responsible for maintenance of the multi-use path along Roland Avenue after construction. NCDOT Local Programs Management Office will facilitate a formal municipal agreement between the Town of Surf City and NCDOT regarding maintenance of this path. (See the **Project Commitments Page**.)

6.2.6 Traffic Noise Analysis

Existing traffic noise does not impact any receptors in the vicinity of the Project Study Area. All Design Year 2035 traffic noise impacts are predicted to occur as a result of loudest-hour equivalent noise levels that will meet or exceed NCDOT Noise Abatement Criteria (NAC) thresholds. There are no predicted impacts that will occur as a result of a substantial increase over existing noise levels in the 2035 Design Year. Alternative 17 impacts 18 noise receptors, the same amount as the No Build condition. Based on the Traffic Noise Analysis conducted for this project, traffic noise abatement is not recommended, and no noise abatement measures are proposed. During construction, all reasonable efforts should be made to minimize exposure of noise sensitive areas.

6.2.7 Air Quality Analysis

The proposed bridge replacement project will not add substantial new capacity or create a facility that is likely to meaningfully increase emissions. This project is located in Pender County, an attainment area which has been determined to comply with the National Ambient Air Quality Standards (NAAQS); therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

6.3 Physical Environment

6.3.1 Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Act protects recreation lands that have been funded in part or whole by the Land and Water Conservation Fund. There are no Section 6(f) properties located in the Project Study Area.

6.3.2 Farmland

Several properties are currently zoned as agricultural land use within the Project Study Area, and a National Resources Conservation Service (NRCS) form was completed in compliance with the Farmland Protection Policy Act (see Section 5.4 of the EA). Alternative 17 will not impact any prime farmland or properties currently zoned as agricultural land use.

6.3.3 Hazardous Materials

Three sites that are or may be contaminated by hazardous materials or waste may be impacted by Alternative 17. However, these potential impacts result in limited low monetary and project scheduling impacts. Properties that may be impacted by Alternative 17 are included in **Table 8**.

Table 8. Hazardous Sites Potentially Impacted by Alternative 17

Facility ID	Property Name and Address (Surf City, NC 28445)	Property Owner	UST Owner	Impact Level
N/A	Beach House Marina 412 Roland Avenue	Beach House Marina, LLC	Beach House Marina, LLC	Low
N/A	Batts Grill 306 Roland Avenue	Kenneth & Libby Batts	Marine Oil Co, Inc.	Low
0-000121	Atlantic Food Mart 301 Roland Avenue	David Wayne Lanier, et al	Worsley Companies, Inc.	Low

6.3.4 Flood Hazard Elevation

As described further in **Section 11**, the new bridge structure footings will be placed within the Intracoastal Waterway (Topsail Sound). Given this limited in-water construction work, the proposed project will most likely result in a negligible net effect on these flood hazard zones. A more detailed impact analysis will be performed during the project's final hydraulic design. NCDOT will coordinate with the Federal Emergency Management Agency (FEMA) and local authorities to ensure compliance with applicable floodplain ordinances.

6.4 Land Use and Transportation Plans

Alternative 17 is consistent with local land use and transportation plans, including the *Topsail Area Comprehensive Transportation Plan* (which includes the Towns of Surf City, North Topsail Beach, and Topsail Beach) and the Pender County CAMA Land Use Plan.

6.5 Indirect and Cumulative Effects

Indirect Land Use impacts for Alternative 17 are rated as "Not Likely" in Chapter 5 of the EA. The project is expected to have a minor impact on development potential near the bridge approaches. There is little undeveloped land near the bridge approach on the island and some available land on the mainland. Surf City has sewer capacity to support additional development, but Topsail Beach has limited capacity. Surf City encourages development on the mainland. Topsail Beach land use policies discourage development.

The amount of development is not expected to be affected by Alternative 17. The project will not contribute to cumulative impacts to any transportation or land use development project. This project is not expected to notably contribute to indirect or change in land use and therefore should not result in notable cumulative impacts to threatened, impaired, or endangered natural resources in the context of all other past, present, and future actions by all parties.

7. COMMENTS AND COORDINATION

A robust public involvement program was implemented for this project. All activities from the beginning of the planning process through the EA document are included in Chapter 6 of the EA. The following section provides a summary of agency coordination and public involvement following distribution of the EA.

7.1 Circulation of the Environmental Assessment

The EA for this project was approved by the FHWA and NCDOT on October 24, 2011. Copies of the EA were circulated to the following federal, state, and local agencies for review and comments. Written comments were received from agencies noted with an asterisk (*). Comments are listed in **Section 7.2**, and copies of correspondence are included in **Appendix D**.

Federal Agencies

* US Army Corps of Engineers
* US Department of the Interior, Fish and Wildlife Service
* US Environmental Protection Agency (USEPA)
  Advisory Council on Historic Preservation
* US Department of Commerce / National Oceanic and Atmospheric Administration
  US Coast Guard

State Agencies

  NC Department of Administration – State Clearinghouse
* NC Department of Environment and Natural Resources (NCDENR)
    * Division of Coastal Management
    * Division of Water Quality (currently Division of Water Resources)
    * Wilmington Regional Office
    * Division of Water Quality (currently Division of Water Resources) / Surface Water Protection
    * Division of Water Resources / Public Water Supply
    * Division of Marine Fisheries
    * Office of Conservation, Planning, and Community Affairs
  NC Wildlife Resources Commission
* NC State Historic Preservation Office

Local Agencies

  Town of Surf City
  Town of Topsail Beach
  Town of North Topsail Beach
  Cape Fear Rural Planning Organization

7.2 Agency Comments Received on the Environmental Assessment

A summary of project-specific agency comments regarding the contents of the EA are shown in italics as follows, and copies of agency letters are included in **Appendix D**.

7.2.1 US Fish and Wildlife Service (February 28, 2012)

1. Table 5-6 on page 5-9 lists all the federally threatened and endangered species for Pender County. The North Carolina Department of Transportation (NCDOT) has rendered a biological conclusion of "No Effect" for all species except for the West Indian Manatee (Trichechus manatus) and loggerhead sea turtle (Caretta caretta). We concur with these "No Effect" conclusions.

Response: Comment noted.

2. The NCDOT has determined that the project may affect, but is not likely to adversely affect the West Indian manatee. Based on NCDOT's commitment to utilize the Service's GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE: Precautionary Measures for Construction Activities in North Carolina Waters, we concur with your conclusion that the project may affect, but is not likely to adversely affect the West Indian manatee.

Response: Comment noted. NCDOT will adhere to *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* for this project. A commitment is included on the **Project Commitments Page** of this FONSI.

3. The NCDOT has determined that the project may affect, but is not likely to adversely affect the loggerhead sea turtle. Since there is no beach nesting habitat within the project study area, this species falls under the purview of the National Marine Fisheries Service (NMFS) for its potential presence in Topsail Sound and the Intracoastal Waterway. The US Fish and Wildlife Service only has jurisdiction for nesting sea turtles on the beach.

Response: Comment noted.

4. Page 5-14 states "Golden eagles are not present in North Carolina." Although golden eagles (Aquila chrysaetos) do not nest in North Carolina, they do occasionally occur in North Carolina, primarily during the winter.

Response: Comment noted.

7.2.2 US Army Corps of Engineers (March 21, 2012)

1. Section 5.1.2.3 Waters of the United States: This section states that none of the detailed study alternatives would result in impacts to riparian wetlands. However, on Figures 5-1 through 5-3, riparian wetlands fall within the graphical representation of the project.

Response: There are riparian wetlands shown on Figures 5-1 through 5-3 (Alternatives 4, 5, and 5R) in the northeast quadrant of NC 50/210 and Atkinson Point Road. Alternatives 4, 5, and 5R were shown to bridge the riparian wetlands with no impacts. However, these alternatives were eliminated at CP 3 for other reasons (see **Section 4.5**, **Table 5**). Alternative 17 will not impact any riparian wetlands.

2. Section 5.1.2.3 Waters of the United States: Figures 5-1 through 5-7 don't seem to exactly match the effort by NEU covered by the preliminary JD approved on 6/22/2011 by the Corps. The CAMA line and riparian wetland line

appears to come further up gradient than approved. Also the study area appears much broader in the Figure 5 displays as compared to the preliminary JD study area.

Response: Comment noted. Updated wetland files were developed following the EA and CP 3 and have been incorporated into this FONSI.

3. Section 5.1.2.3 Waters of the United States: During a recent enforcement action pursued by the Corps, additional wetlands were discovered in the northeast quadrant of the study area. NES has been given an estimation of these wetland additions.

Response: Comment noted. Updated wetland files were developed following the EA and CP 3 and have been incorporated into this FONSI.

4. Section 5.1.2.4 Avoidance, Minimization, and Mitigation: A statement is made that if on-site opportunities are not sufficient to mitigate for potential wetland and stream impacts than [sic] *the mitigation would come from NCEEP. I would encourage the Department to aggressively pursue on-site mitigation options since the project is located in the 03030001 HUC. Most of the mitigation to date in this HUC is centered around the Richlands area and does not directly empty into Topsail Sound. To the Corps' knowledge, there have been very few attempts at mitigation east of Highway 17 in this area. The parcels along Hwy 210 just west of the bridge have been aggressively pursued for development for a number of years. Most of these parcels have either been involved in an enforcement action or permit scenario with the Corps. The Corps believes there may be some opportunities for on-site mitigation within the study area to include preservation of undeveloped parcels that are in imminent threat of future development.*

Response: Comment noted. NCDOT has reviewed the parcels along NC 210 just west of the bridge for onsite preservation. Due in part to a number of factors, including the high cost per acre of land according to the County Appraisals, it will not be feasible to pursue onsite preservation unless there are remnant parcels acquired as part of the right-of-way proceedings.

5. Section 5.1.2.5 Anticipated Permit Requirements: Are there any current projections per alternative of utility relocations and potential impacts to jurisdictional resources?

Response: Table 5-13 in the EA (page 5-48) provides an Environmental Effects Summary of all of the Detailed Study Alternatives under consideration at the time (including Alternative 17, the LEDPA/Preferred Alternative). **Table 6** in this FONSI document provides an updated estimate of environmental effects associated with Alternative 17.

6. Section 5.3.2.2 Alternatives 6 and 7: The Department is reminded that potential Section 4(f) impacts would not preclude the Corps from selecting those corridors with 4(f) impacts as the LEDPA. The Department is encouraged not to use Section 4(f) for the sole basis for eliminating alternatives.

Response: In addition to Section 4(f) impacts to Soundside Park, Alternatives 6 and 7 were also eliminated based on public input. The Corridor Public Hearing was held on December 8, 2011 following distribution of the EA. As discussed further in **Section 7.3**, a majority of comment card respondents preferred a high-level fixed bridge, and Alternative 17 received the most support among all alternatives presented.

7.2.3 US Environmental Protection Agency (April 13, 2012)

Impacts to Terrestrial Forest communities are identified in Table 5-2 of the EA. The estimated impacts from the DSAs range between 0.1 acres for DSA #7 to 3.6 acres for DSA #11. DSA #11 has 1.5 acres of impact to mesic mixed hardwood forests. Considering the past substantial loss of these types of costal terrestrial communities from development, and in consideration of other jurisdictional and human resources impacts, DSA #11 is EPA's least preferred alternative. DSA #11 also includes 4 residential relocations and 1 business relocation and impacts the Faith Harbor United Methodist Church property.

Response: Comments noted. The USEPA was part of the Merger Team meetings and concurred with Alternative 17 as the LEDPA/Preferred Alternative.

7.2.4 National Oceanic and Atmospheric Administration (August 22, 2012)

Summary of comments:

…The Wilmington District's initial determination is that substantial adverse impacts to essential fish habitat (EFH) or federally managed fisheries are not expected from the project, although this determination acknowledges it is limited to an alternative that replaces the bridge within the current alignment. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

EFH Conservation Recommendation

- *Detailed information on site-specific avoidance and minimization of wetlands and EFH shall be provided. This assessment shall include impacts from shading by the bridge and impacts associated with construction activities.*
- *A detailed plan shall be developed for providing full, in-kind compensation for unavoidable adverse impacts to wetlands and EFH. The plan shall include performance criteria and monitoring to gauge performance with respect to those criteria.*

Response: NCDOT has committed to impacting no more than 0.1 acre of coastal tidal marsh and spanning the potential SAV habitat area. In addition, the proposed bridge height and the north-south orientation of the bridge helps in reducing potential shading impacts to EFH. The new bridge structure will require footings to be placed within Topsail Sound; however, the existing bridge footings and fender system will be removed. NCDOT believes the proposed project will likely result in a negligible net effect on available EFH.

7.2.5 NCDENR – Division of Water Resources, Public Water Supply Section (February 29, 2012)

1. Approval from the Public Water Supply will be needed for any water main installation/relocation.

2. If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources, Public Water Supply Section, Technical Service Branch, 1634 Mail Service Center, Raleigh, North Carolina 27599-1634, (919) 733-2321.

Response: Comments noted. If modifications to the water distribution systems are proposed, NCDOT will coordinate with the NCDENR Public Water Supply Plan Review Section to obtain approval of plans and specifications prior to construction.

7.2.6 NCDENR – Division of Water Quality (Resources) (March 8, 2012)

The Wilmington Regional Office has reviewed the Environmental Assessment (EA) document for the proposed alignment for the replacement bridge to Surf City (Bridge No. 16). The DWQ supports the low-rise and mid-rise alternative bridges (Alternatives 6 & 7). These two proposed replacements proposed the least amount of wetland impacts and preserves the "vista" of a small community like Surf City.

Response: Comment noted. NCDENR-DWR (formerly called the Division of Water Quality, DWQ) was part of the Merger Team meetings and concurred with Alternative 17 as the LEDPA/Preferred Alternative, with conditions for reducing environmental impacts.

7.2.7 NCDENR – Division of Marine Fisheries (March 12, 2012)

NCDMF requests that all bottom-disturbing activities occur outside the in-water work moratorium of April 1 to September 30.

Response: Comment noted. This commitment is included on the **Project Commitments Page**.

7.2.8 NCDENR – Division of Water Quality (Resources) (March 19, 2012)

1. This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, NCDWQ will continue to work with the team.

Response: Comment noted.

2. Section 5.3.7 discusses community character, and the majority of this section is spent discussing the existing swing span, and how important the community feels it is to the character and charm. It is also stated that many of the residents feel it is an important part of the island and want it replaced with a similar swing span, as a high-rise may induce development. However, the last part of the discussion states that over one-third of the comments from the CIW #1 preferred a high-rise type bridge. As presented, the two statements appear to be in conflict. If the existing swing span bridge is so important, why did so many of the comments prefer the high-rise option? It should be discussed how many comments were received in favor of replacing the existing bridge with a similar, low profile swing type bridge (along with other options such as the mid-rise bridge). This would put the comments in favor of a low-rise bridge in context with those which prefer the high-rise or other option.

Response: Initially, the community was opposed to removal of the existing swing span bridge due to sentimental value. However, as the alternatives analysis progressed and discussions continued with local residents, business owners, and public officials following distribution of the EA, public opinion shifted toward a high-level fixed bridge

option with minimal impacts to the human and natural environments. Many people noted the traffic queues that form during peak season when the swing bridge is opened for boats, causing congestion, long delays, and emergency access issues. Replacing Bridge No. 16 in approximately the same location results in substantial impacts to the high-voltage power transmission lines directly adjacent to the existing bridge. A summary of the alternatives analysis process is included in **Section 4** of this FONSI, and a summary of public involvement activities is included in **Section 7.2 and 7.3**.

3. Table 5-11 should include existing LOS. This would allow for comparison between existing and design year.

Response: Existing conditions including 2010 Level of Service (LOS) and projected No Build Conditions are included in Section 2.2.1 (Description of Existing Conditions) in the EA. The 2010 Existing Conditions intersection capacity analysis indicates that the existing traffic demand at the 14 study intersections operates at Level of Service D or better throughout the day, which is an acceptable rate of traffic flow. The 2035 No Build Conditions intersection capacity analysis indicates that five out of the 14 study intersections will either approach or exceed the roadway capacity limits, operating at Level of Service E or F during at least one of the daily peak hours. The remaining nine intersections will function at Level of Service D or better throughout the day, which is an acceptable rate of traffic flow.

4. The NCDWQ prefers onsite mitigation to offsite mitigation. The NCDOT is encouraged to fully explore all onsite mitigation possibilities after the LEDPA is chosen, if not before.

Response: Comment noted. NCDOT has reviewed the parcels along NC 210 just west of the bridge for onsite preservation. Due in part to a number of factors, including the high cost per acre of land according to the County Appraisals, it will not be feasible to pursue onsite preservation unless there are remnant parcels acquired as part of the right-of-way proceedings.

5. The document does not fully discuss 303(d) listed waters, only mentioning that no waters within one mile of the PSA are listed for turbidity or sediment. It should be noted that Topsail Sound north of the ICWW (DWQ #18-8710c), Topsail Sound south of the ICWW (DWQ #18-87-10a), and the ICWW (DWQ #18-87-[5.5]) are all listed on the 2010 and Draft 2012 303(d) list of impaired waters due to shellfish bed harvesting closures. Additionally, all 13,178 surface waters in the State are listed on the 2010 and Draft 2012 303(d) list due to fish consumption advisories of several species.

Response: Comment noted.

6. Section 5.8.5.3 states that the waters in the study area are located within the Lower Cape Fear River Basin. As of 2008 the NCDWQ considers this area to be part of the White Oak River basin. The NCDWQ has reassessed river basin boundaries to better align with the federal database of river basin boundaries.

Response: Comment noted.

7.2.9 NCDENR – Division of Coastal Management (March 20, 2012)

1. There appears to be no reference in the EA to any evaluation of the presence of existing Submerged Aquatic Vegetation (SAV) beds or SAV habitat as defined by the NC Marine Fisheries Commission. An evaluation should be performed and the area of existing SAV beds or habitat should be documented and displayed in Table E-1: Detailed Study Alternatives Environmental Effects Summary. If no SAV beds or habitat is present in the project study area this should be indicated in the document.

Response: During the Merger meeting for Concurrence Point 3, NCDOT agreed to span 120 feet of SAV habitat and implement measures to avoid any other bottom-disturbing activities in the SAV habitat area. Please see **Section 9** of this FONSI for a summary of recent coordination between the NMFS, USACE, and NCDMF, and the Project Team regarding SAV habitat.

2. Table 5-7: Commercial Fish Species, indicates the presence of species that may require protection of adult and early life stages by the establishment of an in-water work moratorium. Should coordination with the NC Division of Marine Fisheries (DMF) reveal the necessity to establish an in-water work moratorium, it should be included as a project commitment in the "green sheets". It should be noted that the letter from the US Fish and Wildlife Service, dated August 23, 2007 in Appendix B, referenced a general in-water work moratorium period for anadromous fish from February 15 through June 30 in waterways that may serve as travel corridors for fish. NCDOT should consult with DMF on the appropriateness of an in-water work moratorium.

Response: Comment noted. Per personal communication on December 16, 2014 with Shane Staples (NCDCM), the April 1 - September 30 moratorium for the Primary Nursery Area (PNA) is also sufficient for anadromous fish.

3. CAMA Coastal Wetlands are a natural resource essential to the functioning of the entire estuarine system. Without the marsh, the high productivity levels and complex food chains typically found in the estuaries could not be maintained. DCM is concerned with the proposed impacts to CAMA Coastal Wetlands associated with Alt 7 (0.1 acre), Alt 6 (0.3 acre), and Alt 17 (0.4 acre). These impacts are considered high. DCM would expect that avoidance and minimization measures would significantly reduce or eliminate impacts to this resource, should any of these alternatives be chosen as the preferred alternative. For unavoidable impacts to CAMA Coastal Wetlands, after all avoidance and minimization measures, NCDOT is encouraged to identify any available opportunities for mitigation on-site or in the immediate vicinity.

Response: The Merger Team selected Alternative 17 as the LEDPA/Preferred Alternative (shown in **Figures 2 and 3**) with the stipulation that permanent CAMA wetland impacts will be reduced during final design, not to exceed 0.1 acre. In addition, NCDOT agreed to span 120 feet of SAV habitat and implement measures to avoid any other bottom-disturbing activities in the SAV habitat area (see **Project Commitments Page**). The Merger Team again concurred on these avoidance and minimization efforts at the meeting for Concurrence Point 4A on April 16, 2014.

4. The proposed project should be evaluated in regard to consistency with all applicable CAMA Land Use Plans. Section 2.2.2.3 refers to land use plans of the towns of Surf City and Topsail Beach; however, there was no mention of Pender County's CAMA Land Use Plan. In order for the project to be authorized by DCM and receive a CAMA permit, the project must be consistent with all appropriate CAMA Land Use Plans.

Response: Please see **Section 6.4** regarding the project's consistency with all local land use plans.

5. It should be noted that the NCWAM classification of Estuarine Woody Wetlands, as listed in Table 5-4: Jurisdictional Wetlands, could potentially also meet the definition of a CAMA Coastal Wetland if it contains species identified in CAMA and the rules of the NC Coastal Resources Commission, 15A NCAC 07H.0205. Any wetland areas to be impacted by the project should be delineated by a DCM Field Representative to determine if, and the amount of, CAMA Coastal Wetlands that are to be impacted.

Response: Comment noted. Updated wetland files were developed following the EA and CP 3 and have been incorporated into this FONSI.

6. Section 5.1.2.5, Anticipated Permit Requirements, indicates under the heading, CAMA Major Development Permit, that the project would impact Coastal Wetlands and Estuarine Waters Areas of Environmental Concern (AECs). In addition, the project would impact Public Trust Areas and Coastal Shorelines AECs. A CAMA Major Permit is required due to the scope of the project.

Response: Comment noted.

7. Soundside Park is a municipal park located adjacent to Bridge No. 16 with 45 parking places, boat access ramps, picnic facilities, a performance stage, children's playground, boardwalk, and bathroom facilities. Coastal waterfront access is a concern of local, state, regional, and national importance. It is the policy of the State to foster, improve, enhance, and ensure optimum access to the public beaches and waters of the 20 county coastal region. Any unavoidable impacts to the park facilities that could occur by the selection of Alternative 6, 7, or 17 should be mitigated with similar facilities in the vicinity.

Response: The anticipated impact to Soundside Park by Alternative 17 is located on an undeveloped area of the park property. No park facilities will be impacted.

7.2.10 NCDENR – Office of Conservation, Planning, and Community Affairs (March 29, 2012)

The Natural Heritage Program has a record for the State Special Concern Least Term (Sternula antillarum) nesting on a dredge spoil island located where Alternative 11 runs. In order to avoid potential or known nesting areas for that bird species or other colonial nesting waterbirds (on sandy dredge spoil), we recommend that Alternative 11 not be chosen, nor any other that might cross such sandy habitats. In addition, the State Special Concern Diamondback Terrapin (Malaclemys terrapin) has been recorded in nearby marshes. A number of the far eastern and far western alternative[s] cross marshes; hopefully the bridge would span over tidal marshes to avoid impacts to terrapins and other natural resources associated with tidal marshes.

Response: Comment noted. Alternative 11 was eliminated during the Merger Team meeting for Concurrence Point 3. Merger Team members have considered human and natural environmental impacts in the alternatives analysis process.

7.3 Corridor Public Hearing

After the EA was approved and released, a meeting was held with elected officials and representatives from the Towns of Topsail Beach, Surf City, and North Topsail Beach at the Surf City Community Center on Thursday, December 8, 2011, just prior to the Corridor Public Hearing. The purpose of this meeting was to provide an update of the project and present the seven Detailed Study Alternatives. The attendees were shown a ten minute voice-over PowerPoint presentation that provided an overview of the project purpose, the seven Detailed Study Alternatives, and the project status.

Pre-Hearing open house (Corridor Public Hearing), December 8, 2011

A Corridor Public Hearing was held on December 8, 2011 at the Surf City Welcome Center. This meeting included an open house followed by a formal Public Hearing. Newsletter announcements of the Public Hearing were mailed to over 10,000 citizens. Information about the Corridor Public Hearing was posted on the NCDOT public meetings website, the Town of Surf City website, and was released by the local media. Approximately 270 citizens and public officials attended the Corridor Public Hearing.

One of seven artistic renderings shown at the Pre-Hearing open house and Corridor Public Hearing (Above: Alternative 17)

During the open house, citizens were shown a voice-over PowerPoint presentation, summaries of the environmental impacts for the seven alternatives, and the project's schedule. Citizens were then encouraged to review corridor maps of the seven Detailed Study Alternatives along with corresponding artistic renderings. NCDOT Project Team members were available to answer questions and listen to citizens' comments. Citizens were also encouraged to complete comment card questionnaires. Following the open house, NCDOT conducted the formal Corridor Public Hearing and provided a formal presentation of the project's history, status, schedule, and alternatives. After the presentation, citizens were given the opportunity to formally express their comments. Sixteen citizens spoke during the formal Corridor Public Hearing.

In addition to the sixteen citizen comments spoken during the formal Corridor Public Hearing, approximately 140 written comments were received at the open house and during the 30 day comment period. Approximately 32% of the comment card respondents selected Alternative 17 as their first preference, followed by Alternative 7 (25%). Approximately 53% of comment card respondents strongly preferred a high-level fixed bridge. Conversely, 30% of respondents strongly preferred a low-level/mid-level moveable bridge. The Town of Surf City passed a resolution

on October 5, 2010 stating their preference for a high-level fixed bridge (included in **Appendix D**). Several participants expressed concerns with alternatives that directly or indirectly affected their property or business. The Project Team considered comments and made further design revisions to the remaining alternatives.

The Post Corridor Hearing Meeting Summary, with citizen comments and NCDOT responses is included in **Appendix C**.

7.4 Design Public Hearing

A meeting was held with elected officials and representatives from the Towns of Topsail Beach, Surf City, and North Topsail Beach at the Topsail Island Moose Lodge, on Tuesday, July 29, 2014, just prior to the Design Public Hearing. The purpose of this meeting was to provide an update of the project and present the design of the Preferred Alternative (Alternative 17). The attendees were shown a ten minute voice-over PowerPoint presentation that provided an overview of the project history, the selection and design of the Preferred Alternative, and the project status.

Pre-Hearing open house (Design Public Hearing), July 29, 2014

A Design Public Hearing was held on July 29, 2014 at the Topsail Island Moose Lodge. This meeting included an open house, followed by a formal Public Hearing. Newsletter announcements of the Public Hearing were mailed to over 10,000 citizens. Information about the Design Public Hearing was posted on the NCDOT public meetings website, the Town of Surf City website, and was released by the local media. Approximately 290 citizens and public officials attended the open house and Design Public Hearing.

During the open house, citizens were shown a voice-over PowerPoint presentation, information about the selection and design of the selection of the Preferred Alternative, the project's schedule, and a 3D animated video showing different viewpoints of the proposed bridge including a drive-through animation. Citizens were then encouraged to review the design hearing map and artistic renderings of Alternative 17 (**Figure 11**). NCDOT Project Team members were available to answer questions and listen to citizens' comments. Citizens were also encouraged to complete comment card questionnaires. Following the open house, NCDOT conducted the formal Design Public Hearing and provided a formal presentation of the project's history, status, schedule, alternatives, and Preferred Alternative. Citizens were then asked to formally express their comments. Eight citizens spoke during the formal Design Public Hearing.

