



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 13, 2007

MEMORANDUM TO: Mr. C. E. Lassiter, Jr., PE
Division Two Engineer

FROM: Philip S. Harris, III, P.E., Unit Head *PHS*
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Craven County, Replace Bridge No.60 over the Trent River
on US 70 Business; T.I.P. Number B-2532; State Project
8.1172401

Attached is the U. S. Coast Guard Bridge Permit for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

Cc:

Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Randy Garris, P.E. State Contract Officer
Mr. Art McMillan, P.E., Highway Design
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Rob Hanson, P.E., PDEA Eastern Region Unit Head
Mr. Jay B. Johnson, Division Environmental Officer

PROJECT COMMITMENTS

Craven County
Replacement of Bridge No. 60 over the Trent River on US 70 Business
BRSTP-070B(4)
State Project 8.1172401
WBS Element 32649.1.1
TIP No. B-2532

In addition to the standard Nationwide Permit # 23 & 33 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, General Certification Conditions, the Section 401 Conditions of Certification, and the "Best Management Practices for Bridge Demolition and Removal", "Design Standards in Sensitive Watersheds", the following Special Commitments have been agreed to by NCDOT:

Commitments Developed Through Project Development and Design

Division 2 Construction

All in-water work for this site must be completed outside an in-water work moratorium from February 15 through June 30.

Hydraulics Unit

Stormwater runoff will be allowed to directly discharge into the Trent River.

Commitments Developed Through Permitting

Division 2 Construction

The West Indian Manatee, *Trichechus manatus*, which is listed as a federally endangered species, has been reported in North Carolina waters. In order to protect the West Indian Manatee, all in-water work should be done during the period from November 1 to May 31. If work must be done during the period from June through October, the enclosed guidelines prepared by the U.S. Fish and Wildlife Service (rev. 06/2003), entitled "Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters" shall be followed.

To minimize impacts to submerged aquatic vegetation (SAVs), barges shall avoid contact with the river substrate. In order to avoid bottom disturbances in SAV areas, barges shall not be utilized in water depths less than six feet.

In accordance with project commitments referenced in the permit application, shading of SAV's shall be minimized by construction of work bridges at an elevation of at least three feet above normal water level and by avoiding long term barge mooring during the growing season of May through September.

The permanent and temporary work bridges shall be installed with vibratory hammer, pile driver, or drilling. Piles shall not be jetted. Should jetting of any bridge piles become necessary, a modification to this permit will be required.

Division 2 Construction and Hydraulics Unit

Deck drains are allowed on the proposed bridge, however deck drains shall be eliminated from the first 3 spans of the bridge except directly above the rip-rap slope protection at the southern abutment. Deck drains shall also be eliminated from the last 4 spans of the bridge except directly above the rip-rap slope protection at the northern abutment.

Addendum to Project Commitments from US Coast Guard:**Division 2 Construction/Structures Unit**

No deviation from the approved plans may be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant. *Per communication with the USCG, plans or plan sheets that are being referred to are the Coast Guard Permit Drawing.*

Clearance gauges shall be installed and maintained in a good and legible condition by and at the expense of the owner of the bridge. The type of gauges and the locations in which they are to be installed will be submitted to the District Commander for approval.

Upon completion of the bridgework, a responsible official of the North Carolina Department of Transportation shall verify as-built clearances and a statement attesting to the correctness of the clearances shall be forwarded to this office for record purpose. In lieu of verification by the above listed official, certification by a licensed surveyor or registered professional engineer registered in the State of North Carolina will be accepted.

Division 2 Construction

The construction of falsework, cofferdams or other obstructions, if required, shall be in accordance with plans submitted to and approved by the Commander, Fifth Coast Guard District, prior to construction of the bridge. All work shall be so conducted that the free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that affect navigation shall be given to the District Commander during construction of the bridge. The channel or channels through the structure shall be promptly cleared of all obstructions placed therein or caused by the construction of the bridge to the satisfaction of the District Commander, when in the judgement of the District Commander the construction work has reached a point where such action should be taken, but in no case later than 90 days after the bridge has been opened to traffic.

The location of, and materials to be used in construction of, the pier protection fender system as shown on the approved plan sheets revised dated 13 July 2006 shall be submitted to the District Commander for approval prior to commencing construction of such system.

All parts of the existing-to-be-replaced U.S. 70 Business (Alfred Cunningham) Bridge and the temporary fender and bent across the Trent River, mile 0.0, not utilized in the new bridge shall be removed down to or below the natural bottom of the waterway and the waterway cleared to the satisfaction of the District Commander. A period of 90 days subsequent to the opening to traffic of the U.S. 70 Business (Alfred Cunningham) Bridge, at mile 0.0, will be allowed for such removal and clearance.

When the proposed bridge is no longer used for transportation purposes, it shall be removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander. Such removal and clearance shall be

completed by and at the expense of the owner of the bridge upon due notice from the District Commander.

The approval hereby granted shall cease and be null and void unless construction of the bridge is commenced within three years and completed within five years after the date of the USCG permit.

The Contractor shall submit his plan and schedule of operation for approval at least 30 days prior to commencement of work in the waterway. On copy of such information shall be submitted concurrently to both the Resident Engineer, the United States Coast Guard Commander (dpb); Federal Building, 4th Floor, 431 Crawford Street; Portsmouth, Virginia- 23704-5004, and the U. S. Coast Guard Sector North Carolina at 2301 East Fort Macon Road, Atlantic Beach, NC 28512-5633. The information shall include a sketch of the waterway; the bridge; the location of any restrictions that will be placed in the waterway such as barges, anchors, and anchor lines; the location and height above mean high water and detailed description of any scaffolding, or netting; detailed description indicating the placement, type and dimension of any cofferdams if used. The schedule should also include the hours of operation and whether or not the equipment will be removed at night. The contractor shall comply with all provisions of the Navigation Rules International - Inland, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. The Contractor shall submit to the Resident Engineer a copy of all correspondence between the Coast Guard and himself or herself. No deviation from the approved plan and schedule of operation may be made unless the modification has previously been submitted and approved by the Coast Guard.

