Appendix A

Agency Correspondence

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A. Agency Correspondence

This appendix contains agency correspondence from the 404 NEPA Merger Process through completion of this DEIS.

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service
4405 Bland Road, Suite 205
Raleigh, North Carolina 27609

Phone: (919) 873-2134
Fax: (919) 873-2154
Email: mike.hinton@nc.usda.gov

November 21, 2006

Mr. Ted Devens
P. E. Project Planning Engineer
Project Development & Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Devens:

Thank you for the opportunity to provide comments on the following R-2544/2545, US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor) in Dare and Tyrrell Counties, North Carolina.

The Natural Resources Conservation Service does not have any comments at this time.

If you need additional information, please feel free to contact me at (919) 873-2134.

Sincerely,

Michael J. Hinton
Planning Specialist

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

Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
(727) 824-5312, Fax 824-5309
http://sero.nmfs.noaa.gov

OCT 30 2006

Dear Colleague:

Pursuant to section 7(a)(2) of the Endangered Species Act (ESA), the Protected Resources Division of NOAA's National Marine Fisheries Service (NMFS) has reviewed your letter concerning R-2544/R-2545, US 64 from 0.9 Mile East of Columbia to US 264 (Mann's Harbor) Dare and Tyrrell Counties.

___ **There are no ESA-listed species** or designated critical habitat under our purview in the action area.

___ **We cannot determine** impacts to threatened or endangered species, or designated critical habitat, under NOAA Fisheries purview because the letter lacks sufficient information to evaluate the project.
Enclosed are guidelines to conduct a proper biological evaluation.

___ **Please provide a letter** from the lead federal action agency designating you to conduct ESA section 7 consultation with this office.

_X_ **Enclosed is a list** of federally-protected species under the jurisdiction of NMFS for the state of North Carolina. Biological information on federally-protected species and candidate species can be found at the following website addresses:
http://www.nmfs.noaa.gov/prot_res/prot_res.html; http://www.cccturtle.org;.
http://noflorida.fws.gov/SeaTurtles/seaturtle-info.htm);
http://endangered.fws.gov/wildlife.html#Species; http://www.cmc-ocean.org/main.php3;
http://floridaconservation.org/psm/turtles/turtle.htm;
http://obis.env.duke.edu/data/sp_profiles.php;
www.mote.org/~colins/Sawfish/SawfishHomePage.html; www.floridasawfish.com;
www.flmnh.ufl.edu/fish/sharks/InNews/sawprop.htm;.Gulf sturgeon critical habitat rule and maps (http://alabama.fws.gov/gs/).

___ **It is NMFS' opinion that the project will have no effect** on listed species or critical habitat protected by the ESA under NOAA Fisheries purview. No further consultation with NOAA Fisheries pursuant to section 7(a)(2) of the ESA is required unless the project description changes.

Consultation with NMFS' Habitat Conservation Division (HCD), pursuant to the Magnuson-Stevens Fishery Conservation and Management Acts requirements for essential fish habitat consultation, may be required. Please contact HCD at (727) 824-5317. If you have any ESA questions, please contact our ESA section 7 Coordinator, Eric Hawk, at (727) 824-5312 or by e-mail at eric.hawk@noaa.gov.

Sincerely,

Teletha Mincey

Teletha Mincey
Administrative Support Assistant
Protected Resources Division

Enclosure

File: 1514-22 L.2 NC DOT

Endangered and Threatened Species and Critical Habitats
under the Jurisdiction of the NOAA Fisheries Service

South Carolina

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
blue whale	*Balaenoptera musculus*	Endangered	12/02/70
finback whale	*Balaenoptera physalus*	Endangered	12/02/70
humpback whale	*Megaptera novaengliae*	Endangered	12/02/70
right whale	*Eubalaena glacialis*	Endangered	12/02/70
sei whale	*Balaenoptera borealis*	Endangered	12/02/70
sperm whale	*Physeter macrocephalus*	Endangered	12/02/70
Turtles			
green sea turtle	*Chelonia mydas*	Threatened[1]	07/28/78
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	06/02/70
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	12/02/70
leatherback sea turtle	*Dermochelys coriacea*	Endangered	06/02/70
loggerhead sea turtle	*Caretta caretta*	Threatened	07/28/78
Fish			
shortnose sturgeon	*Acipenser brevirostrum*	Endangered	03/11/67

Designated Critical Habitat
None

Species Proposed for Listing
None

Proposed Critical Habitat
None

[1] Green turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico, which are listed as endangered

Subject: Comments on US 64 East of Columbia to Mann's Harbor, Tyrrell and Dare Counties
Date: Wed, 13 Dec 2006 15:01:45 -0500
From: Ron Sechler <ron.sechler@noaa.gov>
To: tedevens@dot.state.nc.us

Ted,
Please reference the October 20, 2006, letter requesting information relevant to North Carolina Department of Transportation's intent to re-initiate planning for improvements to US 64 in Tyrrell and Dare Counties, North Carolina. The proposed highway improvements extend form US 64 east of East of Columbia to US 264 at Mann's Harbor.

NOAA's National Marine Fisheries Service (NMFS) has reviewed the information provided in your October 20, 2006, letter and offers the following comments for your consideration. As you are aware, this section of US 64 passes through important areas of forested wetlands in Tyrrell County, involves a bridge crossing Alligator River, a tributary of Albemarle Sound, and would impact emergent and forested wetlands in Dare County. Many of the wetlands and waters potentially impacted by this project are designated by the South Atlantic Fisheries Management Council (SAFMC), Mid-Atlantic Fishery Management Council, and the NMFS as essential fish habitat (EFH) for federally managed species. Species managed by the SAFMC that may be found in the project area include red drum and penaid shrimp. Bluefish and summer flounder managed by the MAFMC may also utilize the waters and wetlands in the project area as EFH. Other estuarine dependent species such as spot, croaker, white perch, and anadromous shad and river herring ,managed by the North Carolina Division of Marine Fisheries and/or the Atlantic States Marine Fisheries Commission also utilize the project area as important developmental habitat. Many of these species serve as important prey for highly migratory species, such as king mackerel, Spanish mackerel, and tuna managed by the NMFS. In view of the above, NMFS recommends that an EFH assessment be prepared for this project. See the attachment for a brief summary of what should be include in the assessment.

In addition to their habitat function, we are also concerned that project area wetlands provide a variety of other ecological functions that are important for the continued productivity of this important estuarine system. For example, wetlands in the project area are a source of organic material is that is a important component of the estuarine food chain. These wetlands also provide important water quality maintenance functions by removing excess nutrients and other pollutants (e.g., from highway runoff) from surface waters before they are discharged into the sound.

This segment of US 64 passes through an ecologically significant area of coastal North Carolina, and will require careful planning to avoid adverse impacts to the adjacent estuary and the fishery resources it supports. Although we are early in the project planning process, NMFS recommends that impacts to wetlands in the project corridor be avoided and minimized to the maximum extent practicable.

NMFS is available to discuss our concerns and provide additional information relevant to the preparation of the EFH assessment. Accordingly, I can be reached for further consultation as outlined below
Sincerely,

Ron Sechler
National Marine Fisheries Service
Habitat Conservation Division
101 Pivers Island Road

Beaufort, North Carolina 28516
Phone: 252-728-5090
Fax: 252-728-8728
Email: ron.sechler@noaa.gov

United States Department of the Interior

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

RECEIVED
NOV 14
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS

November 9, 2006

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

Dear Dr. Thorpe:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed improvements to US 64 from 0.9 mile east of Columbia to US 264 (Mann's Harbor) in Dare and Tyrrell Counties, North Carolina (TIP No. R-2544/R-2545). These comments provide information in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661-667d) and section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

Much of the proposed project would affect portions of the Alligator River National Wildlife Refuge (ARNWR). In addition, the proposed project has great potential to negatively affect the ongoing federally endangered red wolf (*Canis rufus*) recovery efforts on and around the refuge, as well as to affect other wildlife species such as black bear (*Ursus americanus*).

The ARNWR was established in 1984 for the purpose of protecting fish and wildlife through the conservation of wetlands and other habitat types. One of the initial objectives of the refuge was to manage the black bear population to ensure a viable, healthy population. The red wolf was reintroduced to the wild for the first time in 1987 on the refuge. In addition, the refuge provides habitat for the federally endangered red-cockaded woodpecker (RCW)(*Picoides borealis*), many species of migratory birds, and numerous other species.

Under the National Wildlife Refuge System Improvement Act of 1997, any proposed use of refuge lands that are not compatible with the purpose for refuge establishment and the mission of the National Wildlife Refuge System cannot be authorized. It is anticipated that the project will involve a request to use refuge lands for right-of-way. Under current regulation and policy, the request for right-of-way modification or new right-of-way will trigger requirements for a Compatibility Determination. This process requires the Refuge Manager, based upon best available scientific information and sound professional judgment, to determine that the proposed use will neither materially interfere with nor detract from the purpose for which the refuge was established or the mission of the National Wildlife Refuge System. Basically, the proposed use cannot compromise the ecological integrity of refuge lands. In the absence of adequate information, the proposed use cannot be found compatible and a right-of-way permit cannot be issued.

To build an adequate database to assess wildlife use along the highway corridor, the ARNWR has prepared a research proposal designed to determine wildlife crossings for large mammals, number of focus species involved, and how certain wildlife populations will be impacted before, during, and after construction. The research proposal (which will be provided under separate cover from ARNWR), focusing on the black bear and the red wolf, is planned to provide critical information for the Compatibility Determination. If design features for safe passage of these species are incorporated, then other wildlife species are likely to benefit. This research will provide minimum information necessary to process the request for a right-of-way permit or significant modification of an existing permit. The ARNWR is requesting that the North Carolina Department of Transportation (NCDOT) fund this research.

The aforementioned research proposal from ARNWR is primarily for the portion of the project east of the Alligator River which will run through the ARNWR. There are similar information needs for the portion of the project between Columbia and the Alligator River which lies outside the ARNWR. Large mammal (e.g. black bear, red wolf, white-tailed deer) crossing points will need to be determined, and large crossing structures incorporated into the design of the project. This research may be similar to the black bear research which was previously done by the University of Tennessee for a portion of US 64 west of Columbia.

Wildlife crossing structures (e.g. underpasses, overpasses) which are properly sized, properly located and of sufficient number can help to lessen the impacts of habitat fragmentation and reduce wildlife mortality, as well as improve safety for humans. It must be stressed that the aforementioned research is necessary both for us to conduct a complete analysis of the effects of this project on fish and wildlife, and for proper wildlife crossings to be incorporated into the project design. NCDOT should begin to consider alternatives which elevate a significant portion of the roadway through the refuge, and possibly west of the refuge as well.

Portions of the Palmetto-Peartree Preserve abut the existing US 64 corridor. The Palmetto-Peartree Preserve is owned by The Conservation Fund, and was established in 1999 with funding from NCDOT. The approximately 10,000 acre preserve serves as a conservation bank for the RCW. The preservation and management of the RCW on the preserve serves to offset loss of RCW habitat from NCDOT projects. It appears that the proposed project may impact some of the preserve lands. Every effort must be made to avoid and/or minimize impacts to this preserve.

Section 7(a)(2) of the Endangered Species Act requires that all federal action agencies (or their designated non-federal representatives), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed threatened or endangered species. A biological assessment may be prepared to fulfill the section 7(a)(2) requirement and will expedite the consultation process. To assist you, a county-by-county list of federally protected species known to occur in North Carolina and information on their life histories and habitats can be found on our web page at http://nc-es.fws.gov/es/countyfr.html .

Of great concern is the aforementioned red wolf recovery program. The red wolf in North Carolina is federally listed as an experimental nonessential population. For purposes of section 7(a)(2), the red wolf is treated as a federally threatened species on federal land, and as a federally proposed species on non-federal land. Formal section 7 consultation will likely be needed for the

red wolf. The aforementioned research will be important to properly access the effects to this species.

The RCW is another species which may be adversely affected by the project. RCW groups currently exist near the project area, and one or more foraging partitions overlap the existing US 64. Some of these groups occur within the Palmetto-Peartree Preserve. In addition, the federally threatened bald eagle (*Haliaeetus leucocephalus*) has recently been observed near the project area.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a listed species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on listed species, then you are not required to contact our office for concurrence.

The proposed project will likely impact a substantial amount of wetland acreage both within and outside ARNWR. The Service asks that all compensatory wetland mitigation for impacts within the ARNWR occur within the purchase boundary of the refuge, with final ownership being transferred to the refuge. In addition, there may be compensatory mitigation requirements for the loss of refuge land, irregardless of wetland status (i.e. upland habitat loss may need to be compensated for). However, it is important to note that a project that is determined to be Not Compatible with the purpose for refuge establishment and the mission of the National Wildlife Refuge System cannot be "mitigated down" to where it is Compatible. For wetland impacts outside the refuge, the Service prefers that compensatory mitigation occur near the project area because of the importance of the ecosystem in the project area.

For road improvement projects such as widening, realignment, bridge replacement and culvert replacement, the Service recommends the following general conservation measures to avoid or minimize environmental impacts to fish and wildlife resources:

1. Wetland and forest impacts should be avoided and minimized to the maximal extent practical. Areas exhibiting high biodiversity or ecological value important to the watershed or region should be avoided. Proposed highway projects should be aligned along or adjacent to existing roadways, utility corridors or other previously disturbed areas in order to minimize habitat loss and fragmentation. Highway shoulder and median widths should be reduced through wetland areas;

2. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a bridge structure wherever feasible. Bridges should be long enough to allow for sufficient wildlife passage along stream corridors. Where bridging is not feasible, culvert structures that maintain natural water flow and hydraulic regimes without scouring or impeding fish and wildlife passage should be employed;

3. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. To the extent possible, piers and bents should be placed outside the bank-full width of the stream. If spanning the flood plain is

not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area;

4. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;

5. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be planted with appropriate vegetation, including trees if necessary;

6. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process. Opportunities to protect mitigation areas in perpetuity via conservation easements, land trusts or by other means should be explored at the outset;

7. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons. In waterways that may serve as travel corridors for fish, in-water work should be avoided during moratorium periods associated with migration, spawning and sensitive pre-adult life stages. The general moratorium period for anadromous fish is February 15 - June 30;

8. Best Management Practices (BMP) for Construction and Maintenance Activities should be implemented; and

We reserve the right to review any federal permits that may be required for this project, at the public notice stage. Therefore, it is important that resource agency coordination occur early in the planning process in order to resolve any conflicts that may arise and minimize delays in project implementation. In addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action:

1. A clearly defined and detailed purpose and need for the proposed project, supported by tabular data, if available, and including a discussion of the project's independent utility;

2. A description of the proposed action with an analysis of all alternatives being considered, including the upgrading of existing roads and a "no action" alternative;

3. A description of the fish and wildlife resources, and their habitats, within the project impact area that may be directly or indirectly affected;

4. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National

Wetlands Inventory (NWI). Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers;

5. The anticipated environmental impacts, both temporary and permanent, that would be likely to occur as a direct result of the proposed project. The assessment should also include the extent to which the proposed project would result in indirect and cumulative effects to natural resources;

6. Design features and construction techniques which would be employed to avoid or minimize impacts to fish and wildlife resources, both direct and indirect, and including fragmentation and direct loss of habitat;

7. Design features, construction techniques, or any other mitigation measures which would be employed at wetland crossings and stream channel relocations to avoid or minimize impacts to waters of the US; and,

8. If unavoidable wetland or stream impacts are proposed, project planning should include a compensatory mitigation plan for offsetting the unavoidable impacts.

The Service appreciates the opportunity to comment on this project. We would like to attend the upcoming scoping meeting for this project. Please notify us as to the time and date. 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

cc: Bill Biddlecome, USACE, Washington, NC
David Wainwright, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHwA, Raleigh, NC
Mike Bryant, USFWS, ARNWR

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Alligator River National Wildlife Refuge
Pea Island National Wildlife Refuge
Post Office Box 1969
Manteo, North Carolina 27954
(252) 473-1131 473-1668 (fax)

December 5, 2006

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

Ref: US Highway 64 Upgrade: Columbia, NC to Manns Harbor, NC (R-2544; R-2545)

Dear Dr. Thorpe:

It has come to our attention that the N. C. Department of Transportation is re-initiating plans for the upgrading of U. S. Highway 64 between Columbia and Manns Harbor from the current 2-lane highway to a 4-lane system. In addition to upgrading the highway, it appears that the project will involve replacing the existing bridge over Alligator River. As I'm sure you are already aware, the project will affect portions of the Alligator River National Wildlife Refuge between Alligator River and Manns Harbor. In addition, the project has potential for affecting the red wolf throughout the entire project length.

Alligator River National Wildlife Refuge was established in March 1984 for the purpose of protecting fish and wildlife through the conservation of wetlands and other habitat types. One of the initial objectives of the refuge was to manage the black bear population to ensure maintenance of a viable, healthy population. The red wolf was re-introduced to the wild for the first time in 1987 on the refuge. In addition, the refuge provides habitat for the endangered red-cockaded woodpecker as well as numerous other species such as the American alligator, white-tailed deer, river otter, bobcat, and numerous species of migratory and non-migratory birds. Although more general, the mission of the National Wildlife Refuge System, as defined by the National Wildlife Refuge System Improvement Act of 1997, is:

> *... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.*

It is in the context of the refuge purpose and the National Wildlife Refuge System mission that we must base our decisions regarding uses and management actions on

the refuge. Any proposed use that is not compatible with the purpose for refuge establishment and the mission of the National Wildlife Refuge System cannot be authorized.

It is anticipated that the upgrading of U. S. Highway 64 from Columbia to Manns Harbor will involve a request to use refuge lands for right-of-way. Because of the planning stage this project is in, it is likely not possible to determine the extent of involvement of refuge lands in new right-of-way as a result of the Alligator River bridge replacement and highway construction. However, we do know that the project is not likely to occur without impacting some refuge lands. Under current regulation and policy, the request for right-of-way modification or new right-of-way will trigger requirements for a Compatibility Determination. This process requires the Refuge Manager, based upon best available scientific information and sound professional judgment, to determine that the proposed use will neither materially interfere with nor detract from the purpose for which the refuge was established or the mission of the National Wildlife Refuge System. Basically, the proposed use cannot compromise the ecological integrity of refuge lands. In the absence of adequate information, the proposed use cannot be found compatible and a right-of-way permit cannot be issued.

The holistic concept of ecological integrity encompasses principals of biological diversity, biological processes, habitat degradation, and overall environmental health. To meet our responsibility for maintaining the ecological integrity of Alligator River National Wildlife Refuge, we will review and evaluate the effects of this highway project on various components of the ecosystem, including, but not limited to, wildlife populations, plant community composition (including induced changes in vegetative composition and habitat structure), hydrology, and aquatic ecology. These considerations are mandated by law, regulation, and policy.

In the interests of beginning the process for building an adequate database to assess wildlife use along the highway corridor, we have prepared a proposal designed to determine wildlife crossings for large mammals, number of focus species involved, and how certain wildlife populations will be impacted before, during, and after construction. The attached proposal, focusing on the black bear and the red wolf, is planned to provide critical information for our Compatibility Determination. If design features for safe passage of these species are incorporated, then other wildlife species are likely to benefit. We call your attention to this proposal in what we hope is the very early planning stages for the U. S. 64 project as data from this research will provide minimum information necessary to process the request for a right-of-way permit or significant modification of an existing permit.

We ask that you consider this letter and the attached proposal as a request for funding in the amount indicated in the budget sections. Proposal budgets are broken into expected annual costs based upon current prices. These costs could vary some, depending upon uncontrollable circumstances such as the price of gasoline or the cost for genetic analysis of hair samples. Regardless of cost estimate accuracy, there are two very important considerations for the highway construction project. First, this proposal will provide minimum information for incorporating project features to provide safe crossings for wildlife and motorists. This minimum amount of information is

needed to proceed with a Compatibility Determination upon receipt of a request for new right-of-way or significant modification of existing right-of-way. Second, the success of the research effort is contingent upon having a minimum of 2 years of pre-construction data, data collection during construction, and 2 years of post-construction data.