In addition to the eight comments spoken during the formal Design Public Hearing, 82 written comments were received at the open house or during the 30 day comment period. Approximately 39% of the respondents indicated that their property will be impacted (direct, indirect, view) by Alternative 17. Approximately 85% of the citizens provided ideas regarding the design of the Preferred Alternative. Approximately 62% of the citizens shared additional issues or specific ideas for the bridge replacement. Comments were discussed at the Post-Hearing Meeting with FWHA and NCDOT (held on August 29, 2014). During final design, comments will be considered further. The Post Design Hearing Meeting Summary, with citizen comments and NCDOT responses, is included in **Appendix C**.

One of several artistic renderings of Alternative 17 prepared for the July 29, 2014 public meetings

In accordance with 23 USC 128, the North Carolina Department of Transportation certifies that a public hearing for the subject project has been held, and the social, economic, and environmental impacts, consistency with local community planning and goals and objectives, and comments from individuals have been considered in the selection of the Preferred Alternative for this project.

Design Public Hearing, July 29, 2014

8. ADDITIONS AND REVISIONS TO THE ENVIRONMENTAL ASSESSMENT

The following is a summary of additions and revisions to the design of Alternative 17 since the EA was distributed.

8.1 Steering Committee Formation and Meetings

Following the selection of Alternative 17, a Steering Committee comprised of local residents and business owners was formed at the request of citizens and the Towns of Surf City, Topsail Beach, and North Topsail Beach. The members of the Steering Committee were recommended by the local officials. Three Steering Committee meetings were held on April 23, June 24, and November 12, 2013. The options for the mainland and island tie-in points for Alternative 17 were discussed (see **Section 8.2** for details) as well as the typical sections.

Steering Committee Meeting, November 12, 2013

Before each Steering Committee meeting, the NCDOT also met with representatives of the Town of Topsail Beach, the Town of Surf City, and the Town of North Topsail Beach. During these meetings, the NCDOT provided a project update, answered questions, and gathered input from attendees. This input along with the input received from the Steering Committee members was used to further refine tie-in intersection options and the proposed typical sections.

8.2 Updates to Alternative 17

8.2.1 Minimization of Business Impacts

Previously, preliminary designs of Alternative 17 showed potential relocation of one residence (a mobile home at the intersection of Roland Avenue and Little Kinston Road) and three businesses (near the intersection of S. New River Drive and S. Topsail Drive (NC 50)). In response to requests from local business owners and residents, the proposed roundabout at the island tie-in point was shifted north. This slight change avoids the three previously anticipated business impacts on the island.

Due to utility relocation issues on the mainland side (to keep utility poles in line and avoid angled turns in transmission lines), the alignment of the southeastern roundabout approach was shifted slightly. Therefore, one anticipated business relocation is located in the southeast quadrant of the mainland roundabout/tie-in point. This building is currently vacant. The one residential relocation remains for the mobile home on the mainland side.

8.2.2 Typical Section

Previously, the proposed bridge typical section was 47 feet wide, with two 12-foot travel lanes, two four-foot bicycle lanes, and two five-foot sidewalks, separated by a 2.5-foot curb and gutter. The Steering Committee requested this typical section be revised to provide improved access for pedestrians and bicyclists.

As a result, NCDOT developed a new 50-foot wide typical section (shown in **Figure 4**). This revised design will provide two 12-foot travel lanes, two 7.5-foot shoulders, and one 10-foot multi-use path separated by a one-foot wide concrete barrier. This provides a clear roadway width of 39 feet, which can be converted into three 11-foot

travel lanes with two three-foot shoulders in case of an emergency or hurricane evacuation (two travel lanes for traffic leaving the island and one travel lane for emergency vehicles entering the island).

8.2.3 Tie-in Intersections

The Project Team selected Mainland Option #2 (four-legged roundabout) and Island Option #4 (three-legged roundabout) as the tie-in location options for Alternative 17 after receiving input from the Steering Committee and a resolution passed by the Town of Surf City. These decisions result in no changes to anticipated natural environment impacts and will improve traffic operations. Roundabout options were discussed with the Merger Team on April 16, 2014 and presented to the public on July 29, 2014 at the Pre-Hearing open house and Design Public Hearing. (See **Figures 5 and 6**.)

8.3 Roland Avenue Mitigation Measures

Since the bridge will be relocated south of Roland Avenue and the access to the Central Business District will change, mitigation measures were explored to improve accessibility to businesses and Soundside Park along Roland Avenue, between the existing bridge and New River Drive (NC 210). During the Steering Committee meetings (**Section 8.1**), improvements to pedestrian and bicyclist access along Roland Avenue were discussed. As a result of these discussions, the project will include repaving and restriping Roland Avenue, as well as construction of a multi-use path within these limits. This mitigation will allow for pedestrian access via a multi-use path for people to travel from the mainland to the island and access the businesses in the Central Business District. In addition, because the multi-use path on the bridge is designed to be on the north side, increased views of the Central Business District will be provided. The multi-use paths to be provided as part of the project support the Town of Surf City's pedestrian access goals described in the *Topsail Area Comprehensive Transportation Plan*. A depiction of the proposed typical section on Roland Avenue is shown in **Figure 4**.

NCDOT will repave and restripe Roland Avenue on the island between the proposed cul-de-sac on Roland Avenue (near the existing bridge) and NC 210 (New River Drive). NCDOT will construct a 10-foot paved multi-use path on the southwest side of Roland Avenue from the proposed cul-de-sac on Roland Avenue to just south of the intersection of Roland Avenue and NC 210. The multi-use path will connect with the existing boardwalk bridge to Soundside Park and the multi-use path along the proposed bridge (Alternative 17). (See the **Project Commitments Page**.)

NCDOT will provide 100% funding for the multi-use path along Roland Avenue. The Town of Surf City will be responsible for maintenance of the multi-use path along Roland Avenue after construction. NCDOT Local Programs Management Office will facilitate a formal municipal agreement between the Town of Surf City and NCDOT regarding maintenance of this path. (See the **Project Commitments Page**.)

8.4 Natural Environment Avoidance and Minimization

As part of the selection of Alternative 17, natural environment avoidance and minimization measures were incorporated into the preliminary roadway design of Alternative 17 and include:

Mainland Side

- Added retaining walls to minimize fill in CAMA wetlands

Island Side

- Extended the bridge by approximately 100 feet to eliminate fill in CAMA wetlands
- Recommended one span of 100 feet with a shallower girder to reduce structure depth (necessary due to extending structure)
- Raised the roundabout profile by approximately 1.5 feet (necessary due to extending structure)
- Added retaining wall (to build up bridge approach without having side slope impacts to the adjacent area)

8.5 Soundside Park Impacts

The EA reported that estimated permanent impacts from Alternative 17 to Soundside Park were approximately 0.2 acre. With subsequent revisions to the proposed alignment to reduce business impacts on the island side, it is estimated that Alternative 17 will result in approximately 0.4 acre of permanent impacts to Soundside Park. The impacted area is undeveloped and marshy with no recreational facilities present. Park access remains unchanged under Alternative 17, and there will be no temporary or permanent impacts to the park facilities.

The Town of Surf City has expressed support of Alternative 17 and acceptance of the impacts to Soundside Park. The Town of Surf City provided comments in an email dated April 15, 2014 (included in **Appendix D**).

8.6 Existing Swing Bridge

Pender County and local municipalities (Town of Surf City, Town of Topsail Beach, and Town of North Topsail Beach) were contacted about potential ownership of the existing swing bridge (upon its future removal from its current location), but it was cost-prohibitive for any local government to assume rehabilitation and maintenance costs (lead paint removal and other federal requirements estimated the cost to be in excess of $1 million). The existing bridge will become the property of the contractor if no other agreement is arranged prior to construction. NCDOT will grade the old roadbed of Roland Avenue in the vicinity of the existing bridge to match the surrounding elevation and consider abandoning the right-of-way currently used for the bridge approaches to the Town of Surf City (see **Project Commitments Page**).

8.7 US Coast Guard Coordination

As part of the B-4929 project, the US Coast Guard sent a public notice (Number 5-1302) dated June 12, 2014 to approximately 380 citizens and businesses that own property adjacent to the Atlantic Intracoastal Waterway (AICW) or have maritime businesses in the study area. This notice provided information on the proposed replacement of the Topsail Island Bridge. The Coast Guard requested that navigational information such as the sizes and types of vessels presently owned and operated in the area be provided. In addition, the Coast Guard asked that mariners and adjacent property owners express their views in writing in favor of or opposition to the project, from a navigational standpoint. It was requested that comments be provided by July 11, 2014. The Project Team received eleven comments, five of which included a comment to the Project Team requiring a response. The following is a summary of the comments that require a response by the Project Team:

1. *Comment from Daniel Gassaway: The lack of a fender system is concerning. The bridge must be built to resist to collisions with or without fenders. In addition, lights must be clear. The general public is affected by this and every other construction project. The public assumes that the NCDOT has carefully devised a construction plan in the public interest.*

Response – Per the USCG public notice, a fender system will not be constructed for the proposed bridge. A vessel impact study will be conducted and a design vessel will be selected. The bridge will be designed to be resistant to collisions based on the design vessel. Lighting will comply with the USCG Bridge Administration's publication "Bridge Lighting and Other Signals". The construction plan will be determined by NCDOT, in collaboration with the selected contractor, to ensure efficiency and maintain public safety.

2. *Comment from David/Suzanne Prince: We oppose this project as this is our retirement home that this bridge will run horizontally across our pier taking our beautiful view of the waterway and the beach horizon, our right to peace and quiet and after a year of being for sale not one person will look at our property - which gives our property value "0". We are 30 year residents of Surf City and plan for retirement September 1st at 75 years old.*

Response – Comment noted. Selection of Alternative 17 involved broad project planning and design efforts, and an extensive public involvement process started in 2008. The NCDOT evaluated 20 different alternatives with three different bridge types (low-level moveable, mid-level moveable, and high-level fixed. While it is the NCDOT's intent to minimize impacts to the natural, physical, and human environment as much as possible, Alternative 17 was selected because it has the least impacts, lowest construction cost, and improved traffic operations. Also, at the Corridor Public Hearing, held on December 8, 2011, Alternative 17 received the highest public support.

3. *Comment from Citizen #5: I fear that the bridge height will allow larger vessels to move through the area at a speed that will be detrimental to fisheries as well as dangerous to small craft that frequent the area. I fear that allowing larger vessels to move through the area unimpeded will result in difficult navigation and control of small boats. I also worry about the impact of increased wakes on fisheries.*

Response – The USFWS and the NMFS have been a part of the project's Merger Team throughout the planning process. Allowable speeds and wake regulations will be determined by the appropriate agencies closer to the completion of the proposed bridge design.

4. *Comment from Chris Becherer: I am concerned with sedimentation from the construction of the bridge. The waters behind the island (near Little Kinston Road) are shallow already. I am hoping post construction that I will still be able to pass from the back of the island to the waterway.*

Response – In compliance with current environmental regulations, NCDOT will take the necessary measures to ensure no soil or concrete is discharged into the water during construction.

5. *Comment from Jay Maready: I support the project but we would like for you to dredge a channel to enter under the new bridge to the Intracoastal Waterway as we can now, near the Little Kinston Road properties. The width*

would need to be around 50 to 75-feet to clear the bridge. Many fishermen also use this passage for their livelihood.

Response – This request is beyond NCDOT's scope of the project and is under the jurisdiction of the USACE.

Based on this feedback from the Preliminary Public Notice and coordination with the USCG, a USCG Permit is anticipated. NCDOT NES will coordinate with NCDOT Structures Management Unit, upon completion of their design, to obtain the Advanced Approval for the project (see **Project Commitments Page**).

8.8 River Basin Correction

Section 5.8.5.3 in the EA states that the waters in the study area are located within the Lower Cape Fear River Basin. The NCDWQ (now NCDWR) has reassessed river basin boundaries to better align with the federal database of river basin boundaries. The study area is now located in the White Oak River Basin.

9. SUBMERGED AQUATIC VEGETATION HABITAT IMPACT

On March 3, 2014, the NMFS, USACE, NCDMF, and the Project Team discussed SAV habitat and potential impacts/mitigation requirements. NCDOT hired a consultant to perform SAV surveys between June and September 2013 in the study corridor. These surveys indicate that SAV habitat is sparse in the study corridor, but becoming more prominent. A report was prepared describing the survey procedure and the findings, and the report has been sent to NCDENR and NMFS for review (included in the appendix of the Concurrence Point 4A packet). A temporary work bridge will be constructed on south side of Alternative 17 to avoid SAV habitat.

Through discussions with NMFS and NCDMF, NCDOT agreed to the following mitigation measures:

- Bent Locations: NCDOT committed to span at least 120 feet of the SAV habitat.

- Shading Impacts: The proposed low chord elevation in the vicinity of the potential SAV habitat area is approximately 40 feet, and the proposed bridge is oriented in a north-south direction. Therefore, no shading impacts are anticipated to the SAV. However, to ensure that the SAV habitat is not impacted, NCDOT will conduct additional SAV surveys using methodologies (to be described in detail in future correspondence) recommended by NCDCM. SAV surveys will continue in the spring/summer prior to construction to gather data. After construction is completed (expected to start in 2017 and end by 2020), NCDOT will perform SAV surveys for two additional years. After these surveys, NCDOT will work with NMFS and NCDMF to determine if there is a need for mitigation. If needed, they will work together to implement the agreed-to mitigation plan. The federal permit will specify these monitoring requirements.

10. WETLANDS FINDING

In accordance with 33 CFR 328.3(b) and 23 CFR 777, jurisdictional wetlands were identified and delineated within the Project Study Area. Each wetland included the presence of hydrophytic vegetation, the presence of hydric soils, and evidence of wetland hydrology. Preliminary jurisdictional verification of the wetlands and streams occurred June 20, 2011 by a representative of the USACE.

Compared to previously considered Alternatives 4, 5, 5R, and 11, Alternative 17 has the smallest area of non-riparian wetland impacts (estimated to be 0.80 acre). Alternative 17 will not result in any riparian wetland impacts. It will impact 0.02 acre of CAMA wetlands. NCDOT will continue efforts to reduce CAMA wetland total impacts during final design, not to exceed 0.1 acre. NCDOT was unable to completely avoid impacts to wetlands. It was determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. The Section 404/NEPA Merger Team concurred with the sufficiency of avoidance and minimization efforts as documented on the CP 4A signature sheet (included in **Appendix B**). The project area has been reviewed for onsite mitigation by the NCDOT / ICI Onsite Mitigation Group. NCDOT has reviewed the parcels along NC 210 just west of the bridge for onsite preservation. Due in part to a number of factors, including the high cost per acre of land according to the County Appraisals, it will not be feasible to pursue onsite preservation unless there are remnant parcels acquired as part of the right-of-way proceedings.

11. FLOODPLAIN FINDING

Floodplain data for the Topsail Island area was downloaded from the North Carolina Floodplain Mapping Program (NCFMP) website and was included in the EA in Figure 5-14. This data defines floodway boundaries as a tool for floodplain management. Based on this data, the entire project study area is either in a 100-year floodplain (Zone AE), an outside 500-year floodplain (Zone X), or a Coastal Base flood zone (Zone VE). Therefore, complete avoidance of floodplain impacts is not practicable.

The new bridge structure footings will be placed within the Intracoastal Waterway (Topsail Sound). Given this limited in-water construction work, the proposed project will most likely result in a negligible net effect on these flood hazard zones. A more detailed impact analysis will be performed during the project's final hydraulic design. NCDOT will coordinate with FEMA and local authorities to ensure compliance with applicable floodplain ordinances.

12. BASIS OF FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The Environmental Assessment documents a study of the impacts of the proposed project. Based on this study and comments received from federal, state, and local agencies and the general public, it is the finding of the FHWA that this project will not cause a significant adverse impact to the human or natural environment. The proposed project is consistent with local plans, and the project has been coordinated with federal, state, and local agencies. In view of this evaluation, it has been determined that a FONSI is applicable for this project and consistent with the Code of Federal Regulations 23, Part 771.121. Therefore, neither an Environmental Impact Statement nor further environmental analysis is required.

13. CONTACT INFORMATION

The following individuals can be contacted for additional information on the proposed project:

John F. Sullivan III, PE
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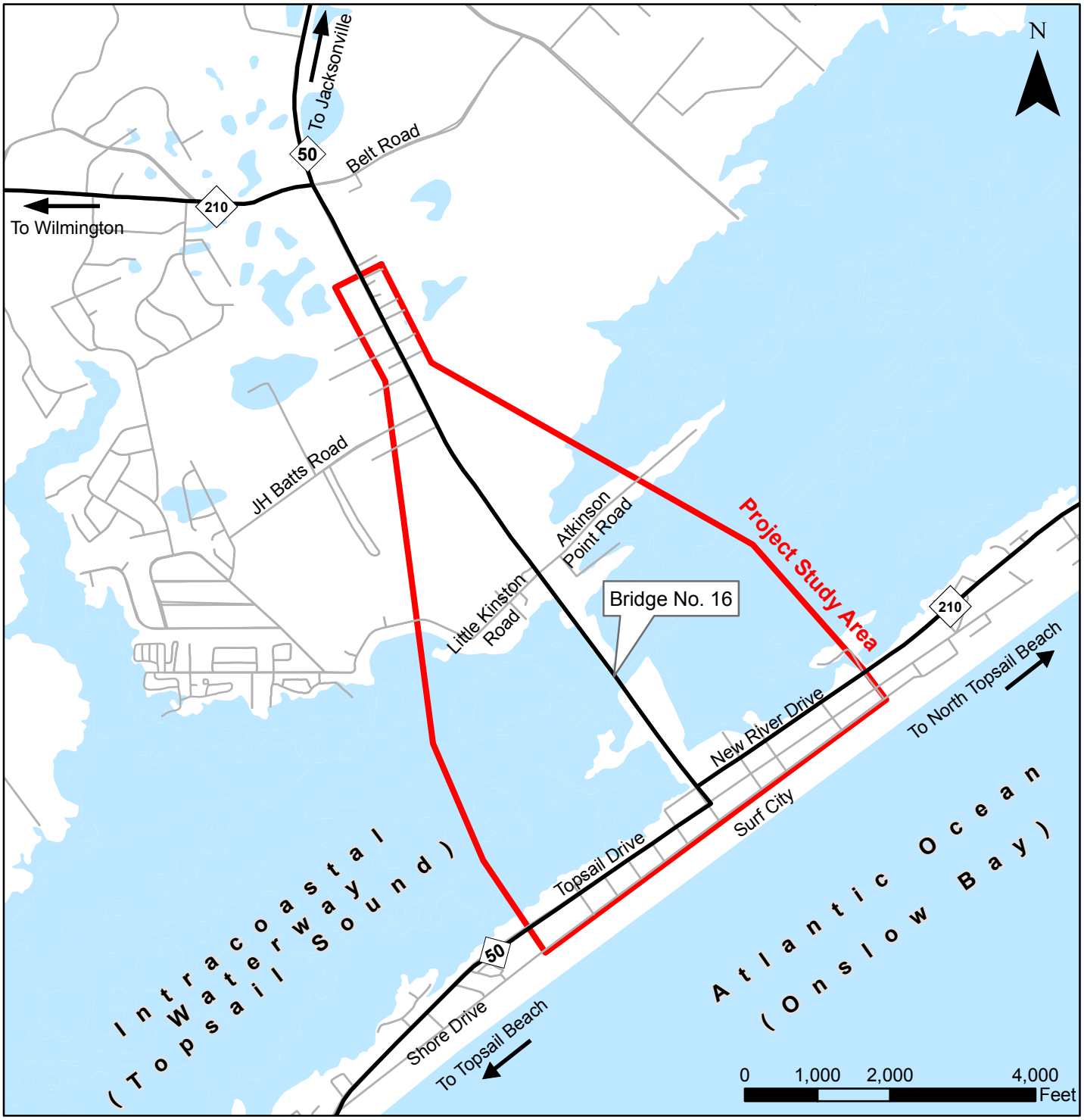
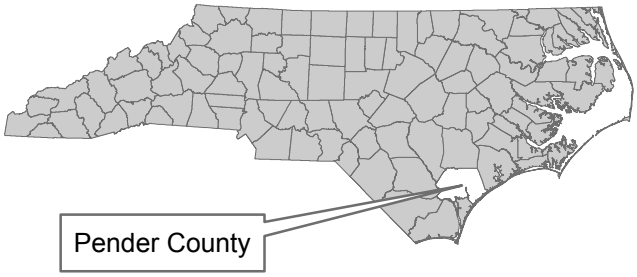
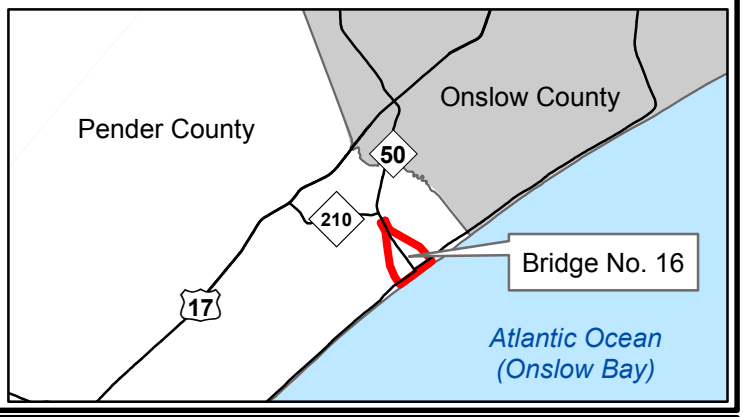
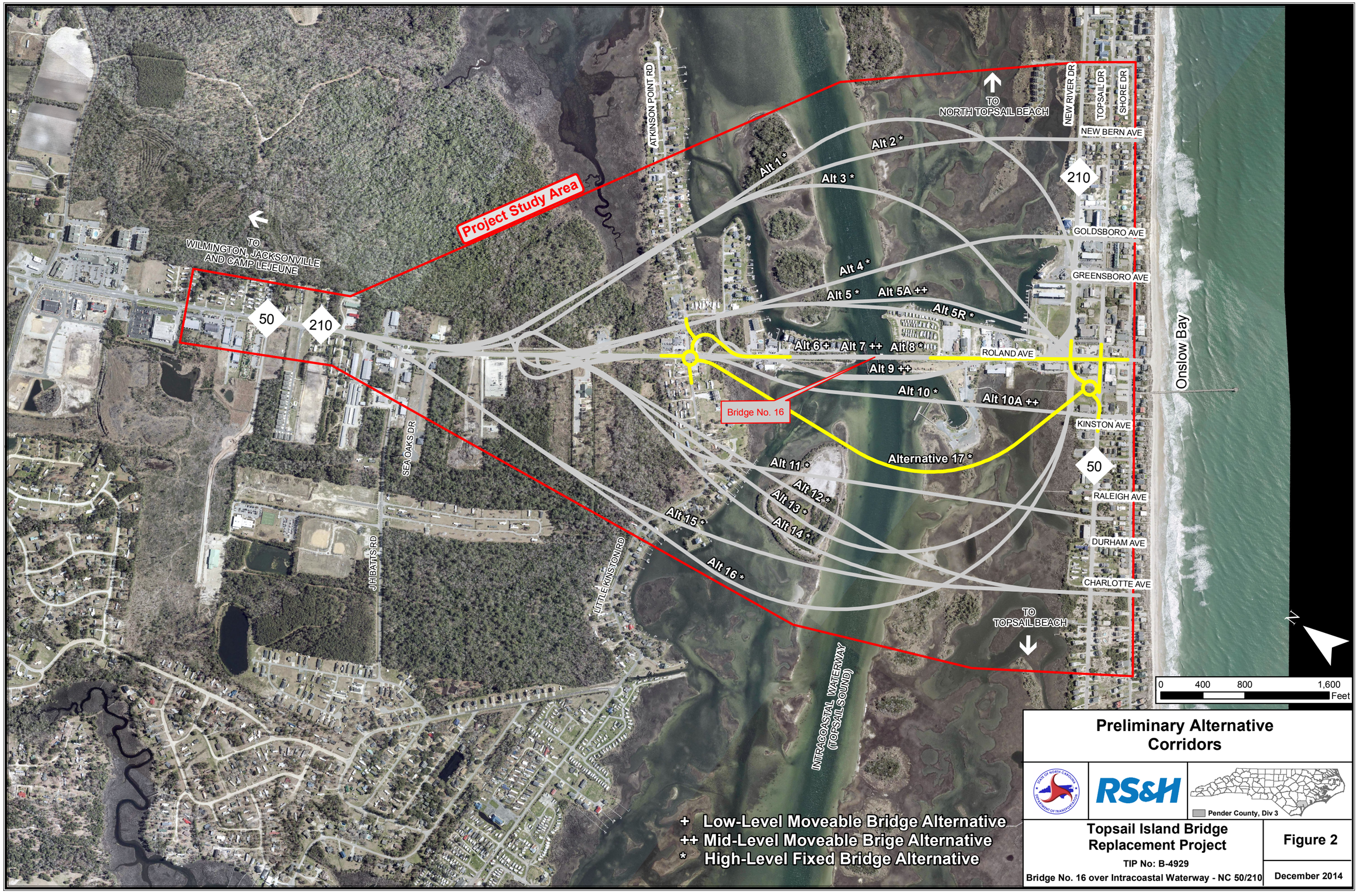
APPENDIX A: FIGURES