All bridge closures for the existing-to-be-replaced bridge shall be requested in writing to be received at this office at least 15 days in advance. If any closures will exceed three consecutive days, we must be advised at least 30 days in advance so that we may make the appropriate marine notifications. Time restrictions for the navigational traffic shutdown shall be strictly adhered to. Any request for an extension of the closure dates stated above shall be forwarded at least 30 days in advance to the Coast Guard for approval. At no time during the work will the waterway be closed to navigation without prior approval from the Coast Guard. You are required to maintain close and regular contact with Coast Guard Sector North Carolina to keep them informed to activities in waterway at (252) 247-4570.

Barges that are used in the waterway during the project must be marked in accordance with Title 33 Code of Federal Regulations, Section 118.95 that outlines temporary marking and lighting requirements. Enclosure (2) outlines temporary marking and lighting requirements for barges and structures not part of the bridge that will be used during construction. If barge or float anchor lines are used, they must be marked by anchor buoys, which should be lighted. If you should have any questions, regarding lights on the barges or work floats, please contact Mr. John Walters, Chief, Planning and Waterways Management Section, at (757) 398-6230. Floating equipment shall have a radiotelephone capable of operation from its main control station in accordance with Part 26 of Title 33, Code of Federal Regulations and shall be monitored during all periods the floating equipment is on station.

During the progress of work, while the channel is in operation, should any material, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced which may be dangerous to or obstruct navigation, immediate notice shall be given to the Coast Guard and the object removed with the utmost dispatch. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the Coast Guard shall give a description and location of any such object and the action taken or being taken to protect navigation.

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: (dpb)
Phone: (757) 398-6629
Fax: (757) 398-6334
Email: Gary.S.Heyer@uscg.mil

16591
7 MAR 07

Mrs. Elizabeth Lusk
Project Manager, Natural Environment Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699

Dear Mrs. Lusk:

Enclosed is Coast Guard Bridge Permit 1-07-5 dated March 5, 2007, approving the location and plans of a bridge across Trent River between New Bern and James City, North Carolina. The following stipulations shall be adhered to:

a. The Contractor shall submit his plan and schedule of operation for approval at least 45 days prior to commencement of work in the waterway. On copy of such information shall be submitted concurrently to both the Resident Engineer, the United States Coast Guard Commander (dpb); Federal Building, 4th Floor, 431 Crawford Street; Portsmouth, Virginia 23704-5004, and the U. S. Coast Guard Sector North Carolina at 2301 East Fort Macon Road, Atlantic Beach, NC 28512-5633. The information shall include a sketch of the waterway; the bridge; the location of any restrictions that will be placed in the waterway such as barges, anchors, and anchor lines; the location and height above mean high water and detailed description of any scaffolding, or netting; detailed description indicating the placement, type and dimension of any cofferdams if used. The schedule should also include the hours of operation and whether or not the equipment will be removed at night. The contractor shall comply with all provisions of the Navigation Rules International - Inland, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. The Contractor shall submit to the Resident Engineer a copy of all correspondence between the Coast Guard and himself or herself. No deviation from the approved plan and schedule of operation may be made unless the modification has previously been submitted and approved by the Coast Guard.

b. All bridge closures for the existing-to-be-replaced bridge shall be requested in writing to be received at this office at least 15 days in advance. If any closures will exceed three consecutive days, we must be advised at least 30 days in advance so that we may make the appropriate marine notifications. Time restrictions for the navigational traffic shutdown shall be strictly adhered to. Any request for an extension of the closure dates stated above shall be forwarded at least 30 days in advance to the Coast Guard for approval. At no time during the work will the waterway be closed to navigation without prior approval from the Coast Guard. You are required to maintain close and regular contact with Coast Guard Sector North Carolina to keep them informed to activities in waterway at (252) 247-4570.

c. Barges that are used in the waterway during the project must be marked in accordance with Title 33 Code of Federal Regulations, Section 118.95 that outlines temporary marking and lighting requirements. Enclosure (2) outlines temporary marking and lighting requirements for

barges and structures not part of the bridge that will be used during construction. If barge or float anchor lines are used, they must be marked by anchor buoys, which should be lighted. If you should have any questions, regarding lights on the barges or work floats, please contact Mr. John Walters, Chief, Planning and Waterways Management Section, at (757) 398-6230. Floating equipment shall have a radiotelephone capable of operation from its main control station in accordance with Part 26 of Title 33, Code of Federal Regulations and shall be monitored during all periods the floating equipment is on station.

d. During the progress of work, while the channel is in operation, should any material, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced which may be dangerous to or obstruct navigation, immediate notice shall be given to the Coast Guard and the object removed with the utmost dispatch. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the Coast Guard shall give a description and location of any such object and the action taken or being taken to protect navigation.

e. Upon completion of the proposed project, an inspection of the waterway bottom shall be performed to insure that all construction waste materials have been completely removed. Certification will be required in writing by a licensed engineer or licensed surveyor that the waterway has not been impaired and all construction related debris has been cleared from it. The certification shall include the actual method used to conduct the inspection. The Contractor shall remove any bridge related debris, resulting from the current or prior work or occurrences, discovered during this survey.

f. Upon completion of the bridgework, a responsible official of the North Carolina Department of Transportation shall verify as-built clearances and a statement attesting to the correctness of the clearances shall be forwarded to this office for record purpose. In lieu of verification by the above listed official, certification by a licensed surveyor or registered professional engineer registered in the State of North Carolina will be accepted.

g. Except as shown on the plans, no dredging, excavation, filling, rip-rap, or other work affecting the bottom, shall be done in conjunction with this work.