It is our belief that this proposal provides an excellent and innovative opportunity for a joint effort between state and federal agencies in planning the U. S. 64 project to accommodate safe wildlife movement and reduce wildlife/vehicle collision hazards to motorists using the highway. Dr. Mike Vaughan, an internationally known research scientist within the wildlife profession, will serve as the principal investigator for the research project and will provide a very important scientific link for the success of this research and interpretation of data.

Another opportunity for coordination is through Section 4(f) of the Department of Transportation Act of 1966. Basically, the law requires avoidance of a 4(f) resource except where there are "no feasible and prudent alternatives" and only if "all possible planning to minimize harm" is well documented. The proposed research and subsequent incorporation of design features resulting in a safer highway for wildlife and people will provide valuable input for the 4(f) process. Since the refuge is considered to be a 4(f) resource, we believe that it is in the best interests of all parties to have our involvement with the evaluation process in the early stages of project development.

We look forward to working with the N. C. Department of Transportation staff with regards to this research project and the 4(f) evaluation as the project develops. If you need additional information, please contact Dennis Stewart, Refuge Biologist at (252) 473-1131 ext 231.

Sincerely,

Mike Bryant

Mike Bryant
Project Leader

cc Mr. John Sullivan, FHWA
✓Mr. Ted Deven, NCDOT
Mr. Pete Benjamin, USFWS-ES
Mr. Pete Jerome, USFWS-R4RO
Mr. Howard Phillips, USFWS
Mr. Richard B. Hamilton, NCWRC

Identifying Design Features for Safe Wildlife Movements
Relative to the U. S. Highway 64 Project
Columbia to Manns Harbor, Tyrrell and Dare Counties, NC

OVERVIEW

Alligator River National Wildlife Refuge is located on mainland Dare and Hyde Counties, North Carolina. The refuge occupies about 152,260 acres at the eastern end of the broad, flat, and swampy Pamlico/Albemarle peninsula in northeastern North Carolina. The U. S. Fish and Wildlife Service established Alligator River National Wildlife Refuge in March, 1984 on an 118,000-acre area donated by the Prudential Life Insurance Company through efforts by the N. C. Nature Conservancy.

The purpose of Alligator River National Wildlife Refuge is to protect and conserve migratory birds, other federal trust species, and other wildlife resources through the protection of habitat, especially wetlands. In the face of regionally declining black bear populations at the time of refuge establishment, maintaining a healthy, viable black bear population was identified as one of the primary objectives when the refuge was established. During 1987, the refuge became the first release site for reintroducing the red wolf to the wild since the last animals were placed into captivity and declared to be extinct in the wild in 1980.

The refuge is transected by two significant transportation corridors. U. S. Highway 64 (US 64) crosses the northern end of the refuge from Alligator River to Croatan Sound and U. S. Highway 264 (US 264) is found the entire length of the refuge on the east side parallel to Pamlico Sound. These highway systems have been the source of significant bear and red wolf mortality over time. Refuge records show up to 18 bears killed on US 64 and US 264 in one year.

This proposal consists of different components for evaluating habitat use and population response of black bears and red wolves. It is critical to study both species to develop adequate design features in the upgraded highway to accommodate safe passage of wildlife. Although data will be collected separately, each research project will be done concurrently. They are separated in this proposal for clarity.

Similar work has been done for the black bear since 1999 as a result of upgrading US 64 to a 4-lane system, mostly on new location, for the segment between Plymouth and Columbia. Research was done by the North Carolina Wildlife Resources Commission (NCWRC), N. C. Department of Transportation (NCDOT), and the University of Tennessee (UT) to determine optimum locations for wildlife passage design features (Kindall 2004, Kindall and van Manen in press, Scheick and Jones 1999). Wildlife use of the underpass design features is currently being monitored by the UT, NCDOT, and NCWRC. This research will provide valuable data with regards to the effectiveness of the wildlife underpasses for wildlife passage as well as additional information on habitat use.

Previous research on the US 64 segment between Plymouth and Columbia does not provide site specific information for the refuge. Likewise there is no site specific information with regards to wildlife crossings as the highway transects private land between Columbia and Manns Harbor. Law, regulation, and policy require sufficient data for analyzing impacts to refuge resources

resulting from the highway construction project to determine if a proposed use is compatible with the refuge purpose and mission or not. In the absence of sufficient data, a use cannot be found compatible. Uses that are not compatible cannot be allowed. The right-of-way for the highway expansion is considered a refuge use and is subject to compatibility review prior to modification of the right-of-way easement (permit).

Socio-political pressures have resulted in upgrading US 64 to a 4-lane system from Raleigh to Columbia in Tyrrell County. These same pressures are requiring that the remainder of US 64 between Columbia and Manns Harbor be upgraded to a 4-lane system. As planning this upgrade progresses, impacts to the refuge and associated wildlife species will have to be considered. Construction methodologies will need to be included as part of the original project design instead of modifications or "add-ons" at a later date. Consequently, it is necessary to evaluate habitat use and population response of large mega-fauna such as the black bear and the endangered red wolf. An added benefit of these studies and resulting design features is a greater margin of safety to motorists due to a reduction in wildlife/vehicle collisions.

Black Bear Project Component

Title: Black bear use of US Highway 64 on Alligator River National Wildlife Refuge, North Carolina: Response of bears to highway widening.

Principle Investigator:

Dr. Michael R. Vaughan
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Amount requested: $1,445,651 -- 6-year duration

Justification

For the past several years the North Carolina Department of Transportation (NCDOT) has been engaged in a project to widen US 64 from 2 to 4 lanes from Raleigh to Manteo. As of 2005 widening is complete to Columbia. One of the next major stretches to be completed is the approximately 21-km section of US 64 that runs through Alligator River National Wildlife Refuge. Alligator River NWR is home to a high density black bear population (Tredick 2005), and the highway is surrounded by prime black bear habitat. Records indicate that since 1993, 1-18 bear/vehicle collisions occur annually on the highway within refuge boundaries. Widening the highway may be accompanied by increased speed limits, and likely will create a barrier to movement of wildlife from one side of the highway to the other. It is imperative that design features be incorporated into the project for protection of wildlife and motorists such as (but not limited to) wildlife underpasses in areas identified as high use bear crossings (Kindall 2004, Kindall and van Manen *in press,* Scheick and Jones 1999, van Manen et al. 2001).

Construction of the highway itself most likely will disrupt the bear population, as well as other wild animal populations (e.g., red wolves, deer) living adjacent to the existing highway during the 1-2 year construction period. Demographic parameters likely to be affected include reproduction and survival; movements also may be affected (Thompson 2003, Thompson et al 2005, Kindall 2004). Under these assumed responses, bears would have to shift out of their home ranges and move into areas already occupied by other bears causing social disruptions. While the disruption due directly to construction will be short-term, the effects on the bear population may be long lasting and even permanent. Habitat loss, as a direct result of highway widening, may result in a reduction of the bear population by some unknown number (Thompson 2003).

This research is designed to: (1) identify significant wildlife crossing areas to determine where wildlife underpasses or other design features should be placed to reduce the likelihood of bear/vehicle collisions and avoid a barrier effect of the highway; (2) determine the number of bears likely to be affected by the highway widening project; (3) determine the impact of the highway widening project on bears in terms of survival, reproduction, movement, and social organization; and (4) assess the effectiveness of the various design features, including wildlife underpasses, once the highway widening project is complete.

It is particularly important to note that 2-3 years lead time will be necessary to identify underpass locations if they are to be incorporated into the highway planning process.

Objectives

1. Identify black bear road crossings on US 64 on Alligator River NWR: Determine how many different individual bears cross the highway, their sex, where they cross, and the time of year they cross. Use the data to recommend where design features such as wildlife underpasses should be placed when the highway is widened from 2 to 4 lanes.

2. Estimate the number and sex ratio of black bears within 2-4 km of the road construction project; these bears are likely to be displaced during road construction.

3. Determine the impact of the highway construction project on black bears residing within 2-4 km of the construction project in terms of survival, reproduction, home range shifts, and social structure disruption. Determine the fate of bears displaced during road construction and the extent to which the area adjacent to the highway construction project is occupied and utilized following completion of the project. Determine the extent to which newly constructed highway underpasses are used by bears and other wildlife the first 1-2 years following their construction.

Methods

Objective 1: We will string a single strand of barbed wire along the entire length of US 64 through Alligator River NWR (based upon early discussions between NCDOT and refuge personnel, we assume the road will be widened from 2 to 4 lanes following the track of the existing road). Prior to stringing the barbed wire we will use Reconyx cameras, placed at likely crossings, to photograph bears crossing the safety rails that run the length of the highway to determine how they cross the rails (e.g. go over, under, step over, jump over), and thus the best way to place the barbed wire to most effectively capture hair from bears that cross.

Because gaps exist on one side of the highway or the other where wire cannot be strung, the wire will not be continuous on one side of the road through the entire refuge. At locations where the wire has to be moved from one side of the highway to the other to avoid a gap, we will overlap the wire about 100 yards (i.e., there will be a 100 yard stretch where the wire is on both sides of the road) to help prevent bears from avoiding the wire when they cross the road. In places where a gap exists on both sides of the road we will place DeerCam cameras to detect bears that cross the road at these locations.

The wire will be checked weekly, year-round, for 2 years to collect hair left by bears crossing the wire. We will GPS all locations where hair is collected, plus we will use a numbering system as a backup to determine where along the wire a sample was collected. Hair samples will be places in coin envelopes with date and location of collection recorded and stored in a dry place until being shipped to Wildlife Genetics International for DNA analysis, which will identify individuals.

In addition, we will analyze existing data on location of bear/vehicle accidents as another indication of bear crossing areas.

Objective 2: To estimate the number of bears with home ranges adjacent to the highway we will establish a hair trapping grid that runs the entire length of the highway through the refuge and 2 km on each side of the highway (2 km is approximately the radius of the home range of bears on Alligator River NWR). This will result in a trapping grid approximately 21 x 4 km and an effective area trapped of 8 x 21 km (i.e., the home ranges of some bears living outside the trapping grid will overlap the trapping grid, thus we will create a buffer zone equal to the radius of a bears home range and use the entire area for density estimates). We will place a barbed wire

hair trap near the center of every other square kilometer grid cell (i.e., 42 of 84 cells) and collect hair samples weekly for 8 weeks during the summer (Tredick 2005). Hair samples will be stored as described above and analyzed by Wildlife Genetics International to identify individuals and their sex. We will estimate population size, by sex, within the trapping zone using capture-mark-recapture estimates found in program MARK (White et al. 1999). These data and the data collected in Objective 1 will be used to determine how many bears are likely to be impacted by the highway widening project and what proportion of the bears residing near the highway actually cross the highway (i.e., have home ranges that span the highway).

Objective 3: In addition to the data collected for Objectives 1 and 2 we will capture approximately 30 bears within the hair trapping grid and mark them with GPS radio collars which also have a VHF transmitter for conventional tracking. Bears will be trapped and handled using standard techniques (e.g., leg-hold and/or culvert traps, immobilized with ketamine/xylazine or Telazol, measured, weighed, lip tattoo and ear tag). We will monitor marked bears year round to determine movement patterns and survival (program MARK), and pending approval by the North Carolina Wildlife Resources Commission, we will visit the dens of adult females in winter to determine reproductive success. We will collect these data prior to, during, and following the highway widening project to determine what impact the construction project has on bears displaced by the construction, and to some extent, bears living adjacent to displaced bears.

In addition, we will mark captured bears with individually identifiable marks (e.g., ear streamers) and place a DeerCam camera at or near every hair trap site (see Objective 2 above) for an independent capture-mark/re-observe population estimate (e.g., photographic recapture).

Expected results/products

Data collected during this research will be used to design features into the road expansion to protect fish and wildlife resources and to determine placement of highway wildlife underpasses suitable for the passage of bears and other wildlife. Innovative design features, including underpasses, are considered essential to lessen the event of vehicle/wild animal strikes, which can cause serious injury or death to humans and wildlife. This research also will determine the immediate impact on bears displaced by the construction project and with population models will predict the long-term effect on the bear population in general. Results of this research, along with previous and ongoing research conducted in conjunction with the widening of US 64 (Thompson 2003, Thompson et al 2005, Kindall 2004, Kindall and van Manes *in press*, van Manen et al 2001), may stand as a guide to predicting the short-term and long-term effects of future road widening projects in other areas on wild animal populations.

Information Transfer

Research results will be written up in the form of a final report and/or a graduate thesis/dissertation and made immediately available to the US Fish and Wildlife Service, North Carolina Department of Transportation, and the North Carolina Wildlife Resources Commission. During the research, annual reports will be prepared for the funding agencies. Results also will be submitted to the appropriate peer reviewed journals for publication.

Work Schedule

This research will begin at least 2 years prior to the initiation of highway widening on Alligator River National Wildlife Refuge and will continue until 2 years following completion of the project.

Budget

Table 2. Budget for Objectives 1, 2, and 3 to assess black bear use of the US 64 corridor on Alligator River National Wildlife Refuge for the purpose of identifying black bear crossings and developing adequate design features for safe wildlife passage. The project includes costs for measuring habitat use and population response of impacted bears before, during, and after upgrading the existing 2-lane road to a 4-lane highway.

Category	COSTS ($)						
	Pre-construction		Construction		Post-construction		
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Personnel							
MS student[1]	25,000	25,000	17,000	27,000	27,000	19,000	140,000
PhD student[1]	35,000	36,500	38,000	25,000	-	-	134,500
Technician[2]	9,850	9,850	23,000	23,000	23,000	7,500	96,200
Contractual Services							
Genetic analyses[3] - road	20,000	20,000	-	-	10,000	-	50,000
Genetic analyses[3] - trap	40,000	40,000	20,000	30,000	40,000	-	170,000
Equipment							
Laptop computer	2,000	-	-	-	-	-	2,000
GPS collars @ $3,000 ea	-	-	90,000	15,000	-	-	105,000
GPS receiver/software	-	-	5,000	2,000	-	-	7,000
Supplies							
Reconyx cameras (4)	3,500	-	-	-	-	-	3,500
DeerCam cameras (60)	2,500	1,250	11,250	-	-	-	15,000
Trapping/handling supplies	-	-	6,000	2,000	1,000	-	9,000
Barbed wire/posts	5,000	3,000	-	4,000	1,000	-	13,000
Misc. tools, etc.	1,000	500	500	500	500	-	3,000
Travel							
Vehicle use @ $0.55/mi	10,000	10,000	12,000	12,000	12,000	6,000	62,000
Travel to meetings	1,000	2,000	3,000	3,000	3,000	3,000	15,000
Housing @ $250.00/mo	3,000	3,000	3,000	3,000	3,000	1,000	16,000
Publication costs							
Reports/presentations	-	100	200	200	200	300	1,000
Journal articles	-	-	800	800	800	2,000	4,400
Sub-total Direct costs	122,850	114,700	226,750	159,000	159,500	44,800	846,600
Sub-total Indirect costs	18,428	17,205	34,013	23,850	23,925	9,750	126,991
TOTAL COSTS	141,278	131,905	260,763	182,850	183,425	73,370	973,951

[1] – Includes tuition and graduate stipend; subject to change

[2] – Includes 7% fringe benefits

[3] – Estimated @ $50/sample

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Van Manen, F.T., M.D. Jones, J.L. Kindall, L.M. Thompson, and B.K. Scheick. 2001. Determining the potential mitigation effects of wildlife passageways on black bears. International Conference on Ecology and Transportation 4:435-446.

White, G.C., and K.P. Burnham. 1999. Program MARK: survival estimation from populations of marked animals. Bird Study 46 Supplement: 120-138.

Red Wolf Project Component

Title: Assessing the effects of US 64 expansion on red wolf population viability

Background

Viable populations of wildlife depend on dispersal to maintain genetic diversity, and thus barriers to dispersal, whether natural or man-made, are of concern to wildlife managers. For reintroduced or recovering populations, potential barriers such as highways or large fenced areas are magnified in importance because the potential for a few events to restrict or retard population growth is greater in small populations. Roads, in particular, have recently received attention with respect to large carnivore population dynamics as they relate to increased direct (vehicle collisions) and indirect (changes in behavior that affect food acquisition) mortality (Trombulak and Frissell 2000). Forced spatial change also may affect area-wide social organization and thus population stability, and increased noise levels associated with military bases may initially affect wildlife behavior (Krausman et al. 2004).

With respect to roads and gray wolves (*Canis lupus*), a 4-lane unfenced highway in Wisconsin did not seem to have any apparent influence on the movements of wolves (Kohn et al. 1999). In contrast, a 4-lane fenced highway in Banff National Park in Alberta, Canada did seem to hinder wolf movements (Paquet and Callaghan 1996), although crossing structure mitigated its barrier effect (Clevenger and Waltho 2000, 2005). In Spain, wolves crossed a 4-lane, fenced highway via vehicle bridges (J.C. Blanco et. al., in litt.). Overall, it appears that wolves tend to prefer large, open wildlife overpasses (Forman et al. 2003:151,153). In general, however, a large void exists in addressing factors that affect how large carnivores use passages. Major transportation corridors bisect and potentially fragment most of the major ecosystems that still support wide-ranging carnivores. Increased concerns expressed by transportation and natural resources agencies regarding mitigation planning for large carnivores highlight the need for more information and research in this area (Forman et al. 2003:157).

Red wolf concerns

US 64 expansion across the Albemarle Peninsula has implications for the recovery of endangered red wolves (*Canis rufus*) in eastern North Carolina. The currently implemented and future plans for the US 64 expansion cut across the entire northern quarter of the red wolf experimental population area. A heavily-used 2-lane highway is being replaced (sometimes on an alternate path) with a divided 4-lane highway, bordered by fencing but constructed with a few wildlife underpasses.

Because of the scale of US 64 expansion, the effects on red wolf recovery efforts could be substantial. As red wolves progressively expand their range from east to west within the current management area, the highway expansion might result in the funneling or restriction of red wolf movements, or might concentrate prey at highway edges or crossing and thus provided easier wolf hunting opportunities or greater wolf mortality. Clearly, an understanding red wolf activity patterns, movements, habitat use, and prey abundance, as well as theoretical models to examine potential influence on red wolf physiological and behavioral dynamics, are needed.

More specifically, the potential problems or benefits associated with US 64 expansion, with respect to red wolf recovery, include:

1. Reduction in potential red wolf habitat, prey, territory, and overall recovery area, and the effect of this change on red wolf movements, territory dynamics, and land utilization – studies are needed to assess how the red wolf population has utilized the area since restorations began and what landscape attributes promote red wolf use. More specifically, these would include a thorough assessment of site-specific habitat availability; red wolf habitat selection related to den sites, prey abundance, and the effect of barriers related to dispersal; and changes in red wolf numbers in the immediate area over time.

2. Effect on the monitoring of red wolf/non-wolf movements at western zone of recovery area – the Red Wolf Adaptive Management Plan considers hybridization with eastern coyotes as the principle threat to red wolf recovery. Because US 64 has already been expanded in the western portion of the experimental population area, monitoring red wolf and non-wolf activities in this area is critical to avoid negating the progress that has been made in expanding the red wolf population from east to west. It is also critical to understand the impact of canid activity and movements out of or into the experimental area along the expanded highway in the west. Possible study topics include coyote/red wolf interactions and retrospective examination of adaptability of coyote/hybrids vs. red wolves in the face of significant habitat change.

Proposed activity

To address these concerns, the USFWS Red Wolf Recovery Program proposes to intensively monitor red wolves and other canids in the corridor areas along the recently expanded US 64 in the west and long the still proposed expansion area from Columbia to Mann's Harbor. We can do this using radio telemetry, preferable via satellite telemetry. We propose to mark all red wolves, as well as non-wolves (hybrids or coyotes) that are scheduled to be released or otherwise captured within 10 km of the renovated or the proposed US 64. Each animal will be fitted with 2 radio collars; one will have both a standard VHF transmitter and a GPS receiver capable of being downloaded remotely but also with a remote "drop-off" capability for collar retrieval, and the other will be lightweight VHF collar that will remain on the animal. GPS locations will be recorded every 10 minutes in order to identify road crossing points and barriers. Each GPS collar should last 60-90 days before needing to be refurbished and put on another wolf.