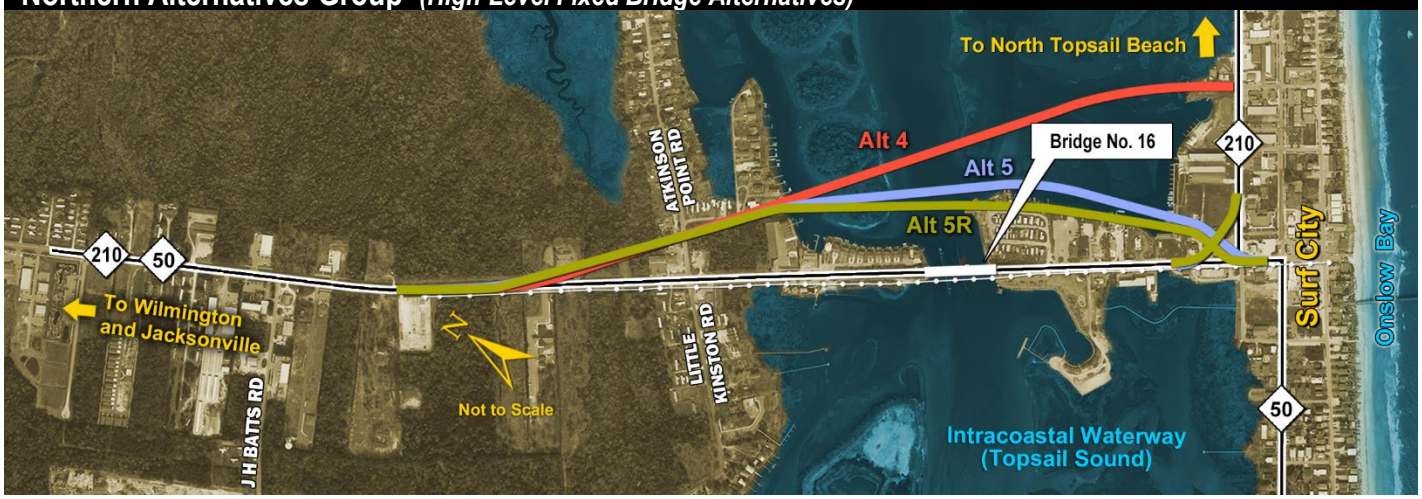




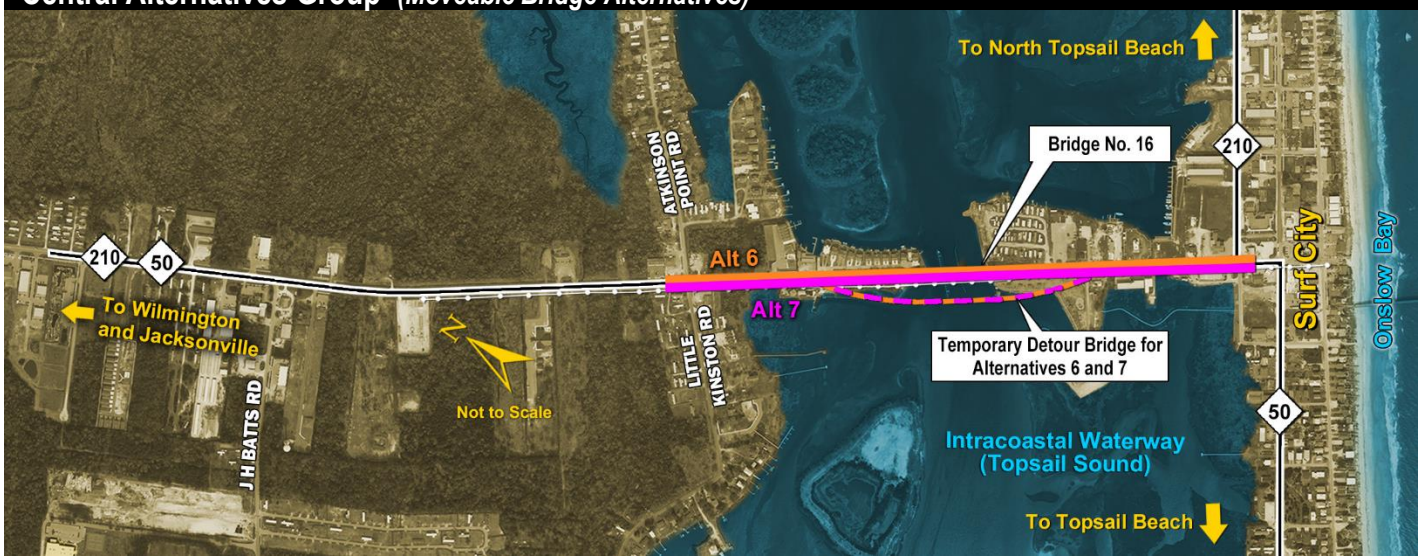
Topsail Island Bridge Replacement Project Bridge No. 16 over Intracoastal Waterway - NC 50/210	**TIP No:** B-4929	**Figure 1:** Project Vicinity
	WBS: 40233.1.1	
	Division: 3	December 2014


Project Study Area
TO WILMINGTON, JACKSONVILLE AND CAMP LEJEUNE
TO NORTH TOPSAIL BEACH
TO TOPSAIL BEACH
ATKINSON POINT RD
SEA OAKS DR
J H BATTS RD
LITTLE KINSTON RD
NEW RIVER DR
TOPSAIL DR
SHORE DR
NEW BERN AVE
GOLDSBORO AVE
GREENSBORO AVE
ROLAND AVE
KINSTON AVE
RALEIGH AVE
DURHAM AVE
CHARLOTTE AVE
50
210
Onslow Bay
INTRACOASTAL WATERWAY (TOPSAIL SOUND)
Bridge No. 16
Alt 1 *
Alt 2 *
Alt 3 *
Alt 4 *
Alt 5 *
Alt 5A ++
Alt 5R *
Alt 6 +
Alt 7 ++
Alt 8 *
Alt 9 ++
Alt 10 *
Alt 10A ++
Alternative 17 *
Alt 11 *
Alt 12 *
Alt 13 *
Alt 14 *
Alt 15 *
Alt 16 *
N
0 400 800 1,600 Feet
+ Low-Level Moveable Bridge Alternative
++ Mid-Level Moveable Brige Alternative
* High-Level Fixed Bridge Alternative
Preliminary Alternative Corridors
RS&H
Pender County, Div 3
Topsail Island Bridge Replacement Project
TIP No: B-4929
Bridge No. 16 over Intracoastal Waterway - NC 50/210
Figure 2
December 2014

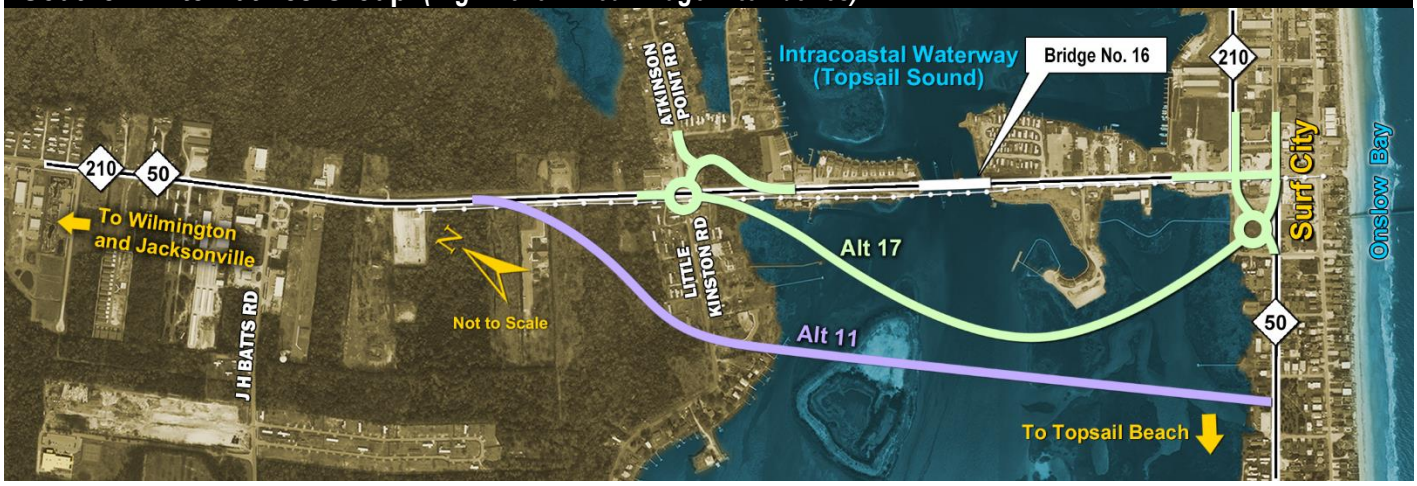
Northern Alternatives Group *(High-Level Fixed Bridge Alternatives)*



Central Alternatives Group *(Moveable Bridge Alternatives)*

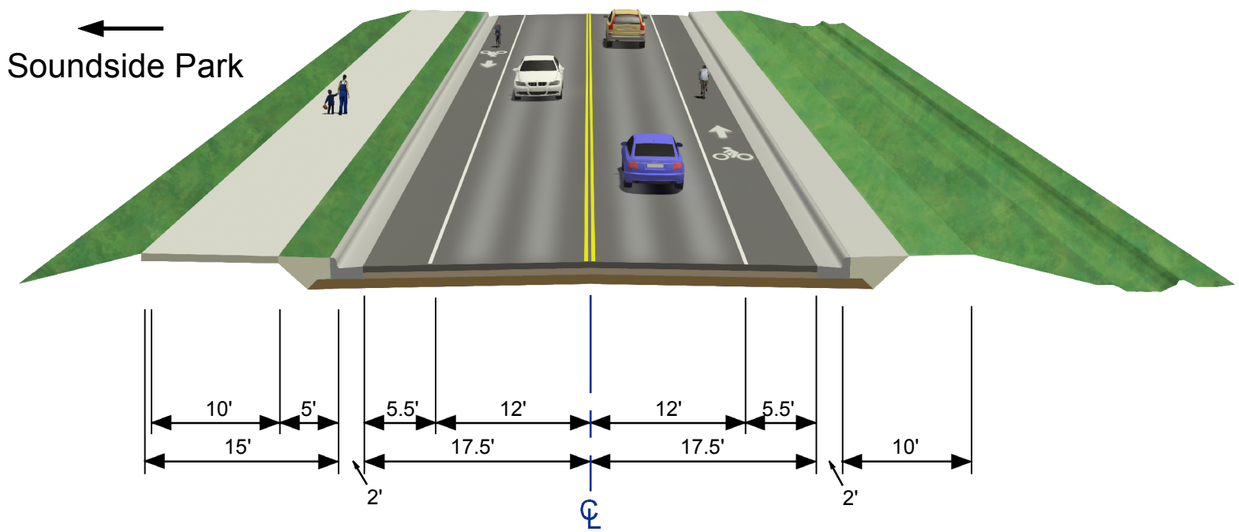


Southern Alternatives Group *(High-Level Fixed Bridge Alternatives)*

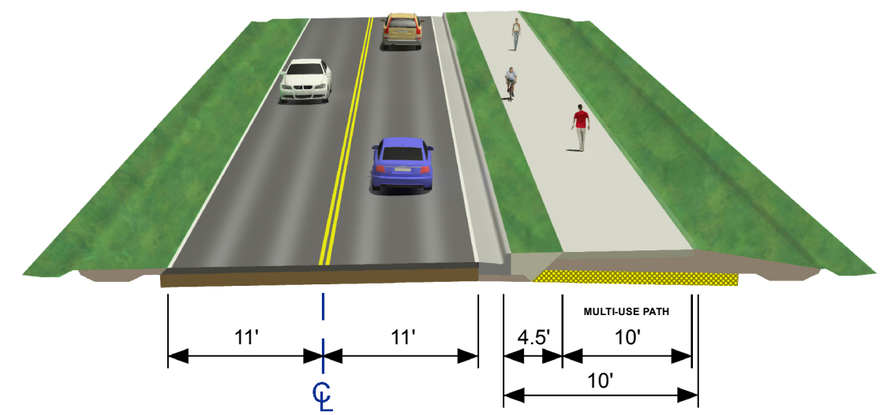


	Pender County	RS&H	**Topsail Island Bridge Replacement Project** Bridge No. 16 over Intracoastal Waterway - NC 50/210	**TIP No:** B-4929	**Figure 3:** Detailed Study Alternatives
				WBS: 40233.1.1	
				Division: 3	December 2014

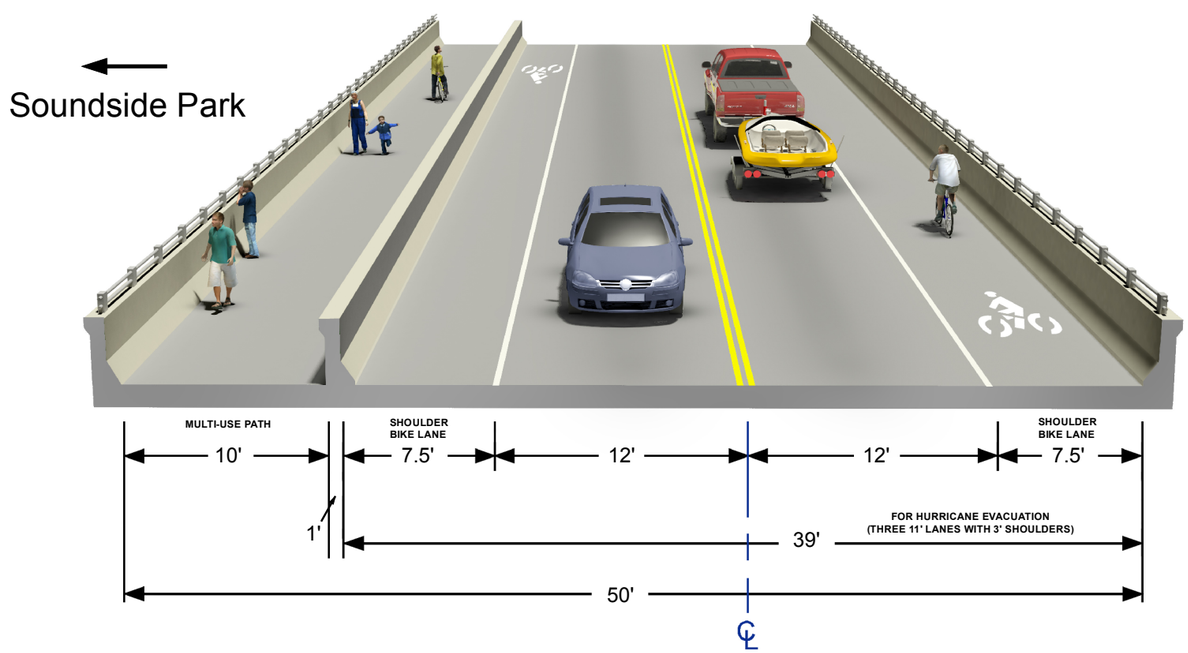
Proposed Roadway (Bridge Approaches) Typical Section - NC 50/210



Proposed Roadway Typical Section - Roland Avenue



Proposed Bridge Typical Section - NC 50/210



Proposed Bridge and Roadway Typical Sections

RS&H

Pender County, Div 3

Topsail Island Bridge Replacement Project

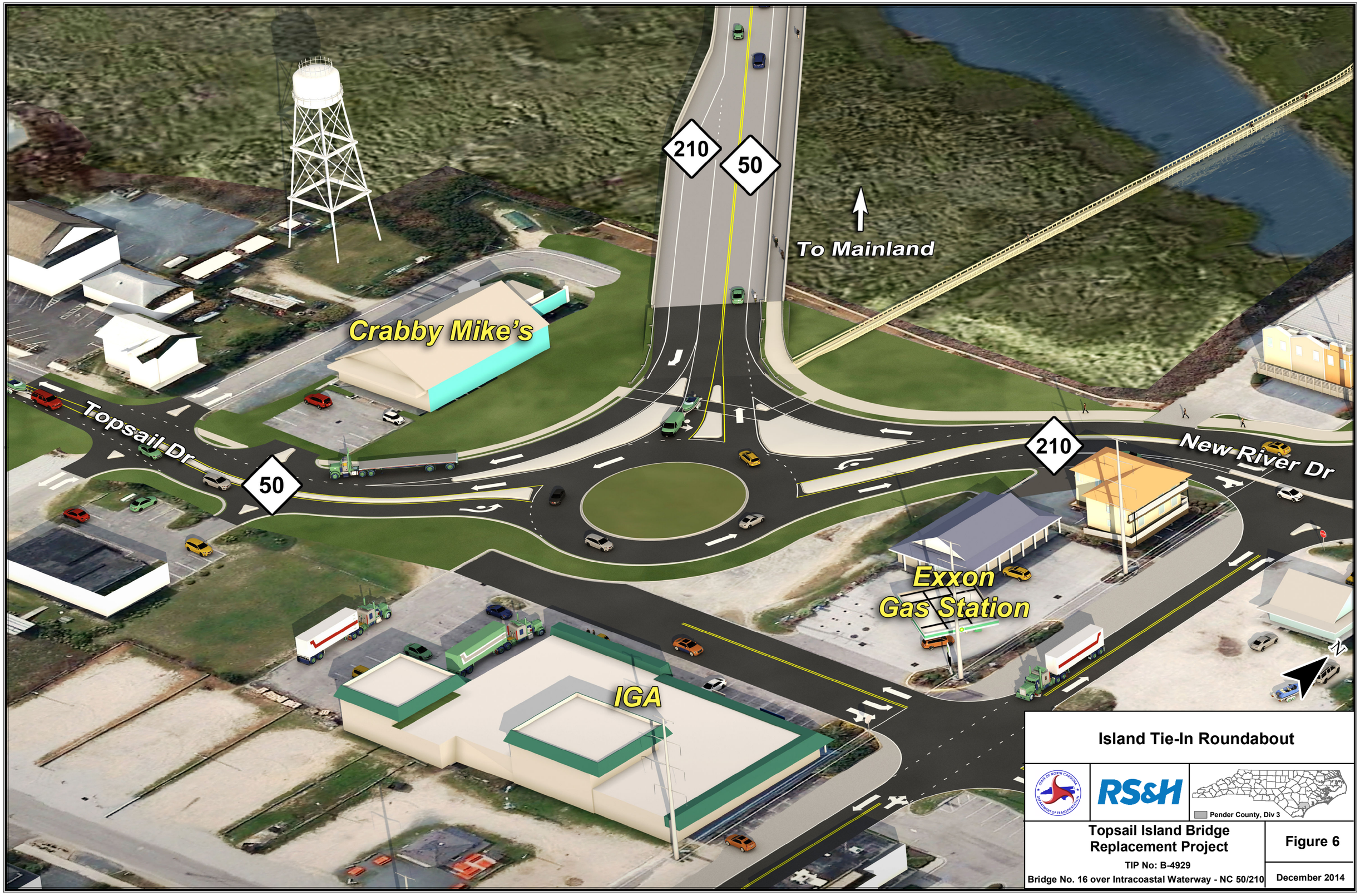
TIP No: B-4929

Bridge No. 16 over Intracoastal Waterway - NC 50/210

Figure 4

December 2014

Roland Avenue
Atkinson Point Road
To Island
Batson's Galley
Little Kinston Rd
210
50
N
Mainland Tie-In Roundabout
RS&H
Pender County, Div 3
Topsail Island Bridge Replacement Project
TIP No: B-4929
Bridge No. 16 over Intracoastal Waterway - NC 50/210
Figure 5
December 2014



Island Tie-In Roundabout

RS&H

Pender County, Div 3

Topsail Island Bridge Replacement Project

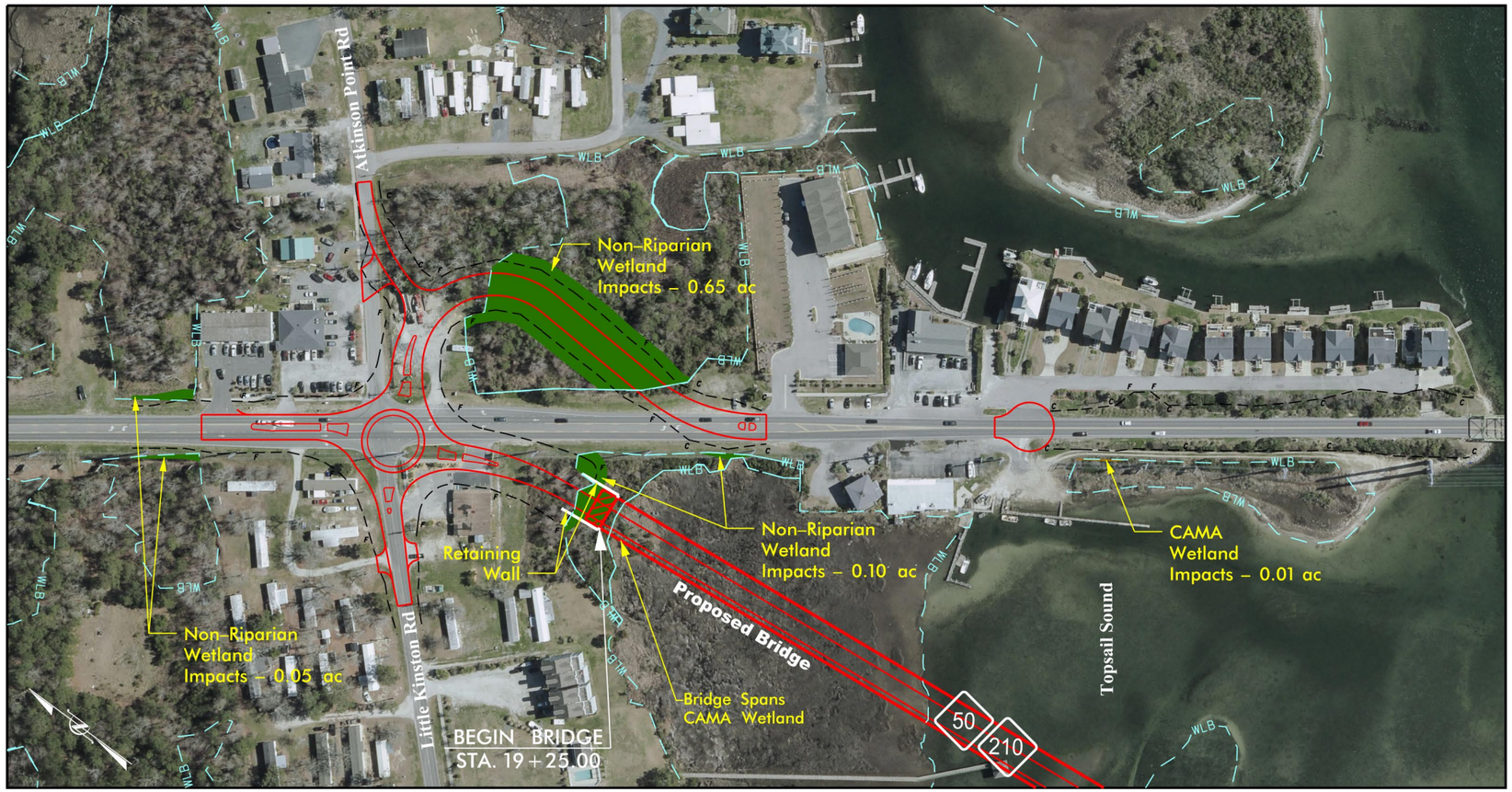
TIP No: B-4929

Bridge No. 16 over Intracoastal Waterway - NC 50/210

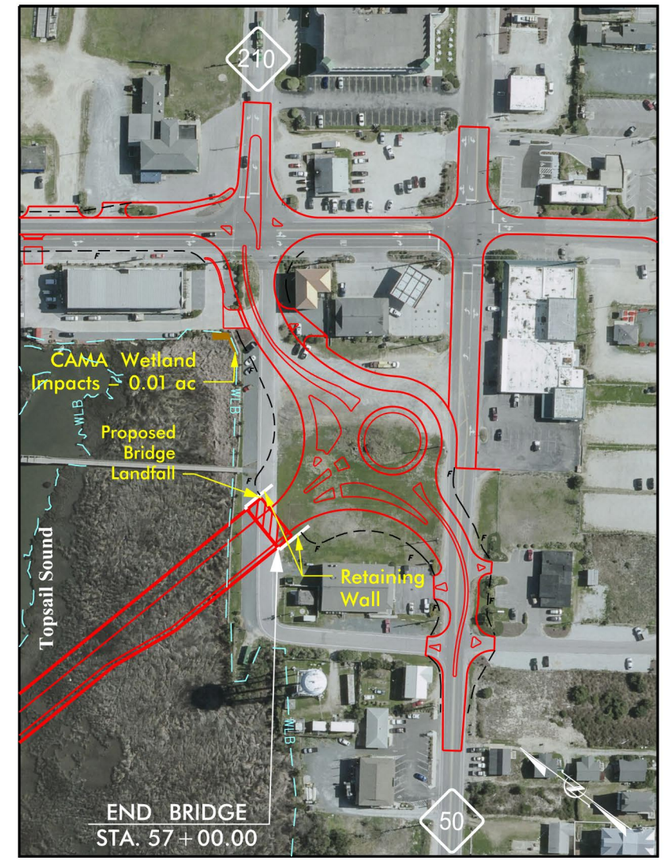
Figure 6

December 2014

Legend
Soundside Park
Proposed Right-of-Way
Streams
Topsail Sound
Ponds
Navigational Channel
Stream SA
Atkinson Point Rd
Sea Manor Dr
New River Dr
Topsail Dr
New Bern Ave
Goldsboro Ave
Greensboro Ave
Roland Ave
Kinston Ave
Shore Dr
Sea Oaks Dr
Little Kinston Rd
Onslow Bay
Bridge # 16
Alternative 17
(High-Level Fixed Bridge)
Intracoastal
Waterway
(Topsail Sound)
Pond B
Soundside Park
Surf City Police Department
Surf City Town Hall
Beach Care PA
Surf City Visitor Center
Fishing Pier
Faith Harbor United Methodist Church
50
210
0 250 500 1,000 Feet
N
Alternative 17
Affected Environment
RS&H
Pender County, Div 3
Topsail Island Bridge Replacement Project
TIP No: B-4929
Bridge No. 16 over Intracoastal Waterway - NC 50/210
Figure 7
December 2014



Begin Bridge - Mainland



End Bridge - Island

Legend

- Non-Riparian Wetland Impacts
- CAMA Wetland Impacts
- WLB Wetland Boundary
- Roadway Footprint (Slope Stakes)

Total Non-Riparian Wetland Impacts = 0.80 acres

Total CAMA Wetland Impacts = 0.02 acres

100′ 0′ 100′ 200′
50′ SCALE

Alternative 17
Wetland Impacts

RS&H

Pender County, Div. 3

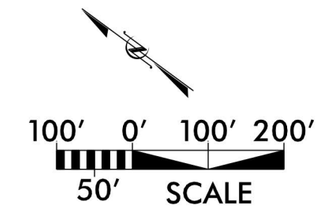
Topsail Island Bridge Replacement Project

TIP No: B - 4929

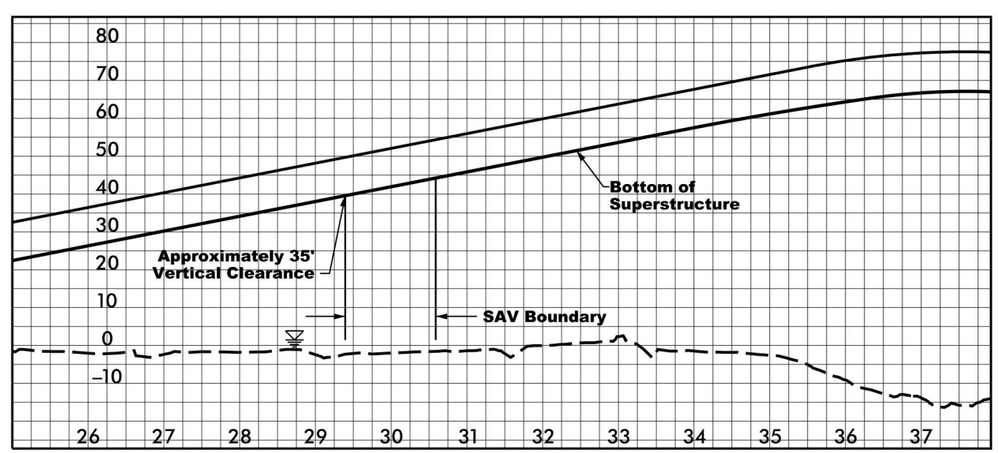
Bridge No. 16 over Intracoastal Waterway - NC 50/210

Figure 8

December 2014



Note: Temporary work bridge will need to be located on the south side to avoid any direct impacts to SAV.