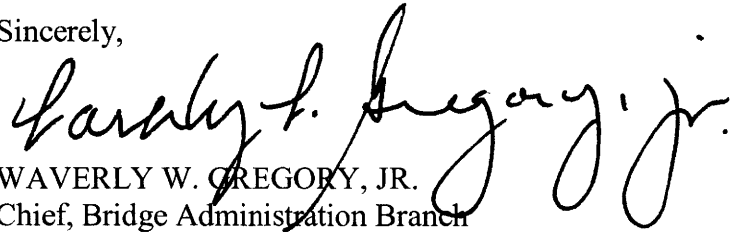
h. If during the periods of construction, permanent lighting cannot be maintained operable, the fenders of each pier shall be marked with a battery or power operated quick flashing white light of not less than 60 flashes per minute and visible for a range of 2,000 yards on 90% of the nights of the year. Generally, a lamp of 20-candle power will meet these requirements. If necessary to obtain coverage required, a light or lights on the upstream and downstream sides shall be installed. The piers shall be so marked until the construction has been completed and permanent navigational lighting has been reinstalled and determined to be operating satisfactorily. Written approval from the Coast Guard of temporary lighting during periods of construction is required. No existing bridge navigation lights shall be impaired or blocked during darkness or periods of reduced visibility.

i. Compliance with the requirements stated herein does not relieve the contractor of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of the State of North Carolina, or any other federal, state or local

authority having cognizance of any aspect of the location, construction or maintenance of said bridge. It is advised that the Coast Guard can levy monetary civil penalties for violations of bridge regulations and statutes.

The office of the Bridge Administrator, Fifth Coast Guard District, shall be notified immediately upon completion of the project. If you should have any questions regarding this matter, please call Mr. Gary Heyer at the above listed telephone number.

Sincerely,

A handwritten signature in black ink, reading "Waverly W. Gregory, Jr." in a cursive script.

WAVERLY W. GREGORY, JR.
Chief, Bridge Administration Branch
By direction of the Commander
Fifth Coast Guard District

Encl: (1) Bridge Permit 1-07-5 dated March 5, 2007
(2) USCG Temporary Marking & Lighting

Copy: John Walters, (dpw) w/encl
USCG Sector North Carolina w/encl



BRIDGE PERMIT

(1-07-5)

MAR 5 2007

WHEREAS by Title V of an act of Congress approved August 2, 1946, entitled "General Bridge Act of 1946," as amended (33 U.S.C. 525-533), the consent of Congress was granted for the construction, maintenance and operation of bridges and approaches thereto over the navigable waters of the United States;

AND WHEREAS the Secretary of Homeland Security has delegated the authority of Section 502(b) of that act to the Commandant, U. S. Coast Guard by Department of Homeland Security Delegation Number: 0170.1;

AND WHEREAS before construction is commenced, the Commandant must approve the location and plans of any such bridge and may impose any specific conditions relating to the construction, maintenance and operation of the structure deemed necessary in the interest of public navigation, such conditions to have the force of law;

AND WHEREAS the - STATE OF NORTH CAROLINA - has submitted for approval the location and plans of a bridge to be constructed across the Trent River between New Bern and James City, North Carolina;

NOW THEREFORE, This is to certify that the location and plans revised 13 July 2006 are hereby approved by the Commandant, subject to the following conditions:

1. No deviation from the approved plans may be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant.

2. The construction of falsework, cofferdams or other obstructions, if required, shall be in accordance with plans submitted to and approved by the Commander, Fifth Coast Guard District, prior to construction of the bridge. All work shall be so conducted that the free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that may affect navigation shall be given to the District Commander during construction of the bridge. The channel or channels through the structure shall be promptly cleared of all obstructions placed therein or caused by the construction of the bridge to the satisfaction of the District Commander, when in the judgment of the District Commander the construction work has reached a point where such action should be taken, but in no case later than 90 days after the bridge has been opened to traffic.

**Bridge across the Trent River between New Bern and
James City, North Carolina**

MAR 5 2007

BRIDGE PERMIT
(1-07-5)

3. Issuance of this permit does not relieve the permittee of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of any federal, state or local authority having cognizance of any aspect of the location, construction or maintenance of said bridge.

4. The location of, and materials to be used in construction of, the pier protection fender system as shown on the approved plan sheets revised 13 July 2006 shall be submitted to the District Commander for approval prior to commencing construction of such system.

5. Clearance gauges shall be installed and maintained in a good and legible condition by and at the expense of the owner of the bridge. The type of gauges and the locations in which they are to be installed will be submitted to the District Commander for approval.