In addition to the standard telemetry data analyses that can be carried out (e.g., survival, range size, habitat use, dispersal), the intensive GPS locations will allow us to identify travel paths, reactions to landscape features such as roads, fences, underpasses, etc. In addition, we can identify the costs and benefits of using GPS telemetry technology in place of standard aerial radiotelemetry under circumstances where the latter is not possible (i.e., restricted military air space).

We plan on monitoring up to 20 individuals per year for 3 years; some of these individuals may be constantly recaptured and remarked to maintain continuous records of movements. Our monitoring will include resident adults and dispersing animals of any age in order to document: 1) range use around already-constructed roads, bridges, and underpasses, 2) range use in

proposed development sites, and 3) dispersal paths of non-resident animals or those which are displaced from their ranges. Depending on the specific data retrieval schedule, we may also be able to more accurately identify wolf prey kill sites and assess whether man-made or natural features of the landscape affect the distribution of such sites.

Table 2. Budget to assess red wolf use of the US 64 corridor on Alligator River National Wildlife Refuge for the purpose of identifying red wolf crossings and developing adequate design features for safe wildlife passage. The project includes costs for measuring habitat use and population response of impacted wolves before, during, and after upgrading the existing 2-lane road to a 4-lane highway.

Category	Costs ($)				
Personnel	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Total**
PhD student[1]	33,500	35,000	36,500	28,500	133,500
Technician @ $10/hr + 7% fringe	7,500	23,000	23,000	7,500	61,000
Equipment					
Laptop computer + software	2,500	-	-	-	2,500
GPS collars + replacement batteries @ $3,000 ea.	120,000	30,000	-	-	150,000
GPS data receivers + software (2)	5,000	-	-	-	5,000
VHF collars @$300 ea (50)	7,500	7,500	-	-	15,000
VHF receivers/scanners (2)	4,000	-	-	-	4,000
Supplies					
Capture equipment	5,000	2,000	2,000	-	9,000
Misc. tools, etc.	1,000	500	500	-	2,000
Travel					
Vehicle use @$0.55/mi	2,500	7,500	7,500	2,500	20,000
Travel to meetings	-	1,000	2,000	2,000	5,000
Publication costs					
Reports/presentations	-	100	200	200	500
Journal articles	-	-	1,000	2,000	3,000
Sub-total: Direct Costs	188,500	106,600	72,700	42,700	410,500
Sub-total: Indirect Costs	28,275	15,615	10,905	6,405	61,200
TOTAL COSTS	216,775	122,215	83,605	49,105	471,700

[1] - Includes Graduate Research Assistantship, plus tuition and fees

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North Carolina
Department of Administration

RECEIVED
OCT 26 2006
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH
DIVISION OF HIGHWAYS

Michael F. Easley, Governor

Britt Cobb, Secretary

October 24, 2006

Mr. Gregory Thorpe
NCDOT
Transportation Building
1548 Mail Service Center
Interoffice

Dear Mr. Thorpe:

Subject: Scoping - Widening of US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Dare and Tyrrell counties. TIP Nos. R-2544/R-2545

The N. C. State Clearinghouse has received the above project for intergovernmental review. This project has been assigned State Application Number 07-E-4220-0145. Please use this number with all inquiries or correspondence with this office.

Review of this project should be completed on or before 11/24/2006. Should you have any questions, please call (919)807-2425.

Sincerely,

Chrys Baggett

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail: Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

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North Carolina
Department of Administration

RECEIVED
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DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

Michael F. Easley, Governor

Britt Cobb, Secretary

December 11, 2006

Mr. Gregory Thorpe
NCDOT
Transportation Building
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Thorpe:

Re: SCH File # 07-E-4220-0145; Scoping; Widening of US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Dare and Tyrrell counties. TIP Nos. R-2544/R-2545

The above referenced environmental impact information has been reviewed through the State Clearinghouse under the provisions of the North Carolina Environmental Policy Act.

Attached to this letter are comments made by agencies reviewing this document identify issues to be addressed in the environmental review document. The appropriate document should be forwarded to the State Clearinghouse for compliance with State Environmental Policy Act. Should you have any questions, please do not hesitate to call me at 807-2425.

Sincerely,

Chrys Baggett /SK

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region R

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
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Location Address:
116 West Jones Street
Raleigh, North Carolina

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Yamamoto/Devens

RECEIVED
NOV 21 2006
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

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

November 17, 2006

MEMORANDUM

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

FROM: Peter Sandbeck PBS for Peter Sandbeck

SUBJECT: US 64 from 0.9 mile East of Columbia to US 264, (Mann's Harbor), R-2544-2545, Dare and Tyrrell Counties, ER 06-2877

Thank you for your letter of October 20, 2006, concerning the above project.

We have conducted a search of our maps and files and located the following structure of historical or architectural importance within the general area of this project:

(TY 1) Tyrell County Courthouse, SW corner Main and Broad Streets

(TY 3) Columbia Historic District, bounded by Scuppernog River, US 64, Road Street and Howard Street

We recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years of age within the project area, and report the findings to us.

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 ext. 246. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6545/715-4801

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

STATE NUMBER: 07-E-4220-0145 F02
DATE RECEIVED: 10/24/2006
AGENCY RESPONSE: 11/20/2006
REVIEW CLOSED: 11/24/2006

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORD
DEPT OF CUL RESOURCES
ARCHIVES-HISTORY BLDG - MSC 4617
RALEIGH NC

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NOV 2006
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PROJECT INFORMATION
APPLICANT: NCDOT
TYPE: State Environmental Policy Act
ERD: Scoping
DESC: Widening of US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Dare and Tyrrell counties. TIP Nos. R-2544/R-2545

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☐ NO COMMENT

☒ COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley

DATE: 11.14.06

Federal Aid # **none** *TIP#* **R-2544/2545** *County:* **Dare/Tyrell**

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

Project Description: **Widening US 64 from 0.9 miles east of Columbia to US 258, Manns Harbor**

On **October 30, 2007** 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

- ☐ Scoping meeting
- ☒ Historic architectural resources photograph review session/consultation
- ☐ Other

All parties present agreed

- ☐ There are no properties over fifty years old within the project's area of potential effects.
- ☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☒ There are properties over fifty years old within the project's Area of Potential Effects (APE), but based on the historical information available and the photographs of each property, the properties identified as 2-13-16-19 are considered not eligible for the National Register and no further evaluation of them is necessary.
- ☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☒ 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
- ☐ There are no historic properties affected by this project. (*Attach any notes or documents as needed*)

Signed:

Shelby Spain — 10/30/07
Representative, NCDOT — Date

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

Representative, HPO — Date

Renee Gledhill-Earley — 10.30.07
State Historic Preservation Officer — Date

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

Properties 1, 14, 15 – Report

Federal Aid #: N/A *TIP#:* R-2544/2545 *County*: Dare/Tyrell

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: **Widening US 64 from 0.9 miles east of Columbia to US 258, Manns Harbor**

On October 16, 2009, representatives of the

- ☒ North Carolina Department of Transportation (NCDOT)
- ☐ Federal Highway Administration (FHWA)
- ☒ North Carolina State Historic Preservation Office (HPO)
- ☒ Other United States Army Corps of Engineers (USACE)

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

Signed:

Shelby L Griffin 10/16/2009

Representative, NCDOT Date

William J. Biddlecome USACE 11/2/09

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

Representative, HPO Date

Renee Gledhill-Earley 10.21.09

State Historic Preservation Officer Date

Federal Aid #: N/A *TIP # :* R-2544/2545 *County*: Dare/Tyrell

Property and Status	Alternative	Effect Finding	Reasons
Lindsay Warren Bridge No 7 (DE)	2D/4C 2D/4D 2D/4F 2D/4G	Adverse Effect	Not able to widen existing bridge; bridge must be replaced.
East Lake Methodist Church and Cemetery (DE)	5B	Adverse Effect	Widening to the north of existing US 64 will take the church.
East Lake Fire Tower (DE)	5B	Adverse Effect	Widening to the north of existing US 64 will take the fire tower.
East Lake Methodist Church and Cemetery (DE)	5A	No Adverse Effect	Widening to the south of existing US 64 maintains existing ROW; Right turn only access to church but driveway location is maintained. Median to control left turn access does not adversely impact historic use of the property.
East Lake Fire Tower (DE)	5A	No Effect	Widening to the south of existing US 64 maintains existing ROW.

Initialed: NCDOT SLS USACE NFB HPO RBG

Department of Environment and Natural Resources
Office of Legislative and Intergovernmental Affairs
Project Review Form

Project Number: 07-0145 **County: Dare and Tyrrell** **Date Received: 10/24/2006**

Due Date: 11/20/2006

Project Description: Widening of US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Dare and Tyrrell counties. TIP Nos. R-2544/R-2545

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Soil & Water	✓ Marine Fisheries
___ Fayetteville	✓ Water	✓ Coastal Management	___ Water Resources
___ Mooresville	✓ Groundwater	___ Wildlife	✓ Environmental Health
___ Raleigh	✓ Land Quality Engineer	✓ Wildlife - DOT	___ Solid Waste Mgmt
✓ Washington		✓ Forest Resources	___ Radiation Protection
___ Wilmington		BILL PICKENS	___ Other
___ Winston-Salem		___ Land Resources	
		✓ Parks & Recreation	
		___ Water Quality	
		✓ Water Quality - DOT	
		___ Air Quality	

Manager Sign-Off/Region:	Date: 11/2/06	In-House Reviewer/Agency: Bill Pickens

Response (check all applicable)

___ No objection to project as proposed. ___ No Comment

___ Insufficient information to complete review ✗ Other (specify or attach comments)

Regional Office Only:
Please log into the IBEAM system and update your comments in the DSS (Decision Support System) application, SEPA module. If you have any questions, please contact:
Melba McGee, Environmental Coordinator at melba.mcgee@ncmail.net

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North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

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MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review Coordinator

SUBJECT: 07-0145 Scoping for Widening US 64 from Columbia to US 264 in Tyrrell and Dare Counties

DATE: December 5, 2006

The Department of Environment and Natural Resources has reviewed the proposed information. The attached comments are for the applicant's information.

Thank you for the opportunity to review.

Attachments

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

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North Carolina Department of Environment and Natural Resources
Division of Coastal Management
Michael F. Easley, Governor **Charles S. Jones, Director** William G. Ross, Jr., Secretary

11 December 2006

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

Dear Mr. Thorpe:

This correspondence is in reference to a letter sent to Ms. Lynn Mathis, Division of Coastal Management, Elizabeth City District subject R-2544/R-2545, US 64 from 0.9 mile east of Columbia to US 264 in Dare and Tyrrell Counties. Dare County is located within the Elizabeth City Division of Coastal Management District. Ms. Mathis forwarded this letter to me because Tyrrell County is located within the Washington District. I have reviewed in-house jurisdictional determination references and reviewed the limited amount of information regarding transportation improvement project from 0.9 miles east of Columbia to US 264 in Manns Harbor to determine if permits for the proposed development are required per the Coastal Area Management Act or the State's Dredge and Fill Law.

From my review of the information it appears that bridge improvements are being proposed over the Alligator River. The Alligator River is a Public Trust Area and Estuarine Water Area of Environmental Concern (AEC). Additionally, shoreline of the Alligator River is a Coastal Shoreline AEC. Any activities defined as "Development" conducted within Alligator River proper or within 75' of the River will require a permit from the Division of Coastal Management. This letter doesn't limit Division of Coastal Management jurisdiction to the Alligator River. Once a more detailed scope of work is presented a final jurisdiction determination can be made.

Thank you for your time and concern in these matters. Please advise me of any scoping meetings reference this project. If you have any questions regarding permit requirements for this project, please do not hesitate to contact me at (252) 948-3853 or e-mail me at Kelly.Spivey@ncmail.net.

Sincerely,

R. Kelly Spivey
Coastal Management Representative

cc: Terry E. Moore- District Manager, Washington Office, DCM
Raleigh Bland – U.S. Army Corps of Engineers, Washington Office
Lynn Mathis – DCM, Elizabeth City
Ted Devens, P.E. – NCDOT, Project Development and Environmental Analysis Branch

943 Washington Square Mall, Washington, North Carolina 27889
Phone: 252-946-6481 \ FAX: 252-948-0478 \ Internet: www.nccoastalmanagement.net/

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North Carolina
Department of Environment and
Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

North Carolina
Division of Forest Resources

Stanford M. Adams, Director

2411 Old US 70 West
Clayton, NC 27520
November 1, 2006

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MEMORANDUM

TO: Melba McGee, Office of Legislative Affairs

FROM: Bill Pickens, NC Division Forest Resources

SUBJECT: DOT Scoping for Widening US 64 from Columbia to US 264 in Tyrrell and Dare Counties

PROJECT #: 07-0145 and TIP # R-2544/2545

The North Carolina Division of Forest Resources has reviewed the referenced scoping document and submits the following comments concerning impacts to woodlands to address in the EA.

1. The EIS should list, by timber type, the total forest land acreage that is removed or taken out of forest production as a result of the project so that we can evaluate construction impact. If no impacts will occur, please state so in the document.

2. Additionally, mitigation should include alignment of ROW corridors to minimize impacts to woodlands in the following order of priority:
    - Managed, high site index woodland
    - Productive forested woodlands
    - Managed, lower site index woodlands
    - Unique forest ecosystems
    - Unmanaged, fully stocked woodlands
    - Unmanaged, cutover woodlands
    - Urban woodlands

3. The EA should include a summary of the potential productivity of the forest stands affected by the proposed project. Potential productivity is quantified by the soil series, and is found in the USDA Soil Survey for the county involved.

4. The provisions the contractor will take to utilize the merchantable timber removed during construction. Emphasis should be on selling all wood products. However, if the wood products cannot be sold then efforts should be made to haul off the material or turn it into mulch with a tub grinder. This practice will minimize the need for debris burning, and the risk of escaped fires and smoke management problems to residences, highways, schools, and towns.

NCDENR

North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Preston P. Pate Jr., Director

MEMORANDUM

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TO: Melba McGee
Office of Legislative and Intergovernmental Affairs

FROM: Mike Street

DATE: November 14, 2006

SUBJECT: US 64 Widening from 0.9 Mile East of Columbia to US 264 –Mann's Harbor
Project # ~~07-0156~~ 07-0145
Dare and Tyrrell Counties

Attached is the Divisions' reply for the above referenced project. If you have any questions, please do not hesitate to contact me.

MS/sw

3441 Arendell Street, P.O. Box 769, Morehead City, North Carolina 28557
Phone: 252 726-7021 \ FAX: 252 727-5127 \ Internet: www.ncdmf.net

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Michael F. Easley, Governor
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North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

07-0145 11/20

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November 17, 2006

MEMORANDUM

To: Gregory J. Thorpe, Ph.D., Manager, NCDOT Project Development and Environmental Analysis Branch

Through: John Hennessy, Supervisor, Transportation Permitting Unit

From: David Wainwright, Transportation Permitting Unit, NC Division of Water Quality

Subject: Scoping comments on proposed improvements to US 64 from 0.9 miles East of Columbia in Tyrell County to US 264 (Mann's Harbor) in Dare County, TIP R-2544/R-2545.

This letter is in reference your correspondence dated October 20, 2006 in which you requested comments for the stated project. Preliminary analysis of the project reveals the potential for multiple impacts to perennial streams in the project area, which include:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number
UTs to Scuppernong River	Pasquotank	SC; Sw	30-16-22
UTs to Little Alligator River	Pasquotank	SC;, Sw	30-16-22
Alligator River	Pasquotank	SC; Sw; ORW	30-16-(7)
UTs to South Lake	Pasquotank	SC; Sw	30-16-23-2
UT to Deer Creek	Pasquotank	SC; Sw	30-16-23-2-3
Billys Ditch	Pasquotank	C; Sw	30-16-23-2-2-1

In addition to the waterbodies listed above, preliminary analysis also reveals that the potential for significant impacts to additional acreage of jurisdictional wetlands exists. DWQ is concerned about the total area of wetlands that may be impacted by this project. Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

Project Specific Comments:

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

2. Review of the project reveals the presence of surface waters classified as SC; Sw; Outstanding Resource Waters of the State in the project study area. The water quality classification of SC; Sw; ORW is one of the highest classifications in the State. DWQ is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

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be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potent for impacts to these resources during the project implementation, the DWQ requests that DOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NC DOT will be required to obtain a State Stormwater Permit prior to construction.

General Project Comments:

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. 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.

2. Environmental assessment alternatives should consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

3. 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 of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

4. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

5. It is unclear from the information provided how the US 64 expansion will affect the crossing over the Alligator River (the Lindsey C Warren drawbridge). Whether NCDOT chooses to widen the existing bridge, replace the existing bridge with a wider one, or build a parallel bridge, NCDOT is reminded that:

    a. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

    b. DWQ will work with NCDOT Division 6 as much as possible on this crossing.

6. DWQ is very concerned with sediment and erosion impacts that could result from this project. NC DOT should address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

7. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).

8. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.

9. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

10. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas should be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

11. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

12. If multiple pipes or barrels are required, they should be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

13. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3494/Nationwide Permit No. 6 for Survey Activities.

14. 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.

15. All work in or adjacent to stream waters should be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures should be used to prevent excavation in flowing water.

16. Sediment and erosion control measures should not be placed in wetlands and streams.

17. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

18. 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.

19. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

20. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed and restored to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas.

21. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

22. With respect to the hurricane evacuation model, the model results should indicate the estimated traffic counts and evacuation times for an evacuation scenario where all eastbound lanes are converted to westbound traffic. If the aforementioned lane reversal scenarios for the existing two lanes or the proposed four lanes is not practical or a component of Emergency Management's evacuation plan, then the issue should be detailed.

23. NCDOT is respectfully reminded of the possibility of anadromous fish being present in the Alligator River and surrounding waterbodies, including the canals along US 64. NCDOT should coordinate with NC Division of Marine Fisheries to determine is such species are present. If species are found or are known to frequent or spawn in waters within the project area, certain construction moratoriums may need to be adhered to as stated in the 401 permit.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact David Wainwright at (919) 715-3415.

cc: Bill Biddlecome, US Army Corps of Engineers, Washington Field Office
Clarence Coleman, Federal Highway Administration
Clay Willis, Division 1 Environmental Officer
Chris Militscher, Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission
Gary Jordon, US Fish and Wildlife Service
Cathy Brittingham, Division of Coastal Management
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North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

November1, 2006

DEC 2006 RECEIVED

MEMORANDUM

TO: Melba McGee

FROM: Michael P. Schafale, Natural Heritage Program

SUBJECT: Scoping -- TIP R-2544 and R-2545: US 64 widening from Columbia to US 264, Dare and Tyrrell Counties

REFERENCE: 07-0145

The route of this project passes through an area of major ecological importance and sensitivity. The area around the Alligator River and the Dare County peninsula is Nationally significant as one of the largest complexes of peatlands and nonriverine wetlands. Four Significant Natural Hritage Aeas border the existing highway: Alligator River Swamp Forest, Mashoes Pocosin, Alligator River/South Lake Swamp Forest, and Alligator Creek/Second Creek Swamp Forest. The route passes adjacent to or through the Alligator River National Wildlife Refuge and the Alligator Creek Game Land, and these public conservation lands represent a substantial portion of the route.

The route crosses areas of exemplary natural communities and extensive jurisdictional wetlands. A number of rare species are known on or near the existing route, including red wolf (*Canis rufus*), red-cockaded woodpecker (*Picoides borealis*), bald eagle (*Haliaeetus leucocephalus*), alligator (*Alligator mississippiensis*), glossy crayfish snake (*Regina rigida*), Coastal Plain black-throated green warbler (*Dendroica virens waynei*), and Hessel's hairstreak (*Callophrys hesseli*). There is potential for additional rare species, and a great need for detailed survey in the project area. Detailed studies in the nearby Dare County Air Force Range found a number of rare plants and animals, including several moths and other invertebrates as well as vertebrates.