Profile

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Legend

- Submerged Aquatic Vegetation/Habitat Deliniated Area
- WLB Wetland Boundary

Alternative 17 Submerged Aquatic Vegetation/Habitat

RS&H

Pender County, Div. 3

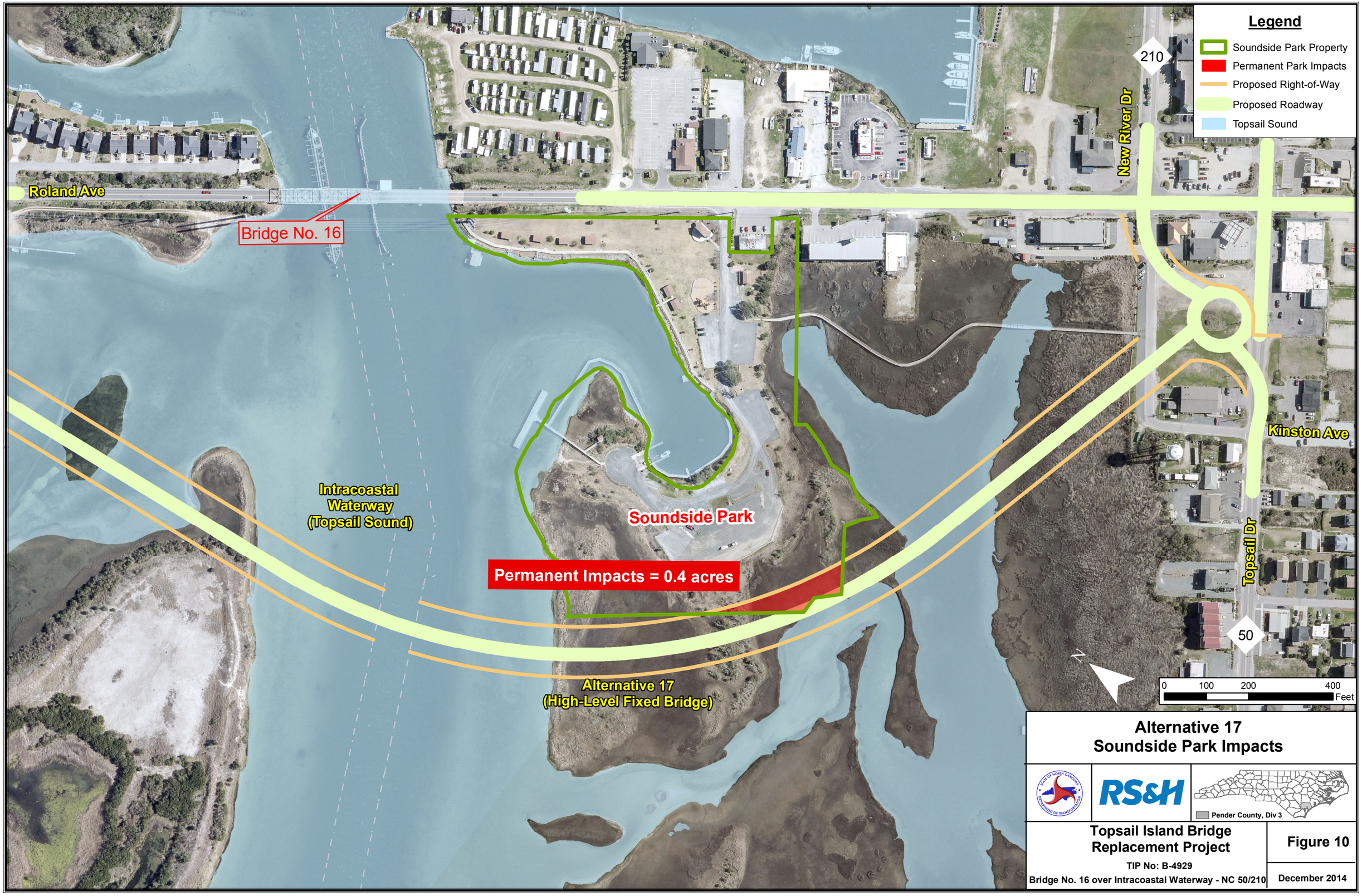
Topsail Island Bridge Replacement Project

TIP No: B - 4929

Bridge No. 16 over Intracoastal Waterway - NC 50/210

Figure 9

December 2014



Alternative 17
Soundside Park Impacts

RS&H

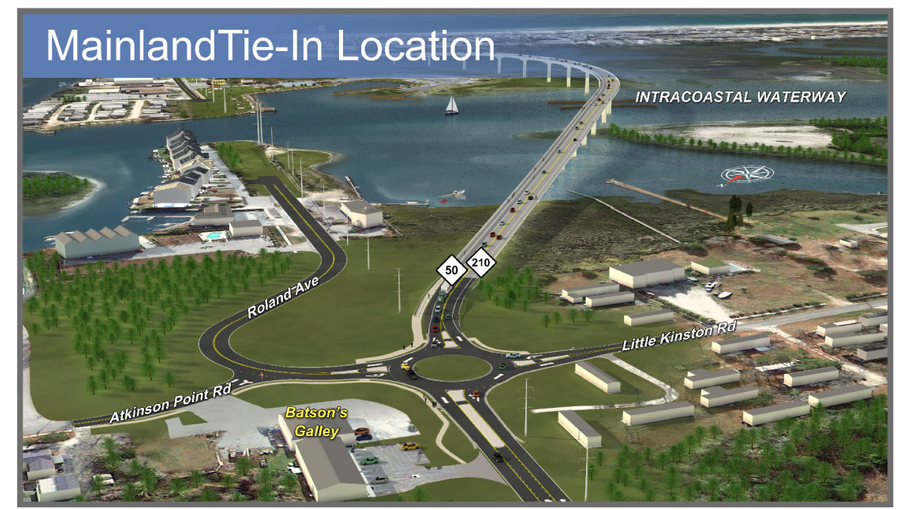
Topsail Island Bridge Replacement Project

TIP No: B-4929

Bridge No. 16 over Intracoastal Waterway - NC 50/210

Figure 10

December 2014



Alternative 17 Artistic Rendering

RS&H

Topsail Island Bridge Replacement Project

TIP No: B-4929

Bridge No. 16 over Intracoastal Waterway - NC 50/210

Figure 11

December 2014

APPENDIX B: NEPA/404 MERGER TEAM CONCURRENCE FORMS

NEPA/404 Merger Team Meeting Agreement

Concurrence Point 1: Purpose & Need and Study Area Defined

Project Name/Description: Topsail Island Bridge Replacement, Pender County, NC

TIP Project No.: B-4929

Federal Aid Project No.: BRSTP-50 (10)

WBS No.: 40233.1.1

Need for Proposed Action

- Structurally deficient, functionally obsolete bridge

Purpose of Proposed Action

- Improve bridge safety and functionality

Secondary purposes are included in the Concurrence Point 1 package discussed on August 20, 2009.

Study Area Defined

The study area is as shown on the attached Figure 3-1 of the Concurrence Point 1 package.

The Project Team met and concurred on this date of August 20, 2009 with the Purpose & Need and Study Area Defined for the proposed project as stated above:

USACE		NCDOT	
USEPA		USFWS	
NCDCR		NCDWQ	
FHWA		NCWRC	
USCG		NCDCM	
NCDMF		NMFS	

NEPA/404 Merger Team Meeting Agreement

Concurrence Point 2: Detailed Study Alternatives Carried Forward

Project Name/Description: Topsail Island Bridge Replacement, Pender County, NC

TIP Project No.: B-4929

Federal Aid Project No.: BRSTP-50 (10)

WBS No.: 40233.1.1

Detailed Study Alternatives Carried Forward

Detailed study alternatives to be carried forward are Alternatives 4, 5, 5R, 6, 7, 11, and 17 for the referenced project.

USACE	2-18-11	NCDOT	
USEPA		USFWS	2/17/2011
NCDCR		NCDWQ	2/17/11
FHWA		NCWRC	2-17-11
USCG		NCDCM	
NCDMF	Jessi Baker	NMFS	

Section 404/NEPA Merger Team Meeting Agreement

Concurrence Point 2A: Bridging Decisions and Alignment Review

Project Name/Description: Topsail Island Bridge Replacement, Pender County, NC

TIP Project No.: B-4929

Federal Aid Project No.: BRSTP-50 (10)

WBS No.: 40233.1.1

Bridging Decisions and Alignment Review

The Project Team has reviewed the bridging and alignments of the seven Detailed Study Alternatives (DSA) and agreed to carry five of the seven DSAs forward into the Concurrence Point 3. Alternatives 6 and 7 have been eliminated due to their adverse impacts to Soundside Park, a Section 4(f) resource, as well as their limited off-site detour options, constructability concerns and higher overall costs compared with other five DSAs. Alternatives 4, 5, 5R, 11, and 17 will be carried forward to Concurrence Point 3. Table below shows the begin and end stations and associated **minimum** roadway/hydraulic bridge lengths for each DSA.

Detailed Study Alternative No.	Begin Station	End Station	Minimum Roadway/Hydraulic Control Bridge Length (feet)
Alt 4	516+40	553+90	3,750
Alt 5	615+40	652+16	3,676
Alt 5R	615+40	651+94	3,654
~~Alt 6~~	~~1316+50~~	~~1321+70~~	~~520~~
~~Alt 6 – Detour~~	~~21+13~~	~~36+00~~	~~1,487~~
~~Alt 7~~	~~1511+50~~	~~1521+70~~	~~1,020~~
~~Alt 7 – Detour~~	~~21+13~~	~~36+00~~	~~1,487~~
Alt 11	919+00	959+40	4,040
Alt 17	406+75	444+00	3,725

The Project Team met and concurred on this date of August 16, 2012:

USACE	Brad Hoover 8-16-2012	NCDOT	Michele L. James
USEPA	8-21-12	USFWS	Gary Jordan
NCDCR	Renee Gledhill-Earley 8/21/12	NCDWQ	
FHWA	Ronald	NCWRC	
USCG		NCDCM	
NCDMF	Jesse Baker	NMFS	
RPO			

Section 404/NEPA Merger Team Meeting Agreement

Concurrence Point 3: LEDPA/Preferred Alternative Selection

Project Name/Description: Topsail Island Bridge Replacement, Pender County, NC

TIP Project No.: B-4929

Federal Aid Project No.: BRSTP-50 (10)

WBS No.: 40233.1.1

LEDPA/Preferred Alternative Selection

The Project Team has reviewed the Detailed Study Alternatives and has chosen **Alternative 17** as the Least Environmentally Damaging Practicable Alternative (LEDPA)/Preferred Alternative for the replacement of the referenced project, Bridge No. 16 in Topsail Island. During final design development, NCDOT will reduce the permanent CAMA wetland impacts associated with Alternative 17 not to exceed 0.1 acres. In addition, NCDOT will span the 120' of Submerged Aquatic Vegetation (SAV) habitat shown in the attached figure. Measures will be taken to avoid any other bottom-disturbing activities in the SAV habitat area.

Subsequent to the August 16, 2012 Concurrence Point 3 meeting, the Project Team performed additional survey for SAV habitat. Results of this survey are summarized in the attached memo. After review and coordination of the SAV survey results, the Project Team has concurred on the selection of Alternative 17 as the LEDPA/Preferred Alternative.

USACE	12-19-2012	NCDOT	
USEPA	1/2/13	USFWS	12/20/2012
NCDCR	12-20-12	NCDWQ	12-21-12
FHWA		NCWRC	
USCG		NCDCM	
NCDMF		NMFS	
RPO	12-20-12		

CONCURRENCE POINT 4A

SECTION 404/NEPA MERGER TEAM MEETING AGREEMENT

Concurrence Point 4A: Avoidance and Minimization

Project Name/Description: Bridge No. 16 - Topsail Island Bridge Replacement, Pender County

TIP Project No.: B-4929

Federal Aid Project No.: BRSTP-50 (10)

WBS No.: 40233.1.1

Avoidance and Minimization: Based on the current project development and design information, impacts to jurisdictional resources have been avoided and minimized to the maximum extent practicable. The following avoidance and minimization measures have been incorporated and will be continued into the final design phase also:

- CAMA Wetlands: Revised design to reduce impacts to 0.1 acre or less
- SAV Habitat: Designed bent locations so that at least 120' wide SAV habitat could be spanned. NCDOT will consider wider spans during final design, based on additional SAV surveys which will be completed using methodologies recommended by NC DCM.

The Project Team met and concurred on this date of April 16, 2014:

USACE	Brad Hawes	NCDOT	Michele L. James
USEPA	Cynthia VanDer Wiele, Ph.D.	USFWS	Gary Jordan
NCDCR	Renee Gledhill-Earley	NCDWQ	Mean Kemp
FHWA	Roy Mills	NCWRC	[illegible]
USCG		NCDCM	[illegible]
NCDMF		NMFS	Fritz Rohde
RPO			

APPENDIX C: CORRIDOR AND DESIGN PUBLIC HEARING COMMENTS AND RESPONSES

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

MEMO TO: Post Hearing Meeting Attendees

FROM: for Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis Unit Manager

DATE: September 4, 2012

SUBJECT: B-4929 – Topsail Island Bridge Replacement Project
Post Corridor Hearing Meeting Minutes

ATTENDEES: See page 10

The North Carolina Department of Transportation (NCDOT), in consultation with the Federal Highway Administration (FHWA), proposes to replace the existing Topsail Island Bridge (Bridge No. 16) along NC 50/210 over the Intracoastal Waterway (Topsail Sound) in Pender County, North Carolina. Bridge No. 16 is located within the town limits of Surf City and consists of a main channel swing span with concrete deck girder approach spans.

The Post Corridor Hearing Meeting for the subject project was held at 1:00 p.m., on February 28, 2012 at NCDOT Structure Design Conference Room. The purpose of this meeting was to review the public comments received before, during and subsequent to the Corridor Public Hearing. The Corridor Public Hearing was held on December 8, 2011 at the Surf City Community Center. This Corridor Public Hearing was divided into two sessions: an informal Pre-Hearing Open House, followed by a formal Public Hearing. During the Open House, the attendees were first shown a presentation that provided an overview of the seven Detailed Study Alternatives, summaries of the environmental impacts for each alternative, as well as the projects' schedule. Following the Open House, NCDOT conducted the formal Public Hearing providing a formal presentation of the project's history, status, schedule, and alternatives. A total of 270 citizens and public officials from Topsail Beach, Surf City, North Topsail Beach, and surrounding area attended the Corridor Public Hearing (235 citizens and 35 public officials).

A total of 140 comment cards were received during or subsequent to the Corridor Public Hearing. Sixteen citizens presented their verbal comments during the formal Corridor Public Hearing. Other comments were received via phone calls, email, or regular mail prior to and subsequent to the hearing. Approximately 32% of the comment card respondents have chosen Alternative 17 as their first preference, followed by Alternative 7 (25%). Approximately 53% of comment cards respondents strongly preferred a high-level fixed bridge. Conversely, 30% of respondents strongly preferred a low-level/mid-level moveable bridge. Several participants expressed concerns with alternatives that directly or indirectly affected their property or business.

Post Hearing Meeting Summary:

Mr. Chad Critcher opened the meeting and gave an overview of the Corridor Public Hearing, and comments received. The attendees discussed the formal responses to the comments received at or after the Corridor Public Hearing and agreed to provide the following responses:

Oral and Written Comments from the Citizen (Names and address of these Citizens are provided on page 9)

1. **Can you involve some members of the community like elected officials, business owners, and residents in discussions with the Project Team? Include people that are from the island since we live here and appreciate where we live.** *(Citizens 1, 12)*

   Response – The Project Team has held two Citizen Informational Workshops. Prior to each workshop, an elected officials meeting was held introducing the workshop presentation material. During the elected officials meetings and workshops, Project Team members were available and numerous one-on-one discussions were held with local citizens, business owners, and elected officials. These discussions have been documented and considered during project development. Local citizens were also provided the opportunity to complete comment cards and/or address publically their comments at the Corridor Hearing. All comments received were given equal due diligence. The Project Team will continue to seek community engagement and we anticipate future public meetings and additional targeted conversations with the community.

2. **What do we need to do to make sure that NCDOT in Raleigh hears our concerns loud and clear?** *(Citizen 14)*

   Response – Your comments at the public hearing and on the comment cards have been included and presented to the Project Team. You can also communicate your comments with local representatives and continue to provide your comments to NCDOT. After a Preferred Alternative is selected, the Project Team will hold a Design Public Hearing where additional feedback from citizens will be requested.

3. **What weight is placed on what the citizens of Surf City and Topsail Island want versus what the state wants to do?** *(Citizen 15)*

   Response – Public input is taken into consideration along with input from regulatory agencies, environmental impacts, property impacts, costs, and other factors in order to determine the Preferred Alternative.

4. **During the presentation at the hearing, you stated that the purpose of the hearing was to gather input from those affected by the project and that all alternatives were still being considered. However, comments were made by a member of NCDOT staff prior to the formal presentation seemed to indicate otherwise. Please clarify.** *(Citizen 39)*

   Response – No decision has been made. After consideration of input provided by the public, local governments, and regulatory agencies, as well as project specific design criteria, a Preferred Alternative will be selected.

IMPACTS

5. **Will you consider our working waterfront endangered? Give it the same weight of importance that you would for endangered species.** *(Citizens 1, 6)*

   Response – The waterfront properties' impacts for the alternatives have been accounted for in the summary of property impacts and business impacts summarized in the Environmental Assessment (EA) document. No specific weight is given to any one impact item; all impacts will be considered when selecting the Preferred Alternative.

6. **The high-level fixed bridges will greatly impact the shell fish beds and oyster beds in the Intracoastal Waterway because of the pylons in the water. Alternative 6 or 7 would have much less of an impact.** *(Citizen 2)*

   Response – As part of the EA document, the aquatic communities were identified in the area for Topsail Sound and tidal pools in the marsh. These communities could support fish and shellfish such as Atlantic silverside, Atlantic croaker, flounder, menhaden, shrimp, blue crab, eastern oyster, and clams, as well as various benthic macroinvertebrates. The impacts to these aquatic communities will continue to be considered when selecting the Preferred Alternative.

7. **The current bridge helps slow down boats that come through the Intracoastal Waterway. If there is a high-level fixed bridge it will not slow them down and will cause huge wakes with 4 to 5-foot waves to crash ashore.** *(Citizen 2)*

   Response – NCDOT does not regulate the Intracoastal Waterway. The U.S. Coast Guard will continue to control no-wake zones.

8. **How much would Alternative 7 decrease bridge openings?** *(Citizen 8)*

   Response – Alternative 7 is a mid-level moveable bridge, with a 30-foot vertical navigational waterway clearance, which is estimated to eliminate one in every three bridge openings.

9. **The high-level fixed bridge is a complete eyesore. The park will not be enjoyable or relaxing if you have to look at a 65-foot bridge right there (Alternative 17).** *(Citizen 10)*

   Response – Additional renderings will be provided at the next public forum to better show potential impacts from adjacent sides, such as the park.

10. **Noise impacts have not been taken into account.** *(Citizens 22, 37)*

    Response – As part of the Environmental Assessment document, a noise analysis was completed. Using the FHWA Noise Abatement Criteria, there will be property impacts that exceed the Noise Abatement Criteria in the future conditions (Year 2035) as follows:

    - Do Nothing (No Build) – 18 impacts
    - Alternative 4 – 16 impacts
    - Alternatives 5 and 5R – 14 impacts
    - Alternatives 6 and 7 – 16 impacts
    - Alternatives 11 and 17 – 18 impacts

Based on this study, traffic noise abatement is not recommended and no noise abatement measures are proposed. During the construction, all reasonable efforts will be made to minimize exposure to noise sensitive areas.

11. **Alternative 17 creates lighting (headlight) problems.** *(Citizens 16, 40)*

    Response – Once a Preferred Alternative is selected and a final alignment and preliminary design have been determined, potential lighting impacts will be assessed. If headlight concerns are identified, designs will be prepared to mitigate impacts accordingly.

JOBS/BUSINESSES

12. **Several business impacts are not included in the study. My business is not one that would be directly cut off but it's at the start of one of the options which means traffic would be speeding by if there is a high-level bridge instead of stopping like they do now because traffic is slower. Also, there are new businesses that were not included in the numbers. Can we see a spreadsheet showing the property impacts that were presented at the meeting along with the updated information based on the new businesses?** *(Citizen 7)*

    Response – The property impacts reflect the total number of businesses on each parcel impacted as of June 2011. The data presented at the Corridor Public Hearing in December 2011 has been verified and does include both owners and tenants for each business; therefore no changes to the business impact summaries are necessary at this time. After Preferred Alternative selection and preliminary design, the number of impacts will be reevaluated.

13. **The island and Intracoastal Waterway frontage build out and current lack of mortgage financing would inhibit effected residents and businesses from relocating to other similar properties if they were displaced or their quality of life suffers from the project, even if buyout packages were favorable.** *(Citizen 22)*

    Response – If a citizen is required to move from their property, a right of way agent from NCDOT will contact them personally to offer assistance. The agent will explain the services and payments available. In the agent's offer of assistance, each citizen will be provided with current listings of affordable, comparable replacement housing, which are currently available and are "decent, safe, and sanitary".

    http://www.ncdot.gov/download/construction/roadbuilt/RelocationBooklet_07.pdf

14. **The roundabout on Alternative 17 will cut off access to the IGA and Ward Realty. It would hurt the local businesses, cause accidents for people trying to access the businesses and also affect the convenience store, restaurant, jewelry store, and art store. We would lose those businesses. Can we see a redesign with a stop light instead of a roundabout?** *(Citizens 3, 4)*

    Response – If Alternative 17 is chosen as the Preferred Alternative, the Project Team will evaluate other options for the island intersection to minimize potential impacts to these businesses.

15. **Any of the high-level fixed bridge alternatives will do away with the existing business corridor and waterfront business district and will result in most businesses closing. If businesses close on the**

island due to being "relocated" with construction requirements or lack of traffic because the corridor is moved, where are they going to go? There is very little commercial/retail space available currently. If we lose what's currently here business and people may migrate to other beaches. *(Citizens 6, 18, 21)*

Response – While impacts to the businesses and the central business district corridor will be taken into consideration when selecting a Preferred Alternative, some businesses may need to be relocated. A right of way agent from NCDOT will maintain listings of commercial properties for businesses and non-profit organizations that are displaced. Steps will be taken to minimize economic harm to them and increase the likelihood of their being able to relocate back into the community. The agent will also explore and provide advice as to possible resources of funding and assistance from other local, state and federal agencies. (Provide link to Relocation Assistance brochure)

TRAFFIC

16. **The moveable bridges do not address the traffic issues in the summer – cars would still be backed up.** *(Citizen 19)*

    Response – Alternatives 6 and 7 will continue to cause some traffic delays because of bridge openings. This traffic operation restriction is one of many considerations during project development and selection of a Preferred Alternative.

17. **How would the roundabout operate on a Saturday morning around 11 AM when the rental properties are checking in/out approximately 1,000 to 1,500 tenants?** *(Citizen 13)*

    Response – The 2035 traffic analysis indicates that the roundabout and traffic signal would operate similarly at the island tie-in location.

18. **How does the roundabout work with a SUV or Truck towing a boat? Wouldn't this cause a bottleneck?** *(Citizen 4)*

    Response – If a roundabout is chosen for the island intersection on NC 50/210, it will be designed to accommodate large trucks, cars/trucks with trailers, and bikes in the width of the roadway. The design speeds of the roundabout would be such that a larger vehicle should be able to travel through the roundabout without delaying the traffic behind it.

19. **Since there is currently a study being done to consider widening NC 50/210 to 4 lanes, why would we put in a bridge with only 2 lanes? We would be creating a huge bottleneck. The island is not built out yet and has room for growth so we need a 4 lane bridge.** *(Citizens 4, 5, 13, 35, 36)*

    Response – The funding available for the bridge replacement project will allow for a two-lane bridge but not a four-lane bridge. The study to widen NC 50/210 to four-lanes on the mainland side is currently in the feasibility planning stage with no funding available for construction. If the widening of NC 50/210 is determined feasible, future planning, design, and construction would most likely take another 10 to 20 years.

20. **Can there be consideration for a stop light at Little Kinston Road? There is a lot of traffic there in the summer (heavy months).** *(Citizens 4, 29)*

    Response – The Project Team will investigate the need for a signal at this intersection.

21. **I feel strongly that a roundabout needs to be added at the intersection of Little Kinston Road/ Atkinson Point Road and NC 50/210 rather than simply adding additional turn lanes.** *(Citizen 41)*

    Response – The Project Team will investigate the need for a roundabout at this intersection.

SAFETY

22. **What will the evacuation route be when winds are too strong and they would have to close a high rise bridge?** *(Citizens 6, 30, 38)*

    Response – Bridge closure due to high winds is determined by the local law enforcement authority. Typically, bridges are closed in the area when winds exceed 45 mph and prior notice is provided when evacuation needs to occur.

24. **What would an ambulance do for Alternatives 6 and 7? Ambulances get caught waiting for the bridge.** *(Citizen 28)*

    Response – Currently, emergency responders are able to communicate with the bridge tender during emergencies. This policy would remain the same should Alternative 6 or 7 be selected.

26. **The roundabout would be a disaster. Can you present specific accident statistics for the Ocean Isle roundabout example that shows it works?** *(Citizen 34)*

    Response – Since the Ocean Isle roundabout was only recently opened in 2008, no accident data is currently available. According to NCDOT research, roundabouts are a proven safety solution that prevent and reduce the severity of intersection crashes. NCDOT recently studied 30 roundabout locations and found a 46% reduction in total crashes; a 76% reduction in injury crashes; an 85% reduction in high severity crashes; and a 76% reduction in frontal impact crashes.

COST

27. **Can we see more accurate numbers for construction costs, utility costs, and operation and maintenance costs for Alternatives 6 and 7? Are employment salaries included in the costs?** *(Citizens 7, 9)*

    Response –The construction costs for this project were prepared by the NCDOT Cost Estimates Group, based on recent construction costs on similar projects. The operation costs, which include employment salaries, were estimated to be a total of $150,000 per year over 75 year life cycle, for a total of $11.3 million. The maintenance costs include average maintenance, part replacements (1 to 2 times over the 75 year life cycle), and routine bridge inspections for a total of $14.7 million. If additional cost information is desired, please contact the Project Team at topsailislandbridge@rsandh.com.

Item	Estimated Cost Per Year	Estimated Cost Per Occurrence	Multiplier (per Year or Occurrence)	Total Cost
Average Maintenance Cost, first 10 years	$25,000	-	10	$250,000
Average Maintenance Cost, after 10 years	$55,000	-	65	$3,575,000
Replace Machinery (1 in 75 years)	-	$3,000,000	1	$3,000,000
Replace Controls (2 in 75 years)	-	$1,500,000	2	$3,000,000
Replace Coating Bascule Span (2 in 75 yrs)	-	$750,000	2	$1,500,000
Fender System Replacement (2 in 75 years)	-	$1,500,000	2	$3,000,000
Routine Bridge Inspection (Every 2 Years)	-	$3,000	38	$114,000
Fender System Inspection (Every 2 Years)	-	$1,500	38	$57,000
Machinery Inspection (Every 2 Years)	-	$3,500	38	$133,000
Underwater Inspection (Every 4 Years)	-	$4,500	19	$85,500
Bridge Operation	$150,000	-	75	$11,250,000
Total Estimated Operation & Maintenance Cost for Alternative 6 or 7				**$25,964,500**

28. **What part of the bridge operation and maintenance cost includes the bridge tenders salaries and benefits? Would the Town of Surf City be willing and able to cover that cost?** *(Citizen 2)*

    Response – The operation cost is approximately 38% of the total bridge operation and maintenance costs for each of Alternatives 6 and 7. The Project Team will discuss the option of the Town covering the operation cost with the Town of Surf City representatives.

CONSTRUCTION

29. **How much additional time would it take to construct Alternatives 6 and 7 due to the temporary detour bridge as opposed to the high-level fixed bridges? The park would be out of commission during this construction.** *(Citizen 8)*

    Response – The construction time is estimated to be 2 to 3 years for each of the alternatives (both fixed and moveable). The park property would still be accessible during the construction period; however, several facilities would not be available for use during this period.