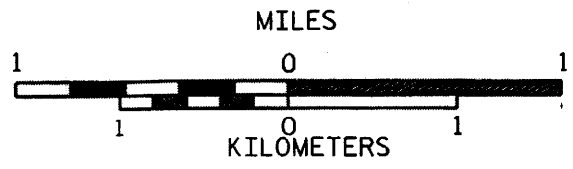
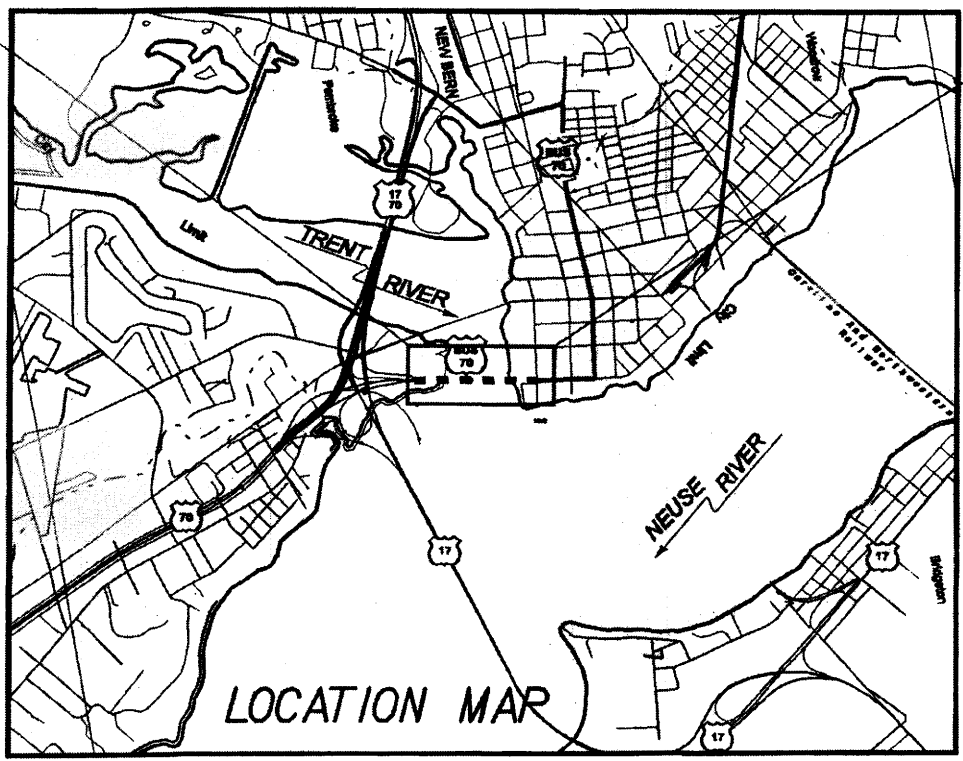
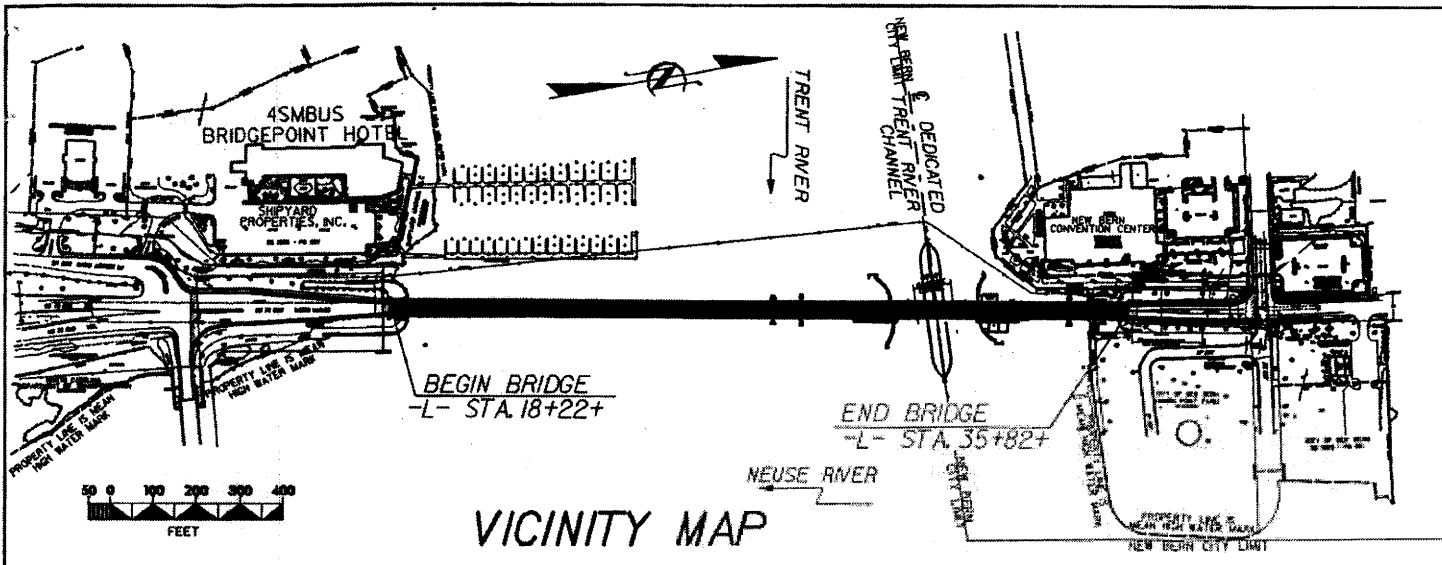
6. All parts of the existing to-be-replaced U.S. 70 Business (Alfred Cunningham) Bridge and the temporary fender and bent across the Trent River, mile 0.0, not utilized in the new bridge shall be removed down to or below the natural bottom of the waterway and the waterway cleared to the satisfaction of the District Commander. A period of 90 days subsequent to the opening to traffic of the new U.S. 70 Business (Alfred Cunningham) Bridge, mile 0.0, will be allowed for such removal and clearance.

7. When the proposed bridge is no longer used for transportation purposes, it shall be removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander. Such removal and clearance shall be completed by and at the expense of the owner of the bridge upon due notice from the District Commander.

8. The approval hereby granted shall cease and be null and void unless construction of the bridge is commenced within three years and completed within five years after the date of this permit.