The area also is a major habitat for black bears and other wide-ranging wildlife. Besides direct impact to populations and habitat, DOT should address the impact of the project on animal movement within the landscape, and consider measures to facilitate animal passage.

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Department of Environment and Natural Resources
Office of Legislative and Intergovernmental Affairs
Project Review Form

Project Number: 07-0145 **County: Dare and Tyrrell** **Date Received: 10/24/2006**

Due Date: 11/20/2006

Project Description: Widening of US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Dare and Tyrrell counties. TIP Nos. R-2544/R-2545

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
___ Asheville	✓ Air	___ Soil & Water	✓ Marine Fisheries
___ Fayetteville	✓ Water	✓ Coastal Management	___ Water Resources
___ Mooresville	✓ Groundwater	___ Wildlife	✓ Environmental Health
___ Raleigh	✓ Land Quality Engineer	✓ Wildlife - DOT	___ Solid Waste Mgmt
✓ Washington		✓ Forest Resources	___ Radiation Protection
___ Wilmington			___ Other
___ Winston-Salem		___ Land Resources	
		✓ Parks & Recreation	
		___ Water Quality	
		✓ Water Quality - DOT	
		___ Air Quality	

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:

Response (check all applicable)

___ No objection to project as proposed. ___ No Comment

___ Insufficient information to complete review ___ Other (specify or attach comments)

Regional Office Only:
Please log into the IBEAM system and update your comments in the DSS (Decision Support System) application, SEPA module. If you have any questions, please contact:
Melba McGee, Environmental Coordinator at melba.mcgee@ncmail.net

State of North Carolina
NCDENR Department of Environment and Natural Resources

Reviewing Office: FRO.

Project Number: 07-145 Due Date: 11/20/06

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

After review of this project it has been determined that the DENR 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 this 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 (Statutory 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 preapplication 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	Preapplication 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. Preapplication 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, 2Q.0300, 2H.0600)	N/A	60 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 919-733-0820.		
☐	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 $50 for the first acre or any part of an acre.		20 days (30 days)
☐	The Sedimentation Pollution Control Act of 1973 must be addressed with respect to the referenced Local Ordinance.		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.		
☐	Mining Permit	On-site inspection usual. Surety bond filed with DENR. 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 of 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 of 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)

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (Statutory Time Limit
☐	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 DENR 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 or the total project cost will be required upon completion.	30 days (60 days)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with DENR running to State of N.C. conditional that any well opened by drill operator shall, upon abandonment, be plugged according to DENR rules and regulations.	10 days (N/A)
☐	Geophysical Exploration Permit	Application filed with DENR 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	55 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	60 days (130 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, N.C. 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.		
*	Other comments (attach additional pages as necessary, being certain to cite comment authority)		45 days (N/A)

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REGIONAL OFFICES

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

☐ **Asheville Regional Office**
59 Woodfin Place
Asheville, N.C. 28801
(828) 251-6208

☐ **Fayetteville Regional Office**
225 Green Street, Suite 714
Fayetteville, N.C. 28301
(910) 486-1541

☐ **Mooresville Regional Office**
919 North Main Street
Mooresville, N.C. 28115
(704) 663-1699

☐ **Raleigh Regional Office**
3800 Barrett Drive, P.O. Box 27687
Raleigh, N.C. 27611
(919) 571-4700

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

☐ **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, N.C. 28405
(910) 395-3900

☐ **Winston-Salem Regional Office**
585 Waughtown Street
Winston-Salem, N.C. 27107
(336) 771-4600

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North Carolina Wildlife Resources Commission

MEMORANDUM

Richard B. Hamilton, Executive Director

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: November 22, 2006

SUBJECT: Response to the start of study notification from the N. C. Department of Transportation (NCDOT) regarding fish and wildlife concerns for the proposed widening of US 64 from East of Columbia to US 264, Dare and Tyrrell Counties, North Carolina. TIP No. R-2544/R-2545, SCH Project No. 07-0145.

This memorandum responds to a request from Gregory J. Thorpe of the NCDOT for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. Biologists on the staff of the N. C. Wildlife Resources Commission (NCWRC) have reviewed the proposed improvements. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The proposed project is located in an area with vast environmental resources. There are five managed parcels located along the existing facility that encompass the majority of the study corridor. These parcels include: Palmetto Peartree Preserve (a conservation bank for the red-cockaded woodpecker (*Picoides borealis*)), J. Morgan Futch Game Land, Alligator River Game Land, The Great Dismal Swamp Restoration Bank, and Alligator River National Wildlife Refuge. Impacts to these areas should be avoided. In circumstances where avoidance is not feasible NCDOT should look at options to minimize impacts to these parcels.

Potential direct impacts associated with the project are evident with extensive wetlands and canals surrounding the project, however habitat fragmentation will also be an impact associated with widening US 64. Increasing the footprint of a roadway from a two lane facility to a four lane median divide facility further separates the habitats within the study area. The increased disturbance can affect the quality of adjacent habitat utilized by large mammals such as black bear, white-tailed deer, and red wolf; and potential alter the home range of certain species by restricting their ability to traverse a larger corridor.

11/22/2006 17:13 9195289839 PAGE 03

8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the improved road access.

9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages for this project. If we can further assist your office, please contact me at (919) 528-9886.

Cc: Bill Biddlecome, USACE
David Wainwright, DWQ
Chris Militscher, EPA
Cathy Brittingham, DCM
Gary Jordan, USFWS

11/22/2006 17:13 9195289839 PAGE 05

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 3, 2007

Memorandum

To: Mr. Gregory J. Thorpe, Ph.D., Manager
Project Development & Environmental Analysis Branch

Attn: Ted Devens, PE, Project Planning Engineer
Project Development & Environmental Analysis Branch

From: James B. Harris, PE
Engineering Manager
NCDOT Rail Division

State Project: WBS 35492.1.1 (R-2544 & R 2545)
F/A Project: NA
Counties: Tyrell and Dare
Description: US 64 from .9 mile east of Columbia to US264 (Manns Harbor) Road Improvements

Subject: Start of Study

The NCDOT Rail Division is in receipt of your scoping letter on the above subject widening project.

After review of the project scoping letter and location of the project in relation to nearby railroad tracks, it has been determined that no rail interaction will be involved on this project.

Thank you for keeping the Rail Division involved in the early project planning stages. Please call Charles Tew, Engineering Technician at 715-5807 if you have any additional questions.

JBH/cet

Cc: file

MAILING ADDRESS:
RAIL DIVISION
ENGINEERING & SAFETY BRANCH
1556 MSC
RALEIGH NC 27699-1556

TELEPHONE: 919-715-8803
FAX: 919-715-8804

WEBSITE: www.bytrain.org

LOCATION:
CAPITAL YARD
862 CAPITAL BOULEVARD
RALEIGH, NC 27603

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JAN 30

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 4, 2007

MEMORANDUM TO: Gregory Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Branch

ATTN: Ted Devens
Consultant Engineer

FROM: A. W. Roper, P. E.
Division Engineer

BY: Bob Capehart, P. E. RE Capehart
Division Construction Engineer

SUBJECT: Scoping Information, R-2544 & R-2545: US 64 from 0.9 mile East of Columbia to US 264 (Manns Harbor), Tyrrell – Dare Counties

Division One has reviewed the proposed scoping information sheets, and offers the following comments.

On Page 2, under Structure Inventory, it should be noted that multiple closings occur each year due to mechanical problems with the draw span. This proves to be of considerable inconvenience to the traveling public and may pose a serious threat when delays last for extended periods. Should this occur prior to an evacuation, or impact life threatening emergency response, the results could be catastrophic.

On Page 3, under Cost Estimate, we have questions about showing $12 million for six wildlife crossings. Have proposals been made to, or received from, agencies regarding the number and type of crossings required? If not, it seems to us that this item should be eliminated and addressed following agency comments/requests.

Thank you for the opportunity to comment. Should you have questions, or need additional information, please do not hesitate to contact us.

CC: Barry Hobbs, P. E.
Clay Willis

113 Airport Drive, Suite 100, Edenton, NC 27932 (252) 482-7977 Fax: (252) 482-8722

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 4, 2007

MEMORANDUM TO: Mr. Gregory J. Thorpe, Ph.D. Director
Project Development and Environmental Analysis Branch

FROM: Mr. Charlie Brown, PE, PLS
State Location and Surveys Engineer

SUBJECT: **R-2544 & R-2545**– Scoping comments for US 64 from 0.9 miles East of Columbia to US 264 (Manns Harbor), Tyrrell-Dare Counties.

I have the following comments on this project:

General Comments:

The project is located in rural Tyrrell and Dare Counties. There is minimal development in the area. US 64, from Columbia to Manns Harbor, is a 2-lane highway that facilitates moderate to heavy seasonal traffic with an approximate length of 26.3 miles. Traffic includes moderate commercial truck use. The posted speed limit is 55 mph. Given the remote area of the project and the volume of traffic, an offsite detour does not seem feasible.
The project begins at the end of the 4-lane section east of Columbia (R-2548F). The first mile is comprised of low lying woods and wet cut-over on both sides of the highway. US 64 crosses high ground, called Dillon's Ridge, at 1.3 miles along the project.
A private borrow pit is situated on the north side of US 64 relatively close to existing right-of-way at 1.7 miles. A canal runs on the south side of US 64 from approximately 3.0 to 11.0 miles east of the start of the project. The west-end of Old US 64 begins around 3 miles and ties back in to US 64 at 6.6 miles along the project. At 11.2 miles along the project, a gas station/marina is situated on the north side of US 64 just before the Lindsey C. Warren Bridge. There is a cell phone tower just west of the station approximately 500' north of the roadway. An area between the cell tower and the highway is enclosed by a soil berm. US 64 crosses the Alligator River 12 miles from the start of the project. The bridge is approximately 2.6 miles long. East Lake Ferry Access, a NC Wildlife Resources Commission boat ramp, is located North of US 64 on the east bank of the Alligator River. Alligator River National Wildlife Refuge begins at the east bank of the river and continues on both sides of US 64 through the end of the project. Another canal begins on the south side of US 64 @ approximately 14.9 miles along the project. The canal switches sides of the highway through corrugated metal pipes at 15.9, 17, 19.3, 19.8, and 21.8 miles. There is a fire tower located 75' north of US 64 approximately 19.2 miles along the project. A second cell tower is located 100' north of the highway at 21.3 miles. Dare County East Lake Landfill is on the north side of US 64 around 22.0 miles. A sawmill is located just east of the landfill on the north side of the highway. Creef Cut Wildlife Trail is located on the south side of US 64 at 22.5 miles. The third cell phone tower is 23.5 miles along the project and is roughly 100' south of the highway.
The project ends at the 4-lane section (R-2551) at the intersection of US 64 and US 264.

Alignment:

The existing horizontal alignment for this project is generally comprised of tangents and mild curves and the vertical alignment is gently sloping with minimal changes in elevation.

Environmental concerns:

Wetlands are present on both sides of US 64 over most of the project's length. The gas station/marina near the Alligator River may have underground fuel tanks on the property. Farmland on both sides of US 64 from approximately 7.2 to 7.7 miles along the project has good potential for a mitigation site.
A possible private wildlife reserve is located @ 9.3 miles along the project. As previously mentioned, Alligator River National Wildlife Refuge surrounds most of US 64 in Dare County.
A Location and Surveys field crew spotted an alligator in May 2005 near the end of the project. It was seen in the canal on the north side of US 64.

Property Impacts:

There are 30-35 residences that may be impacted in the project area if additional right-of-way is to be acquired and changes to access are made. The gas station/marina and sawmill are businesses that could be affected, which possibly includes changes to access and parking. A trailer park is located just north of US 64 approximately 16.9 miles along the project.
There is the potential for possible historical properties in the project area. East Lake Holiness Church is on the north side of US 64 approximately 18.5 miles along the project. East Lake Methodist Church is on north side of the highway around 19.0 miles. East Lake Community Center is approximately 0.2 miles east of the Methodist Church. Two graveyards were seen along US 64 in the project area. One is 200' north of the highway at 19 miles; the other is 50' north of the road at 21.3 miles along the project.

Geotechnical Concerns:

The ground in the project is generally low lying and wet. Overall it appears to be unable.

Utility Concerns:

Utilities are generally light being comprised of underground, fiber optic, and aerial power. A water line is present near the beginning of the project in Tyrrell County.
No evidence of proposed utilities was observed.

If I can be of further assistance, please advise.

CWB:phi

Cc:
Ted Devins, PE, PDEA
Art McMillan, PE - Highway Design Engineer
Jay Bennett, PE - Roadway Design Engineer
Dave Henderson, PE - Hydraulics Design Engineer
Njorge Wainaina, PE -Geotechnical Design Engineer
Robert Memory - State Utilities Agent
Roger Worthington, PE - Utilities Section Engineer
File

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 5, 2007

WBS ELEMENT:	35492.1.1
I.D. NUMBER:	R-2544 and R-2545
COUNTIES:	Tyrrell and Dare

MEMORANDUM TO:	Gregory J. Thorpe, Ph.D., Manager Project Development and Environmental Analysis Branch
FROM:	Mike Kinlaw Division Right of Way Agent – Division One
SUBJECT:	R-2544 and R-2545: US 64 from 0.9 mile East of Columbia to US 264 (Mann's Harbor), Tyrrell – Dare Counties

After reviewing the scoping information sheets for this project, from a right of way standpoint, I have no comments at this time.

If I can be of further assistance, please advise.

Thank you.

JMK/rcb

CC: Mr. David Bailey, State Negotiator
Mr. Ted Devens, P.E., Project Planning Engineer
Mr. Albert Joyner, Area Negotiator

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY
230 NC 42 WEST
AHOSKIE, NORTH CAROLINA 27910

TELEPHONE: 252-332-8182
FAX: 252-332-7674

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
HIGHWAY BUILDING
230 NC 42 W.
Ahoskie, NC 27910

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 2, 2009

Mr. Mike Bryant
Refuge Manager, Alligator River National Wildlife Refuge
Post Office Box 1969
Manteo, North Carolina 27954

Dear Mr. Bryant:

NCDOT acknowledges receipt of your August 28, 2008 letter that accompanied the Refuge's "conditional concurrence" on the NCDOT Concurrence Point 2 form for TIP Project numbers R-2544/5. Since the August Concurrence Point (CP) 2 meeting and subsequent October CP2 "Elevation" meeting with the Merger Management Team, significant informal coordination has ensued between NCDOT, Alligator River National Wildlife Refuge, and other cooperating agencies. Because so many activities have transpired in the interim that involved ARNWR, a formal response to your letter was not believed to be essential. The purpose of today's letter, however, is to specifically address components of the August 28th letter, to formally provide status updates for pertinent activities, and also to request information from ARNWR that will facilitate constructive project discussions in the near future.

Specifically addressing comments and queries from your August letter:

<u>NEPA/404 Merger 01 Process and Compatibility Use Determination</u>
NCDOT respects ARNWR's concern about sending a mixed-message whereby a signed concurrence could potentially be misunderstood as a favorable indication of future Compatibility Use Determination. In this regard, NCDOT openly acknowledges that ARNWR signatures on Merger 01 concurrence forms do not imply approval of Compatibility Use Determination – that the two issues are separate and distinct. However, it should be pointed out that a "Conditional Concurrence" is not formally recognized by the NEPA/404 Merger 01 process. As the project progresses into other Merger 01 milestones, certainly ARNWR will be kept well-apprised of proceedings, will have the ability to influence project decisions, and can informally request information at any time.

NCDOT furthermore acknowledges that insufficient information is presently available for the Refuge Manager to conduct an appropriate Compatibility Use Determination. When the Department has adequate information available, NCDOT will formally request the Refuge to begin the Determination process. However, that point is not anticipated for

several years, as neither a preferred alternative corridor nor alignment has been chosen; nor has a typical section been recommended for either Dare or Tyrell County. Threatened and endangered species coordination is just beginning, as are detailed analysis of human environment impacts. Wildlife studies are also just commencing, which will eventually provide data that is pertinent to determining the type and location of any necessary wildlife crossings.

Right-of-Way (R/W) Issues

The NCDOT has established at project meetings attended by ARNWR that the proposed highway cannot be built within existing right-of-way limits; therefore the need for a Compatibility Use Determination and subsequent permit to modify or obtain new right-of-way from the Refuge is certain.

NCDOT appreciates ARNWR's timely reminder that right-of-way activities could cause a project delay – particularly if the Refuge's property records do not coincide with NCDOT right-of-way records. To that end, I am presently engaging our Right-of-Way Department to research existing right-of-way along US 64 in Dare County. Upon conclusion of their research, our Division 1 Right-of-Way office will set up a meeting with ARNWR to discuss findings. In this way, both our organizations can work proactively to identify and resolve any property discrepancies – well ahead of land acquisition activities.

With regard to ARNWR's query for right-of-way metes and bounds descriptions, NCDOT contends that information supplied up to CP2 meetings has provided adequate information to clearly establish construction expectations within existing right-of-way. As your letter indicated, our consulting firm, PB provided the Refuge with mapping that plots known GIS property boundaries (from county land data) and NCDOT R/W limits onto a digital, aerial image of the Refuge. For planning decision-making purposes, this graphical plot is more relevant than non-graphical, narrative metes and bounds descriptions. At CP2 meetings, NCDOT clearly presented all corridors and alignments studied to date, as well as proposed typical cross-sections.

With regard to property descriptions, NCDOT does not agree with the ARNWR assertion that the extent and location of existing R/W must be established before discussion can ensue about amending it. As R/W limits are legal boundaries that have little to do with habitat quantity, quality, wildlife permeability, and hydrologic regimes – this is an issue to resolve prior to obtaining the right-of-way permit from ARNWR – rather than in the planning stage. NCDOT believes that ARNWR will have adequate information at CP3 (selection of the Least Environmentally Damaging Practicable Alternative) and CP4A (avoidance and minimization) to comfortably provide NEPA/404 Merger 01 concurrence decisions. This information would involve a presentation of study alternatives that includes cost data, adequate natural resource information, natural and human environment impact matrices, etc.

Identification of ARNWR Needs

To prepare for project-level decisions, NCDOT needs to develop study alternatives that embrace ARNWR's mission and purpose; thus it is vital for the Department to be aware of Refuge needs. In this light, NCDOT formally requests two copies of ARNWR's most

updated mission and purpose statement, Master Plan for Future Development, and any other pertinent "needs" that the Refuge foresees. If the Refuge has any areas of special significance that lie adjacent to US 64, NCDOT requests a map that graphically and narratively portrays these areas. For example: Mr. Dennis Stewart has identified that several areas of "mineral soil" may exist that he wishes to avoid impacting. (Given that a March 2009 field meeting will discuss "best fit" alignment, this map is requested by February 27, 2009.)

NCDOT also requests a listing of specific access points that ARNWR desires onto the newly-widened US 64 project that - facilitate management of the Refuge. For each access location, please indicate whether a right-out ONLY turning movement is adequate, or whether a cross-highway movement is desired whereby vehicles could turn left onto US 64 from a side road. For each access point, please also provide a short description of how each access point supports ARNWR's master plan and/or purpose and mission. With the exception of the map that portrays areas of special significance, all information is respectfully requested by the end of March, 2009, so that NCDOT staff can meet with ARNWR staff to better understand and discuss how the proposed highway designs might address Refuge needs. Your efforts to coordinate an information-exchange meeting during April would also be appreciated, when we could discuss the relevant issues at hand and perhaps determine a conceptual timeline for future compatibility determination discussions.

Wildlife Studies

Since December 2007, NCDOT has met numerous times with ARNWR to coordinate an adequate scope of work for black bear and red wolf studies on the Refuge. The Department is presently finalizing efforts to initiate wildlife research, both in Dare and Tyrell County project locations. During 2008, many informal conversations and emails transpired to initiate the subject wildlife studies. Informally, ARNWR is distinctly aware that NCDOT used the study scope provided by ARNWR in December, 2006 as a basis to solicit research proposals. Virginia Tech (Dr. Michael Vaughan) was selected for research on the Refuge; therefore fall 2008 coordination ensued with Dr. Vaughan, Mr. Dennis Stewart (ARNWR), and members of the USFWS Red Wolf Recovery Program. Last week NCDOT executed a contract with Virginia Tech, and Dr. Vaughan intends to provide on-site research staff early in 2009. Your assistance with permits for their access is requested. In December/January, ARNWR verified receipt of all 40 red wolf GPS collars and associated GPS linkage equipment collars. I understand that Red Wolf program staff began trapping wolves during the first week in January.