PEDESTRIANS/BICYCLISTS

30. **What about doing sidewalk and bike lanes on only one side of the bridge, not both?** *(Citizen 3)*

    Response – Typically NCDOT's policy is to provide sidewalk and bicycle lanes on both sides of the roadway for this type of surrounding land use and with the level of activity in the area. Also, the Town of Surf City has requested that sidewalk and bicycle lanes be provided on both sides.

31. **Can you add a concrete barrier (maybe 36 inches) between the vehicles and the pedestrians/bicyclists on the bridge?** *(Citizen 9)*

    Response – The Project Team will investigate this option.

32. **How would the pedestrian and bicycle traffic be accommodated in the roundabout?** *(Citizen 11)*

    Response – Pedestrians will be accommodated using marked crosswalks and sidewalks along the outside of the roundabout.

IDEAS

33. **Can you combine Alternative 17 mainland side with Alternative 11 on the island side?** *(Citizens 23, 24, 27, 31, 32, 33)*

    Response – The Project Team will investigate this option.

34. **On Alternative 17, consider shifting the roundabout approximately 30-feet north of its current location so that it is centered more on the 4 vacant lots and avoid my commercial condominium development.** *(Citizen 42)*

    Response – The Project Team will investigate this option if Alternative 17 is chosen as the Preferred Alternative.

35. **Has a tunnel been considered as an option?** *(Citizen 20)*

    Response – The Project Team investigated this option after the October 2010 public meeting and determined the tunnel would not be cost effective.

36. **Has a single "pillar" bridge using the center line of the existing road been considered?** *(Citizen 26) (What is this referencing?)*

    Response – The Project Team investigated this option after the October 2010 public meeting and determined this option would not be cost effective.

37. **We have a bridge at the northern end of the island. Why not have one at the southern end of the island?** *(Citizen 25)*

    Response – The need for a southern bridge is considered a separate project requiring an independent Environmental Impact Statement.

38. **Why were Alternatives 5A and 10A not considered for further study? It seems by eliminating the temporary moveable bridge, the construction cost would be significantly lower for these alternatives.** *(Citizen 17)*

    Response – Alternative 5A received lower support from the community and significantly impacted the channel connecting the Intracoastal Waterway to the private marina. Alternative 10A received lower support from the community and bisected Soundside Park; thereby using property protected under Section 4(f) of the US Department of Transportation Act of 1966.

Names and Addresses of Citizens, who provided Oral/Written Comments as referred in the above pages:

Citizen #	Name	Address
1	Hap Alexander	806 Roland Avenue Surf City, NC
2	Patrick Barnes	608 South Lorraine Cir, Wilmington
3	David Ward	302 Shore Dr, Surf City
4	Jim Bird	274 Little Kinston Rd, Surf City 28445
5	Becky (Betsy) Tucker	212 Hanover Pt, Cary 27511
6	Sydney Williams	214 Becky's Creek Rd, Hampstead 28443
7	Laura Bodeman	Address not found
8	Allen Wilson	1112 South Shore Dr, Surf City
9	Marcie Kaiser	286 Little Kinston Rd, Surf City
10	Casey Connell	205 S Topsail Dr, Surf City; 2302S Shore Dr, Surf City
11	Allen Padgett	617 Bishop Ct, Hampstead NC
12	Sally Ward	23 S Oak Ct, Surf City
13	Hiram Williams	518 Roland Ave, Surf City
14	Stan Rogers	18655 NC 210, Rocky Point
15	Audience Participant	Not Applicable
16	Michaele Maguth	110 S Shore Dr, Surf City 28445
17	No name	Not Applicable
18	Sandy Maddox	1955 Old Raleigh Rd, Clinton 28328
19	Nancy Shirley	304 Kensington Dr Tarboro 27886
20	Bill Horstmann	303 Lanterna Ln, N Topsail Beach
21	Lori Burnett	308 Lanterna Ln North Topsail Beach
22	Aaron Rogers	444 Little Kinston Rd, Surf City
23	Catherine Clapp	121 Booyk Ave, Topsail Beach
24	No name	1344 Carolina Blvd, Surf City
25	Glenda Grady	910 Outlaws Dr, Albertson NC
26	George White	1705 S Shore Dr, Surf City
27	Frank Meece	915 Ocean Blvd Surf City
28	Mary Bartholomew	1709 South Shore Dr, Surf City
29	William Fowler	421 Atkinson Point Rd, Surf City
30	Michael Moore	103 Pelican Ct Surf City 28445
31	Mary Meece	905 Ocean Blvd, Topsail Beach
32	Earlene Graham	124 Pond View Dr, Hampstead NC 28443
33	Bonnie Hunter	611 New River Dr, Surf City
34	Gerald Barrelli	16 Ridge Ave, Surf City 28445
35	Betty Saunders	1185 Hwy 210 E, Hampstead NC 28443
36	David Prince	1010 Chester St,, Wilmington 28401
37	Nancy Wilkes	2415 Scenic View Dr, Chapel Hill 27516
38	Deborah Prevo Wilson	6020 Aquarian Way Denver 28037
39	Raymond Lisi	132 Reeves St, North Topsail Beech 28460
40	Louise Maguth	110 S Shore Dr, Surf City 28445
41	Stephen Morgan	110 Sago Ct, Surf City
42	Mike Hendy	121 Topsail Dr Surf City

If any recipient of the meeting notes would like to add comments or feels a comment is erroneous or needs to be expanded, please feel free to contact either Michele James (919-707-6027 or mjames@ncdot.gov) or Chad Critcher (704-940-4718 or by email at chad.critcher@rsandh.com).

Comments will be received through September 7, 2012. After such date, the meeting notes herein along with subsequent implemented comments will be considered final and an accurate record of the B-4929 Topsail Island Bridge Replacement project.

Post Corridor Hearing Meeting Attendees:

Rob Hanson, PDEA	Eileen Fuchs, PDEA-HEU
Charles Cox, PDEA	Herman Huang, PDEA-HEU
Michele James, PDEA	Betty Yancey, Right of Way
Jay Bennett, Roadway Design	David Boyd, Utilities
Roger Thomas, Roadway Design	Daniel Olver, Utilities
Glenn Mumford, Roadway Design	Don Idol, Structures Management
Tony Houser, Roadway Design	Lonnie Brooks, Structure Design
Lee Moore, Roadway Design	Art McMillan, Hydraulics
John Braxton, Roadway Design	Chad Critcher, RS&H
Casey Harris, Roadway Design	RadhaKrishna Swayampakala, RS&H
Paul Chan, Roadway Lighting	Jason Talley, RS&H
W.M. Petit, STIP	

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

MEMO TO: Post Design Hearing Meeting Attendees

FROM: Glenn W. Mumford, PE
State Roadway Design Engineer

DATE: November 4, 2014

SUBJECT: Project 40233.1.1 (B-4929) Pender County
F.A. Project BRSTP-0050(10)
Topsail Island Bridge Replacement Project

Post Design Public Hearing Meeting Minutes

The North Carolina Department of Transportation (NCDOT), in consultation with the Federal Highway Administration (FHWA), proposes to replace the existing Topsail Island Bridge (Bridge No. 16) along NC 50/210 over the Intracoastal Waterway (Topsail Sound) in Pender County, North Carolina. Bridge No. 16 is located within the town limits of Surf City and consists of a main channel swing span with concrete deck girder approach spans.

The Post Design Hearing Meeting for the subject project was held at 1:30 p.m., on August 28, 2014 at the NCDOT Structure Design Conference Room. The purpose of this meeting was to review the public comments received before, during and subsequent to the Design Public Hearing. The Design Public Hearing was held on July 29, 2014 at the Topsail Island Moose Lodge. This Design Public Hearing was divided into two sessions: an informal Pre-Hearing Open House, followed by a formal Public Hearing.

During the Open House, the attendees were first shown a presentation that provided an overview of the project history, public involvement process, the preferred alternative (Alternative 17), and 3D visualization and animation, as well as the project's schedule. Following the Open House, NCDOT conducted the formal Public Hearing providing a formal presentation of the project's history, status, schedule, and alternatives. A total of 290 citizens and local officials from Topsail Beach, Surf City, North Topsail Beach and surrounding area attended the Design Public Hearing (270 citizens and 20 local officials).

A total of 82 comment cards were received during or subsequent to the Design Public Hearing. A summary of the comments is provided with this document: Approximately 39% of the respondents indicated their property would be impacted (direct, indirect or view) by the preferred alternative;

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN UNIT
1582 MAIL SERVICE CENTER
RALEIGH NC 27699-1582

TELEPHONE: 919-707-6200
FAX: 919-250-4036
WEBSITE: WWW.NCDOT.ORG/DOH

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC

Approximately 85% of the public provided ideas regarding the design of the preferred alternative; and Approximately 62% of the public shared additional issues or specific ideas for the bridge replacement.

Executive Summary:

Mr. Tony Houser opened the meeting and thanked everyone for attending. Ms. Edith Peters gave an overview of the Design Public Hearing, and comments received. The Project Team agreed to the following items at the Post Design Hearing Meeting:

- The Town of Surf City has passed a resolution favoring the three-legged roundabout on the island side. Taking this resolution into consideration, NCDOT selected the three-legged roundabout for the final design.
- The Town of Surf City will investigate potential accommodations for additional public parking.
- Local officials/law enforcement will determine bridge closure needs, mandatory evacuations, and evacuation plans.
- No left turns will be allowed at the intersection of Kinston Avenue and NC 50 (S. Topsail Drive) due to safety and operations of the roundabout.
- No left turns will be allowed from eastbound or westbound Roland Avenue onto NC 210 (New River Drive) or from southbound NC 210 (New River Drive) to Roland Avenue due to safety and operations of the roundabout.
- The following will be considered during final design:
    - Appropriate signage
    - Cul-de-sac on Roland Avenue adjacent to Harbor Pointe Townhomes
    - Existing bridge embankment adjacent to Harbor Pointe
    - Truck access to Hendy Property
    - Barrier/railing on bridge
    - Pavement markings for roundabouts
    - Pedestrian and bicyclist access/crossings

Summary of Comments and Responses:

The Project Team also discussed the formal responses to the oral and written comments received at or after the Design Public Hearing and agreed to provide the following responses. Names and address of these Citizens are provided on pages 13 and 14.

IMPACTS

1. **How will the impacts of the additional traffic on NC 210 (New River Drive) be mitigated? Specifically the noise, congestion and difficulty getting across the street to the beach.** *(Citizens 1, 39)*

Response – A traffic noise analysis was conducted as part of the Environmental Assessment documentation process. The preliminary analysis indicates that noise abatement measures would not be practical and/or cost-effective due to Right-of-Way requirements.

In an effort to reduce the congestion of traffic leaving the beach and traveling back to the mainland, the

traffic will be dispersed between Roland Avenue, Kinston Avenue, and Greensboro Avenue. With the design of the island roundabout, the northbound traffic will be directed to use NC 210 (New River Drive) which will pull non-beach traffic away from N. Topsail Drive and Shore Drive. The proposed project will provide a multiuse path on the new bridge and roadway approach segments. Crosswalks and pedestrian refuge areas are also included in the roundabout designs.

2. **Have you considered how the high rise bridge will look when viewed from Soundside Park?** *(Citizens 3, 39)*

Response – Yes; additional renderings of Alternative 17 were completed and are available to better show potential impacts from adjacent sides, such as the park. The view from Soundside Park will be affected by the proximity of the structure at the back of the park; however, impacts to the park are considered minimal because of the expansive views in the area.

3. **How will Soundside Park be impacted by the roundabout?** *(Citizen 51)*

Response – Accessibility to the businesses and Soundside Park will be maintained through repaving and striping of Roland Avenue as well as installation of a 10-foot wide multi-use path.

4. **A lot of parking will be lost with the roundabout on the island. How will it be replaced?** *(Citizens 4, 17, 18, 36, 47)*

Response – The land needed for the roundabout on the island consists of privately-owned parcels between S. New River Drive and NC 50 (S. Topsail Drive). The Town of Surf City is investigating potential accommodations for additional public parking spaces.

5. **The proposed Right-of-Way takes a piece of my property (Mobile Home on Batts Property on Little Kinston Road). Is it possible for NCDOT to only purchase that small corner instead of the entire property so that I won't have to relocate?** *(Citizen 7)*

Response – In certain situations, it is possible to acquire only a small portion of a property. However, the Right-of-Way agent will discuss the exact amount of property to be acquired during the Right-of-Way acquisition phase (currently scheduled to begin in 2015). Following the completion of Right-of-Way plans, an authorized agent from the NCDOT Right-of-Way Unit will meet with each affected property owner to review property impacts.

6. **What will the impacts be on the businesses being bypassed by the reconfiguration of traffic? Will these businesses be compensated?** *(Citizens 25, 33, 41, 45, 68, 82)*

Response – The new bridge will reduce the traffic delays in the area, thereby potentially improving the overall local economic activity. Access to Roland Avenue will be maintained, and improvements will be made on the island side to promote pedestrian traffic. On the mainland side, Roland Avenue will have a direct connection to the roundabout with NC 50/210.

If no right-of-way or easement impacts exist, NCDOT does not have an avenue to compensate property owners.

TRAFFIC/ACCESS

7. **How many vehicles are expected to travel along Roland Avenue on the mainland side (the area that will be accessed by a service road)? How does this compare to the vehicles travelling on Roland Avenue today?** *(Citizens 68, 82)*

Response – According to the Traffic Forecast Addendum for this project, dated August 29, 2011, it is anticipated that 200 vehicles per day will use this road in 2035. In 2010, it was estimated that 12,000 vehicles were driving along Roland Avenue per day.

8. **The median at NC 210 (New River Drive) and Roland Avenue could be problematic for traffic leaving the beach and traveling back to the mainland. How will this traffic be accommodated?** *(Citizen 14)*

Response – In an effort to reduce the congestion of traffic leaving the beach and traveling back to the mainland, the traffic would be dispersed between Kinston Avenue and Greensboro Avenue.

9. **Can additional signage/ guide signs be provided on the bridge and the island?** *(Citizens 14, 20, 40, 42)*

Response – Appropriate signage will be considered during final design.

10. **Atkinson Point Road needs a highly visible sign indicating "Dead End Road" or "No Thru Traffic".** *(Citizens 63, 42)*

Response – This is not a result of the proposed project, and therefore it is beyond the scope of the proposed project. Since this road is a town street, this comment will be forwarded to the Town of Surf City for review and consideration.

11. **I think the traffic light at N. Topsail Drive & Roland Avenue should be kept.** *(Citizen 14)*

Response – The traffic signal at the intersection of N. Topsail Drive and Roland Avenue will no longer be needed due to the reduction in traffic along N. Topsail Drive and Roland Avenue. The majority of traffic traveling north from the bridge will use NC 210 (New River Drive) and be free-flowing after exiting the roundabout.

12. **How will vehicles turn around if they mistakenly end up going north on NC 210 (New River Drive) after exiting the roundabout?** *(Citizen 17)*

Response – These vehicles would be able to correct their direction of travel by turning right on Roland Avenue and then turning right on S. Shore Drive. A second option would be to turn left on Roland Avenue and travel to the cul-de-sac to turn around.

13. **Why is N. Topsail Drive being turned into a dead end?** *(Citizen 26)*

Response – N. Topsail Drive has been designed to terminate rather than connect to the proposed roundabout to reduce congestion within the roundabout, thereby providing better functionality to the roundabout and surrounding intersections.

14. **What is the long term plan to address the existing road conditions and traffic congestion on the island, and how will the new bridge affect those current conditions?** *(Citizens 5, 13, 18)*

Response – Traffic congestion on the island is caused by delays from the swing-span bridge frequently opening for boats and beach traffic volumes during peak season. The proposed high-level fixed span bridge would eliminate the need to open the bridge and thereby substantially improve traffic operations in this area.

15. **Kinston Avenue is a major parking area for beachgoers. Eliminating the left turn from NC 50 (S. Topsail Drive) to Kinston Avenue will cause an increase on Shore Drive. How will this be accommodated? Can a left turn lane at Kinston Avenue be considered to allow access to businesses on Kinston Avenue and S. Shore Drive?** *(Citizens 30, 41, 43, 50, 52, 66)*

Response – Due to the proximity of this intersection to the roundabout, removing the median and permitting left turns from NC 50 (S. Topsail Drive) to Kinston Avenue would impede the flow of vehicles leaving the roundabout by introducing additional traffic conflict points causing safety and operation issues. However, parking along Kinston Avenue is not anticipated to be impacted by the project as currently designed. The Town of Surf City is investigating potential accommodations for additional public parking spaces.

16. **How will the southbound traffic on NC 50 (S. Topsail Drive) using the right turn slip lane from the bridge and the island roundabout merge into one-lane?** *(Citizen 46)*

Response – The slip lane from the bridge will yield to the roundabout exit lane. A 200-foot storage lane is planned to be provided for the right turning vehicles on the bridge at the island tie-in.

17. **Can the design be changed to incorporate an exit from the bridge to the right before the roundabout to avoid congestion within the roundabout?** *(Citizen 69)*

Response – The current design provides a separate, channelized right turn lane for traffic going south on NC 50 (S. Topsail Drive). This traffic will not have to enter the roundabout.

18. **Can NC 210 (New River Drive) remain connected to Roland Avenue? Can a left turn from Roland Avenue onto NC 210 (New River Drive) be allowed?** *(Citizens 6, 38, 81)*

Response – The current design shows NC 210 (New River Drive) connecting with Roland Avenue. Due to the proximity of this intersection to the roundabout, removing the median and permitting left turns would impede the flow of vehicles leaving the roundabout by introducing additional traffic conflict points. The vehicles needing to travel north on NC 210 (New River Drive) from Roland Avenue would be able to turn right and travel through the roundabout to go north. The vehicles needing to travel south on NC 50 (S. Topsail Drive) from Roland Avenue could travel along S. Shore Drive and turn left onto NC 210 (New River Drive) at Greensboro Avenue and travel through the roundabout.

19. **Could a slip lane from Roland Ave to NC 50/210 (mainland side) be added?** *(Citizen 53)*

Response – No; a slip lane would cause additional impacts to adjacent properties.

20. Could an exit-only lane from the island roundabout be provided to N. Topsail Drive? *(Citizen 53)*

Response – No; providing an exit-only lane from the island roundabout to N. Topsail Drive would impede the flow of vehicles leaving the roundabout by introducing an additional traffic conflict point. In order to accommodate the exit-only lane, N. Topsail Drive would need to be converted to a one-way street because of the near proximity of the roundabout, limiting access to the IGA. In addition, traffic would likely back up into the roundabout since the exit-only lane would be directly adjacent to the IGA parking lot.

21. Can the right turn slip lane from the bridge on the island side be made free-flow instead of yield? *(Citizen 54)*

Response – No; the traffic exiting the right-turn slip lane will have to yield to vehicles exiting the roundabout. Allowing this slip lane to free-flow would negatively impact traffic operations within the roundabout.

22. Can the designed turnaround, rectangular back up spot, on Roland Avenue near Harbor Pointe be changed to a cul-de-sac to discourage overflow parking on the Harbor Pointe driveway? *(Citizen 67)*

Response – This option will be investigated during final design.

23. Please change/modify the design to allow left turns out of the parking lot for the three businesses on my property (Hendy property, 121 S. Topsail Drive). If the entrance to the parking lot was moved further south, away from the roundabout would that help? *(Citizens 43, 62)*

Response – Due to the proximity of this driveway to the roundabout, removing the median and permitting left turns onto NC 50 (S. Topsail Drive) would impede the traffic flow of vehicles leaving the roundabout by introducing additional traffic conflict points. Left turns are not permitted from S. New River Drive to the north, so moving this driveway south would not help.

24. Delivery/Truck access at rear of my building has been virtually eliminated (Hendy property, 121 S. Topsail Drive). Please revise the design to provide small to medium size tractor trailer trucks (25 to 30-feet) access to rear of my building. *(Citizens 43, 62)*

Response – This will be investigated during final design.

25. Can provisions be made to regain some additional public parking along the remaining areas of S. New River Drive south of the bridge, and continuing along Kinston Ave near my property (Hendy property, 121 S. Topsail Drive)? *(Citizens 43, 62)*

Response – The Town of Surf City is investigating potential accommodations for additional public parking spaces.

26. Access for large vehicles/buses/trucks is currently an issue from Roland Avenue to Atkinson Point Road. With the current design, it looks like the entrance to Atkinson Point Road is becoming narrower. How will large vehicles/buses/trucks be able to enter/exit Atkinson Point Road? How will delivery trucks be able to service the two businesses on Atkinson Point Road, and how will they be able to turn around? *(Citizens 47, 70, 71, 73, 74, 75, 76, 77, 78, 79)*

Response – The proposed relocation of Atkinson Point Road matches the existing width, and the intersection has been designed to provide access to an appropriate vehicle. The proposed design affects only the tie-in location of Atkinson Point Road to Roland Avenue; all other traffic operations along

Atkinson Point Road will remain as they currently are.

27. Can Atkinson Point Road connect directly to the mainland roundabout instead of Roland Avenue tying-in to it? *(Citizen 47)*

Response – No; in order to maintain access to the businesses and properties along Roland Avenue, the mainland roundabout is designed to connect directly to it. Roland Avenue is a state-maintained road and is designed to accommodate heavier traffic. Also, several citizens expressed concerns about additional traffic along Atkinson Point Road; by keeping the design as-is, this will minimize unnecessary traffic along Atkinson Point Road, and allow traffic to turn around at the end of Roland Avenue near Harbor Pointe Townhomes.

SAFETY

28. Could a lower speed limit be enforced on NC 210 (New River Drive) up to the Loggerhead Inn (Dolphin Street)? Can a lower speed limit be put in place for the bridge? *(Citizens 1, 42, 63)*

Response – The new bridge, roadway approaches, and most of the connecting cross-streets will remain posted at a 35 mph speed limit. Changing the speed limit along NC 210 (New River Drive) near Dolphin Street is beyond the scope of this project. This request will be shared with the local NCDOT Division office for review.

29. Will driver education be provided on roundabouts? *(Citizens 11, 12, 24, 29, 34, 69)*

Response – Resources for drivers on roundabouts are available online; below are links to a brochure from NCDOT and a video from Federal Highway Administration (FHWA).

https://connect.ncdot.gov/resources/safety/Teppl/TEPPL%20All%20Documents%20Library/R38_br.pdf

http://youtu.be/GeVWPvRFDi4

30. Will the island have mandatory evacuations for class 1 hurricanes? Will the bridge be closed at 45 mph sustained winds? *(Citizens 9, 23, 32, 37)*

Response – Bridge closure and mandatory evacuations due to high winds will be determined by local law enforcement.

31. Could a 6-foot railing on multi-use path on the bridge be installed? *(Citizens 51, 57)*

Response – The multi-use path incorporated into the bridge design is separated from traffic by a barrier. The type of barrier/railing to be used will be determined during final design.

32. How will emergency services be accommodated on the bridge and at the roundabouts? The four-legged roundabout would be better for emergency services access. *(Citizens 23, 51)*

Response – The proposed bridge design will improve emergency vehicle access and reduce delay times, as it will no longer need to be opened for boat traffic. The roundabouts have been designed to accommodate emergency vehicles. The Town of Surf City passed a resolution favoring the three-legged roundabout. Taking this resolution into consideration, NCDOT selected the three-legged roundabout for the final design.

33. How do you plan to merge two evacuation lanes into the one-lane roundabout? *(Citizen 51)*
Response – Evacuation plans will be developed by the Town of Surf City.

COST

34. Will enhancement fund assistance be provided to improve the island tie-in? *(Citizen 20)*
Response – A small percentage of the construction costs will be available for landscaping and pedestrian enhancements.

35. Will the funding impact our taxes? *(Citizen 25)*
Response – The project is included in the NCDOT State Transportation Improvement Program (STIP) with funding provided by state and federal sources. The project, as currently designed, will not have any effect on local, state, and federal taxes.

36. Are the costs to repurpose the existing bridge built into the project budget? *(Citizen 51)*
Response – NCDOT currently has no plans to repurpose the existing swing bridge once the new bridge construction is complete and therefore no repurposing costs have been included in the project cost. The existing bridge will become the property of the contractor if no other agreement is worked out prior. NCDOT has previously coordinated with the local municipalities and Pender County about potentially obtaining the existing bridge, but it was cost-prohibitive.

ROUNDABOUTS

37. Could a fourth leg be added to the island roundabout, connecting to N. Topsail Drive? *(Citizens 2, 15, 19, 26, 28, 43, 44, 55, 56, 62)*
Response – The three-legged roundabout provides safety, enhanced traffic operation, and constructability benefits while reducing business impacts. The Town of Surf City passed a resolution favoring the three-legged roundabout. Taking this resolution into consideration, NCDOT selected the three-legged roundabout for the final design.

38. If the roundabout does not work with three legs, is NCDOT willing to add the fourth leg to make it work? *(Citizen 44)*
Response – Both the three-legged and four-legged roundabout options for the island tie-in are expected to operate properly in 2020, on a typical weekday. Seasonal traffic is expected to remain an issue for the island; this is beyond the scope of the bridge replacement project. Should an issue occur where the roundabout does not operate as foreseen, NCDOT or the Town of Surf City could investigate improvements further under a separate project.

39. How will large trucks and vehicles with trailers operate in the roundabout? *(Citizens 9, 10, 27, 42, 43, 51)*
Response – The roundabout is designed to handle large tractor-trailer trucks and vehicles with boat trailers.

40. Why a roundabout? Why not a different design? *(Citizen 49, 51)*
Response – Roundabouts are an intersection type that allows traffic to yield prior to entering into a

circular loop connecting to other cross streets. This circular flow allows for improved traffic operations given that the traffic is not delayed by a mandated stop condition prior to entering the intersection. For the proposed project, traffic signals would not operate as well as roundabouts.

According to NCDOT research, roundabouts are a proven safety solution that prevent and reduce the severity of intersection crashes. NCDOT recently studied 30 roundabout locations and found a 46% reduction in total crashes; a 76% reduction in injury crashes; an 85% reduction in high severity crashes; and a 76% reduction in frontal impact crashes.

41. **There is confusion regarding the pavement marking for the roundabout. The symbol seems to indicate drivers to turn left after the roundabout.** *(Citizen 64)*

Response – The lane marking symbol for the roundabouts will be determined during final design and will conform to the FHWA's Manual of Uniform Traffic Control Devices (MUTCD).

42. **Can a roundabout be installed on the vacant lot beside Batson's Galley that would connect Roland Avenue (east of Atkinson Point Road), Sea Manor Drive, and Atkinson Point Road?** *(Citizens 74, 75,78, 79)*

Response – No; this additional roundabout would be out of scope and is not necessary to meet the purpose and need of the project.

PEDESTRIANS/BICYCLISTS

43. **How will pedestrians cross three-lanes of traffic to get to Roland Avenue from the beach?** *(Citizen 4)*

Response – Shore Drive lane geometry will not change as a result of the bridge replacement. Any changes to the pedestrian accommodation to cross Shore Drive should be addressed to the Town of Surf City.

44. **Can a connection from the new pedestrian walkway on the south side of NC 50/210 on the mainland be made to the new bridge?** *(Citizen 22)*

Response – This will be investigated during final design and plans will be coordinated with the Town of Surf City.