 FOR

N. E. MPRAS
Chief, Office of Bridge Administration
U. S. Coast Guard
By direction of the Commandant



SHEET 1 OF 4 REVISED 7-13-06

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

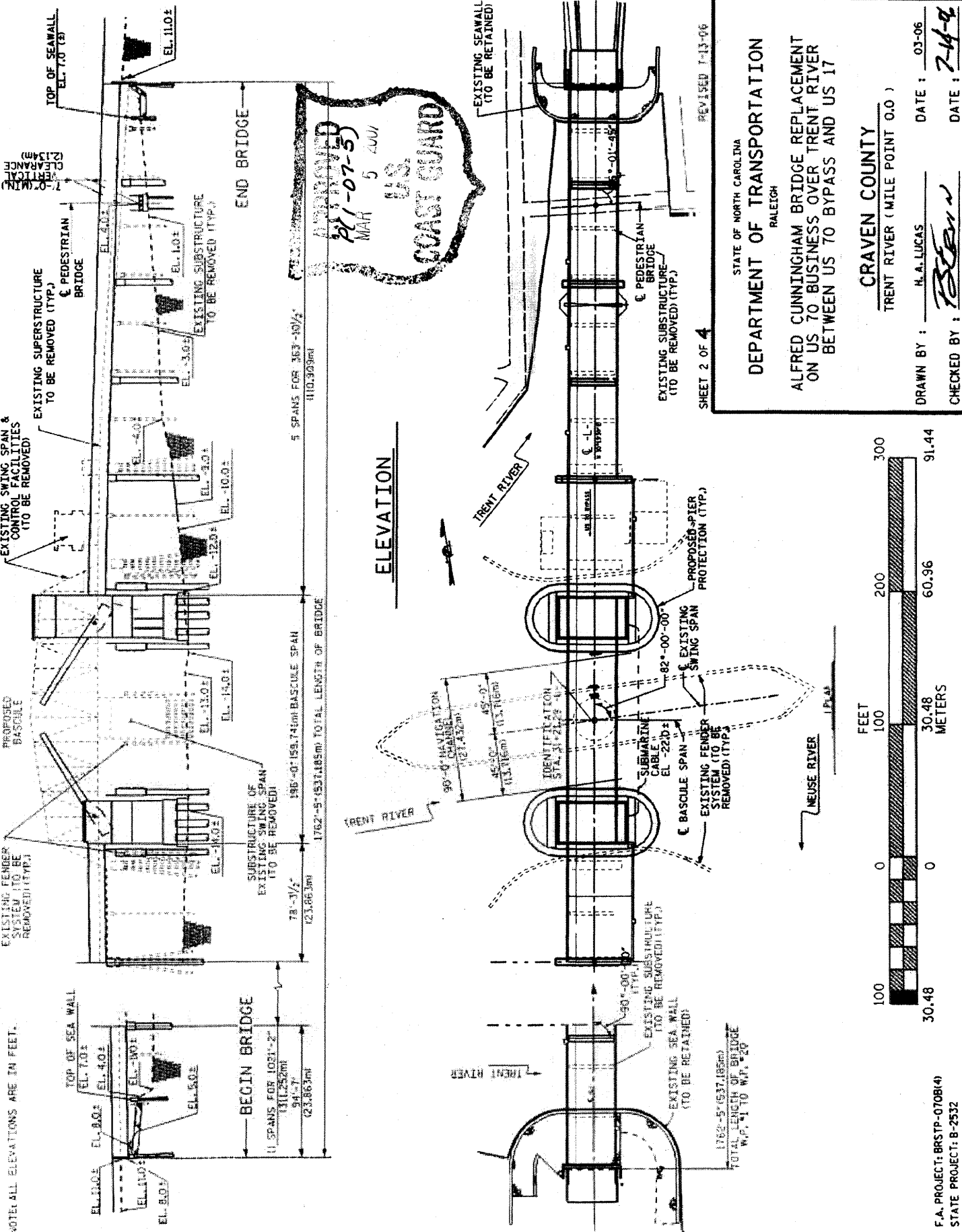
ALFRED CUNNINGHAM BRIDGE REPLACEMENT
ON US 70 BUSINESS OVER TRENT RIVER
BETWEEN US 70 BYPASS AND US 17

CRAVEN COUNTY
TRENT RIVER (MILE POINT 0.0)

DRAWN BY : H. A. LUCAS DATE : 03-06
CHECKED BY : *B. BERVIN* DATE : *7/14/06*

F.A. PROJECT: BRSTP-070B(4)
STATE PROJECT: B-2532

ER/C1



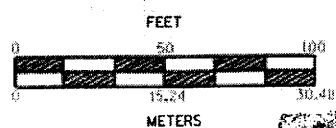
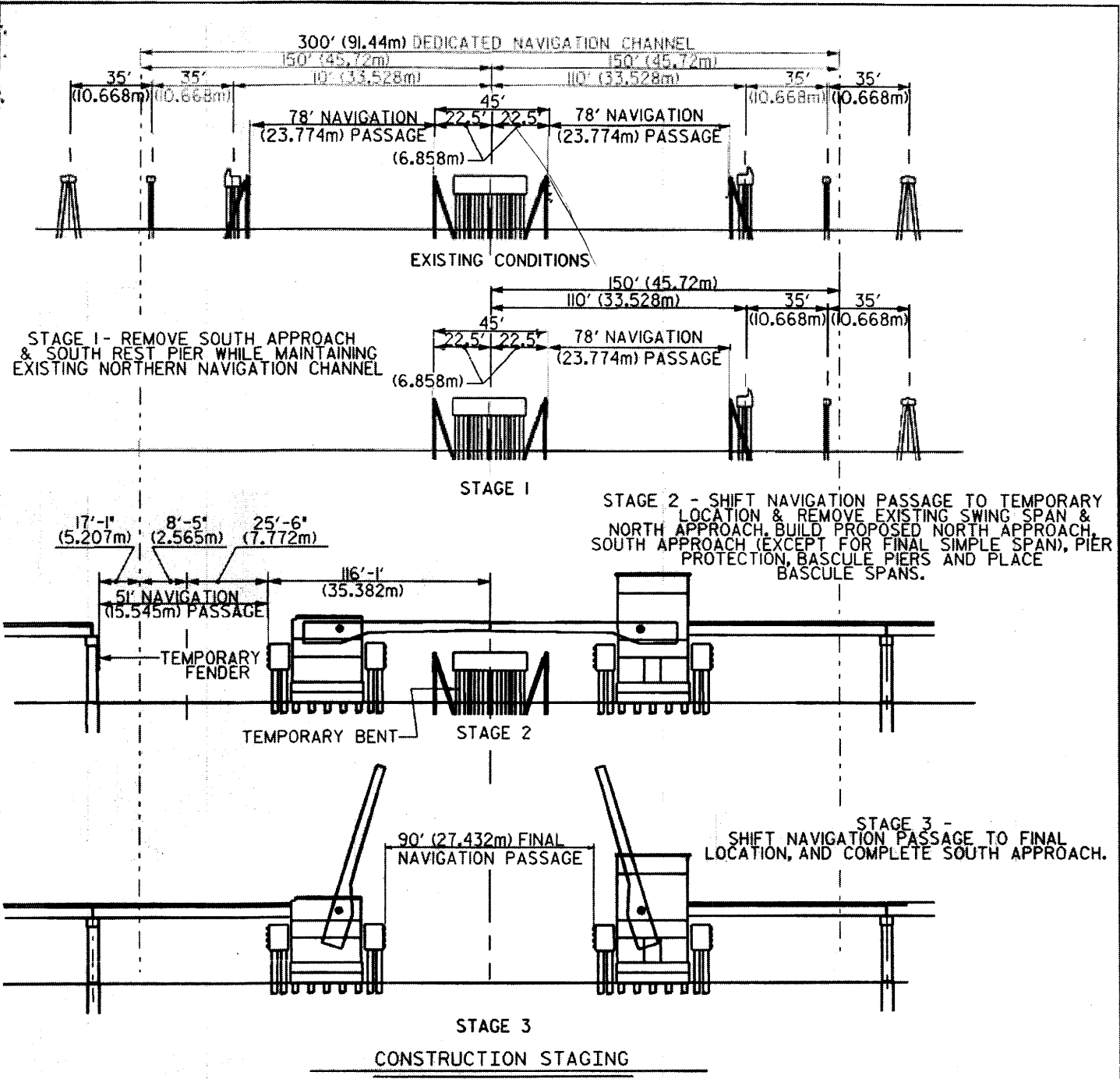
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