As wildlife studies are just commencing, NCDOT anticipates collecting data on ARNWR for the agreed-upon two-year period, at which time a final report will be prepared. Certainly as interim data is collected, our project team can discuss conceptual solutions with ARNWR as wildlife behavioral trends may emerge. Naturally the wildlife studies are the precursor to definitive discussions with ARNWR, USFWS (regulatory), NC Wildlife Resources Commission, and others as to the type and location of any potential wildlife crossings on the new highway. Given that, by this time, the project should have progressed beyond CP3, better information should be available for aspects such as:

human environment impact, Section 7 (Endangered Species Act) coordination, cost data, value of canal vs. wetland, highway design and constructability constraints, etc.

Hydrologic Studies

NCDOT Hydraulics Unit has conducted preliminary field investigations of the canals adjacent to US 64 in Dare County. Our conclusion is that the canals are actively connected at numerous locations to the Albemarle Sound. Other than the Alligator River, no jurisdictional streams exist on the project. While not verified, our experts also suspect that the canals fluctuate due to tidal regimes (including the effect of wind tide). As a design parameter, NCDOT Hydraulics has recommended that hydraulic connectivity of canals be maintained in order to drain the highway and surrounding land uses. The future highway must also be raised several fee to an adequate elevation that offsets the effects of sea level rise. More detailed hydrologic studies will commence as the project progresses to design phases.

If the ARNWR or USFWS is aware of any completed or ongoing studies that include data on hydrologic regime for ARNWR in vicinity of US 64, NCDOT respectfully requests to be notified of the studies, and if completed, a courtesy copy.

Sea Level Rise (consequent Climate Change)

Experts project varying rates of sea level rise, seemingly with a rate of sea level rise that ranges from 1-3 feet per 100 years. This inundation will occur from brackish, tidally-influenced waters. Given its apparent, low-lying elevation below 3 feet MSL, most of Alligator River National Wildlife Refuge may lie below normal water surface in as little as 60-75 years. Vast tracts of land would be covered or have significantly-altered ecosystems. As saltwater intrudes, the characteristics of the hydrologic regime and organic substrate will change, and the existing forested wetlands will likely evolve into saltwater marsh with sparse canopy that may not be suitable habitat for many currently-populated species such as black bear and red wolf.

If the ARNWR or USFWS is aware of any completed or ongoing studies that include data on sea level rise and its projected impact on ARNWR, NCDOT respectfully requests to be notified of the studies, and if completed, a courtesy copy.

NCDOT Hydraulics has preliminarily concluded that it is unfeasible to expect the new highway design drain the highway and surrounding land uses, and yet still act as a barrier to the naturally-occurring events of sea level rise.

Highway Design

NCDOT agrees with ARNWR that the proposed highway can be located and designed in such a manner as to be more environmentally-friendly than the existing two-lane US 64. The Department remains confident that close cooperation with ARNWR and cooperating natural resource agencies will result in a highway that appropriately balances public needs with community needs, Refuge mission, and solid environmental stewardship.

Summary of Requests to ARNWR

With the exception of item 3, NCDOT respectfully requests the following information from ARNWR by the end of March 2009, in order to facilitate quality discussions this spring in advance of CP2A:

Requested information/coordination:

1. Adopted mission and purpose statement or similar documentation
2. Adopted Master plan(s) for future refuge development, as well as any relevant long range plans currently in progress
3. Mapping of areas of special significance to the Refuge (mineral soil areas, etc.) (Please provide by February 27, 2009.)
4. Specific access points desired to access the new US 64, turning movements desired from each access point. and a short description of how each access point supports ARNWR's purpose and mission.
5. Copy of any completed studies (or an alert to any ongoing studies) on existing hydrologic regime and tidal influence within the Refuge, as pertinent to effect on canal hydrology/hydraulics.
6. Copy of any completed studies (or an alert to any ongoing studies) on sea level rise and its short or long-term impact on refuge climate, habitat, mission, etc.
7. Any questions or refuge needs that ARNWR feels NCDOT has not sufficiently addressed, or have otherwise surfaced with recent project discussions.
8. ARNWR coordination is requested to preschedule a meeting during April 2009 to exchange information, coordinate the above issues, and determine an approximate timeline for future compatibility determination discussions.

I look forward to more in-depth discussions with yourself and Refuge staff as we discover resources together and then work to find solutions. As formal letter-writing requires significant effort for both parties, I would invite the Refuge to communicate with me via email as a faster, more informal tool that still documents coordination activities in writing. Of course, I fully intend to call Dennis Stewart and yourself as appropriate for normal coordination activities, as well as use email.

Thank you for the Refuge's effort invested in this important endeavor.

Sincerely,

Ted Devens, PE, MCE
Project Development and Environmental Analysis Branch

cc: Mr. David Bailey, Right-of-Way Branch
Mr. Mike Kinlaw, Right-of-Way Branch (Division 1)
Mr. Brian Yamamoto, PE, PDEA
Mr. Glenn Mumford, PE, Roadway Design Unit
Mr. Randy Henegar, PE, Hydraulics Unit
Mr. Reggie Scales, PB

Yamamoto / Devens

North Carolina Coastal Federation
3609 Highway 24 (Ocean) Newport, NC 28570

Northern Office: P.O. Box 475, Manteo, NC 27954 (252) 473-1607

RECEIVED DEC 2006 PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH DIVISION OF HIGHWAYS

December 15, 2006

Gregory J. Thorpe, PhD
NC DOT Project Development and Environment Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Dr. Thorpe,

On behalf of the North Carolina Coastal Federation, I submit these comments on the proposed replacement for US Highway 64 from Columbia east to the junction of US 264 near Manns Harbor (TIP Numbers R-2544 and R-2545). The Federation is a nonprofit organization that seeks to safeguard coastal waters. We have 8,000 members.

Much of the existing highway was built through wetlands, with the road bed stabilized by digging the canals that parallel the right-of-way. The wetlands alterations had significant impacts on the hydrology of the region, and consequently on water quality. Additional work has the capacity to further disturb and degrade the habitat and water quality of the region.

NCCF staff and members frequently travel this portion of US 64. We very rarely find it crowded, even at the height of the summer tourist season. Before writing this letter I asked other colleagues and local residents if they had ever found the road to be heavily trafficked. Every one of them replied that they had not.

Frankly, we were surprised to hear that DOT is planning to replace this section of road. The pavement drains well, and the road was recently equipped with guard rails, which have made it much safer. We see no reason to improve it or change it. Certainly there is no reason to expand it to four lanes—especially considering that it passes through a national wildlife refuge and that the northeast district has so many other pressing transportation needs. We believe the time, effort, and money dedicated to this project would be much better spent finding a long-term solution for the problems that plague NC 12 on the Outer Banks.

When DOT does find it necessary to upgrade this portion of US 64, it will be an excellent opportunity to right past wrongs. This would best be accomplished by bridging the sections that pass through wetlands, restoring the natural hydrology of the area, and eliminating stormwater outfalls. As an added benefit, bridges would allow passage of wildlife beneath the road, an especially important consideration within the Alligator

River National Wildlife Refuge. This kind of road construction and restoration will be expensive. Given the problems of maintaining roads on the Outer Banks, it does not seem likely that DOT will soon have adequate resources to do justice to the replacement of this section of US 64.

Thank you for this opportunity to comment. Please contact me if you have any questions.

Sincerely,

Jan DeBlieu
Cape Hatteras Coastkeeper

THE ALBEMARLE COMMISSION

LEAD REGIONAL ORGANIZATION FOR REGION R

Member Governments

Camden
Chowan
Currituck
Dare
Gates
Hyde
Pasquotank
Perquimans
Tyrrell
Washington

Columbia
Creswell
Edenton
Elizabeth City
Gatesville
Hertford
Kill Devil Hills
Kitty Hawk
Manteo
Nags Head
Plymouth
Roper
Southern Shores
Winfall

Chairman, Benjamin Hobbs
Executive Director, Bert Banks

The Albemarle Rural Planning Organization

RESOLUTION SUPPORTING THE IMPROVEMENTS TO U.S. HIGHWAY 64

WHEREAS, the Albemarle Rural Planning Organization is the designated Rural Transportation Planning Organization for Region R, as sanctioned by the North Carolina Department of Transportation; and

WHEREAS, the North Carolina Department of Transportation has identified the Highway 64 Corridor as a Strategic Highway Corridor to enhance the long-term vision and goals of the region; and

WHEREAS, the Highway 64 Corridor is of utmost importance to the economic development of Tyrrell and Dare Counties, as well as the Towns of Columbia, East Lake, Mann's Harbor, and Manteo; and

WHEREAS, the safety of the region's residents and visitors are paramount in the time of a hurricane evacuation where expedited travel and continual flow of traffic away from coastal areas must take place promptly and safely which can only be accomplished through the construction of a four lane highway; and

WHEREAS, the safety of those traveling through the Intracoastal Waterway is interconnected with the Marina at Alligator River due to its location as the only fuel station and safe haven for fifty-five miles, and the Marina has strong ties to the local economy as a source of revenue and center of commerce for the fishing and crabbing industries for the counties and towns; and

WHEREAS, the replacement of the Lindsey C. Warren Bridge will hasten the traffic flow of visitors to the Outer Banks of Dare County, therefore not only improving the local economy, but also providing an improved evacuation route and improved access to the Outer Banks for those who use Highway 64 as a commuting route; and

NOW, THEREFORE BE IT RESOLVED by the Albemarle Rural Planning Organization, the designated Rural Transportation Organization for Region R, that the Improvements to Highway 64 take place as a four lane highway in order to improve the quality of life and safety of the residents and visitors of Tyrrell and Dare Counties, and all efforts take place to maintain the facilities present at the Marina at Alligator River.

Adopted by the Albemarle Rural Transportation Planning Organization, this the 16th day of July, 2008.

Charles Ward, Chair, Albemarle RPO Technical Advisory Committee (RTAC)

Morgan Jethro, Albemarle RPO Coordinator

512 South Church Street • Post Office Box 646 • Hertford, NC 27944 • Office: (252) 426-5753 • Fax: (252) 426-8482 • Website: albemarlecommission.org
Senior Nutrition Program (252) 426-7093 • Fax: (252) 426-7649

The Albemarle Commission does not discriminate on the basis of age, sex, religion, race, color, disability, or national origin.

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

The Nature Conservancy
North Carolina Chapter
4705 University Drive, Suite 290
Durham, NC 27707

tel [919] 403 8558
fax [919] 403.0379
nature.org

January 5, 2007

Ted Devens, Project Engineer
NCDOT Project Development and Environment Analysis
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Devens:

I write now to submit comments on behalf of The Nature Conservancy for the proposed replacement and enhancement of US 64 east of Columbia, NC. I apologize that these comments arrive after the deadline, but I became aware of the deadline after it passed. I hope that you and NCDOT will take them into consideration.

East of Columbia, most of Highway 64 was built through wetlands. The canals that line the road were actually dug in part to provide the road bed. The road crosses through one of NC's most important and largest wetlands, much of which is part of the Alligator River National Wildlife Refuge. The Nature Conservancy requests that NCDOT take the opportunity of replacing and enhancing US 64 as an opportunity to substantially restore the natural drainage and flows through this large wetland. The best way to do this is to bridge all of the wetlands, and to breach the old road bed to prevent it acting as a dam, and to fill the artificial ditches where they act to artificially drain adjoining lands or serve as opportunities for salt intrusion as the sea rises. We expect this means bridging most of the length of the new road except as needed for local access, filling or plugging virtually all of the ditches, and breaching the old road bed in several places. We have several reasons for making this request:

Alteration of surface flows in existing wetlands: There is little question that the old road and associated ditches produce significant drainage impacts and convert natural surface flows to channeled flows in the existing wetlands. These alterations adversely affect native vegetation, water quality, and fire regimes. The need for *in situ* in-kind restoration is high. On the other hand, expanding the existing berm for the new road by making it wider and/or higher will only make this situation worse.

Rising seas and salt intrusion: The water level in the NC sounds is presently rising at the rate of 2 inches in 10 years (data from USACE Duck and Norfolk gages). Human contributions to climate change will double or triple this rate within the next few decades. Salt is already intruding into the interior of the wetland through existing ditches along US 64 and elsewhere. Salt is killing native forest and causing the peat soils to rot at a high rate. Bridging the wetland, breaching the old road, and plugging or controlling the existing ditches will slow and dilute salt intrusion.

Rising seas and human safety: As the sea rises, hurricanes and northeasters will increasingly flood the area crossed by US 64. Even now, severe storms put portions of this road under water. Raising the road on piers (bridging the wetland) will allow storm waters to run under the road, thereby reducing the possibility that an important evacuation route will be under water when it is most needed.

Rising seas and security of the new road: Placing the new road at the old elevation will put the new road at structural risk as the sea rises and with it the water table and the frequency and energy of storm overflows.

Wildlife: US 64 passes through one of the richest regions of NC for wildlife. Red wolf (US Endangered), white-tailed deer, black bear, and many other species cross the road routinely. Raising the road on piers would both help wildlife move around in their native habitat without obstruction and reduce the risk of automobile-animal crashes and the associated danger to human life.

Thank you for the opportunity to provide input to the planning process for US 64 east of Columbia. I will be glad to elaborate or clarify any point made here. Please add me to the mailing list for any consultations or conversations about this project. Almost all of the land at Alligator River National Wildlife Refuge was originally acquired by The Nature Conservancy, so we have a very strong interest in ensuring the continued viability of this resource.

Sincerely,

Sam Pearsall

Sam Pearsall, Ph.D.
Director of Science
SamPearsall@tnc.org

Town of Columbia
"A Heart's Delight" founded in 1793
103 Main Street • P.O. Box 361
Columbia, NC 27925

July 18, 2008

Ms. Morgan Jethro, Regional Planner
Albemarle RPO
Albemarle Commission
512 S. Church Street
Hertford, NC 27944

Dear Morgan:

Although the Town of Columbia has communicated our thoughts through email about the planned US-64 widening from Columbia east to Manns Harbor in Dare County, we want to officially state our position by letter.

First, Columbia supports a four-lane divided highway and a new four-lane Alligator River Bridge. Any suggestions that a three-lane highway be constructed are uninformed and unacceptable.

Over twenty years ago then Governor Jim Hunt assured Columbia and Tyrrell County residents that there would be a four-lane highway US-64 from the capital to the coast. That highway has been completed through Columbia, with the last Columbia to Manns Harbor leg awaiting completion. It is essential that US-64 be completed to the standards of the Strategic Highway System.

There are several problems with a proposed three-lane highway. The ever increasing traffic volume on US-64 can not be served by a three-lane road or bridge, it will be inadequate for hurricane evacuations from the Outer Banks, the increasing widths and lengths of boat trailers and freight trucks require more roadway, not less, and a three-lane highway will be an economic disadvantage in Columbia and Tyrrell County as well as northeaster North Carolina. All rational thought points toward completion of US-64 as a four-lane highway.

On the question of locating the new road bed, consideration should be given to maintaining an economically viable marina, service station and convenience store on the Alligator River. The marina at the west end of the bridge is the only fuel or safe harbor

stop along an 85-mile stretch of Inter-coastal Waterway between Belhaven and Coinjock. For many of the boaters that travel the upper Albemarle Sound region and overnight at the Columbia waterfront, a marina along the Alligator River is essential. This is an important economic consideration to Columbia as we seek to develop our eco-tourism economy.

The Town of Columbia Board of Aldermen, by consent, requests your support in communicating our position to those agencies and individuals working to plan the last remaining segment of US-64 in eastern North Carolina.

Sincerely yours,

F. Michael Griffin

F. Michael Griffin, Mayor

Tyrrell County Board of Commissioners
P.O. Box 449
Columbia, North Carolina 27925
Telephone (252) 796-1371

Thomas W. Spruill, Chairman
Florence E. Bryant, Vice Chairman
Anthony (Tony) F. Sawyer

Carl Willis
Zacharias (Zack) Brickhouse
Penny Rhodes Jones, Clerk

August 7, 2008

Ms. Morgan Jethro, Regional Planner
Albemarle RPO
Albemarle Commission
512 S. Church Street
Hertford, NC 27944

Dear Ms. Jethro:

The Tyrrell County Board of Commissioners would like to express, in writing, our thoughts on the planned US-64 widening from Columbia east to Manns Harbor in Dare County.

I would like to start by saying that the Board of Commissioners is in full support of a four-lane divided highway and a new four-lane Alligator River Bridge. The Board feels the 4-lane is needed for many reasons including hurricane evacuation and economic opportunities. The Board also feels that this could be accomplished while still preserving the water access at the foot of the Alligator River Bridge where the Alligator River Marina is located. The marina is the only fuel or safe harbor stop along an 85-mile stretch of the Inter-coastal Waterway between Belhaven and Coinjock. The local fishermen also utilize the boating access on the opposite side of the road for commercial fishing and crabbing.

The Board feels there are several problems with a three lane highway. A three lane highway would be inadequate and would compromise the integrity of the entire project. There is also a major safety concern with the increased traffic volumes that include large boats with wider trailers and freight trucks.

The Tyrrell County Board of Commissioners respectfully request your support in communicating our position to those agencies and individuals working to plan the last remaining segment of US-64 in eastern North Carolina.

Sincerely,

Thomas W. Spruill

Thomas W. Spruill, Chairman
Tyrrell County Board of Commissioners

GREATER TYRRELL COUNTY CHAMBER OF COMMERCE

PO Box 170, Columbia, NC 27925 ~ Phone & Fax 252-796-1996

July 21, 2008

Ms. Morgan Jethro, Regional Planner
Albemarle RPO
Albemarle Commission
512 S. Church Street
Hertford, NC 27944

Dear Ms. Jethro:

The Greater Tyrrell County Chamber of Commerce requests your assistance in communicating our concerns about the planned new US-64 from Columbia to Manns Harbor. This highway and the new bridge across the Alligator River should be constructed as a four-lane roadway to meet Strategic Highway System standards.

Since the existing four-lane US-64 has been constructed, traffic has increased significantly and will continue to increase as the Outer Banks becomes more known and accessible to residents in our mid-state area. Also, more vacationers from northern states are discovering US-64 as an alternative to the more crowded route through Currituck County.

Completion of US-64 as a four lane highway system will enhance economic development opportunities for Tyrrell County and northeastern North Carolina. Safety is an important factor in advocating for a new four-lane highway. A three-lane highway is just not safe or acceptable with wider boats being pulled and longer freight trucks on the highway.

On another concern, the Greater Tyrrell County Chamber of Commerce urges highway planners to select a route that will maintain a marina on the Alligator River. Boaters who overnight at the Columbia waterfront depend on the Alligator River Marina as an overnight and fuel stop. Boat traffic is a growing segment of our eco-tourism economy and should be supported.

Sincerely yours,

Lee Brickhouse

Lee Brickhouse, President

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 1: *Purpose and Need & Study Area Defined*

PROJECT NO./TIP NO./ NAME/DESCRIPTION:

Federal Aid Project Number:	NA (State Funded)
State Project Numbers:	6.0594004T/6.139001T
WBS Elements:	35487.1.1/35492.1.1
TIP Project Numbers:	R-2544 & R-2545
TIP Description:	Improvement of a 27.3 mile segment of existing US 64 in Tyrrell (TIP No. R-2545) and Dare (TIP No. R-2544) Counties, North Carolina, from a two-lane to a multiple-lane roadway and replace the Lindsey C. Warren Bridge over the Alligator River.

Purpose and Need of Proposed Project

The Needs for the Project:

1. *Non-compliance with North Carolina's Strategic Highway Corridor Plan and the Intrastate Highway System*
2. *The US 64 project corridor does not meet the state mandated clearance times for hurricane evacuation, and conditions are projected to degrade with time.*
3. *The Lindsey C. Warren Bridge across the Alligator River is nearing the end of its service life.*

The Purposes of the project:

1. Consistency with North Carolina's Strategic Highway Corridor Plan (which seeks long-term interconnectivity of consistent transportation corridors in North Carolina) and the Intrastate Highway System.