45. **How will pedestrian and bicycle crossings be accommodated?** *(Citizens 1, 2, 8, 16, 17, 20, 22, 23, 38, 55, 58, 59, 64)*

Response – The proposed project will accommodate bicycle lanes and/or sidewalks along the new bridge and roadway approach segments. Crosswalks and pedestrian refuge areas are included in the roundabout designs. In general, pedestrian refuge areas are provided so that only one-lane of traffic has to be crossed at a time.

Two crosswalk locations are proposed on the mainland side providing access to proposed and existing sidewalks adjacent to the roundabout. On the island side, one crosswalk location is proposed at the roundabout. Additional crosswalks will be investigated during final design and coordinated with the NCDOT Division of Bicycle and Pedestrian Transportation.

46. **Can a signalized crosswalk (with flashing lights) be installed to allow easier access from NC 50/210 to the multi-use path on the bridge?** *(Citizen 72)*

Response – Appropriate signage will be considered during final design. Signalized crosswalks will be evaluated if they become warranted.

47. **Will bicyclists be prohibited from using the multi-use path?** *(Citizen 21)*

Response – No; the multi-use path will be designed to accommodate pedestrians and bicyclists. Bicyclists will have the option to use either the bike lanes adjacent to the vehicle travel lanes or the multi-use path.

DRAINAGE

48. **The sea wall installed by the Town of Surf City causes drainage issues behind my property (Hendy property, 121 S. Topsail Drive). How will drainage be addressed for the bridge which will end just behind my property? I request professional analysis be conducted and recommendations made in this regard. I would like assurances that drainage or flooding will not be an issue.** *(Citizens 43, 62)*

Response – A detailed hydraulic analysis will be conducted during final design.

49. **Can the plans to level the berm ramp to the existing bridge on the mainland side be cancelled? This berm protects Harbor Pointe Townhomes near Roland Avenue from storm surges and flooding.** *(Citizen 67)*

Response – This will be investigated during final design.

IDEAS

50. **Can the channel under the bridge be dredged one-half the current depth of the water to allow for safe boat traffic under the bridge?** *(Citizens 9, 10, 23)*

Response – This request is beyond the scope of the project and is under the US Army Corps of Engineers jurisdiction.

51. **Can the bridge be four-lanes instead of two?** *(Citizens 25, 28, 48)*

Response – The current funding available for the bridge replacement project will allow for a two-lane bridge but not a four-lane bridge.

52. **What will happen to the existing swing bridge and remaining bridge approach property on the island side? Can it be donated to the Town?** *(Citizens 11, 31, 35, 51)*

Response – Pender County and the local municipalities were contacted to see if they were interested in obtaining the old bridge, but it was cost-prohibitive. The old bridge will become the property of the contractor if no other agreement is worked out prior. NCDOT is willing to discuss bridge ownership with any interested parties. The remaining bridge approach property right-of-way could be abandoned by NCDOT and revert to Town of Surf City public right-of-way.

53. **Can another bridge on the south side Topsail Island be built as well?** *(Citizen 18)*

Response – This request is beyond the scope of the project. The Topsail Area Comprehensive Transportation Plan (CTP), dated February 2011, shows no current long range plans for a separate bridge

project on the south side of Topsail Island.

54. Did you consider other bridge types for the existing location? *(Citizen 60)*

Response – Yes, NCDOT considered various bridge types as follows:

- **Three levels of Vertical Navigational Clearance (VNC)**: a low-level moveable bridge with 15 feet VNC; a mid-level moveable bridge with 30 feet VNC, and a high-level fixed with 65 feet VNC. All three bridge types would provide a minimum horizontal navigational clearance of 90 feet.
- **Three types of movable spans**: Bascule, Vertical Lift, and Swing Span. Moveable bridges require a bridge tender on site at all times, opening the bridge for vessels unable to pass underneath the bridge. Based on historic NCDOT moveable bridge records, operations costs are estimated to be $150,000 per year.
- **One fixed span bridge**: Both movable and fixed bridges require routine maintenance and inspections. However, movable bridges also necessitate periodic replacement of the fender system, machinery, and controls. During a 75-year life cycle, these costs are estimated to be approximately $26 million. Conversely, the maintenance costs for fixed bridges during a 75-year life cycle are estimated to be approximately $3.6 million.

55. Was a tunnel considered? *(Citizen 65)*

Response – The Project Team investigated this option after the October 2010 public meeting and determined the tunnel would not be cost effective.

56. Why is it going to take until 2017 to begin construction? *(Citizens 43, 61)*

Response – There are many facets of constructing a project of this magnitude which include analyses of potential environmental impacts, Right-of-Way acquisitions, business and residential relocations, design plans finalization, procurement of funds, the construction bidding process, and the construction of the bridge. The final environmental document required for federal aid compliance, anticipated to be a Finding of No Significant Impact (FONSI) document, is expected to be completed in Fall 2014. Right-of-Way acquisition is scheduled to begin in 2015, with construction scheduled to begin 2017.

57. Can NCDOT elaborate on the construction schedule/timing? Specifically, can NCDOT guarantee that major construction on the mainland and island will be performed during the off peak months of October through May? *(Citizen 43, 62)*

Response – Currently, Right-of-Way acquisition is scheduled to begin in 2015, with construction scheduled to begin in 2017. The schedule is subject to change, and the project website will be updated as needed to provide information. Construction of the bridge will be off-site and efforts will be made to construct tie-in locations during off peak months.

58. **What will happen to the existing utility poles between Roland Avenue and Kinston Avenue? Will they be replaced with underground lines or remain overhead? In particular, I am curious about the pole on the southwest corner of my property (Hendy property, 121 S. Topsail Drive).** *(Citizen 43)*

Response – There is no commitment to place any current overhead utility lines underground as part of this project. Utility design is currently ongoing.

59. **Will a temporary easement be needed during bridge construction for a portion of our property (Hendy property, 121 S. Topsail Drive)? This will limit customer parking for the three businesses located there and needs to be addressed.** *(Citizen 62)*

Response – It is anticipated that the temporary easement will be needed as shown on the design hearing map for construction of the proposed roadway, curb and gutter, sidewalks, etc. This will temporarily impact parking only during a portion of the construction period.

60. **I saw a bridge in Greece that went down into the water. The span was similar to our bridge and cruise ships can go over it. This could work for our island; please consider.** *(Citizen 80)*

Response – Many options were considered earlier in the design process, including a tunnel. These were eliminated due to environmental and property impacts as well as cost.

Names and Addresses of Citizens, who provided Oral/Written Comments as referred in the above pages:

Citizen #	Name	Address
1	Bonnie Hunter	819 S. Topsail Dr, Surf City, NC 28445
2	Morgan Bennett Hunter	611 N. New River Dr, Surf City, NC 28445
3	No name	111 Atkinson Point Rd, Surf City, NC 28445
4	Chris Medlin	2421 Hwy 210 E, Hampstead, NC 28443
5	Dr. Edna C. Smith	448 Catherine Ave, Topsail Beach, NC 28445
6	Douglas Medlin	PO Box 2689, Surf City, NC 28445
7	Mitchell Grantham	103 Riverview Circle, Goldsboro, NC 27534
8	George White	1703 S. Shore Dr, Surf City, NC 28445
9	Larry Batson	338 Sea Manor Dr, Holly Ridge, NC 28445
10	Stephen Nall	301 Rose Bun Ln, Holly Ridge, NC 28445
11	Robert Kanich	1133 N. Anderson Blvd, Topsail Beach, NC 28445
12	James H. Davis	876 Mcclammy, Hampstead, NC 28443
13	No name	Hampstead, NC
14	Annett Hagwood	PO Box 4407, Surf City, NC 28445
15	Alan Sasser	3067 Third St, Surf City, NC 28445
16	Rick Pollock	828-A N. Anderson Blvd, #3384, Topsail Beach, NC 28445
17	No name	1135 S. Topsail Dr, Surf City, NC 28445
18	David Ferguson	100 Gateway Condor Dr, Surf City, NC 28445
19	Daniel Weatherly	174 Thompson Heights, Reidsville, NC 27320
20	Gus Simmons	331 Royal Tern Dr, Hampstead, NC 28443
21	Jackie Mooney	826 N. Topsail Dr A, Surf City, NC 28445
22	Patrick Miller	109 Fairytale Ln, Surf City, NC 28445
23	Peggy Arsenault	288 Atkinson Point Rd, Surf City, NC 28445
24	No name	710 S. Anderson Blvd, Topsail Beach, NC 28445
25	Tina Andes	118 Coastal Cay, Surf City, NC 28445
26	Robin B. Lanier	301 Roland Ave, Surf City, NC 28445
27	No name	109 Twilight Ct, Surf City, NC 28445
28	Wayne Lanier	301 Roland Ave, Surf City, NC 28445
29	No name	Holly Ridge, NC
30	Rocky Godwin	302 S. Topsail Dr, Surf City, NC 28445
31	Steve Smith	448 Catherine Ave, Topsail Beach, NC 28445
32	Dr. Judith Niemeyer	204 Lazy Day Dr, Surf City, NC 28445
33	Bobby Owings	509 N. Topsail Dr, Surf City, NC 28445
34	Bruce Cassler	423 Tree Ct, Holly Ridge, NC 28445
35	No name	106 Bay Tree Cr, Hampstead, NC 28443
36	Liz Sadler	1071 E. Ocean Hwy, Holly Ridge, NC 28445
37	Heather Horner	630 Little Kinston Rd, Surf City, NC 28445
38	George Howard	405 Roland Ave, Surf City, NC 28445
39	David and Suzanne Prince	6010 Chester St, Wilmington, NC 28405
40	Chris Hewitt	116 Quail Run, Smithfield, NC 27577

Citizen #	Name	Address
41	Brandon Ward	116 S. Topsail Dr, Surf City, NC 28445
42	No name	No address provided
43	Mike Hendy	121 S. Topsail Dr, Surf City, NC 28445
44	Paul Dorazio	206 N. Topsail Dr, Surf City, NC 28445
45	Brian Ward	805 Roland Ave, Surf City, NC 28445
46	No Name	No address provided
47	Richard Royal	103 Atkinson Point Rd, Surf City, NC 28445
48	Bobby Humphery	111 Humphery Ave, Topsail Beach, NC 28445
49	Kevin Eitel	120 Sea Oaks Ct, North Topsail Beach, NC 28460
50	No Name	No address provided
51	Surf City Fire Dep. Member	200 Wilmington Ave, Surf City, NC
52	No Name	No address provided
53	No Name	No address provided
54	No Name	No address provided
55	No Name	No address provided
56	No Name	No address provided
57	No Name	No address provided
58	No Name	No address provided
59	No Name	No address provided
60	No Name	No address provided
61	No Name	No address provided
62	Judy Hendy	160 Heron Cove Rd, Hampstead, NC 28443
63	Rich Lehred	581, Atkinson Point Rd, Surf City, NC 28445
64	Patricia Arnold	214 N. New River Dr, Surf City, NC 28445
65	Bob Pate	No address provided
66	David F. Ward	116 S. Topsail Dr, Surf City, NC 28445
67	Joanie and Willard Kennedy	722 Roland Ave, Surf City, NC 28445
68	Preston O'Neal Warren	100 Warren Dr, Jacksonville, NC 28540
69	Carolyn Nolan	1711 S. Anderson Blvd, Topsail Beach, NC 28445
70	Raquel Royal	521 Atkinson Point Rd, Surf City, NC 28445
71	Henderson Cole	401 Atkinson Point Rd, Surf City, NC 28445
72	Colt Royal	521 Atkinson Point Rd, Surf City, NC 28445
73	Gloria Blanton	315 Atkinson Point Rd, Surf City, NC 28445
74	Joann Rivenbark	315 Atkinson Point Rd, Surf City, NC 28445
75	Dean Rivenbark	315 Atkinson Point Rd, Surf City, NC 28445
76	Denise Hoffman	330 Atkinson Point Rd, Surf City, NC 28445
77	Paul Kent	330 Atkinson Point Rd, Surf City, NC 28445
78	Sylvia W. Bowman	318 Sea Manor Dr, Surf City, NC 28445
79	Edward Bowman	318 Sea Manor Dr, Surf City, NC 28445
80	Julia Pollock	PO Box 3384, Topsail Beach, NC 28445
81	Mike Halstead	Surf City PD, 305 N. New River Dr, Surf City, NC 28445
82	Brian Warren	130 Wheaton Dr, Richlands, NC 28574

If anyone has questions or comments regarding this information, please contact Mr. Tony Houser, PE, (919-707-6253 or thouser@ncdot.gov) or me at 919-707-6200.

GWM/aah

Attachment

cc: Karen E. Fussell, PE, Division 3 Engineer
Deborah M. Barbour, PE
Richard W. Hancock, PE

Post Design Hearing Meeting Attendees:

Charles Cox, PDEA Michele James, PDEA Rob Hanson, PDEA Tony Houser, Roadway Design Unit Glenn Mumford, Roadway Design Unit Jamille Robbins, HES Diane Wilson, HES Herman Huang, HES Hardee Cox, STIP Daniel Oliver, Utilities Benjetta Johnson, Congestion Mgmt.	Nazia Sarder, TPB Kevin Fischer, Structures Paul Atkinson, Hydraulics Jackson Provost, Division 3 Ron Lucas, FHWA Radha Krishna Swayampakala, RS&H Edith Peters, RS&H Meredith Van Duyn, RS&H Jennifer Farino, RS&H Rick DeCola, RS&H Richard Bollinger, RS&H

July 29, 2014

Design Public Hearing Comments Summary

TOPSAIL ISLAND BRIDGE REPLACEMENT

1) Where do you live? (80 responses)

Surf City Island	33%
Surf City Mainland	33%
Topsail Beach	15%
Other	20%

2) Your relationship with the Island: (79 responses)

Permanent Resident	76%
Seasonal Resident	13%
Other	11%

3) Do you have property that will be directly impacted by the preferred alternative? (76 responses)

Yes	38%
No	62%

4) What is your properties use? (24 responses)

Residential	67%
Business	33%

5) Are there any other concerns you have with the preferred alternative design? (83 responses)

Yes, Provided	86%
No	14%

6) Based on the information provided today, were all your substantial questions answered? (62 responses)

Yes	85%
No	15%

7) Were display maps and handouts easy to read and understand? (69 responses)

Yes		100%
No	0	0%

8) Were NCDOT representatives understandable, helpful and clear in their explanations? (65 responses)

Yes		98%
No	1	2%

9) Do you have any additional issues or specific ideas that you would like to share concerning the replacement of the Topsail Island bridge? (83 responses)

Yes, Provided	61%
No	39%

Workshop

- The work done is appreciated.
- Nice Work!
- Excellent response. My questions were answered.
- I approve of it.
- Looks great and we need it!
- Thanks! Great job and great graphics. The animination was awesome.
- Video does a great job showing traffic flow. (x3)

Design Public Hearing Comments Summary

Bridge

- The proposed bridge is beautiful.
- I believe that replacement is essential and this is an excellent plan.
- It can't get here soon enough - sick of the traffic!
- We are happy with the design. It will alleviate traffic problems.
- The layout looks very good and will add to the island's appeal.
- Proposed bridge looks fine.

Cost Concerns

- Move up the funding for the bridge. It is badly needed. (x2)

Pedestrian Concerns

- The pedestrian & bike lanes are welcomed. (x3)
- Concerned that traffic will not stop for crosswalk at the end of the bridge - Island side.

Ideas

- Agree with the width of the bridge.
- I approve of the proposed bridge/traffic design. (x17)
- The current bridge is 75 years old.
- Don't want it, don't need it. Really sorry you didn't listen to residents. (x2)
- The two-lane bridge will be obsolete upon completion.
- Begin construction ASAP, and work 24/7. (x7)
- "Cattle Dip": Potential archaeological resource? Citizen to call SHPO/Office of State Archaeology to inquire.
- Handicap accessible beach access/bath/shower.

Community Characteristics/Aesthetics/Ambiance

- Roundabouts will give the island a big commercial feel and not the relaxing atmosphere we want. (x2)
- The historical atmosphere of the island will be impacted without the swing bridge.
- Fixed bridge is less attractive, diminishing the value of the island (x2)

Roundabout Comments

- The roundabout won't work, and instead of solving traffic problems, it will contribute to them. (x11)
- Right turn slip lane on island roundabout is too short.
- Roundabouts will help with congestion on and off the island.

Traffic and Safety

- I like the no left turn on Kinston Ave. Will be much safer.
- You are reducing outlets off the main artery from 6 to 2. The math doesn't work.
- Bridge traffic will back-up during peak time/tourist season. (x6)
- Traffic that flows North/ South on the island will be completely bottled up during the busy times. (x2)
- There will not be a clear path to exit the island now. (x3)
- On opening day in 2020, have traffic police at each roundabout until we learn the new pattern.
- S. Shore Drive - It is difficult to drive because of pedestrian activity and parked cars during the summer.
- Concerned for people that need emergency help when they are on the bridge.

Residential and Business Concerns

- Hopeful that the R/W agents will work with residents. (x2)
- Noise from bridge will directly affect our property.
- Reduction in pass-by traffic will be detrimental to rental/business appeal (x3)

APPENDIX D: AGENCY COMMENTS RECEIVED FOLLOWING CIRCULATION OF THE ENVIRONMENTAL ASSESSMENT

U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: **INFORMATION/ACTION:** Topsail Island Bridge Replacement Project, T.I.P. NO. B-4929 State Project BRSTP-0050(10), Pender County

Date: January 24, 2011

From: Ronald G. Lucas, Jr., PE
Preconstruction & Environmental Engineer
Raleigh, North Carolina

To: File

The Federal Highway Administration (FHWA) has evaluated the project alternatives and its impacts to Soundside Park, and has determined that Alternatives 10 and 10a impact Soundside Park to a degree exceeding the threshold criteria of a "*de minimis*" impact. 23 CFR 774.3(c) and Section 6009 of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) states that FHWA is responsible for determining if the use of a Section 4(f) resource results in a *de minimis* impact to the resource. In that determination, the FHWA Division Administrator or Federal Transit Administration (FTA) Regional Administrator must consider the facts supporting the determination of a *de minimis* impact, ultimately using best judgment in making the finding.

While assessing impacts to Soundside Park, consideration was given to recreational features of the park that are important for its use by the public. 23 CFR 774.17 clearly states "for parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f)." Soundside Park is a 20.35 acre park owned by the Town of Surf City located adjacent to the existing swing span bridge. These features consist of picnic benches, shelters, a fishing pier, a children's playground, boat landings, a waterfront boardwalk, an amphitheater and a walking trail (see attached figure). These features of the resource are important to protect, and should be distinguished from areas such as parking facilities. While Alternatives 10 and 10a require a small amount of park property for the bridge footings, its alignment through the center of the park, and the associated visual impacts would have an adverse effect on the aforementioned park features. Therefore, FHWA has determined that the use of Soundside Park exceeds the threshold of a *de minimis* impact under Section 4(f) of the Transportation Act and is considered a Section 4(f) use subject to the regulations outlined in 23 CFR 774.3.

Attachment

RECOVERY.GOV

210
50
Surf City
Retail Business
District
Soundside
Park
Transmission
Lines
Blackbeard's
Treasure
Campground
Harbor Point
Townhomes
Not to Scale
AERIAL VICINITY
Pender County
TOPSAIL ISLAND BRIDGE
REPLACEMENT PROJECT
(T.I.P. No: B - 4929)
Bridge No. 16 Over Intracoastal Waterway on NC 50 / 210
Figure 1
December 2010

United States Department of the Interior

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

February 28, 2012

RECEIVED
MAR 1 2012
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your February 17, 2012 letter which requested comments from the U.S. Fish and Wildlife Service (Service) on the Federal Environmental Assessment (FEA) for the Topsail Island Bridge Replacement (Bridge No. 16 over Intracoastal Waterway), Pender County, North Carolina (TIP No. B-4929). These comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

The Service has been actively involved in the combined NEPA/Section 404 Merger Process for this project. The Merger Team has reduced the number of remaining alternatives to seven. With regard to federal trust resources and impacts to fish and wildlife, all seven alternatives are similar in magnitude of impacts. At this time the Service does not have a strong preference for an alternative, and we will defer that decision until Concurrence Point 3.

Table 5-6 on page 5-9 lists all the federally threatened and endangered species for Pender County. The North Carolina Department of Transportation (NCDOT) has rendered a biological conclusion of "No Effect" for all species except for the West Indian manatee (*Trichechus manatus*) and loggerhead sea turtle (*Caretta caretta*). We concur with these "No Effect" conclusions.

The NCDOT has determined that the project may affect, but is not likely to adversely affect the West Indian manatee. Based on NCDOT's commitment to utilize the Service's **GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE: Precautionary Measures for Construction Activities in North Carolina Waters,** we concur with your conclusion that the project may affect, but is not likely to adversely affect the West Indian manatee.

The NCDOT has determined that the project may affect, but is not likely to adversely affect the loggerhead sea turtle. Since there is no beach nesting habitat within the project study area, this species falls under the purview of the National Marine Fisheries Service (NMFS) for its potential

presence in Topsail Sound and the Intracoastal Waterway. The U.S. Fish and Wildlife Service only has jurisdiction for nesting sea turtles on the beach.

Page 5-14 states "Golden eagles are not present in North Carolina." Although golden eagles (*Aquila chrysaetos*) do not nest in North Carolina, they do occasionally occur in North Carolina, primarily during the winter.

The Service believes that this FEA adequately addresses the existing fish and wildlife resources, the waters and wetlands of the United States, and the potential impacts of this proposed project on these resources. 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,

Gary Jordan

for Pete Benjamin
Field Supervisor

Electronic copy: Chris Militscher, USEPA, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Brad Shaver, USACE, Wilmington, NC
Ron Lucas, FHWA, Raleigh, NC

-----Original Message-----
From: Shaver, Brad E SAW [mailto:Brad.E.Shaver@usace.army.mil]
Sent: Wednesday, March 21, 2012 1:05 PM
To: Cox, Charles R; James, Michele L
Cc: Beter, Dale E SAW; McLendon, Scott C SAW; Mathis, Stonewall D; Herndon, Mason; Gary Jordan; Wainwright, David; Militscher.Chris@epamail.epa.gov; Wilson, Travis W.; Gledhill-earley, Renee; Stanton, Tyler P; Sollod, Steve
Subject: B 4929 EA comments

Michelle,

The Corps will be submitting our comments to the subject EA through this email correspondence. If you find that a hard copy letter is necessary please advise as one will be drafted and mailed out. If a hardcopy is necessary it will take several days for processing and may miss the April 2, 2012 deadline for comment.

The comments are referenced by sections below:
- Section 5.1.2.3 Waters of the United States , this section states that none of the detailed study alternatives would result in impacts to riparian wetlands, however on figures 5-1 through 5-3, riparian wetlands fall within the graphical representation of the project.

- Section 5.1.2.3, Figures 5-1 through 5-7 don't seem to exactly match the effort by NEU covered by the preliminary JD approved on 622/2011 by the Corps. The CAMA line and riparian wetland line appears to come further up gradient than approved. Also the study area appears much broader in the Figure 5 displays as compared to the preliminary JD study area.

- Section 5.1.2.3, during a recent enforcement action pursued by the Corps additional wetlands were discovered in the NE quadrant of the study area. NES (former NEU) has been given a estimation of these wetland additions.

- Section 5.1.2.4, a statement is made that if on-site opportunities are not sufficient to mitigate for potential wetland and stream impacts than the mitigation would come from NCEEP. I would encourage the Dept to aggressively pursue on-site mitigation options since the project is located in the 03030001 HUC. Most of the mitigation to date in this HUC is centered around the Richlands area and does not directly empty into Topsail Sound. To the Corps knowledge, there have been very few attempts at mitigation east of Hwy 17 in this area. The parcels along Hwy 210 just west of the bridge have been aggressively pursued for development for a number of years. Most of these parcels have either been involved in an enforcement action or permit scenario with the Corps. The Corps believes there may be some opportunities for on-site mitigation within the study area to include preservation of undeveloped parcels that are in imminent threat of future development.

- Section 5.1.2.5, are there any current projections per alternative of utility relocations and potential impacts to jurisdictional resources?

- Section 5.3.2.2, the Department is reminded that potential Section 4(f) impacts would not preclude the Corps from selecting those corridors with 4(f) impacts as the LEDPA. The Department is encouraged to not use Section 4(f) impacts as the sole basis for eliminating alternatives.

The Corps will continue to participate within the guidelines of the Merger process. If you have any questions pertaining to these comments please don't hesitate to give me a call.

Brad

Brad E Shaver
Project Manager
US Army Corps of Engineers
69 Darlington Ave
Wilmington, NC 28403
(910) 251-4611
Fax# (910) 251-4025
The Wilmington District is commited to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisifaction Survey located at our website at http://per2.nwp.usace.army.mil/survey.html to complete the survey online.

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U.S. Environmental Protection Agency Region 4 Raleigh Office
Terry Sanford Federal Courthouse
310 New Bern Avenue
Raleigh, North Carolina 27601

April 13, 2012

Dr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: Federal Environmental Assessment, Topsail Island Bridge Replacement, Surf City, Pender County, TIP No: B-4929

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject document and is providing comments in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing to replace Bridge No. 16 over the Intercoastal Waterway, in Surf City, Pender County.

The proposed project is included in the NEPA/Section 404 Merger process. EPA has been an active participant and concurred with the purpose and need, Concurrence Point 1, on August 20, 2009. Detailed study alternatives (DSAs) to be carried forward, Concurrence Point 2, was agreed to on December 14, 2010. EPA's detailed technical review comments on the Federal Environmental Assessment (EA) are attached to this letter (See Attachment A).

EPA has not identified environmentally preferred alternative at this time from the seven (7) Detailed Study Alternatives (DSAs) under consideration and will work with the other Merger team agencies on the selection of the Least Environmentally Damaging Preferred Alternative (LEDPA) at the Concurrence Point 3 meeting. We appreciate the opportunity to review this document and request a copy of the Finding of No Significant Impact (FONSI) when it becomes available. Please feel free to call me should you have any questions concerning these comments at 919-856-4206 or 404-562-9512. Thank you.

Sincerely,

Christopher A. Militscher, REM, CHMM
Merger Team Representative

FOR:
Heinz J. Mueller, Chief
NEPA Program Office
USEPA Region 4

Cc: C. Coleman, FHWA
B. Shaver, USACE
D. Wainwright, NCDWQ
S. Sollod, NCDCM

w/Attachment

Attachment A
Detailed Technical Comments
Topsail Island Bridge Replacement
Federal EA for TIP No: B-4929
Pender County, N.C.

Evaluation of the Environmental Impacts from the Detailed Study Alternatives

Seven (7) Detailed Study Alternatives (DSAs) were carried forward for study in the Environmental Assessment (EA), including Alternatives #4, #5, #5R, #6, #7, #11, and #17. All of the DSAs include a new bridge over the Intercoastal Waterway.

DSA #5R has substantially higher impacts to residences and businesses than the other DSAs (i.e., #13 and #7, respectively). DSA #6 has the least impact to existing residences and businesses at 0 residential relocation and 1 business relocation.

Table 5-13 of the EA also includes total property impacts for each DSA. Vacant property 'impacts' are a routine cost-related effect of the transportation agencies building new roadways and bridges. However, the DSAs with the least number of vacant property impacts (i.e., DSA #6 and #7), actually have the greatest estimated costs (i.e., $93,719,530 and $101,319,530, respectively). Conversely, the DSA with the greatest number of vacant property impacts (i.e., DSA #17 – 43) has the least total project costs (i.e., $57,372,278). The information on vacant property impacts are not typically included in NEPA document summary impact tables. EPA is unsure as to the relevance of providing this information in the summary impact table.