ALFRED CUNNINGHAM BRIDGE REPLACEMENT
 ON US TO BUSINESS OVER TRENT RIVER
 BETWEEN US TO BYPASS AND US 17

CRAVEN COUNTY
 TRENT RIVER (MILE POINT 0.0)

DATE : 03-06
 DATE : 2-14-09

DRAWN BY : H. A. LUCAS
 CHECKED BY : *B. Ben*



SHEET 3 OF 4

REVISED 7-13-06

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

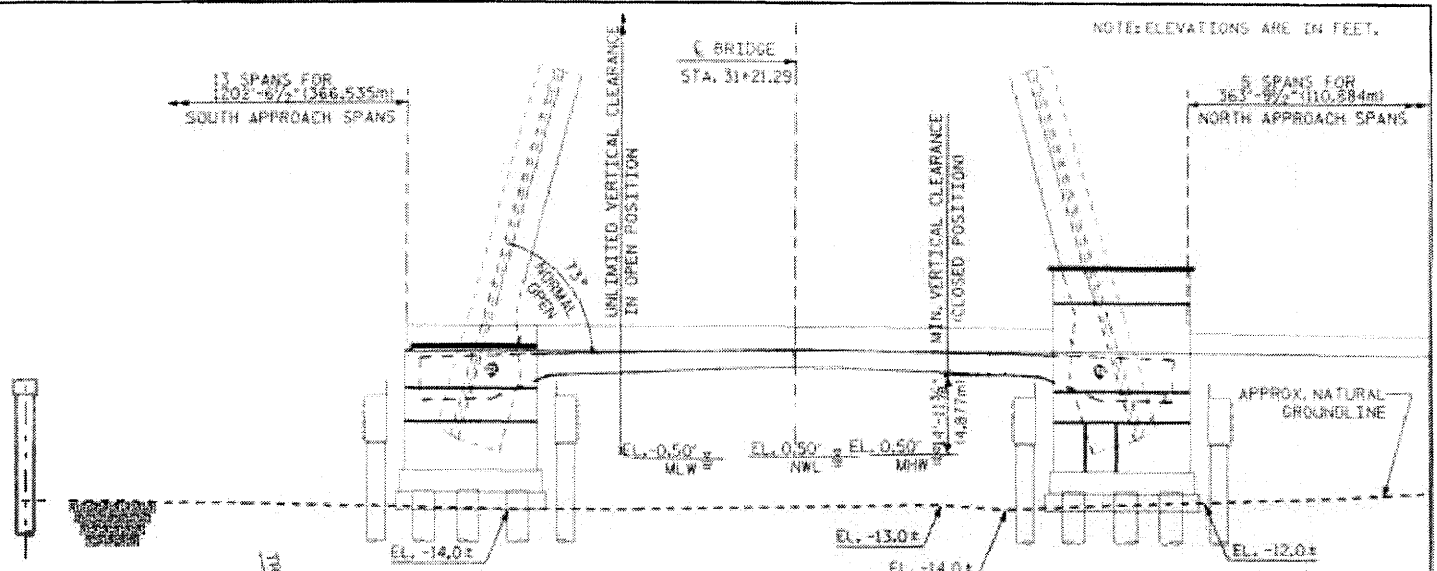
ALFRED CUNNINGHAM BRIDGE REPLACEMENT
 ON US 70 BUSINESS OVER TRENT RIVER
 BETWEEN US 70 BYPASS AND US 17

CRAVEN COUNTY
 TRENT RIVER (MILE POINT 0.0)