2. Reduce US 64 hurricane evacuation time to better meet state clearance goals in the project study area.

3. Maintaining/improving a bridge across the Alligator River that meets the needs of highway users.

Project Study Area

The project study area boundaries are shown in Exhibit A (attached): US 64 Improvements Project Study Area Boundaries.

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 1: *Purpose and Need & Study Area Defined*

The Project Team concurred on this date of 6/14/07 with the purpose of and need for the proposed project as stated above and the project study area as shown in the Exhibit A.

US Army Corps of Engineers	William J. Bulkeley
NC Department of Transportation	Thomas E. Devaney
US Fish and Wildlife Service	Abstained – Gary Jordan
NC Wildlife Resources Commission	[illegible]
NC Department of Cultural Resources	Renee Gledhill-Earley
NCDENR, Division of Water Quality	[illegible]
US Environmental Protection Agency	[illegible]
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	[illegible]
NCDENR, North Carolina Division of Coastal Management	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	ABSTAINED – Dennis L. Stewart

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 1: *Purpose and Need & Study Area Defined*

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US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	Abstained – Gary Jordan
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
NCDENR, North Carolina Division of Coastal Management	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	ABSTAINED – Dennis L. Stewart

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 1: *Purpose and Need & Study Area Defined*

The Project Team concurred on this date of 6/14/07 with the purpose of and need for the proposed project as stated above and the project study area as shown in the Exhibit A.

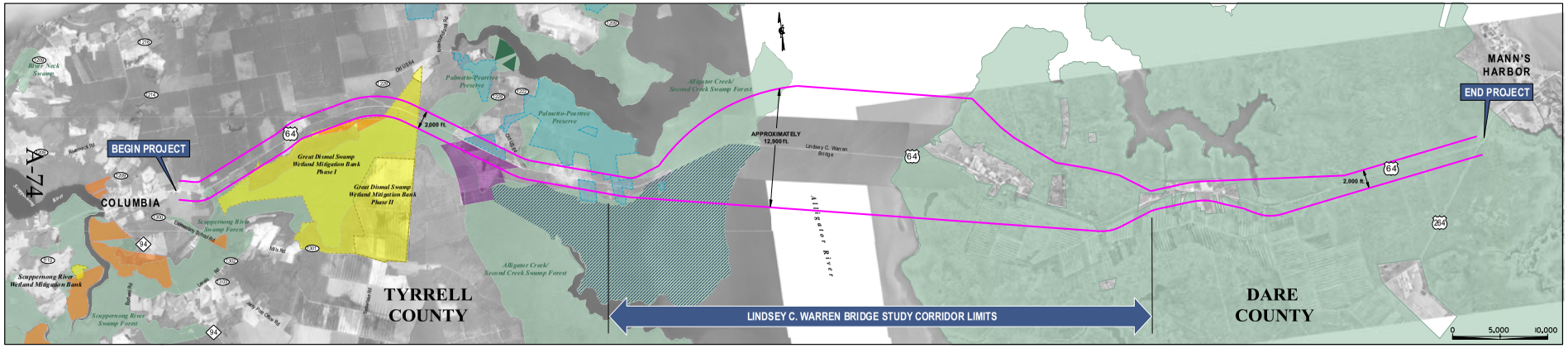
US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	Abstained - Gary Jordan
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	7/16/07
NCDENR, North Carolina Division of Marine Fisheries	
NCDENR, North Carolina Division of Coastal Management	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	ABSTAINED - Dennis L. Stewart

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 1: *Purpose and Need & Study Area Defined*

The Project Team concurred on this date of 6/14/07 with the purpose of and need for the proposed project as stated above and the project study area as shown in the Exhibit A.

US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	Abstained – Gary Jordan
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	7/10/07
NCDENR, North Carolina Division of Coastal Management	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	ABSTAINED –



A-74

US 64 Improvements Project

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

County: TYRRELL / DARE COUNTIES
Div: 1
TIP Nos.: R2544 & R2545
WBS: 35487.1.1 / 39692.1.1
Date: June 14, 2007

Legend

- Study Area
- Natural Heritage Swamp Forests
- Alligator River Game Land
- J. Morgan Futch Game Land
- Wetland Mitigation Bank
- Pocosin Lakes National Wildlife Refuge
- Palmetto-Peartree Preserve
- Alligator River Preserve

Corridor Width along US 64, 1000 ft. North and South of Existing Centerline or as shown at River Crossing.

US 64 Improvements Project Study Area Boundaries Map

Exhibit A

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
Washington Regulatory Field Office
Post Office Box 1000
Washington, North Carolina 27889-1000

IN REPLY REFER TO

August 28, 2008

TO: Ted E. Devens, P.E., Project Manager
Project Development and Environmental Analysis, NCDOT

FROM: William Biddlecome, Project Manager *William Biddlecome*
Regulatory Division, United States Corps of Engineers

1. **Project Name and Brief Description:** TIP R-2544/45, US 64 Widening Improvements in Tyrrell and Dare Counties from Columbia to Manns Harbor including the Replacement of the Lindsey C. Warren Bridge over the Alligator River.

2. **Last Concurrence Point:** CP 1, Purpose and Need.
Date of Concurrence: June 14, 2007, Non-Concurrence reached for CP # 2 (Detailed Study Alternatives Carried Forward) during August 21, 2008 meeting. Note – This meeting was a continuation of a CP # 2 meeting which was held on June 19, 2008.

3. **Explain what is being proposed and your position, including what you object to:** NCDOT is proposing to only carry forward (for detailed study) typical cross- section alternatives with a 23 foot divided median. USACE and other Merger team members recommended DOT study a narrower median width in Dare County due to the environmental conflicts that exist associated with the Alligator River National Wildlife Refuge. Additionally, numerous high quality wetlands are present along this section of the proposed project. Due to substantial environmental impacts associated with this proposed project, USACE believes it is prudent and reasonable to study an alternative which will reduce the typical cross section through this highly sensitive environment.

4. **Explain the reasons for your potential non-concurrence. Please include any data or information that would substantiate and support your position:** Based on the Merger 01 Memorandum of Understanding, the Merger team members should provide guidance to NCDOT in preparing a widening scenario which would minimize impacts to the human and natural environment while still meeting the purpose and need of the project. It is our opinion that there are other expressway designed facilities currently in use throughout the State of North Carolina that have paved medians with double-faced guardrails separating oncoming traffic with median widths less than what is proposed for study for this project. Additionally, in a report titled "NCDOT Project Delivery

Improvement Recommendations" prepared for the North Carolina General Assembly by PBS&J dated July 4, 2007, it states that Alternative AP-11 for this project has been discussed with Mr. Art McMillan, State Highway Design Engineer, and that there is a good prospect for this alternative to be accepted. This alternative states: a) this alternative reduces the median width to 12 feet b) there would be a 4-foot monolithic raised concrete median with 4-foot inside shoulders c) since drainage would be handled by sheet flow rather than by a contained storm-pipe, the drainage boxes can be eliminated and the profile grade lowered by approximately 5 feet. This dramatically reduces the amount of earth fill required and greatly reduces the impact on the adjacent lands (which are very sensitive environmentally) d) the construction-cost savings for this alternative would equal approximately $35 million. USACE believes there are other cross section alternatives that can be developed and carried forward for study.

5. **List any relevant laws or regulations that you believe would be violated or jeopardized if the proposed action were implemented and explain the basis for violation:** Section 404(b)(1) of the Clean Water Act and National Environmental Policy Act (NEPA) Section 1502.14.. Based on the information available, USACE believes in order to make a justified selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) in the future for this project that some other reduced median alternative needs to be studied for comparative merits. Section 1502.14 requires the EIS to examine all reasonable alternatives and in determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or itself is capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simple desirable from the standpoint of the applicant. Since this project is State Funded, USACE is considered the lead Federal Agency for the project and is responsible for NEPA compliance. It is our intention to work with NCDOT as joint lead agencies to prepare one EIS document which will satisfy relevant "little NEPA" state laws and NEPA.

6. **What alternative course of action do you recommend:** USACE encourages NCDOT to reconsider its position and agree to study in detail a reduced median width (similar to other expressway facilities already in existence in NC and the US) facility along with a 23-foot typical section. USACE believes both these alternatives are reasonable and must be rigorously explored and objectively evaluated in the EIS.

SECTION 404/NEPA MERGER 01 ISSUE BRIEF: 8/27/08

Submitted by: Christopher A. Militscher, REM, CHMM
Merger Team Representative
USEPA Raleigh Office

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

Thomas C. Welborn, Chief
Wetlands, Coastal and Non Point Source Branch
USEPA Region 4

CC: Kathy Matthews, Life Scientist
Wetlands Protection Section
USEPA Region 4 – Durham Office

To: Ted E. Devens, P.E., Project Manager
Planning Development and Environmental Analysis Branch
NCDOT

1**. Project Name and Brief Description**: R-2544/R-2545, US 64 Improvements, Tyrell and Dare Counties; New location bridge and widening sections between Columbia and Manns Harbor.

2. **Last Concurrence Point**: CP 1 Purpose and Need: 6/14/07
Date of Concurrence Point 2 (Detailed Study Alternatives Carried Forward) Meeting: 8/21/08

3. **Proposal and Position**: EPA and other Merger team agencies recommend that NCDOT consider carrying forward for detail study a reduced median (typical section) for the portion of the project that traverses Alligator River National Wildlife Refuge (ARNWR) between East Lake and Manns Harbor in addition to the 23-foot divided median section. EPA is referring to a concrete/asphalt divided median approximately 7 to 11 feet wide with double faced metal guardrails as used on US 74 in Waynesville, NC and other expressway and freeway routes in NC. EPA recommends that this typical section be included as a Detailed Study Alternative for the NEPA document (i.e., DEIS).

4. **Reasons for Non-concurrence**: Based upon the purpose and need for improved hurricane evacuation and Strategic Highway Corridor (SHC) Vision Plan, a 4-lane divided facility (Four [4] 11-foot travel lanes) with 10-foot outside paved shoulders will more than adequately meet the improvements agreed to by the Merger team. A guardrail divided, limited paved median expressway design is consistent with the **August 2005 Facility Type and Control of Access Definitions** (adopted by the NC Board of Transportation September 2, 2004). NCDOT has not provided a specific justifiable

reason why this reduced median design will not work (Future capacity, safety, access, stormwater drainage, etc.). NCDOT has principally stated its concerns for 'driver friction' and future '100-year' capacity needs and hurricane evacuation times. State hurricane clearance times will still be met with a limited median facility. The USACE has also pointed out that a small section of US 264/US 64 east of the terminus is a 4-lane undivided section along this same SHC.

For miles of existing US 64 where ARNWR borders both sides of the facility, NCDOT should take the opportunity to study a multi-lane, divided facility that could potentially reduce fill material in high quality jurisdictional wetlands that are totally within a NWR. A reduced median with double-face guardrails will also allow greater safe passage of large and small animals from either side of the ARNWR and thereby reducing the potential for collisions, and not create additional safety problems. More small animals have great difficulty in crossing high-speed roadways with widened medians.

The USFWS also pointed out the substantial issue of constructability in areas where there are very thick peat soils and could dramatically increase costs. NCDOT's Project Manager also cited the problem of obtaining good fill dirt in the project study area. A reduced median design would also reduce ROW costs, fill costs, and long-term maintenance and mowing costs.

Jurisdictional wetland impacts: EPA roughly and conservatively estimates that the difference in wetland impacts between a 23-foot median to a double-faced guardrail limited width median could potentially reduce jurisdictional wetland impacts by a much as **18.2 acres** (15 feet x 5,280 feet/mile x 10 miles). This is a potentially significant reduction in impacts.

5. **Potentially Violated Laws/Regulations**: Section 404(b)(1) of the Clean Water Act and National Environmental Policy Act (NEPA) Section 1502.14. EPA and other resource agencies are requesting that NCDOT consider studying this typical section (along with the 23-foot typical median section) for a portion of the project. This is a viable, safe, NCDOT divided facility design that could also reduce project costs significantly. Without further study, evaluation and comparison to a 23-foot typical section, NCDOT will not be meeting the intent of Section 1502.14(a) and (b) {"*Rigorously explore and objectively evaluate all reasonable alternatives*…."; and "*Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits*"}.

6. **Alternative Course of Action**: EPA recommends that NCDOT should concur with most of the other Merger team agencies and consider including a limited median double-faced guardrail typical section for the ARNWR portions of the project in the NEPA document (DEIS) with appropriate comparisons made to a 23-foot typical section median design. This detailed analysis in the DEIS should include an objective evaluation of ROW costs, long-term maintenance costs, constructability issues in heavy peat soils, CAMA ACE issues, jurisdictional wetland impacts, access design requirements, safety and animal collision issues, mitigation costs, and avoidance and minimization strategies.

Section 404/NEPA Merger 01 Issue Brief

Submitted by: Dennis Stewart, USFWS, Alligator River National Wildlife Refuge

1. **Project Name and brief description**: R-2544/R-2545, US 64 improvements, Tyrrell and Dare Counties; new location bridge over Alligator River and widening between Columbia and Manns Harbor

2. **Last Concurrence Point and Date**: CP 1 Purpose and Need – June 14, 2007
   CP 2 meeting held August 21, 2008, but no concurrence reached

3. **Explain what is being proposed and your position including what you object to.** In Sections 4 and 5, NCDOT proposes to only carry forward alternatives with a typical section which includes a 23-foot raised grass median. Sections 4 and 5 traverse the Alligator River National Wildlife Refuge (ARNWR). The USFWS Alligator River National Wildlife Refuge (Refuge) recommends that, in addition to a 23-foot raised median, a median of less than 23 feet be studied for the portions of the project which traverse the ARNWR

4. **Explain the reasons for your potential non-concurrence.** Due to the fact that approximately 12 miles of the project occur within the boundaries of the ARNWR, NCDOT should study a wider range of alternatives which could minimize impacts to the refuge's wetlands and wildlife habitat. . The Refuge believes that a median width of 23 feet may be appropriate for some areas such as road intersections where maneuvering tractor/trailer trucks hauling heavy equipment is involved. However, there are sensitive areas and areas of high quality wildlife habitat wherein impacts will need to be further minimized through measures such as (but not limited to) reducing median width, incorporating wildlife passage structures, hydrologic restoration, and building resiliency to changing conditions over time as a result of climate change/rising sea level. Having only one typical section does not provide sufficient analysis of the potential to minimize impacts.

5. **List any relevant laws or regulations that you believe would be violated or jeopardized if the proposed action were implemented and explain the basis for violation.** National Wildlife Refuge System Improvement Act of 1997, Appropriate Refuge Use Policy (603 FW 1), National Wildlife Refuge System Right-of-Way Regulations (50 CFR 29), National Wildlife Refuge System Compatibility Policy (603 FW 2), Section 404(b)(1) of the Clean Water Act, and National Environmental Policy Act Section 1502.14

6. **What alternative course of action do you recommend?** In addition to a 23-foot raised median, there should be the option to further minimize the median width in at least some specific areas in Sections 4 and 5 within the Refuge. The USFWS Alligator River National Wildlife Refuge is willing to concur with a 23-foot raised median at this stage of planning, provided that we have the option to revisit the median width at other planning phases for certain areas within ARNWR.

Section 404/NEPA Merger Process Issue Brief
Prepared by the N.C. Division of Coastal Management
August 25, 2008

1. Project Name and Brief Description:
   TIP No. R-2544, US 64 Improvements in Dare County.

2. Last Concurrence Point: Concurrence Point 1, Purpose and Need and Study Area Defined
   Date of Concurrence: 6/14/07

3. Explain what is being proposed and your position including what you object to.
   The N.C. Department of Transportation (NCDOT) is proposing a 4-lane divided highway with a 23-foot median and 10-foot shoulders through the Alligator River National Wildlife Refuge (ARNWR) in Dare County. The position of the N.C. Division of Coastal Management (DCM) is that NCDOT should study additional context sensitive typical section alternatives that reduce the overall roadway footprint to the maximum extent practicable, especially through sensitive environmental areas. This will provide a reasonable range of alternatives for the NEPA/404 project team members to compare at the Concurrence Point 2A meeting regarding Bridging Decisions and Final Alternatives to Carry Forward. At the Concurrence Point 2A meeting, the NEPA/404 project team can decide if some of the typical section and widening alternatives can be eliminated from further study.

4. Explain the reasons for your potential non-concurrence. Please include any data or information that would substantiate and support your position.
   There are numerous Coastal Area Management Act (CAMA) Areas of Environmental Concern (AEC's) within the project area, including Public Trust Area, Coastal Wetland, and Public Trust Shoreline. Therefore, the construction of this project will require a major CAMA permit. As a participant in the NEPA/404 merger process, one of DCM's objectives is to ensure that the NEPA/404 Merger Process results in a project that is permittable under CAMA and the N.C. Dredge and Fill Law. At the NEPA/404 project team meeting on August 21, 2008, only two agencies, NCDOT and the N.C. Division of Archives and History, were able to reach concurrence on the Design Options for Detailed Study. This causes DCM to be seriously concerned that NCDOT may not be studying a typical section alternative that is permittable under CAMA and/or the N.C. Dredge and Fill Law.

5. List any relevant laws or regulations that you believe would be violated or jeopardized if the proposed action were implemented and explain the basis for violation. Please attach a copy of the relevant portion of the law or regulation or provide an email address where the documents may be located.
   It is too early in project development and environmental analysis to know if specific state laws and/or regulations may be violated or jeopardized by this project. The primary laws or regulations that DCM will rely upon when making a permit decision include the N.C. Coastal Area Management Act (CAMA), the N.C. Dredge and Fill Law, and the Rules of the Coastal Resources Commission (CRC).

There are four goals that are described in CAMA. The following are two of those goals: 113A-102(b)(2). To insure that the development or preservation of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water for development, use, or preservation based on ecological considerations; 113A-102(b)(3). To insure the orderly and balanced use and preservation of our coastal resources on behalf of the people of North Carolina and the nation.

Section 113A-120 (a)(9) of CAMA states that the responsible official or body shall deny an application for a permit upon finding in any case, that considering engineering requirements and all economic costs there is a practicable alternative that would accomplish the overall project purposes with less adverse impact on the public resources.

CAMA can be found on the internet at the following link:
://www.nccoastalmanagement.net/Rules/cama..

The North Carolina Dredge and Fill Law can be found on the internet at the following link:
://www.nccoastalmanagement.net/Rules/dredgefill.

The Rules of the CRC can be found on the internet at the following link:
://www.nccoastalmanagement.net/Rules/Text/t15a_07h..

6. What alternative course of action do you recommend?
NCDOT should study additional context sensitive typical section alternatives that reduce the overall roadway footprint to the maximum extent practicable, especially through sensitive environmental areas. The additional typical section alternatives should include, but not necessarily be limited to, varying median widths ranging from 11 feet to 23 feet with guardrails, not jersey barriers.

Merger 01 Process
Issue Brief

Prepared by the N.C. Division of Marine Fisheries
August 27, 2008

1. **Project Name and Brief Description:** R-2544/R2545 – US Hwy 64 Improvements – Tyrrell and Dare Counties; Bridge on new location and widening/additional lanes between Columbia and Manns Harbor

2. **Last Concurrence Point:** CP 1 – Purpose and Need – June 14, 2007 Concurrence Point 2 : Alternatives to be studied in Detail in NEPA Document – August 21, 2008 meeting

3. **Proposal and Position –** NCDMF and other agencies represented on the Merger Team recommend that NCDOT include in the detailed study a reduced median width for the section of the project within the Alligator River National Wildlife Refuge (ARNWR) between East Lake and Manns Harbor. This detailed study would be in addition to the 23 ft divided median section. Other Merger Team members have identified existing routes in NC with reduced medians and double-faced metal guardrails. This agency recommends for the section in ARNWR the reduced median be included as a Detailed Study Alternative.