Potential impacts to jurisdictional wetland resources for the seven (7) DSAs as referenced above are 1.1, 1.1, 1.1, 0, 0, 1.0 and 0.8 acres, respectively. DSA #6, #7 and #17 have potential impacts to 0.3, 0.1, and 0.4 acres, respectively to CAMA regulated wetlands. With the exception of DSA #6 and #7, all of the other DSAs have jurisdictional impacts of a similar magnitude (approximately 1 acres or less).

All of the DSAs have a Section 4(f) adverse effect to the existing historic Topsail Bridge No. 16. DSA #6 and #7 also have a potential Section 4(f) effect to the Soundside Park (i.e., 0.03/0.4 acres and 0.01/0.4 acres; permanent/temporary impacts). All of the DSAs have a 'May Affect – Not Likely to Adversely Affect' (MA-NLAA) determination for two Federally-protected species.

Impacts to Terrestrial Forest communities are identified in Table 5-2 of the EA. The estimated impacts from the DSAs range between 0.1 acres for DSA #7 to 3.6 acres for DSA #11. DSA #11 has 1.5 acres of impact to mesic mixed hardwood forests. Considering the past substantial loss of these types of coastal terrestrial communities from development, and in consideration of other jurisdictional and human resources impacts, DSA #11 is EPA's least preferred alternative. DSA #11 also includes 4 residential relocations and 1 business relocation and impacts the Faith Harbor United Methodist Church property.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
(727) 824-5317; FAX (727) 824-5300
http://sero.nmfs.noaa.gov/

August 22, 2012 F/SER4:BH/pw

(Sent via Electronic Mail)

Colonel Steven Baker, Commander
Wilmington District Army Corps of Engineers
Wilmington Regulatory Field Office
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

Attention: Brad Shaver

Dear Colonel Baker:

NOAA's National Marine Fisheries Service (NMFS) reviewed public notice SAW-2007-03646 dated June 25, 2012. The North Carolina Department of Transportation (NCDOT) is studying three sets of alternatives (referred to as the Northern, Central, and Southern Group Alternatives) to replace the Topsail Island Bridge over the Atlantic Intracoastal Waterway (AIWW) and Topsail Sound along NC 50 in Pender County. According to the public notice, impacts to tidal wetlands would range from 0 to 0.4 acres and impacts to non-tidal wetlands would range from 0 to 1.1 acres depending on the alternative chosen. The Wilmington District's initial determination is that substantial adverse impacts to essential fish habitat (EFH) or federally managed fisheries are not expected from the project, although this determination acknowledges it is limited to an alternative that replaces the bridge within the current alignment. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Essential Fish Habitat within the Project Area

The proposed project site includes salt marsh, sandy shell bottom, seagrass, and tidal palustrine wetlands. The South Atlantic Fishery Management Council (SAFMC) identifies one or more of these habitats as EFH for juvenile gag grouper (*Mycteroperca microlepis*); larval, juvenile, and adult cobia (*Rachycentron canadum*); juvenile and adult gray snapper (*Lutjanus griseus*); juvenile Spanish mackerel (*Scomberomorus maculatus*); juvenile lane snapper (*Lutjanus synagris*); and larval and juvenile pink shrimp (*Farfantepenaeus duorarum*), white shrimp (*Litopenaeus setiferus*), and brown shrimp (*Farfantepenaeus aztecus*). SAFMC also designates seagrass as a Habitat Area of Particular Concern (HAPC) for estuarine members of the snapper-grouper complex. The State of North Carolina designates this area of Topsail Sound as a Primary Nursery Area, and this designation makes the Sound an HAPC under SAFMC fishery management plans for penaeid shrimp and the snapper/grouper complex. HAPC's are subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. The project area also likely

includes bluefish (*Pomatomus saltatrix*) and summer flounder (*Paralichthys dentatus*). These species are managed by the Mid-Atlantic Fishery Management Council (MAFMC), and that council designates estuarine areas as EFH for these species.

SAFMC provides detailed information on the habitat requirements of fishery species in the *Fishery Ecosystem Plan of the South Atlantic Region*, and MAFMC provides similar information for the species it manages in individual fishery management plans. In summary, the EFH at the project site provide functions important to fish and invertebrates. The tidal palustrine wetlands, seagrass, and salt marsh provide spawning, foraging, and nursery habitat for federally managed fishery species. These habitats also provide water quality functions, such as removal of sediments, excess nutrients, and contaminants, which benefit and support these aquatic ecosystems. Through hydrological connections, these wetlands also contribute plant material and other useable nutrients (both dissolved and particulate organic matter) into aquatic food webs that include recreationally, commercially, or ecologically important species within the estuary. The sandy shell bottom provides foraging and sheltering opportunities for penaeid shrimp while the estuarine waters and shelf provide spawning and foraging opportunities.

Impacts to Essential Fish Habitat
Impacts to all wetlands associated with the Northern and Southern Alternatives would be between 0.4 and 1.1 acres, whereas impacts from the Central Alternatives would be between 0 and 0.3 acres. NMFS believes these acreages are underestimated. Palustrine wetlands and salt marsh underneath any of the constructed bridges should be considered direct impacts since it is unlikely that these vegetation communities would persist beneath a bridge due to shading. In addition, it does not appear that impacts to seagrass were considered in the Environmental Assessment or public notice. The persistence of seagrass in this area is well documented and visible in aerial photography.

Indirect impacts to EFH could potentially occur because of construction activities. If barges are to be used, they should be staged and located away from seagrass areas. Barges should have adequate drafts to operate at all tidal stages without scouring the bottom. All construction equipment should be located outside of wetland areas, and all disturbed ground should be quickly stabilized. Best management practices, such as staked hay bales, turbidity screens, and silt fencing, should be used; turbidity curtains should be located outside of seagrass beds. Impacts can be further avoided by using top-down construction and using retaining walls for the bridge approaches instead of earthen shoulders.

Alternative Selection
Impacts to EFH should be avoided to the maximum extent practicable. This could be accomplished by choosing an alternative to replace the bridge in its current location. The Northern and Southern Alternatives would impact more EFH.

Compensatory Mitigation
NCDOT will explore on-site stream and wetland mitigation as the project progresses. If on-site mitigation is not feasible, NCDOT proposes to provide compensatory mitigation via the North Carolina Ecosystem Enhancement Program (EEP), in accordance with the July 2010 In-Lieu Fee Instrument Memorandum of Agreement. If the sequential mitigation process results in unavoidable impacts to EFH, NMFS prefers on-site mitigation be provided but would evaluate mitigation proposed via EEP to determine if fishery resources in the vicinity of the project would benefit. The specific EPP project or on-site mitigation pursued should be coordinated with our office as soon as practicable to ensure the mitigation addresses fishery concerns.

Essential Fish Habitat Conservation Recommendations
NMFS concludes the proposed replacement of the Topsail Island Bridge may adversely impact EFH, depending on the alternative chosen. Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations when an activity is expected to adversely impact EFH. Based on this requirement, NMFS provides the following:

EFH Conservation Recommendations

- Detailed information on site-specific avoidance and minimization of wetlands and EFH shall be provided. This assessment shall include impacts from shading by the bridge and impacts associated with construction activities.
- A detailed plan shall be developed for providing full, in-kind compensation for unavoidable adverse impacts to wetlands and EFH. The plan shall include performance criteria and monitoring to gauge performance with respect to those criteria.

As the project progresses through planning, NMFS may find it necessary to provide additional EFH conservation recommendations.

Section 305(b)(4)(B) of the Magnuson-Stevens Act and its implementing regulation at 50 CFR Section 600.920(k) require your office to provide a written response to this letter within 30 days of its receipt. If it is not possible to provide a substantive response within 30 days, in accordance with our "findings" with your Regulatory Functions Branch, an interim response should be provided to NMFS. A detailed response then must be provided prior to final approval of the action. Your detailed response must include a description of measures proposed by your agency to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH Conservation Recommendations, you must provide a substantive discussion justifying the reasons for not following the recommendations.

Thank you for the opportunity to provide comments. Related correspondence should be directed to the attention of Mr. Brandon Howard at our West Palm Beach office, which is co-located with the US Environmental Protection Agency at USEPA, 400 North Congress Avenue, Suite 120, West Palm Beach, Florida, 33401. He may be reached by telephone at (561) 616-8880, extension 210, or by e-mail at Brandon.Howard@noaa.gov.

Sincerely,

Pete Willis

/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc:

COE, Thomas.A.Steffens@usace.army.mil
SAFMC, Roger.Pugliese@safmc.net
NCDENR, Jessi.Baker@ncdenr.gov
F/SER4, David.Dale@noaa.gov
F/SER47, Fritz.Rohde@noaa.gov, Brandon.Howard@noaa.gov

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
PUBLIC WATER SUPPLY SECTION

Inter-Agency Project Review Response

Project Number
12-0214

County
Pender

Project Name Surf City/Pender County/DOT

Type of Project EA - Proposed construction to replace existing Topsail Island Bridge No. 16 along NC 50-210 over Intercoastal Waterway. TIP B-4929

RECEIVED
MAR 7 2012

Comments provided by:

- ☐ Regional Program Person
- ☒ Regional Supervisor for Public Water Supply Section
- ☐ Central Office program person

Name Debra Benoy–Wilmington RO Date 02/29/2012

Telephone number: _____

Program within Division of Water Resources:

- ☐ Public Water Supply
- ☐ Other, Name of Program: _____

Response (check all applicable):

- ☐ No objection to project as proposed
- ☐ No comment
- ☐ Insufficient information to complete review
- ☐ Comments attached
- ☒ See comments below

Approval from the Public Water Supply will be needed for any water main installation/relocation.
EL

Return to:
Public Water Supply Section
Environmental Review Coordinator for the
Division of Water Resources

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
PUBLIC WATER SUPPLY SECTION

Project Number
12-0214
County
Pender

Inter-Agency Project Review Response

Project Name **Surf City/Pender County/DOT** Type of Project **EA - Proposed construction to replace existing Topsail Island Bridge No. 16 along NC 50-210 over Intercoastal Waterway. TIP B-4929**

☐ The applicant should be advised that plans and specifications for all water system improvements must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction (as required by 15A NCAC 18C .0300et. seq.). For information, contact the Public Water Supply Section, (919) 733-2321.

☐ This project will be classified as a non-community public water supply and must comply with state and federal drinking water monitoring requirements. For more information the applicant should contact the Public Water Supply Section, (919) 733-2321.

☒ If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources, Public Water Supply Section, Technical Services Branch, 1634 Mail Service Center, Raleigh, North Carolina 27699-1634, (919) 733-2321.

☒ For Regional and Central Office comments, see the reverse side of this form.

Rebecca Sadosky	PWSS	02/29/2012
Review Coordinator	Section/Branch	Date

MEMORANDUM

DIVISION OF WATER QUALITY

TO: Melba McGee, Environmental Coordinator

FROM: Joanne Steenhuis, Senior Environmental Specialist JHS

THROUGH: Jim Gregson, Surface Water Protection Regional Supervisor

DATE: March 8, 2012

SUBJECT: Proposed Construction to replace the existing Topsail Island bridge No. 16 along NC 50-210 over the Intracoastal Waterway

PROJECT: Surf City Bridge Replacement TIP B-4929

Project No. 12-0214

COUNTY: Pender County

The Wilmington Regional Office has reviewed the Environmental Assessment (EA) document for the proposed alignment for the replacement bridge to Surf City (Bridge No. 16). The DWQ supports the low-rise and mid-rise alternative bridges (Alternatives 6 & 7). These two proposed replacements propose the least amount of wetland impacts and preserves the "vista" of a small community like Surf City.
Thank you for the opportunity to comment.

David Wainwright – DWQ DOT - Raleigh
WiRO

North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Beverly Eaves Perdue
Governor

Dr. Louis B. Daniel III
Director

Dee Freeman
Secretary

MEMORANDUM:

TO: Melba McGee, DENR Environmental Coordinator

THROUGH: Anne Deaton, DMF Habitat Section Chief AD

FROM: Jessi Baker, DMF Marine Habitat Biologist JB

SUBJECT: Topsail Island Bridge Replacement, Pender County

DATE: March 12, 2012

The North Carolina Division of Marine Fisheries (DMF) submits the following comments pursuant to General Statute 113-131. DMF has reviewed the Topsail Island Bridge Replacement Environmental Assessment by the NCDOT regarding the bridge replacement along NC 50/210 over Topsail Sound and the AIWW.

DMF requests that all bottom-disturbing activities occur outside the in-water work moratorium of April 1st to September 30th. Please feel free to contact Jessi Baker at (252) 808-8064 or jessi.baker@ncdenr.gov if you have any further questions or concerns.

5285 Hwy 70 West, Morehead City, North Carolina 28557
Phone: 252-808-8066\ FAX: 252-727-5127\ Internet: www.ncdmf.net
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North Carolina Department of Environment and Natural Resources
Division of Water Quality
Charles Wakild, P.E
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

March 19, 2012

MEMORANDUM

To: Melba McGee, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: David Wainwright, Division of Water Quality, Central Office DW

Subject: Comments on the Environmental Assessment related to the proposed Topsail Island Bridge replacement (Bridge No. 16), Pender County, Federal Aid Project No. BRSTP 50(10), TIP B-4929.
State Clearinghouse Project No. 12-0214.

This office has reviewed the referenced document dated October 2011. The NC Division of Water Quality (NCDWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. NCDWQ offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, NCDWQ will continue to work with the team.

2. Section 5.3.7 discusses community character, and the majority of this section is spent discussing the existing swing span, and how important the community feels it is to the character and charm. It is also stated that many of the residents feel it is an important part of the island and want it replaced with a similar swing span, as a high-rise may induce development. However, the last part of the discussion states that over one-third of the comments from CIW #1 preferred a high-rise type bridge. As presented, the two statements appear to be in conflict. If the existing swing span bridge is so important, why did so many of the comments prefer the high-rise option? It should be discussed how many comments were received in favor of replacing the existing bridge with a similar, low profile swing type bridge (along with other options such as the mid-rise bridge). This would put the comments in favor of a low-rise bridge in context with those which prefer the high-rise or other option.

3. Table 5-11 should include existing LOS. This would allow for comparison between existing and design year.

4. The NCDWQ prefers onsite mitigation to offsite mitigation. The NCDOT is encouraged to fully explore all onsite mitigation possibilities after the LEDPA is chosen, if not before.

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

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5. The document does not fully discuss 303(d) listed waters, only mentioning that no waters within one mile of the PSA are listed for turbidity or sediment. It should be noted that Topsail Sound north of the ICWW (DWQ #18-8710c), Topsail Sound south of the ICWW (DWQ #18-87-10a), and the ICWW (DWQ #18-87-[5.5]) are all listed on the 2010 and Draft 2012 303(d) list of impaired waters due to shellfish bed harvesting closures. Additionally, all 13,178 surface waters in the State are listed on the 2010 and Draft 2012 303(d) list due to fish consumption advisories of several species.

6. Section 5.8.5.3 states that the waters in the study area are located within the Lower Cape Fear River Basin. As of 2008 the NCDWQ considers this area to be part of the White Oak River Basin. The NCDWQ has reassessed river basin boundaries to better align with the federal database of river basin boundaries.

General Comments:

7. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

8. Environmental impact statement alternatives should consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices Manual*, July 2007, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

9. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[h]), mitigation will be required for impacts greater than 1 acre of wetlands and/or 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

10. Future documentation, including the 401 Water Quality Certification Application, should continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.

11. NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWQ's *Stormwater Best Management Practices*.

13. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.

14. If foundation test borings are necessary, geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.

15. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

16. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

NCDWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact David Wainwright at (919) 807-6405.

cc: Brad Shaver, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)
Clarence Coleman, Federal Highway Administration
Chris Militscher, Environmental Protection Agency (electronic copy only)
Gary Jordan, US Fish and Wildlife Service (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
Steve Sollod, Division of Coastal Management (electronic copy only)
Mason Herndon, NCDWQ Fayetteville Regional Office
File Copy

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Beverly Eaves Perdue
Governor

Braxton C. Davis
Director

Dee Freeman
Secretary

MEMORANDUM

TO: Melba McGee, Environmental Coordinator
NCDENR Office of Legislative & Intergovernmental Affairs

FROM: Steve Sollod, DCM Transportation Project Coordinator

DATE: March 20, 2012

SUBJECT: State Clearinghouse Review
Environmental Assessment (EA) Comments
Proposed Topsail Island Bridge Replacement
Pender County, TIP Number B-4929
Project Review No. 12-0214

The North Carolina Division of Coastal Management (DCM) has reviewed the Environmental Assessment (EA) of the above referenced project, which was submitted to the NC State Clearinghouse for intergovernmental review. The proposed project is the replacement of the existing Topsail Island Bridge on NC 50/210 over the Intracoastal Waterway in Pender County. We appreciate the opportunity to review this document and provide comments relative to the NC Coastal Management Program.

Upon review of the document we offer the following comments:

There appears to be no reference in the EA to any evaluation of the presence of existing Submerged Aquatic Vegetation (SAV) beds or SAV habitat as defined by the NC Marine Fisheries Commission. An evaluation should be performed and the area of existing SAV beds or habitat should be documented and displayed in **Table E-1: Detailed Study Alternatives Environmental Effects Summary**. If no SAV beds or habitat is present in the project study area this should be indicated in the document.

Table 5-7: Commercial Fish Species, indicates the presence of species that may require protection of adult and early life stages by the establishment of an in-water work moratorium. Should coordination with the NC Division of Marine Fisheries (DMF) reveal the necessity to establish an in-water work moratorium, it should be included as a project commitment in the "green sheets". It should be noted that the letter from the US Fish and Wildlife Service, dated August 23, 2007 in **Appendix B**, referenced a general in-water work moratorium period for anadromous fish from February 15 through June 30 in waterways that may serve as travel corridors for fish. NCDOT should consult with DMF on the appropriateness of an in-water work moratorium.

400 Commerce Ave., Morehead City, NC 28557
Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net

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CAMA Coastal Wetlands are a natural resource essential to the functioning of the entire estuarine system. Without the marsh, the high productivity levels and complex food chains typically found in the estuaries could not be maintained. DCM is concerned with the proposed impacts to CAMA Coastal Wetlands associated with Alt 7 (0.1 acre), Alt 6 (0.3 acre), and Alt 17 (0.4 acre). These impacts are considered high. DCM would expect that avoidance and minimization measures would significantly reduce or eliminate impacts to this resource, should any of these alternatives be chosen as the preferred alternative. For unavoidable impacts to CAMA Coastal Wetlands, after all avoidance and minimization measures, NCDOT is encouraged to identify any available opportunities for mitigation on-site or in the immediate vicinity.

The proposed project should be evaluated in regard to consistency with all applicable CAMA Land Use Plans. **Section 2.2.2.3** refers to land use plans of the towns of Surf City and Topsail Beach; however, there was no mention of Pender County's CAMA Land Use Plan. In order for the project to be authorized by DCM and receive a CAMA permit, the project must be consistent with all appropriate CAMA Land Use Plans.

It should be noted that the NCWAM classification of Estuarine Woody Wetlands, as listed in **Table 5-4: Jurisdictional Wetlands**, could potentially also meet the definition of a CAMA Coastal Wetland if it contains species identified in CAMA and the rules of the NC Coastal Resources Commission, 15A NCAC 07H .0205. Any wetland areas to be impacted by the project should be delineated by a DCM Field Representative to determine if, and the amount of, CAMA Coastal Wetlands that are to be impacted.

Section 5.1.2.5, Anticipated Permit Requirements, indicates under the heading, CAMA Major Development Permit, that the project would impact Coastal Wetlands and Estuarine Waters Areas of Environmental Concern (AECs). In addition, the project would impact Public Trust Areas and Coastal Shorelines AECs. A CAMA Major Permit is required due to the scope of the project.

Soundside Park is a municipal park located adjacent to Bridge No.16 with 45 parking places, boat access ramps, picnic facilities, a performance stage, children's playground, boardwalk, and bathroom facilities. Coastal waterfront access is a concern of local, state, regional and national importance. It is the policy of the State to foster, improve, enhance and ensure optimum access to the public beaches and waters of the 20 county coastal region. Any unavoidable impacts to the park facilities that could occur by the selection of Alternative 6, 7, or 17 should be mitigated with similar facilities in the vicinity.

We hope that you find these comments helpful. If you have any questions or concerns, please contact me at (919) 707-9152, or via e-mail at steve.sollod@ncdenr.gov. Thank you for your consideration of the North Carolina Coastal Management Program.

CC: Jessi Baker, DMF
Doug Huggett, DCM
Stephen Lane, DCM
Gary Jordan, USFWS
Chris Militscher, USEPA
Brad Shaver, USACE
David Wainwright, DWQ
Travis Wilson, WRC

State of North Carolina
Department of Environment and Natural Resources

Reviewing Office: Wilmington Regional Office *Wilco*

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Project Number: *12-0214* Due Date: *3/21/12*

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statuary time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☒	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
☐	Permit to construct & operate Transportation Facility as per 15 A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
☐	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
☐	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 2D.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
☐	Complex Source Permit required under 15 A NCAC 2D.0800		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of $65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
☒	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any are mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
☐	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
☐	State Lakes Construction Permit	Application fees based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
☒	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
☐	Abandonment of any wells, if required must be in accordance with Title 15A, Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
☐	Tar Pamlico or Neuse Riparian Buffer Rules required.		

* Other comments (attach additional pages as necessary, being certain to cite comment authority)

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

☐ **Fayetteville Regional Office**
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

☐ **Mooresville Regional Office**
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

☐ **Raleigh Regional Office**
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

☐ **Washington Regional Office**
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

☒ **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

☐ **Winston-Salem Regional Office**
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-5000

North Carolina Department of Environment and Natural Resources
Office of Conservation, Planning, and Community Affairs

Beverly Eaves Perdue
Governor

Linda Pearsall
Director

Dee Freeman
Secretary

March 29, 2012

MEMORANDUM

TO: Melba McGee, DENR Environmental Coordinator

FROM: Harry LeGrand, Natural Heritage Program

SUBJECT: EA – Proposed Replacement of Existing Topsail Island Bridge No. 16 along NC 50-210; TIP B-4929

REFERENCE: 12-0214

The Natural Heritage Program has a record for the State Special Concern Least Tern (*Sternula antillarum*) nesting on a dredge spoil island located where Alternative 11 runs. In order to avoid potential or known nesting areas for that bird species or other colonial nesting waterbirds (on sandy dredge spoil), we recommend that Alternative 11 not be chosen, nor any other that might cross such sandy habitats. In addition, the State Special Concern Diamondback Terrapin (*Malaclemys terrapin*) has been recorded in nearby marshes. A number of the far eastern and far western alternative cross marshes; hopefully the bridge would span over tidal marshes to avoid impacts to terrapins and other natural resources associated with tidal marshes.

Please do not hesitate to contact me at 919-707-8603 if you have questions or need further information.

Mailing address: 1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Location: 217 W. Jones Street, Raleigh NC 27604
Phone: 919-707-8600 Webpage: www.oneNCNaturally.org

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One NorthCarolina Naturally
Natural Resources Planning and Conservation

RESOLUTION SUPPORTING TIP PROJECT NUMBER B-4929
BRIDGE REPLACEMENT NC 50-210
OVER THE INTRACOASTAL WATERWAY IN PENDER COUNTY

WHEREAS, The North Carolina Department of Transportation has determined the Bridge over the Intracoastal Waterway onto Topsail Island, Surf City, in Pender County, needs replacement, and

WHEREAS, the Town of Surf City appreciates how the North Carolina Department of Transportation is approaching this project with the understanding of the Bridge's importance to Surf City and all of Topsail Island, and

WHEREAS, as early as May 2005 Surf City expressed concern with replacing the swing bridge with a high-rise bridge and the affect it could have on our business community, and

WHEREAS, in September 2007 Surf City Town Council expressed interest with this project and expressed they wanted to be involved during all phases of the project since it certainly affects our community greatly, and

WHEREAS, Surf City followed very closely the June 2009 Project Information meetings, and

WHEREAS, Town Council is looking forward to the October 2010 evaluation of alternatives meetings and reviewing closely each of the alternatives.

NOW, THEREFORE, BE IT RESOLVED that the Town Council would like to again express concern with replacing the swing bridge with a high-rise bridge and we are hopeful the evaluation of alternatives recommends the Bascule Bridge similar to the one at Wrightsville Beach and in or very near the current location since this replacement will directly affect businesses and residences on our main corridor approaching the Island.

Adopted this the 5th day of October, 2010.

A.D. (Zander) Guy Jr., Mayor

ATTEST: Patricia E. Arnold
Patricia E. Arnold, Town Clerk

Town of Surf City

RESOLUTION No. 2014-04

RESOLUTION ADOPTING OPTION FOUR FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROPOSED ROUNDABOUT

WHEREAS, The North Carolina Department of Transportation has determined the Bridge over the Intracoastal Waterway onto Topsail Island, Surf City, in Pender County, needs replacement, and

WHEREAS, the Town of Surf City appreciates how the North Carolina Department of Transportation is approaching this project with the understanding of the Bridge's importance to Surf City and all of Topsail Island, and

WHEREAS, as the North Carolina Department of Transportation has worked diligently with the Town to determine the highest and best option for the Town, it's citizens, and visitors; and,

WHEREAS, after a public hearing on February 5, 2014 it was concluded that option four will move traffic with a greater ease, allows for more parking which is desperately needed, and permits for safe pedestrian traffic; and,

WHEREAS, Town Council believes in the best interest of the Town that option four preserves the family friendly beach atmosphere, that Surf City has strived so hard for, in a safe manner.

NOW, THEREFORE, BE IT RESOLVED that the Town Council would like to express concern with replacing the swing bridge with a high-rise bridge and we trust that option four, the three leg roundabout is the best option for the Town now and in years to come.

Adopted this the 5th day of February, 2014.

A.D. (Zander) Guy Jr., Mayor

ATTEST:

Stephanie E. Hobbs, Town Clerk

Swayampakala, Radha Krishna

From: Todd Rademacher <todd@townofsurfcity.com>
Sent: Tuesday, April 15, 2014 11:50 AM
To: Swayampakala, Radha Krishna
Subject: RE: Topsail Island Bridge Project - Soundside Park Impacts

This minor change is acceptable to the Town of Surf City.