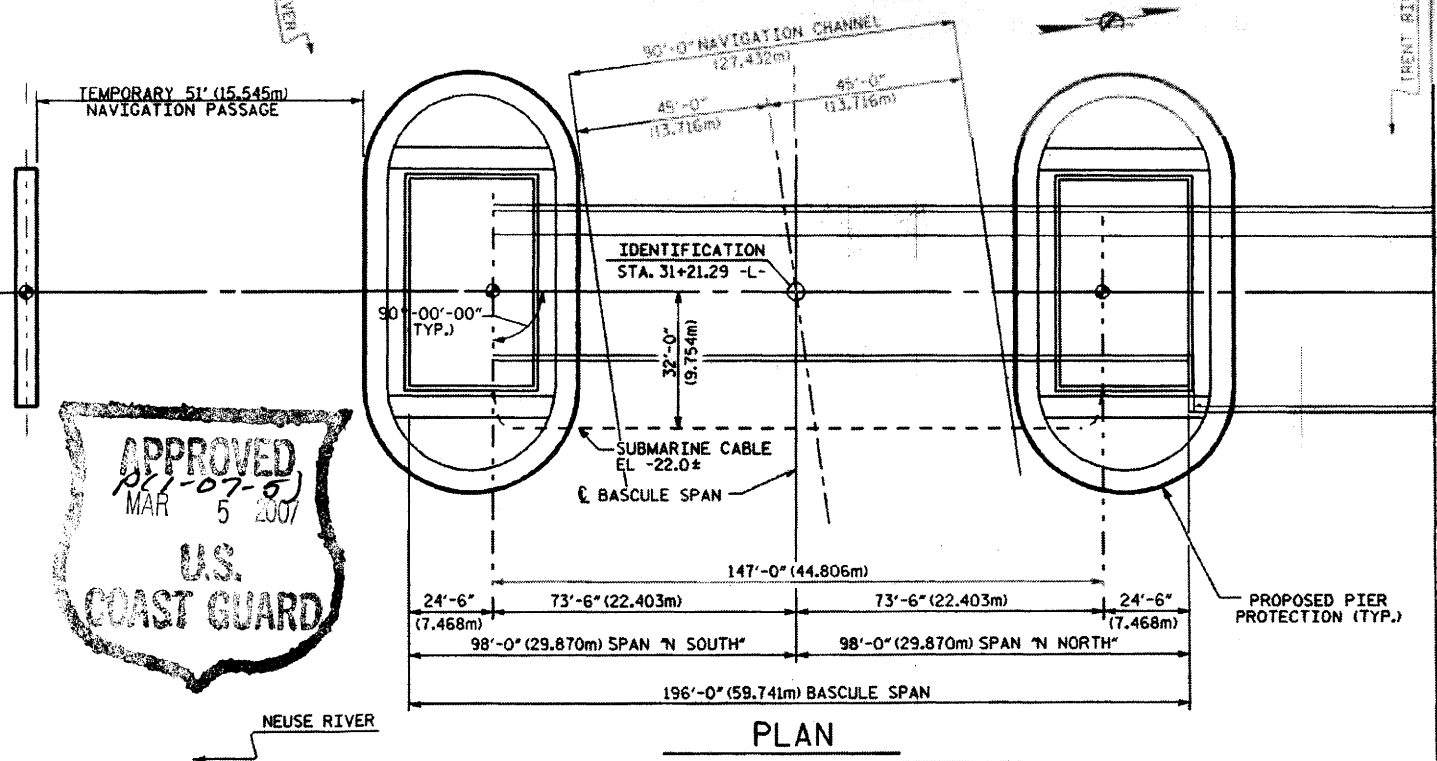
DRAWN BY : H. A. LUCAS DATE : 03-06

CHECKED BY : *F. BEVIN* DATE : 7-14-06

NOTE: ELEVATIONS ARE IN FEET.



ELEVATION



PLAN



SHEET 4 OF 4 REVISED 7-13-06

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION
RALEIGH

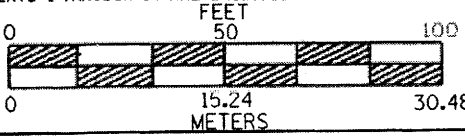
ALFRED CUNNINGHAM BRIDGE REPLACEMENT
ON US 70 BUSINESS OVER TRENT RIVER
BETWEEN US 70 BYPASS AND US 17

CRAVEN COUNTY
TRENT RIVER (MILE POINT 0.0)

DRAWN BY : H. A. LUCAS DATE : 03-06

CHECKED BY : *BEVIN* DATE : 7-14-06

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH AASHTO'S "GUIDE SPECIFICATION AND COMMENTARY FOR VESSEL COLLISION DESIGN OF HIGHWAY BRIDGES" USING CRITICAL IMPORTANCE CLASSIFICATION, METHOD II CRITERIA. BENTS 1 THROUGH 14 ARE INCLUDED FOR VESSEL IMPACT CONSIDERATION.



F.A. PROJECT: BRSTP-070B(4) 0
STATE PROJECT: B-2532

**LIGHTING REQUIREMENTS FOR BARGES AND STRUCTURES NOT PART OF A
BRIDGE OR APPROACH STRUCTURE**

88.13 Lights on barges at bank or dock.

- (a) The following barges shall display at night and, if practicable, in periods of restricted visibility the lights described in paragraph (b) of this section -
 - (1) Every barge projecting into a buoyed or restricted channel.
 - (2) Every barge so moored that it reduces the available navigable width of any channel to less than 80 meters.
 - (3) Barges moored in groups more than two barges wide or to a maximum width of over 25 meters.
 - (4) Every barge not moored parallel to the bank or dock.

- (b) Barges described in paragraph (a) shall carry two unobstructed white lights of an intensity to be visible for a least one mile on a clear dark night and arranged as follows:
 - (1) On a single moored barge, lights shall be placed on the two corners farthest from the bank or dock.
 - (2) On barges moored in group formation, a light shall be placed on each of the upstream and downstream ends of the group, on the corners farthest from the bank or dock.
 - (3) Any barge in a group, projecting from the main body of the group toward the channel, shall be lighted as a single barge.

- (c) Barges moored in any slip or slough, which is used primarily for mooring purposes, are exempt from the lighting requirements of this section.

**33 CODE OF FEDERAL REGULATIONS, SECTION 118.95
LIGHTS ON STRUCTURES NOT PART OF A BRIDGE OR APPROACH STRUCTURE**

Lights on sheer booms, isolated piers, obstructions, and other structures not part of a bridge or approach structure must meet the requirements for aids to navigation in Subpart 66.01 of Part 66 of this chapter

33 CODE OF FEDERAL REGULATIONS, SECTION 66.01-10

- (a) The characteristics of a private aid to navigation shall conform to the United States Aids to Navigation System described in Subpart B of Part 62 of this subchapter, except that only tungsten-incandescent light sources will be approved for electric lights.