4. **Reasons for potential non- concurrence –** NCDOT has indicated issues with a reduced median are concern with future capacity (100 year) needs, hurricane evacuation and "driver friction". Yet specifics as to why this design will not work have not been provided. The USACOE noted during the August 21, 2008 merger tam meeting that a small section of US 64/264 east is a four lane undivided section.

   NCDOT has the opportunity to study a multi-lane, divided alternative that could reduce loss and impacts in high quality wetlands within the ARNWR. As indicated by USFWS during the merger meeting the nature of some of the soils relative to constructability could be an issue and greatly increase the costs. It would seem that a reduced median design would reduce the over all costs now and relative to maintenance in the future.

5. **Potentially Violated Laws/Regulations-** None under the NC Marine Fisheries Commission jurisdiction

6. **Alternative Course of Action –** NCDMF recommends that NCDOT include a limited median double-faced guardrail typical section through the ARNWR section of the project. This detailed alternative should be included in the NEPA document and comparisons made to the 23 ft typical section median design. An evaluation of the analysis and comparisons of the detailed study should be presented.

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Coleen Sullins, Director
Division of Water Quality

August 28, 2008

MEMORANDUM

To: Ted E. Devens, PE, Project Development and Environmental Analysis Section, NCDOT

Through: Brian Wrenn, Division of Water Quality

From: David Wainwright, Division of Water Quality

Subject: MERGER 01 PROCESS ISSUE BRIEF; TIP R-2544 and R-2545; Improvements to US 64 from Columbia and Manns Harbor in Tyrell and Dare Counties.

1. **Project Name and Brief Description:** This elevation letter applies specifically to TIP R-2544; Widening of US 64 from east of the Alligator River to existing US 264 near Manns Harbor in Dare County.

2. **Last Concurrence Point *(signed)*:** Concurrence Point 1
   Date of Concurrence: June 14, 2007
   Concurrence Point Being Elevated: Concurrence Point 2
   Date of Elevation: August 21, 2008

3. **Explain what is being proposed and your position, including what you object to:** The NCDOT is proposing to carry forward and study only one expressway design, a four-lane divided road with a median width of 23-feet. This project area is particularly sensitive environmentally, especially the areas abutting the Alligator River National Wildlife Refuge (ARNWR). Due to this sensitivity, the DWQ thinks it would be prudent to reduce the cross-section of the roadway as much as possible to decrease impacts to resources and still meet the purpose and need of the project as defined during the Concurrence Point 1 meeting, held June 14, 2007. The DWQ, along with most other resource agencies, are requesting that the NCDOT consider an 11-foot median cross-section or equivalent design. Such a design would allow for two four-foot inside medians with a three-foot allowance for a double-sided guardrail (however, the DWQ is open to considering other designs which would similarly reduce the cross-section of the roadway and reduce impacts, yet still meet the purpose and need). The DWQ is requesting that this design be considered along the most sensitive areas of the project, and not necessarily through the full length of the project. By considering a median width of 11-feet, or thereabout, this alternative would give the resource agencies a measure by which the 23-foot median impacts could be compared.

4. **Explain the reasons for your potential non-concurrence. Please include any data or information that would substantiate and support your position:** There are several concerns and reasons why the DWQ believes studying a road design with a narrower (less than 23-feet) median would be prudent:

   - A large portion of the land abutting the existing roadway through the ARNWR, which is located on both sides of the existing road, is wetlands. This is evident by the preliminary

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

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wetland impacts for this segment (Segments 4 and 5; from east of the Alligator River Bridge to the US 64/US 264 convergence) of the project. According to the Project Information Package supplied to merger team members for the June 19, 2008 meeting, impacts could exceed 204 acres. While these impacts will likely decrease during final roadway design and the use of the "best fit" method, they are still significant for this approximate 12 mile segment. The EPA has estimated that over 18-acres of wetlands could be saved if an 11-foot median were utilized for the ten-mile section that borders the ARNWR where the majority of the wetlands are located. The DWQ sees this potential saving as significant.

- According to the Functional Assessment and the NC WAM data sheets provided on the CD distributed to merger team member (dated June 19, 2008), nearly all of the wetlands in this project area are high quality. Therefore, impacts should be minimized as much as possible.

- The Natural Environments Map provided to merger team members shows there are several reported species of concern within the project corridor. These include the Glossy Crayfish Snake, Black Swamp Snake, Hessel's Hairstreak (rarely observed butterfly), Red Cockaded Woodpecker, and the Black-Throated Green Warbler. The DWQ seeks to reduce impacts to the environments where these species are found. Many of these species, such as the Glossy Crayfish Snake, Black swamp Snake, and Hessel's Hairstreak (requires Atlantic White Cedars for foraging and reproduction) require wetlands and associated communities for survival. Reducing roadway cross-section would have a positive impact in these species in two ways; 1) it would reduce the amount of suitable habitat taking and 2) it would reduce the length of time it would take for these organisms to cross the road, potentially resulting in fewer conflicts with traffic.

- The NCDOT has stated that they have concerns that a reduced median may adversely affect traffic due to "driver friction," especially during hurricane evacuation. It is understood that "driver friction" may result when a driver does not feel comfortable with a roadway condition, in this case a median device (perhaps a double-sided guardrail being four-feet away) and will conscientiously or unconscientiously slow down. This in turn potentially reduces general traffic speed for the inside lane. While DWQ staff are not traffic engineers, they do find it difficult to believe that traffic along the corridor will be moving at full speed during an evacuation. Due to the volume of traffic, it is suspected that traffic will most likely be moving at a much lower speed (say 35-40 miles per hour, or perhaps less). The DWQ believes that this reduced speed will create much less "driver friction" than traffic moving at full speed (55–60 miles per hour) along the corridor during an evacuation. The current bridge design proposed for the Alligator River crossing has a ten-foot median with a Jersey Barrier (two four-foot inside shoulders two-foot for the barrier). The proposed high-rise bridge would seem to be more of a "friction" concern than the rest of the roadway because in addition to having a concrete barrier four-feet away, the driver is also going to be more than 65-feet above the water at the highest point.

- The Project Information Package distributed to merger team members for the June 19, 2008 meetings states that "the section of US 64 between US 17 in Williamston and US 158 in Nags Head is envisioned as an expressway." The NCDOT has a desire to build this complete project (R-2544 and R-2545) as an expressway. An expressway, as stated

in NCDOT's *Facility Type and Control of Access Definitions* documents includes a design incorporating a minimum of four-lanes and a median (as is the recommended cross-section for this project), with no requirements for median width. Therefore, a four-lane divided road with an 11-foot median does meet the definition and design constraints of an expressway. Additionally, the Project Information Package states that "east of the projects' terminus at US 264, the road is a four-lane divided facility with a 12-foot flush median." If the design is sufficient for this segment of road, it is unclear why this design is not sufficient for other segments.

5. **List any relevant laws or regulations that you believe would be violated or jeopardized if the proposed action were implemented and explain the basis for violation. Please attach a copy of the relevant portion of the law or regulation or provide a web address where the document(s) may be located:** The most relevant law is 15A NCAC 02H.0500 (http://h2o.enr.state.nc.us/admin/rules/2H.0500.pdf). The following attests to its relevance:

   - 15A NCAC 02H.0500 states that "In evaluating requests for certification…the Director shall determine if the proposed activity has the potential to remove or degrade those significant uses which are present in the wetland or surface water." It goes on to state that "The Director shall issue a certification upon determining that existing uses are not removed or degraded by a discharge to classified surface waters for an activity which 1) has no practical alternative under the criteria outlined in Paragraph (f) of this Rule and 2) will minimize adverse impacts to the surface waters based on consideration of existing topography, vegetation, fish and wildlife resources, and hydrological conditions under the criteria outlined in Paragraph (g) of this Rule and 3) does not result in the degradation of groundwater or surface waters."

     Section (f) of 15A NCAC 02H.0500 (mentioned previously) states that "A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction is size, configuration, or density, of the proposed activity and all alternative designs the basic purpose cannot be practically accomplished in a manner which would avoid or result in a less adverse impact to surface waters or wetlands."

     When reviewing applications for 401 Water Quality Certification (WQC), the DWQ is required per 15 NCAC 02H.0500 to see that impacts to surface waters and wetlands have been minimized to best extent practical. Section (f) states that if a practical alternative exists that would minimize impacts to wetlands and surface waters, yet still meets the basic project purpose (as defined by the Purpose and Need Statement), then it should be considered. It is the opinion of the DWQ that the NCDOT has not sufficiently shown that a roadway design with a reduced median is not practical. Additionally, it has not been shown that a reduced median would not meet the stated purpose and need of the project.

6. **What alternative course(s) of action do you recommend:** The DWQ recommends that the NCDOT not only consider further studies on a four-lane divided road with a 23-foot median but also consider further study on a roadway with a narrower median, such as the 11-foot median described above. The DWQ believes that a reduced median design is practicable and will still meet the purpose and need for the project. Furthermore, it would allow the NCDOT to meet its environmental obligations to reduce impacts as much as practicable.

MEMORANDUM

TO: Ted Devens, P.E., Project Planning Engineer
Project Development and Environmental Analysis, NCDOT

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: August 29, 2008

SUBJECT: Section 404/NEPA Merger 01 elevation issue brief for R-2544/R-2545

1. **Project Name and brief description:** R-2544/R-2545, US 64 improvements from Columbia to Manns Harbor, with a new location bridge over the Alligator River; Tyrrell and Dare Counties.

2. **Last Concurrence Point:** CP 1 Purpose and Need
Date of Concurrence: June 14, 2007

3. **Explain what is being proposed and your position including what you object to.** For sections 4 and 5 NCDOT proposes to study a typical section with a minimum median width of 23 feet. NCWRC is requesting NCDOT study a typical section with a median width below 23 feet.

4. **Explain the reasons for your potential non-concurrence. Please include any data or information that would substantiate and support your position.** These segments of the project are through the Alligator River National Wildlife Refuge. Portions of this area contain sensitive habitats and high quality wetland systems. By restricting the proposed typical section we will limit the ability to minimize impacts to these resources.

5. **List any relevant laws or regulations that you believe would be violated or jeopardized if the proposed action were implemented and explain the basis for violation. Please attach a copy of the relevant portion of the law or regulation or provide an email address where the documents may be located.** The mission of the North Carolina Wildlife Resources Commission is to protect, preserve, and manage the fish and wildlife resources of the state. Preventing the ability to further minimize impacts to these resources would hinder our ability to meet our mission.

6. **What alternative course of action do you recommend?** NCWRC does not object to the use of a 23 foot median, however; NCDOT should carry forward a typical section alternative with a reduced median that could be utilized in specific areas where it is necessary to further minimize impacts.

Section 404/NEPA Merger Management Team Meeting Agreement
Elevation of Concurrence Point No. 2 - Alternatives to be Studied in Detail in the NEPA Document

State Project Numbers: 6.0594004T/6.139001T
TIP Project Numbers: R-2544/R-2545
Project Name: US 64 Improvements Project in Tyrrell and Dare Counties
Description: Improve US 64 Highway to a multi-lane facility along a 27.3-mile corridor in Tyrrell and Dare Counties and replacement of the Lindsey C. Warren Bridge over the Alligator River

The Merger Management Team has concurred on this date of October 16, 2008 with:

A 23-foot median typical section will be studied for all Section 4 and 5 Corridors in Dare County. The merger team agrees to review further median reduction opportunities at appropriate locations by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets.

US Army Corps of Engineers

NCDENR, Division of Water Quality

Federal Highway Administration

NC Department of Transportation

Section 404/NEPA Merger Project Team Meeting Agreement Concurrence Point No. 2 - Alternatives to be Studied in Detail in the NEPA Document

State Project Numbers: 6.0594004T/6.139001T

TIP Project Numbers: R-2544/R-2545

Project Name: US 64 Improvements Project in Tyrrell and Dare Counties

Description: Improve US 64 Highway to a multi-lane facility along a 27.3-mile corridor in Tyrrell and Dare Counties and replacement of the Lindsey C. Warren Bridge over the Alligator River

Alternative Corridors to be Studied in Detail in the NEPA Document (Section references are shown in Figure 1):

Section 1. Tyrrell County

- Corridor 1A. Widening to the South
  - Cross Sections:
    - 23 Feet Raised Median
    - 46 Feet Depressed Median
- Corridor 1B. Widening to the North
  - Cross Sections:
    - 23 Feet Raised Median
    - 46 Feet Depressed Median
- North and South detailed study for the entire distance, with establishment of interim sections/breakpoints as appropriate to support future discussions of a "best fit" alignment at CP2A.

Sections 2 – Tyrrell County Bridge Approach Corridors

- Tyrrell County Bridge Approach Corridors
  - Corridor 2B. The corridor will be aligned southward to avoid:
    - The existing commercial docks;
    - The proposed WAMI project;
    - Effects of future channel dredging; and
    - Affecting current bridge operations and to provide adequate setback of the new bridge to allow construction operations.
    - Cross Sections:
      - 23 Feet Raised Median
      - 46 Feet Depressed Median

- Corridor 2D. The corridor will follow an alignment just north of the existing Marina/Convenience store complex:
  - Cross Sections:
    - 23 Feet Raised Median
    - 46 Feet Depressed Median
  - Study corridors 2A, 2C, and 2E are removed from further consideration. (Meeting minutes will describe specific recommendations.)

Section 3 – Lindsey C. Warren Bridge Replacement

- Single 78-foot wide bridge
- 24-foot travel lanes with 10-foot outside shoulders
- 10-foot median including Jersey barrier
- Bridge Type: High Span (65-feet above mean water level)

Section 4 – Dare County Bridge Approach Corridors

- Dare County Bridge Approach Corridors (Recommended alignment will depend upon Area of Environmental Concern Determinations)
  - A 23-foot median typical section will be studied for all Section 4 corridors. *The Merger Team agrees to review further median reduction opportunities at appropriate locations by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets. (*Language is verbatim from MMT elevation meeting on October 16, 2008 shown in Figure 2)
  - Corridor 4B. Corridor 4B, from the Alligator River east, will be realigned, attempting to parallel and join existing US 64 as soon as possible, as allowed by design geometry standards.
  - Corridor 4C. Widening to the North.
  - Corridor 4F. Corridor 4F is a new corridor that would connect Corridor 2D to corridor 5A. East of the river landing the corridor will share a similar alignment with corridor 4C, then cross existing US 64 to share similar alignment with Corridor 4B until it joins with Corridor 5A.
  - Corridor 4D. Corridor 4D will be evaluated for shifting southward to reduce ARNWR impacts. Final alignment will be balanced against potential relocations (including sewer drain fields).
  - Study Corridors 4A and 4E are removed from further consideration. (Meeting minutes will describe specific reasons.)

Section 5 – Dare County

- A 23-foot median typical section will be studied for all Section 5 corridors. *The Merger Team agrees to review further median reduction opportunities at appropriate locations, by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets. (*Language is verbatim from MMT elevation meeting on October 16, 2008 shown in Figure 2)

- Corridor 5A. Widening to the South
- Corridor 5B. Widening to the North
- North and South detailed study for the entire distance, with establishment of interim sections/breakpoints as appropriate to support future discussions of a "best fit" alignment at CP2A.

"No Build" Option

Attachments

Figure 1. **US 64 Improvements Project Corridor Designations**

Figure 2. **R-2544/5: Section 404/NEPA Merger Management Team Meeting Agreement (October 16, 2008)**

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 2: *Alternatives to be Studied in Detail in the NEPA Document on TIP Project Numbers R-2544 and R-2545*

Following the August 21, 2008 Merger Meeting, the Project Team concurred on:

- Tyrrell County Cross Sections;
- Tyrrell County Corridors; and
- Dare County Corridors.

The Merger Management Team concurred (See Figure 2) on October 16, 2008 that a 23-foot median typical section will be studied for all Section 4 and 5 Corridors in Dare County. The Merger Management Team agreed to review further median reduction opportunities at appropriate locations by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets

The Project Team concurred on this date of October 20, 2008 that additional environmental analysis will be conducted on the corridor(s) to determine alignment(s) to be evaluated in detail in the DEIS for the proposed US 64 Highway Improvement.

US Army Corps of Engineers	William J. Bellecome 10/28/08
NC Department of Transportation	
NCDENR, North Carolina Division of Coastal Management	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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US Army Corps of Engineers	
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NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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NC Department of Transportation	
NCDENR, North Carolina Division of Coastal Management	Cathy Brittingham
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmeutal Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

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NCDENR, North Carolina Division of Coastal Management	_____
NC Wildlife Resources Commission	_____
NC Department of Cultural Resources	_____
NCDENR, Division of Water Quality	_____
US Environmental Protection Agency	_____
NOAA, National Marine Fisheries	_____
United States Coast Guard	_____
NCDENR, North Carolina Division of Marine Fisheries	_____
US Fish and Wildlife Service	_____
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	_____

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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US Army Corps of Engineers	
NC Department of Transportation	
NCDENR, North Carolina Division of Coastal Management	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	Renee Gledhill-Earley
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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US Army Corps of Engineers _____

NC Department of Transportation _____

NCDENR, North Carolina Division of Coastal Management _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

US Fish and Wildlife Service _____

US Fish and Wildlife Service,
Alligator River National Wildlife Refuge _____

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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US Army Corps of Engineers _____

NC Department of Transportation _____

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NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

US Fish and Wildlife Service _____

US Fish and Wildlife Service,
Alligator River National Wildlife Refuge _____

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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NCDENR, North Carolina Division of Coastal Management	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	USCG Bridges
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

Concurrence Point No. 2: *Alternatives to be Studied in Detail in the NEPA Document on TIP Project Numbers R-2544 and R-2545*

Following the August 21, 2008 Merger Meeting, the Project Team concurred on:

- Tyrrell County Cross Sections;
- Tyrrell County Corridors; and
- Dare County Corridors.

The Merger Management Team concurred (See Figure 2) on October 16, 2008 that a 23-foot median typical section will be studied for all Section 4 and 5 Corridors in Dare County. The Merger Management Team agreed to review further median reduction opportunities at appropriate locations by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets

The Project Team concurred on this date of October 20, 2008 that additional environmental analysis will be conducted on the corridor(s) to determine alignment(s) to be evaluated in detail in the DEIS for the proposed US 64 Highway Improvement.

US Army Corps of Engineers _____

NC Department of Transportation _____

NCDENR, North Carolina Division of Coastal Management _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

US Fish and Wildlife Service _____

US Fish and Wildlife Service,
Alligator River National Wildlife Refuge _____

NEPA/404 MERGER 01 TEAM MEETING AGREEMENT

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The Project Team concurred on this date of October 20, 2008 that additional environmental analysis will be conducted on the corridor(s) to determine alignment(s) to be evaluated in detail in the DEIS for the proposed US 64 Highway Improvement.

US Army Corps of Engineers	
NC Department of Transportation	
NCDENR, North Carolina Division of Coastal Management	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
US Fish and Wildlife Service	Gary Jordan
US Fish and Wildlife Service, Alligator River National Wildlife Refuge	

Scales, Reggie

From: Militscher.Chris@epamail.epa.gov

Sent: Friday, October 31, 2008 7:37 AM

To: Scales, Reggie

Cc: William.J.Biddlecome@usace.army.mil; gary_jordan@fws.gov; travis.wilson@ncwildlife.org; david.wainwright@ncmail.net; cathy.brittingham@ncmail.net; jim.hoadley@ncmail.net; Dennis_Stewart@fws.gov; bbrazier@lantd5.uscg.mil; mjethro@albemarlecommission.org; Devens, Thomas E; donna.dancausse@fhwa.dot.gov; Yamamoto, Brian F; Hanson, Robert P; Everett, Marlena; Trindle, Carolyn

Subject: Re: [REMINDER] R-2544/5 Concurrence Point 2 Merger Agreement - FINAL

Reggie: EPA at this time abstains from CP 2. While there was additional and new information provided at the MMT elevation briefing and a commitment to look at avoidance and minimization with median width at CP 4A for the Dare County segment, some of EPA's environmental concerns as outlined in our brief have not been fully addressed. In addition, EPA is also unsure as to the technical justification for the proposal to raise the grade of the existing road by several feet. I listed intently to Glen's presentation and reviewed the handout again but can not find the information on the existing problems with the current elevation of US 64.