Todd J. Rademacher
Planning Director
Town of Surf City
PO Box 2475
Surf City, NC 28445
(910) 328-4131 Office
(910) 328-4132 Fax
www.townofsurfcity.com

From: Swayampakala, Radha Krishna [mailto:Radha.Swayampakala@rsandh.com]
Sent: Tuesday, April 15, 2014 11:49 AM
To: Todd Rademacher
Cc: ccox@ncdot.gov; mjames@ncdot.gov; Ron.Lucas@dot.gov; Critcher, Chad
Subject: Topsail Island Bridge Project - Soundside Park Impacts

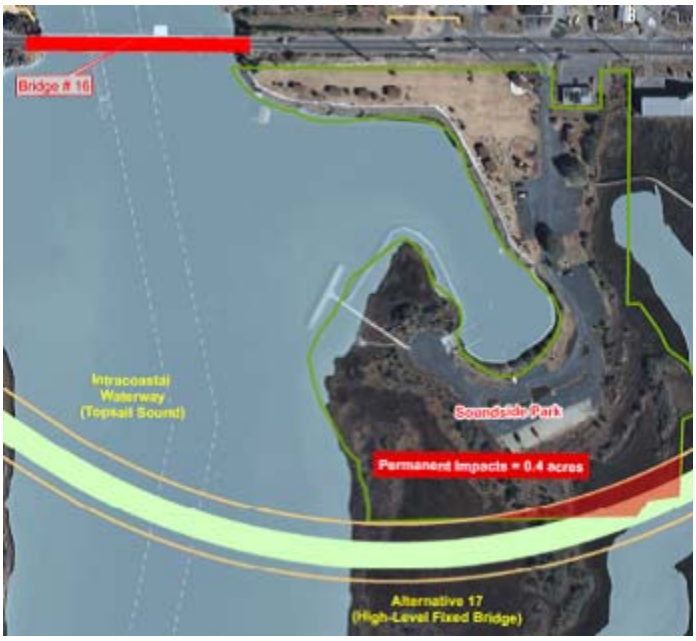
Hello Todd,

As we discussed, in an effort to minimize impacts to resources and/or properties on the island side, we have made some changes to the Alternative 17 alignment. This change would result in a slight increase to the Soundside park impacts – from previously presented 0.2 acres to 0.4 acres. This impact would still be limited to marsh area, which is not usable currently. Also, the project spans across this area. We are hoping that this impacts would still be considered as *DeMinimis* impact only.

We discussed this with FHWA and they wanted to get your feedback before they concur that this is a minor impact. As we discussed, could you please confirm that this potential additional impact is O K/acceptable with the Town? Graphics below show the previous alignment and impact to the park (0.2 acres) as well as the new alignment and impact to the park (0.4 acres)

Thank you,

Radha



Radha Krishna Swayampakala, PE, PTOE, GISP
Transportation Engineer
1520 South Blvd, Suite 200
Charlotte, NC 28203
Phone: 704-940-3688 / Mobile: 704-644-9854
Radha.Swayampakala@rsandh.com

Visit our website at www.rsandh.com
Connect with RS&H on Facebook Twitter LinkedIn

Van Duyn, Meredith

From: Stanton, Tyler P <tstanton@ncdot.gov>
Sent: Tuesday, December 09, 2014 12:14 PM
To: Swayampakala, Radha Krishna
Subject: FW: B-4929 Pender Co. - Red Knot

From: Jordan, Gary [mailto:gary_jordan@fws.gov]
Sent: Tuesday, November 18, 2014 3:00 PM
To: Stanton, Tyler P
Subject: Re: B-4929 Pender Co. - Red Knot

If no beach habitat and no mudflats are affected, then I would be comfortable with a No Effect.

Gary Jordan
Fish and Wildlife Biologist
US Fish and Wildlife Service
P.O. Box 33726
Raleigh, NC 27636-3726

Phone: 919-856-4520 x.32
Email: gary_jordan@fws.gov

On Tue, Nov 18, 2014 at 9:14 AM, Stanton, Tyler P <tstanton@ncdot.gov> wrote:

Hi Gary,

We're anticipating the completion of the FONSI in December. Due to the expected listing of red knot at the end of the month, I imagine the best course of action is to render a biological conclusion. Due to the limited information for red knot in NC (NHP doesn't have EOs at this time) and no critical habitat designation, what would you anticipate for B-4929? There is really limited or no shoreline habitat in the project area and only a small amount of coastal marsh impact proposed.

Thanks,
Tyler

Tyler Stanton
Environmental Program Consultant
NCDOT, Natural Environment Section

NORTH CAROLINA DIVISION
FINAL NATIONWIDE SECTION 4(f) EVALUATION AND APPROVAL
FOR FEDERALLY-AIDED HIGHWAY PROJECTS
THAT NECESSITATE THE USE OF HISTORIC BRIDGES

F. A. Project No. **BRSTP-50(10)**
W.B.S. No. **40233.1.1**
TIP No. **B-4929**

Description:

Bridge No. 16 was previously determined eligible for the National Register of Historic Places as part of the NCDOT's 1995 Historic Bridge Inventory Report as an early and intact example of a riveted Warren through truss, swing span bridge. Although moved from Sunset Beach to its current location in 1954, Pender County Bridge No. 16 remains in operable condition and retains c. 1930 gearing and mechanical systems. The historic boundary for the bridge includes the 254-foot long Warren through truss, operator's house, and concrete tee beam approach spans.

		Yes	No
1.	Is the bridge to be replaced or rehabilitated with Federal funds?	X	
2.	Does the project require the use of a historic bridge structure which is on or eligible for listing on the National Register of Historic Places?	X	
3.	Is the bridge a National Historic Landmark?		X
4.	Has agreement been reached among the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) through procedures pursuant to Section 106 of the National Historic Preservation Act (NHPA)?	X	

ALTERNATIVES CONSIDERED AND FOUND NOT TO BE FEASIBLE AND PRUDENT

The following alternatives were evaluated and found not to be feasible and prudent:

1. Do nothing

Does the "do nothing" alternative:

	Yes	No
(a) correct the problem situation that caused the bridge to be considered deficient?		X
(b) pose serious and unacceptable safety hazards?	X	

2. Build a new structure at a different location without affecting the historic integrity of the structure.

(a) The following reasons were reviewed: (circle, as appropriate)

(i) The present bridge has already been located at the only feasible and prudent site

and/or (ii) Adverse social, environmental, or economic impacts were noted

and/or (iii) Cost and engineering difficulties reach extraordinary magnitude

and/or (iv) The existing bridge cannot be preserved due to the extent of rehabilitation, because no responsible party will maintain and preserve the historic bridge, or the permitting authority requires removal or demolition.

3. Rehabilitate the historic bridge without affecting the historic integrity of the structure.

(a) The following reasons were reviewed: (circle, as appropriate)

(i) The bridge is so structurally deficient that it cannot be rehabilitated to meet the acceptable load requirements and meet National Register criteria

and/or (ii) The bridge is seriously deficient geometrically and cannot be widened to meet the required capacity and meet National Register criteria

MINIMIZATION OF HARM	Yes	No
1. The project includes all possible planning to minimize harm.	X	

2. Measures to minimize harm include the following: (circle, as appropriate)

a. For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.

b. For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be removed or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge.

c. For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge.

d. For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project.

3. Specific measures to minimize harm are discussed below:

NCDOT contacted Pender County and local municipalities (Town of Surf City, Town of Topsail Beach, and Town of North Topsail Beach) about potentially obtaining the existing bridge, but it was cost-prohibitive for any local government to assume rehabilitation and maintenance costs (anticipated in excess of $1 million). The existing Bridge No. 16 will become property of the contractor if no other agreement is worked out prior to construction. A photographic record of the existing bridge has been conducted and submitted for the official record.

COORDINATION

The proposed project has been coordinated with the following (attach correspondence):

NCDOT met with SHPO's representative on April 5, 2011, and concluded that all seven Detailed Study Alternatives would result in an "adverse effect" because the existing Bridge No. 16 would be removed. This concurrence form is attached.

Upon selection of the Least Environmentally Damaging Practicable Alternative (LEDPA)\Preferred Alternative, FHWA completed the Adverse Effects Process and identified further minimization efforts, which are included in the Section 106 Memorandum of Agreement. The proposed project has been coordinated with the following agencies:

a. State Historic Preservation Officer
b. Advisory Council on Historic Preservation
c. Local/State/Federal Agencies

SUMMARY AND APPROVAL

The project meets all criteria included in the programmatic 4(f) evaluation approved on July 5, 1983.

All required alternatives have been evaluated and the findings made are clearly applicable to this project.

There are no feasible and prudent alternatives to the use of the historic bridge. The project includes all possible planning to minimize harm, and there are assurances that the measures to minimize harm will be incorporated in the project.

All appropriate coordination has been successfully completed.

Approved:

12/12/14 FOR _____
Date Unit Head, Project Development and Environmental Analysis Unit

12/15/14 for _____
Date Division Administrator, FHWA

Federal Aid #: **BRSTP-50(10)** *TIP#:* **B-4929** *County*: **Pender**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bridge No. 16 on NC 50/210 over the Intracoastal Waterway in Surf City

On 4/5/2011, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [x] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project and agreed on the effects findings listed within the table on the reverse of this signature page.

Signed:

Mary Pope Furr — 4/5/2011

Representative, NCDOT — Date

Donald W Brown — 4-5-11

FHWA, for the Division Administrator, or other Federal Agency — Date

Representative, HPO — Date

Renee Gledhill-Earley — 4/5/11

State Historic Preservation Officer — Date

Federal Aid #: **BRSTP-50(10)** *TIP#:* **B-4929** *County*: **Pender**

Property and Status	Effect Finding	Alternative	Reasons
Pender County Bridge No, 16 (DE) Criterion C	Adverse Effect	Alts 4,5, 5R, 6, 7, 11, 17	Bridge will be removed with all alternatives Rehabilitation will not increase sufficiency to a high enough level

Initialed: NCDOT MPA FHWA DB HPO Rye

☐ FHWA intends to use HPO's call of "No Adverse Effect" as the basis of a "de minimis" finding for the following properties, pursuant to Section 4(f): FHWA initials _____

file

RECEIVED
Division of Highways

JAN - 7 2011

Preconstruction
Project Development and
Environmental Analysis Branch

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

December 28, 2010

MEMORANDUM

TO: Mary Pope Furr, Architectural Historian
NCDOT/PDEA/HEU

FROM: Peter Sandbeck RBS for Peter Sandbeck

SUBJECT: Historic Architectural Resources Survey Report, Replace Bridge #16 over AIWW in Surf City, B-4929, Pender County, ER07-1820

We received the above referenced report, prepared by Courtney Foley, on October 21, 2010 and offer the following comments.

We concur that **Pender County Bridge #16**, which was determined eligible for listing in the National Register of Historic Places as part of the 1995 statewide bridge survey, is still eligible for listing.

We also concur that the **Ward Realty Corporation** (Bldg #63) at 116 S Topsail Drive is not yet eligible for listing in the National Register as it is not fifty years old and does not meet Criterion Consideration G. Please note that on page 6 of the report, this property is incorrectly referred to as Property 62. We have changed it to #63 in our copy.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and patience in awaiting our reply. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Ron Lucas, FHWA

create

HUMAN ENVIRONMENT UNIT
SEP 13 2007
RECEIVED

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

September 11, 2007

MEMORANDUM

TO: Gregory Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck PBS for Peter Sandbeck

RE: Start of Study for Replacement of Bridge #16 on NC 50/210 over the Intracoastal Waterway, B-4929, Pender County, CH 07-1820

We are in receipt of your August 16, 2007, memorandum to Chrys Baggett of the State Clearinghouse, concerning the above referenced undertaking.

We have checked our maps and files and determined that Bridge #16 was determined eligible for listing in the National Register of Historic Places. Demolition and replacement of the bridge will have an adverse effect upon a historic property. Thus, additional coordination under Section 106 of the National Historic Preservation Act will be necessary.

There are no known archaeological sites within the proposed project area. Based on our knowledge of the area, it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places will be affected by the project. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: SCH
Mary Pope Furr, NCDOT
Matt Wilkerson, NCDOT

Federal Aid # BRSTP-50(10) *TIP #* B-4929 *County*: Pender

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Replace Bridge No. 16 on NC 50/210 over Intracoastal Waterway in Surf City

On 19 March 2010, representatives of the

☒ North Carolina Department of Transportation (NCDOT)
☐ Federal Highway Administration (FHWA)
☒ North Carolina State Historic Preservation Office (HPO)
☐ Other

Reviewed the subject project at historic architectural resources photograph review session/consultation and

All parties present agreed

☐ There are no properties over fifty years old within the project's Area of Potential Effects (APE).

☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's APE.

☒ There are properties over fifty years old within the project's APE, but based on the historical information available and the photographs of each property, the properties identified as 1-22, 24-62, 64-82 are considered not eligible for the National Register and no further evaluation of them is necessary. Photographs of these properties are attached.

☐ There are no National Register-listed or Study Listed properties within the project's APE.

☐ All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

☒ More information is requested on property numbers: 23: Bridge No. 16 (DOE) and 63: 116 S. Topsail Drive.

Signed:

Courtney Foley — 30 MARCH 2010
Representative, NCDOT — Date

FHWA, for the Division Administrator, or other Federal Agency — Date

Representative, HPO — Date

Renee Gledhill-Earley — 3/30/10
State Historic Preservation Officer — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, AND NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER FOR THE REPLACEMENT OF BRIDGE NO. 16 OVER THE INTRACOASTAL WATERWAY ON NC 50/210 IN SURF CITY, PENDER COUNTY, NORTH CAROLINA TIP PROJECT B-4929 FEDERAL AID PROJECT NO. BRSTP-50(10)

WHEREAS, the Federal Highway Administration (FHWA) has determined that the replacement of Bridge No. 16 over the Intracoastal Waterway on NC 50/210 in Surf City (Undertaking), will have an adverse effect upon Pender County Bridge No. 16, a Warren thru truss, center-bearing swing span bridge that is eligible for listing in the National Register of Historic Places (NRHP) because the undertaking will require the removal of the historic bridge; and

WHEREAS, the FHWA has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the North Carolina Department of Transportation (NCDOT) has participated in the consultation and been invited by FHWA and the North Carolina SHPO to be a signatory to this Memorandum of Agreement (MOA); and

WHEREAS, the Town of Surf City and Pender County have participated in the consultation and been invited to concur with this MOA; and

WHEREAS, the FHWA has notified the Advisory Council on Historic Preservation (Council) of the adverse effect and the Council has declined to comment or participate in the consultation;

NOW, THEREFORE, FHWA, NCDOT, and the North Carolina SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on Pender County Bridge No. 16.

STIPULATIONS

The FHWA and NCDOT shall ensure that the following measures are carried out:

I. Photodocumentation of Pender County Bridge No. 16

Prior to the initiation of work, NCDOT shall record Bridge No. 16 and its surroundings in accordance with the attached Recordation Plan (Appendix A). NCDOT shall deposit copies of the documentation with the SHPO and Historic Architecture Group of NCDOT within three (3) years of the execution of this MOA.

II. Inclusion of Bridge No. 16 in the Historic Bridges of North Carolina Website

NCDOT is currently developing a public website that will provide information about historic bridges and the history of bridge construction in North Carolina. Pender County Bridge No. 16 will be included in the inventory of bridges with photographs and a narrative history.

III. Relocation of Pender County Bridge No. 16

NCDOT, in accordance with its Bridge Reuse and Relocation Program, shall attempt to find a new owner for Pender County Bridge No. 16. A new owner must be willing to accept all future financial and legal responsibility for the bridge, including title, liability and maintenance. NCDOT will assist the new owner(s) in the identification of and application for financial resources to maintain the bridge if requested in writing by the new owner. The Town of Surf City has expressed interest in obtaining the bridge.

NCDOT and FHWA will comply with Section 114(o) of Title 23 of the U.S. Code, entitled "Historic Bridge Program," which provides for the reasonable costs associated with actions to preserve, or reduce the impact of a project on the integrity of historic bridges. However, if the Town of Surf City chooses not to acquire the bridge before completion of the Right Of Way Consultation, NCDOT may elect to remove the bridge as part of the Undertaking.

IV. Unanticipated Discovery

In accordance with 36 CFR 800.13, if NCDOT identifies additional cultural resource(s) during construction and determine them to be eligible for the NRHP, all work will be halted within the limits of the NRHP-eligible resource(s) and the FHWA and SHPO contacted. If after consultation with the Signatory Party(ies) additional mitigation is determined necessary, the NCDOT, in consultation with the Signatory Party(ies), will develop and implement appropriate protection/mitigation measures for the resource(s). Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.

V. Dispute Resolution

Should any of the Signatory Party(ies) object within (30) days to any plans or documentation provided for review or object to the implementation of any of the stipulations pursuant to this MOA, the FHWA shall consult with the objecting party(ies) to resolve the objection. If the FHWA or objecting party(ies) determines that the objection cannot be resolved, the FHWA will forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

1. Provide the FHWA with recommendations which the FHWA will take into account in reaching a final decision regarding the dispute, or
2. Notify the FHWA that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the FHWA, in accordance with 36 CFR Section 800.7 (c) (4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; USACE and NCDOT's responsibility to carry out all of the actions under this agreement that are not the subject of the dispute will remain unchanged.

VI. Amendments

If any Signatory to this MOA believes that its terms cannot be carried out or that an amendment to the terms must be made, that party(ies) shall immediately consult with the other party(ies) to develop amendments in accordance with 36 CFR 800.6(c)(7). If an amendment cannot be agree upon, the dispute resolution process set forth in Stipulation VIII will be followed.

VII. Termination

Any Signatory to this MOA may terminate the agreement by providing notice to the other parties, provided that the signatories and concurring parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

VIII. Duration

Unless terminated pursuant to Stipulation VI above, this MOA will be in effect until FHWA, in consultation with the other Signatory Party(ies), determines that all of its terms have satisfactorily been fulfilled or if NCDOT is unable or decides not to construct the Undertaking.

Execution of this Memorandum of Agreement by FHWA, NCDOT and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the Undertaking that FHWA has taken into account the effects of the Undertaking on the historic properties.

AGREE:

Federal Highway Administration

_____ 1-7-14

for John F. Sullivan, III, P.E. Date
Division Administrator

State Historic Preservation Officer:

_____ 12-20-2013

Dr. Kevin Cherry Date
North Carolina State Historic Preservation Officer

North Carolina Department of Transportation:

_____ 12/9/13

Robert Andrew Joyner, P.E. Date
Human Environment Section Head

FILED:

By: _____ _____

Advisory Council on Historic Preservation Date

MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
REPLACE BRIDGE NO. 16 OVER THE INTRACOASTAL WATERWAY ON
NC 50/210 IN SURF CITY, PENDER COUNTY, NC
TIP PROJECT B-4929
FEDERAL AID PROJECT NO. BRSTP-50(10)

Execution of this Memorandum of Agreement by FHWA, NCDOT and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the Undertaking that FHWA has taken into account the effects of the Undertaking on the historic properties.

CONCUR:

A. D. Guy, Jr.
Town of Surf City Mayor

5-14-14
Date

MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
REPLACE BRIDGE NO. 16 OVER THE INTRACOASTAL WATERWAY ON NC 50/210 IN SURF CITY, PENDER COUNTY, NC
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CONCUR:

5/12/2014

Mickey Duvall
Pender County Manager

Date

APPENDIX A

Historic Structures and Landscape Recordation Plan
Replace Bridge No. 16 over the Intracoastal Waterway on NC 50/210 in Surf City, Pender County, NC
TIP Project B-4929
Federal Aid Project BRSTP-50(10)

PHOTOGRAPHIC REQUIREMENTS

- Overall views of Pender County Bridge No. 16 and its surroundings.
- Images showing the details of the superstructure and substructure of Pender County Bridge No. 16, including the bridge in the closed and open positions.

PHOTOGRAPHIC FORMAT

- All images will be captured, labeled, and stored according to the North Carolina State Historic Preservation Office's, "Policy and Guidelines for Digital Photography for Historic Property Surveys, National Register Nominations and NRAC PowerPoint Presentations, Revised November 2008."

COPIES AND CURATION

- One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection.
- One (1) set of all photographic documentation will be deposited in the files of the Historic Architecture Group of NCDOT.
- Any existing mechanical or engineering drawing of Pender County Bridge No. 16 will be gathered, stored, and curated.

APPENDIX E: GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE

United States Department of the Interior

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

GUIDELINES FOR AVOIDING IMPACTS TO THE WEST INDIAN MANATEE
Precautionary Measures for Construction Activities in North Carolina Waters

The West Indian manatee (*Trichechus manatus*), also known as the Florida manatee, is a Federally-listed endangered aquatic mammal protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972, as amended (16 U.S.C 1461 *et seq.*). The manatee is also listed as endangered under the North Carolina Endangered Species Act of 1987 (Article 25 of Chapter 113 of the General Statutes). The U.S. Fish and Wildlife Service (Service) is the lead Federal agency responsible for the protection and recovery of the West Indian manatee under the provisions of the Endangered Species Act.

Adult manatees average 10 feet long and weigh about 2,200 pounds, although some individuals have been recorded at lengths greater than 13 feet and weighing as much as 3,500 pounds. Manatees are commonly found in fresh, brackish, or marine water habitats, including shallow coastal bays, lagoons, estuaries, and inland rivers of varying salinity extremes. Manatees spend much of their time underwater or partly submerged, making them difficult to detect even in shallow water. While the manatee's principal stronghold in the United States is Florida, the species is considered a seasonal inhabitant of North Carolina with most occurrences reported from June through October.

To protect manatees in North Carolina, the Service's Raleigh Field Office has prepared precautionary measures for general construction activities in waters used by the species. Implementation of these measure will allow in-water projects <u>which do not require blasting</u> to proceed without adverse impacts to manatees. In addition, inclusion of these guidelines as conservation measures in a Biological Assessment or Biological Evaluation, or as part of the determination of impacts on the manatee in an environmental document prepared pursuant to the National Environmental Policy Act, will expedite the Service's review of the document for the fulfillment of requirements under Section 7 of the Endangered Species Act. These measures include:

1. The project manager and/or contractor will inform all personnel associated with the project that manatees may be present in the project area, and the need to avoid any harm to these endangered mammals. The project manager will ensure that all construction personnel know the general appearance of the species and their habit of moving about completely or partially submerged in shallow water. All construction personnel will be informed that they are responsible for observing water-related activities for the presence of manatees.

2. The project manager and/or the contractor will advise all construction personnel that

there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act and the Endangered Species Act.

3. If a manatee is seen within 100 yards of the active construction and/or dredging operation or vessel movement, all appropriate precautions will be implemented to ensure protection of the manatee. These precautions will include the immediate shutdown of moving equipment if a manatee comes within 50 feet of the operational area of the equipment. Activities will not resume until the manatee has departed the project area on its own volition (i.e., it may not be herded or harassed from the area).

4. Any collision with and/or injury to a manatee will be reported immediately. The report must be made to the U.S. Fish and Wildlife Service (ph. 919.856.4520 ext. 16), the National Marine Fisheries Service (ph. 252.728.8762), and the North Carolina Wildlife Resources Commission (ph. 252.448.1546).

5. A sign will be posted in all vessels associated with the project where it is clearly visible to the vessel operator. The sign should state:

> CAUTION: The endangered manatee may occur in these waters during the warmer months, primarily from June through October. Idle speed is required if operating this vessel in shallow water during these months. All equipment must be shut down if a manatee comes within 50 feet of the vessel or operating equipment. A collision with and/or injury to the manatee must be reported immediately to the U.S. Fish and Wildlife Service (919-856-4520 ext. 16), the National Marine Fisheries Service (252.728.8762), and the North Carolina Wildlife Resources Commission (252.448.1546).

6. The contractor will maintain a log detailing sightings, collisions, and/or injuries to manatees during project activities. Upon completion of the action, the project manager will prepare a report which summarizes all information on manatees encountered and submit the report to the Service's Raleigh Field Office.

7. All vessels associated with the construction project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8. If siltation barriers must be placed in shallow water, these barriers will be: (a) made of material in which manatees cannot become entangled; (b) secured in a manner that they cannot break free and entangle manatees; and, (c) regularly monitored to ensure that manatees have not become entangled. Barriers will be placed in a manner to allow manatees entry to or exit from essential habitat.

Prepared by (rev. 06/2003):
U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
919/856-4520

Figure 1. The whole body of the West Indian manatee may be visible in clear water; but in the dark and muddy waters of coastal North Carolina, one normally sees only a small part of the head when the manatee raises its nose to breathe.

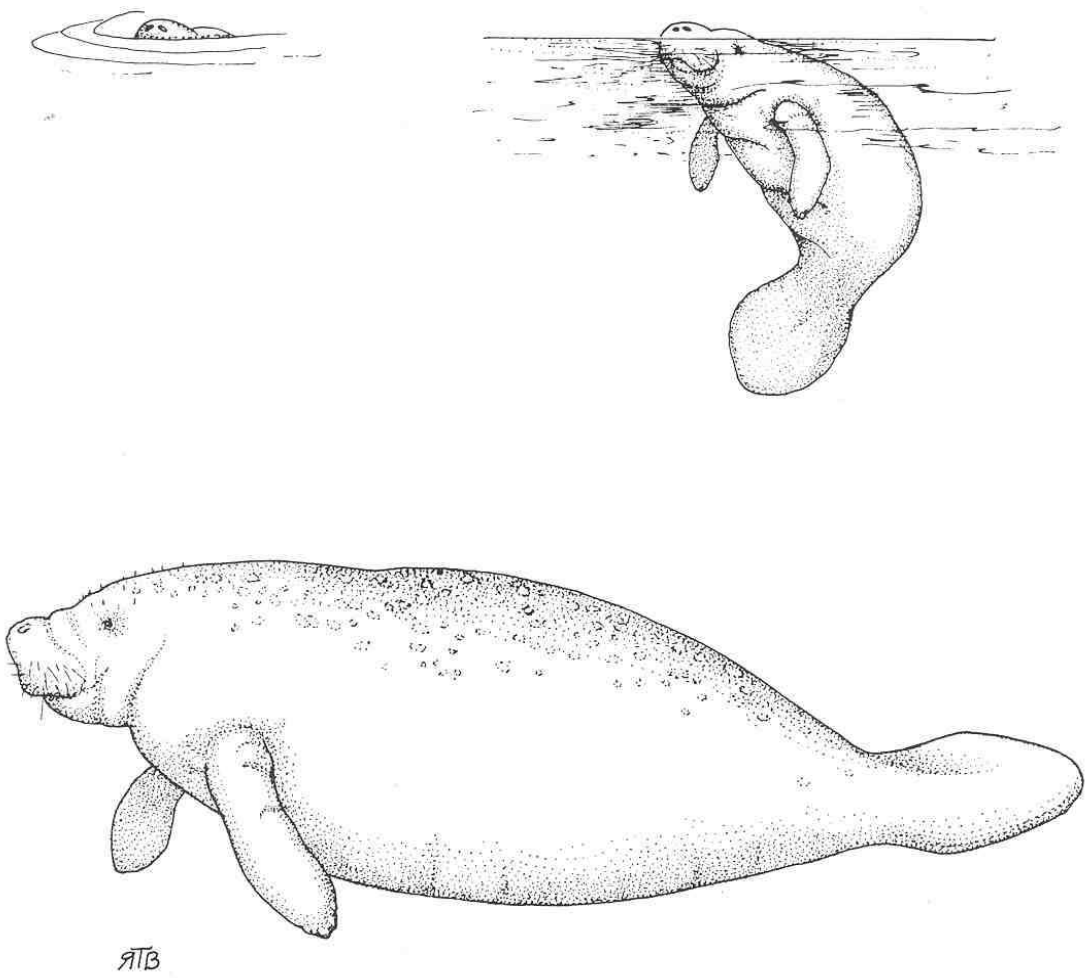

Illustration used with the permission of the North Carolina State Museum of Natural Sciences. Source: Clark, M. K. 1987. Endangered, Threatened, and Rare Fauna of North Carolina: Part I. A re-evaluation of the mammals. Occasional Papers of the North Carolina Biological Survey 1987-3. North Carolina State Museum of Natural Sciences. Raleigh, NC. pp. 52.