Therefore in accordance with 33 CFR 66.01-10(a), the above lights shall be marked with slow flashing yellow lights visible for two miles on a clear dark night. Lights similar to the Tideland ML-120 Barge Light may be used. Only tungsten-incandescent light sources will be approved for electric lights.

encl (2)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

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

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

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

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

1. The project manager and/or contractor will inform all personnel associated with the project that manatees may be present in the project area, and the need to avoid any harm to these endangered mammals. The project manager will ensure that all construction personnel know the general appearance of the species and their habit of moving about completely or partially submerged in shallow water. All construction personnel will be informed that they are responsible for observing water-related activities for the presence of manatees.
2. The project manager and/or the contractor will advise all construction personnel that

there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act and the Endangered Species Act.

3. If a manatee is seen within 100 yards of the active construction and/or dredging operation or vessel movement, all appropriate precautions will be implemented to ensure protection of the manatee. These precautions will include the immediate shutdown of moving equipment if a manatee comes within 50 feet of the operational area of the equipment. Activities will not resume until the manatee has departed the project area on its own volition (i.e., it may not be herded or harassed from the area).

4. Any collision with and/or injury to a manatee will be reported immediately. The report must be made to the U.S. Fish and Wildlife Service (ph. 919.856.4520 ext. 16), the National Marine Fisheries Service (ph. 252.728.8762), and the North Carolina Wildlife Resources Commission (ph. 252.448.1546).

5. A sign will be posted in all vessels associated with the project where it is clearly visible to the vessel operator. The sign should state:

CAUTION: The endangered manatee may occur in these waters during the warmer months, primarily from June through October. Idle speed is required if operating this vessel in shallow water during these months. All equipment must be shut down if a manatee comes within 50 feet of the vessel or operating equipment. A collision with and/or injury to the manatee must be reported immediately to the U.S. Fish and Wildlife Service (919-856-4520 ext. 16), the National Marine Fisheries Service (252.728.8762), and the North Carolina Wildlife Resources Commission (252.448.1546).

6. The contractor will maintain a log detailing sightings, collisions, and/or injuries to manatees during project activities. Upon completion of the action, the project manager will prepare a report which summarizes all information on manatees encountered and submit the report to the Service's Raleigh Field Office.

7. All vessels associated with the construction project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

8. If siltation barriers must be placed in shallow water, these barriers will be: (a) made of material in which manatees cannot become entangled; (b) secured in a manner that they cannot break free and entangle manatees; and, (c) regularly monitored to ensure that manatees have not become entangled. Barriers will be placed in a manner to allow manatees entry to or exit from essential habitat.

Prepared by (rev. 06/2003):
U.S. Fish and Wildlife Service
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919/856-4520

Figure 1. The whole body of the West Indian manatee may be visible in clear water; but in the dark and muddy waters of coastal North Carolina, one normally sees only a small part of the head when the manatee raises its nose to breathe.

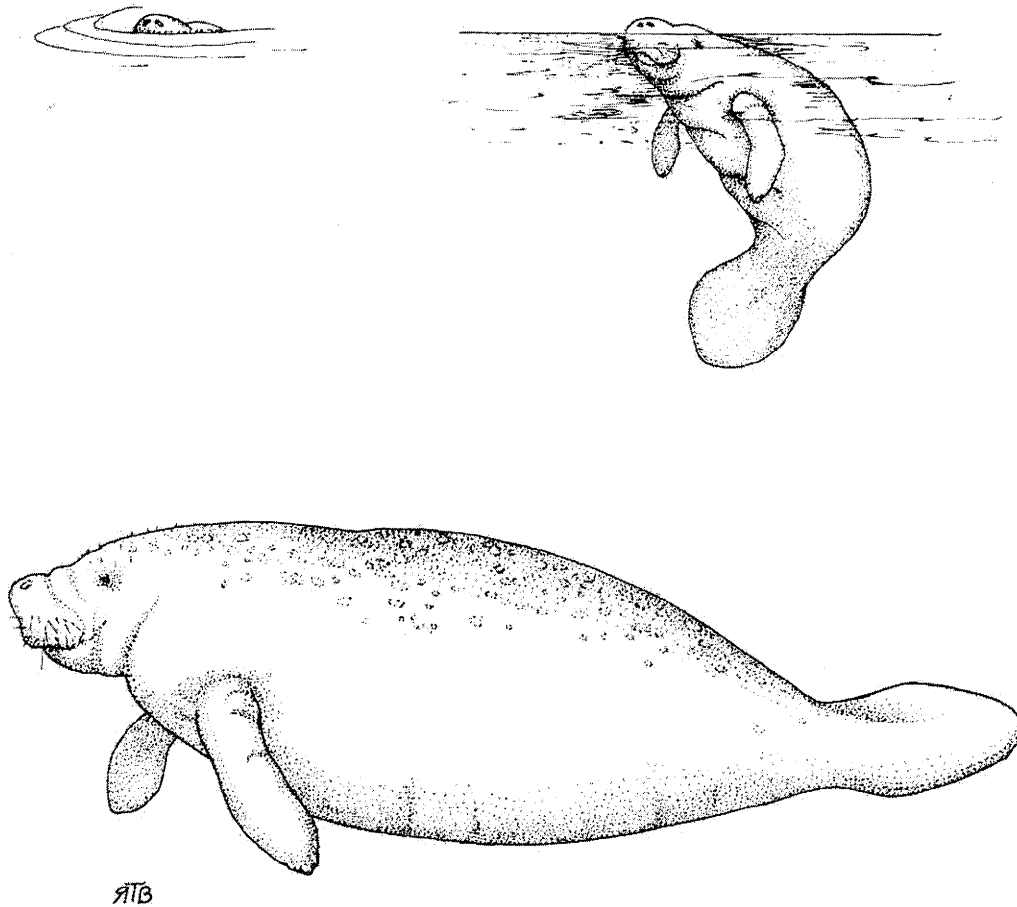


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Source: Clark, M. K. 1987. Endangered, Threatened, and Rare Fauna of North Carolina: Part I. A re-evaluation of the mammals. Occasional Papers of the North Carolina Biological Survey 1987-3. North Carolina State Museum of Natural Sciences. Raleigh, NC. pp. 52.