Similar to the Bonner Bridge and Troy Bypass elevations, Merger 01 partnering agencies have not been asked to sign concurrence forms (unless they wish to) when the 'ruling' is not in their favor.

EPA intends to continue on the Merger 01 team for this project and will hope to have its issues resolved at later concurrence points and during the NEPA/Section 404 process. Please retain a copy of this e-mail for your records as an 'abstention'. Thank you.
-----"Scales, Reggie" <ScalesR@pbworld.com> wrote: -----

> To: <William.J.Biddlecome@usace.army.mil>, <gary_jordan@fws.gov>, <travis.wilson@ncwildlife.org>, <david.wainwright@ncmail.net>, Chris Militscher/R4/USEPA/US@EPA, <cathy.brittingham@ncmail.net>, <jim.hoadley@ncmail.net>, <Dennis_Stewart@fws.gov>, <bbrazier@lantd5.uscg.mil>, <mjethro@albemarlecommission.org>
> From: "Scales, Reggie" <ScalesR@pbworld.com>
> Date: 10/27/2008 03:06PM
> cc: "Devens, Thomas E" <tedevens@ncdot.gov>, <donna.dancausse@fhwa.dot.gov>, "Yamamoto, Brian F" <byamamoto@ncdot.gov>, "Hanson, Robert P" <rhanson@ncdot.gov>, "Everett, Marlena" <Everett@pbworld.com>, "Trindle, Carolyn" <Trindle@pbworld.com>
> Subject: [REMINDER] R-2544/5 Concurrence Point 2 Merger Agreement - FINAL
>
> All,
>
> To date we have received two signed CP2 Concurrence Forms from the Merger Team. Please allow this email serve as a reminder that we need your signed CP2 Form, as a matter of project record. If you have questions or need clarification please let me or Ted know.
>
> Thanks in advance,

Reggie

From: Scales, Reggie
Sent: Monday, October 20, 2008 5:47 PM
To: 'Devens, Thomas E'; ' William.J.Biddlecome@usace.army.mil '; ' gary_jordan@fws.gov '; ' travis.wilson@ncwildlife.org '; 'renee.gledhill-earley@ncmail.net'; ' david.wainwright@ncmail.net '; ' militscher.chris@epamail.epa.gov '; 'sara.winslow@ncmail.net'; ' cathy.brittingham@ncmail.net '; ' jim.hoadley@ncmail.net '; ' Dennis_Stewart@fws.gov '; ' bbrazier@lantd5.uscg.mil '; ' mjethro@albemarlecommission.org '; 'donna.dancausse@fhwa.dot.gov'
Cc: ' Jennings, Jerry D '; ' Hobbs, Barry '; ' Willis, Thomas C '; ' Mcintyre, Ray '; ' Mumford, Glenn W '; ' Henegar,Randall C '; ' Arellano, Terry C '; ' Kim, Kyung J '; ' Manley, Chris '; ' Mayhew, Brian K '; ' Joyner, Drew '; ' Lewis, Ed F '; ' Avant, Brenda P '; ' Yamamoto, Brian F '; ' Hanson, Robert P '; Everett, Marlena; Fendrick, Mike; Robinson, Roland ; Trindle, Carolyn
Subject: RE: R-2544/5 Concurrence Point 2 Merger Agreement - FINAL

All,

Following the August 21, 2008 Merger Meeting, the Project Team concurred on:

- Tyrrell County Cross Sections;
- Tyrrell County Corridors; and
- Dare County Corridors .

Project Team concurrence was not received on the Dare County cross-section.

The Merger Management Team met on October 16, 2008 and concurred that a 23-foot median typical section will be studied for all Section 4 and 5 Corridors in Dare County . The Merger Management Team agreed to review further median reduction opportunities at appropriate locations by Concurrence Point 4A. This commitment will be added to Draft EIS environmental commitment sheets

Some of the Team members signed the concurrence form after the ***August 21, 2008 meeting. That concurrence form has been voided*** and replaced by the attachment. **Your signature is requested at the appropriate location on Page 4. After signing, please return the signatory page via email.** USPS or fax is okay if you don't have access to a scanner **.**

Please let me know if you have questions.

Regards,

Reggie

From: Scales, Reggie
Sent: Monday, August 25, 2008 5:37 PM
To: 'Devens, Thomas E'; William.J.Biddlecome@usace.army.mil ; gary_jordan@fws.gov ; travis.wilson@ncwildlife.org ; renee.gledhill-earley@ncmail.net; david.wainwright@ncmail.net ; militscher.chris@epamail.epa.gov ; sara.winslow@ncmail.net; cathy.brittingham@ncmail.net ; jim.hoadley@ncmail.net ; Dennis_Stewart@fws.gov ; bbrazier@lantd5.uscg.mil ; mjethro@albemarlecommission.org ; 'donna.dancausse@fhwa.dot.gov'
Cc: Jennings, Jerry D ; Hobbs, Barry ; Willis, Thomas C ; Mcintyre, Ray ; Mumford, Glenn W ; Henegar,Randall C ; Arellano, Terry C ; Kim, Kyung J ; Manley, Chris ; Mayhew, Brian K ; Joyner, Drew ; Lewis, Ed F ; Avant, Brenda P ; Yamamoto, Brian F ; Hanson, Robert P ; Everett, Marlena; Fendrick, Mike; Robinson, Roland
Subject: R-2544/5 Concurrence Point 2 Merger Agreement - FINAL

All,

Attached you will find the final CP 2 Concurrence Agreement Form from our August 21, 2008 discussions. The Form provides an outline, by Corridor Section, of corridors and cross-sections recommended for detailed study. **Your signature is requested at the appropriate location on Page 4.** After signing, please return the signatory page via email. USPS or fax is okay if you don't have access to a scanner.

Also, I’ve attached a copy of the CP 1 Minutes for your review. CP2

minutes for the June 19 and August 21 meetings will be submitted later this week.

Finally, Ted Devens has scheduled a meeting this week with Greg Thorpe, PDEA Branch Manager, to discuss issues associated with Elevation of the Dare County cross-section.

Please let me know if you have questions.

Regards,

Reggie

_____

Reginald Scales

PB

909 Aviation Parkway

Suite 1500

Morrisville , NC 272513

919 468-2122 (T)

919 467-7322 (F)

_____
NOTICE: This communication and any attachments ("this message") may contain confidential information for
the sole use of the intended recipient(s). Any unauthorized use, disclosure, viewing, copying, alteration,
dissemination or distribution of, or reliance on this message is strictly prohibited. If you have received this
message in error, or you are not an authorized recipient, please notify the

NEPA/404 Merger Project Team Meeting Agreement Concurrence Point No. 2A - Bridging and Alignment Review November 18, 2009

State Project Numbers: 6.0594004T/6.139001T

TIP Project Numbers: R-2544/R-2545

Project Name: US 64 Improvements Project in Tyrrell and Dare Counties

Description: Improvement of US 64 Highway to a multi-lane facility along a 27.3-mile corridor in Tyrrell and Dare Counties and replacement of the Lindsay C. Warren Bridge over the Alligator River.

Table 1 identifies the bridging lengths for the major stream crossing for the US 64 Improvements Project. The only major stream to be crossed is the Alligator River. The width of the bridge structure for all alternatives is 78 feet. Table 2 shows additional bridge/wetland preservation costs associated with final bridge lengths. Attachment 1 graphically identifies the bridge crossing locations.

Table 1 Major Stream Crossings for the US 64 Improvements Project.

Bridge Alternative	Tyrrell County Bridge Length from Shoreline	Bridge Length over Alligator River[1]	Dare County Bridge Length from Shoreline	Total Bridge Length
Alternative 2D/4C	295 feet Sta. 707+00	14,892 feet[2]	1,360 feet Sta. 850+00	16,547 feet (3.13 miles)
Alternative 2D/4D[2]	295 feet Sta. 707+00	17,825 feet	1,780 feet Sta. 906+00	19,900 feet (3.8 miles)
Alternative 2D/4F	295 feet Sta. 707+00	14,892 feet[3]	1,360 feet Sta. 850+00	16,547 feet (3.13 miles)
Alternative 2D/4G	295 feet Sta. 707+00	16,080 feet	425 feet Sta, 875+00	16,800 feet (3.18 miles)

Notes:

1. "Bridge Length over Alligator River" is subject to minor change due to potential alignment adjustments of curves and tangent sections.
2. If Alternative 4D is selected as the Preferred Alternative, alignment adjustments may be considered at Concurrence Point 4A such that wetland impacts can be reduced and the bridge length shortened accordingly by shifting the alignment southward into uplands at the tree line.
3. Alternatives 2D/4C and 2D/4F: Apply correction for engineering equalities as follows: Station Equation 842 + 46.71 LB = 820 + 00 LA (add 2,247 feet).

Table 2 Additional Bridge/Wetland Preservation Costs

CORRIDORS/CROSS SECTION	NCDOT Recommended Bridge Station Location	CP 2A Concurrence Station Location	CP 2A Concurrence Additional Bridge Length	NCDOT Recommended Wetland Impacts	CP 2A Concurrence Wetland Reduction	Total CP 2A Concurrence Bridge Wetland Impacts	Net Cost of Extending Bridge 100 Feet beyond NCDOT Proposed Length	NCDOT Recommended Bridge Over Wetland Cost	Final CP 2A Concurrence Bridge Over Wetland Cost	Additional Cost Above NCDOT CP2A Recommendation
2D 23-Ft	709+00	707+00	200	16.03	0.8	15.23	$678,588	$644,659	$2,001,835	$1,357,176
4C	841+50	850+00	850	31.35	3.4	27.95	$673,600	$3,435,360	$9,160,960	$5,725,600
		TOTAL	**1050**	**47.38**	**4.20**	**43.18**		**$4,080,019**	**$11,162,795**	**$7,082,776**
2D 46-Ft	709+00	707+00	200	16.3	0.96	15.34	$649,706	$617,221	$1,916,633	$1,299,412
4C	841+50	850+00	850	31.35	3.4	27.95	$673,600	$3,435,360	$9,160,960	$5,725,600
		TOTAL	**1050**	**47.65**	**4.36**	**43.29**		**$4,052,581**	**$11,077,593**	**$7,025,012**
2D 23-Ft	709+00	707+00	200	16.02	0.8	15.22	$678,588	$644,659	$2,001,835	$1,357,176
4D	892+00	906+00	1400	55.48	5.6	49.88	$726,588	$2,761,034	$12,933,266	$10,172,232
		TOTAL	**1600**	**71.50**	**6.40**	**65.10**		**$3,405,693**	**$14,935,101**	**$11,529,408**
2D 46-Ft	709+00	707+00	200	16.3	0.96	15.34	$649,706	$617,221	$1,916,633	$1,299,412
4D	892+00	906+00	1400	55.48	5.6	49.88	$726,588	$2,761,034	$12,933,266	$10,172,232
		TOTAL	**1600**	**71.78**	**6.56**	**65.22**		**$3,378,255**	**$14,849,899**	**$11,471,644**
2D 23-Ft	709+00	707+00	200	16.02	0.8	15.22	$678,588	$644,659	$2,001,835	$1,357,176
4F	841+50	850+00	850	55.48	3.4	52.08	$673,600	$3,435,360	$9,160,960	$5,725,600
		TOTAL	**1050**	**71.50**	**4.20**	**67.30**		**$4,080,019**	**$11,162,795**	**$7,082,776**
2D 46-Ft	709+00	707+00	200	16.3	0.96	15.34	$649,706	$617,221	$1,916,633	$1,299,412
4F	841+50	850+00	850	55.48	3.4	52.08	$673,600	$3,435,360	$9,160,960	$5,725,600
		TOTAL	**1050**	**71.78**	**4.36**	**67.42**		**$4,052,581**	**$11,077,593**	**$7,025,012**
2D 23-Ft	709+00	707+00	200	16.02	0.8	15.22	$678,588	$644,659	$2,001,835	$1,357,176
4G	875+00	875+00	0	44.09	0	44.09	$726,588	$3,087,999	$3,087,999	$0
		TOTAL	**200**	**60.11**	**0.80**	**59.31**		**$3,732,658**	**$5,089,834**	**$1,357,176**
2D 46-Ft	709+00	707+00	200	16.3	0.96	15.34	$649,706	$617,221	$1,916,633	$1,299,412
4G	875+00	875+00	0	44.09	0	44.09	$726,588	$3,087,999	$3,087,999	$0
		TOTAL	**200**	**60.39**	**0.96**	**59.43**		**$3,705,220**	**$5,004,632**	**$1,299,412**

*** 46-ft uses more earthwork, compared to 23-ft, therefore roadway cost is higher. 46-ft takes more wetland acreage and increases mitigation cost for replacement value.**
****Additional cost to flare bridge for Alternative 2D is approximately $700,000**

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

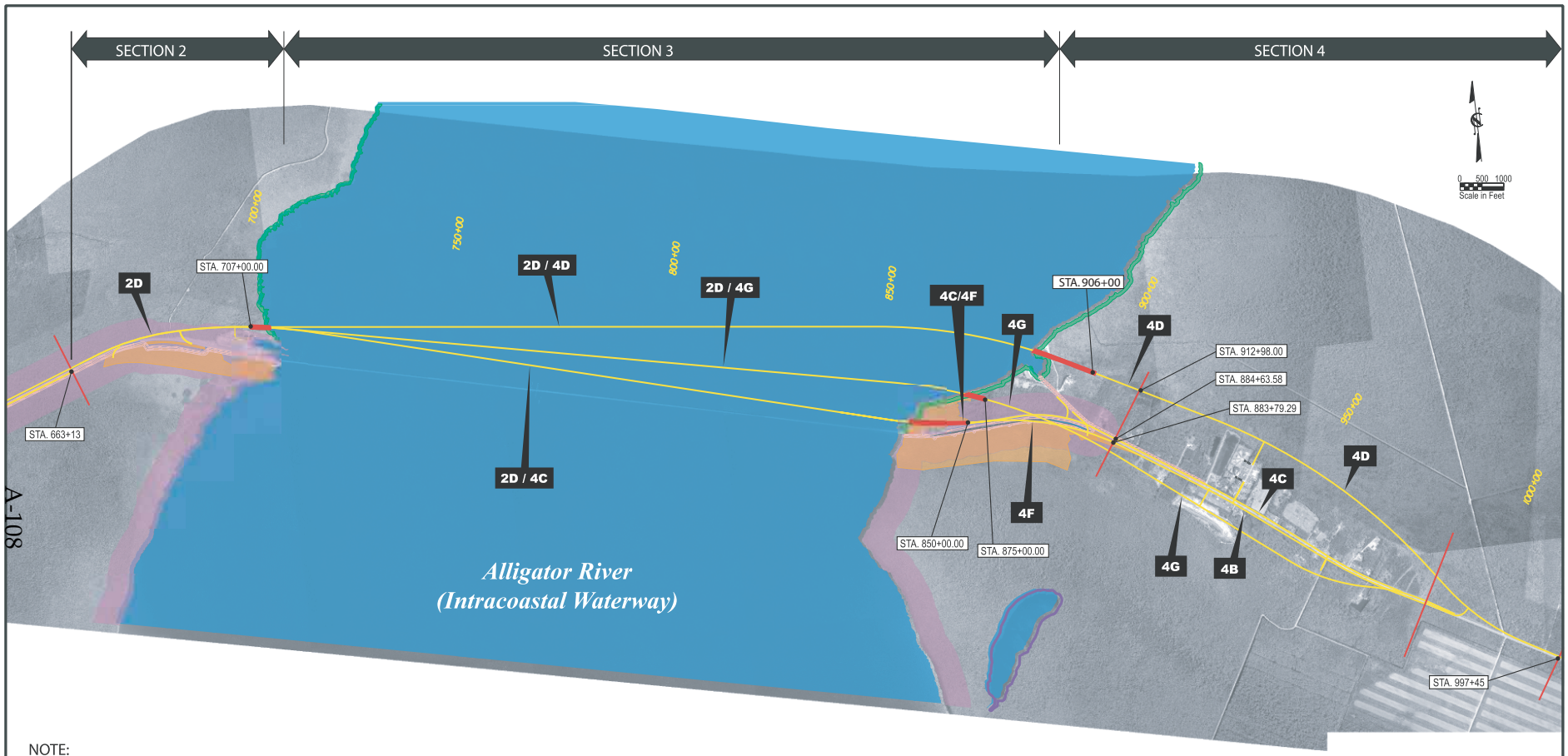
NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____



NOTE:
Bridge 2D/4C
EQ 842+46.71 LB
= 820+00 LA

A-108

US 64 Improvements Project
Environmental Impact Statement

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

County: TYRRELL / DARE COUNTIES
Div: 1
TIP Nos.: R2544 & R2545
WBS: 35487
Date: December 2006

Legend

- Coastal Wetlands
- 575' AEC on ORW
- 75' AEC on Public Trust Estuarine Waters
- 30' AEC on Indland Public Trust Waters
- Public Trust Waters
- Section Break Point
- Bridge

Concurrence Point 2A
Bridge Corridors
November 18, 2009

Attachment 1

US Army Corps of Engineers William J. Biddlecome 1/6/2010

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	Gary Jordan
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
NCDENR, North Carolina Division of Coastal Management	
Alligator River National Wildlife Refuge	

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____ 1-13-10

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	Renee Gledhill-Earley 1/5/2010
NCDENR, Division of Water Quality	
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
NCDENR, North Carolina Division of Coastal Management	
Alligator River National Wildlife Refuge	

US Army Corps of Engineers	
NC Department of Transportation	
US Fish and Wildlife Service	
NC Wildlife Resources Commission	
NC Department of Cultural Resources	
NCDENR, Division of Water Quality	1/6/10
US Environmental Protection Agency	
NOAA, National Marine Fisheries	
United States Coast Guard	
NCDENR, North Carolina Division of Marine Fisheries	
NCDENR, North Carolina Division of Coastal Management	
Alligator River National Wildlife Refuge	

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency [illegible] 11/15/10

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries Ka Sechler

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers	_____
NC Department of Transportation	_____
US Fish and Wildlife Service	_____
NC Wildlife Resources Commission	_____
NC Department of Cultural Resources	_____
NCDENR, Division of Water Quality	_____
US Environmental Protection Agency	_____
NOAA, National Marine Fisheries	_____
United States Coast Guard	[illegible] USCG Bridges
NCDENR, North Carolina Division of Marine Fisheries	_____
NCDENR, North Carolina Division of Coastal Management	_____
Alligator River National Wildlife Refuge	_____

US Army Corps of Engineers _____

NC Department of Transportation _____

US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers _____

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NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

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US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

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NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management Catte Buttingham

Alligator River National Wildlife Refuge _____

US Army Corps of Engineers _____

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US Fish and Wildlife Service _____

NC Wildlife Resources Commission _____

NC Department of Cultural Resources _____

NCDENR, Division of Water Quality _____

US Environmental Protection Agency _____

NOAA, National Marine Fisheries _____

United States Coast Guard _____

NCDENR, North Carolina Division of Marine Fisheries _____

NCDENR, North Carolina Division of Coastal Management _____

Alligator River National Wildlife Refuge Michael R. Bryant

Signature on this form is conditional upon the following:

1. The US 64 Alligator River Bridge Corridors are mostly off of the refuge and the refuge has little authority to comment on non-refuge matters. We defer to the Division of Ecological Services – Raleigh Field Office for resolving off-refuge issues.
2. Except for the eastern end of Alignment 4D most of the other alignments involving encroachment into refuge lands could likely be considered to be a minor modification to existing right-of-way. The eastern end of Alignment 4D as currently shown is not acceptable to the refuge as it could not be considered to be a minor modification.
3. Minor modifications of existing right-of-way may be acceptable if they are addressing a safety issue but the changes cannot result in a net loss of habitat quantity nor can there be a reduction in habitat quality.
4. Concerns and unresolved issues expressed by the Refuge in previous communications continue to apply to the U. S. Highway 64 Improvement project.