



NEW HANOVER COUNTY

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September 30, 2014

Ms. Lisa Kiefel, Planning Portfolio Manager
U.S. Army Corps of Engineers, CECW-CE
Headquarters, USACE
441 G Street NW
Washington, DC 20314-1000

Re: USACE's 2015 Annual Report to Congress – Inclusion of Carolina Beach

Dear Ms. Kiefel,

New Hanover County (NHC), on behalf of Carolina Beach (see enclosed letter) and with the support of the North Carolina Department of Environment and Natural Resources (NCDENR) (see enclosed letter), respectfully submits the enclosed proposal for consideration by the US Assistant Secretary of the Army (ASA). As a stakeholder in the Carolina Beach Coastal Storm Damage Reduction Project, NHC is providing a non-Federal proposal (Title VII, WRRDA 2014) which supports Carolina Beach's inclusion within the USACE's 2015 Annual Report to Congress. NHC respectfully requests that the ASA review, assess and certify our proposal as meeting the criteria mandated by Congress.

The Carolina Beach Coastal Storm Damage Reduction Project is the nation's first to successfully reach a 50-year USACE mission milestone. With the passage of WRRDA 2014 and *SEC. 1037 (a), "(b) REVIEW. "...extending the period of nourishment... for a period not to exceed 15 additional years..."*; we feel our proposal provides justification for the ASA's certification as meeting Congressional criteria. H. Layton Bedsole Jr., REM (910/798-7104) will serve as the county's contact should you have questions or need additional information.

Thank you for your time and in advance for your attention to this very important matter.

Sincerely,

Tim Burgess
Assistant County Manager

Enclosures

Cc: Colonel Kevin Landers, SAW (via email w/enclosures)
Wilbert Payne, SAD (via email w/enclosures)
Tom Reeder, NCDWR (via email w/enclosures)
Michael Cramer, CB Town Manager (via email w/enclosures)
Chris Coudriet, NHC County Manager (via email w/enclosures)
Layton Bedsole, NHC Shore Protection Coordinator (via email w/enclosures)

Water Resource Development Project Proposed Modification

**Carolina Beach - Coastal Storm Damage Reduction Project
Carolina Beach, North Carolina**



**Submitted by New Hanover County
In coordination with Carolina Beach
& the State of North Carolina**

September 2014

Executive Summary

The Water Resources Reform & Development Act of 2014 (WRRDA 2014) *SEC. 7001* provides non-Federal interests a methodology for proposing feasibility reports, studies or proposed modifications to authorized water resource development projects. If the Assistant Secretary of the Army (Civil Works) or ASA deems the proposal compliant with Congressional criteria set forth in *SEC. 7001*, the ASA shall include those proposals to Congress in the annual “*Report to Congress on Future Water Resources Development.*”

WRRDA 2014 *SEC. 103. Hurricane and Storm Damage Reduction.* (a), “(b) provides non-Federal stakeholders a “study” path for extending a coastal storm damage reduction (CSDR) project for a period not to exceed 15 years. The Town of Carolina Beach (CB) as the non-Federal sponsor (NFS) of the CB CSDR together with New Hanover County (NHC) and the State of North Carolina (NC) is proposing a study or project modification that will extend the CB CSDR Federal authorization to 2032. NHC is providing the following proposal justifying why the CB CSDR project modification should be included in the US Army Corps of Engineers’ (USACE) 2015 Report to Congress.

Carolina Beach CSDR Project, Authorization History

- Authorized by Congress in 1962 (initial construction in 1964)
- Section 934 re-evaluation in 1993 (WRDA 1986)
 - Federal participation authorized through 2014
- Authorization extended for three years (WRRDA 2014)
 - Federal participation authorized through 2017

Project Description

The CB CSDR project begins just north of the Carolina Beach Fishing Pier and extends south 14,000 linear feet to approximately Tennessee Avenue (Figure One). The cross-sectional design template begins with a 25-foot wide dune cresting at 12.5 feet adjoined waterward by a 50-foot wide berm at elevation 9.5 feet (Figure Two). The project also consists of a shore parallel rock revetment 2,075 feet long located at the project’s northern limits. The revetment’s cross-sectional design includes the revetment at elevation 9.5 feet fronted by a 130-foot berm at an elevation of 5.5 feet (Figure Three).

Carolina Beach, NC

Legend

- MUNICIPAL BOUNDARIES
- PROJECT AREA**
 - CAROLINA BEACH STORM DAMAGE REDUCTION AREA
 - KURE BEACH STORM DAMAGE REDUCTION AREA



Figure One: Project Bounds

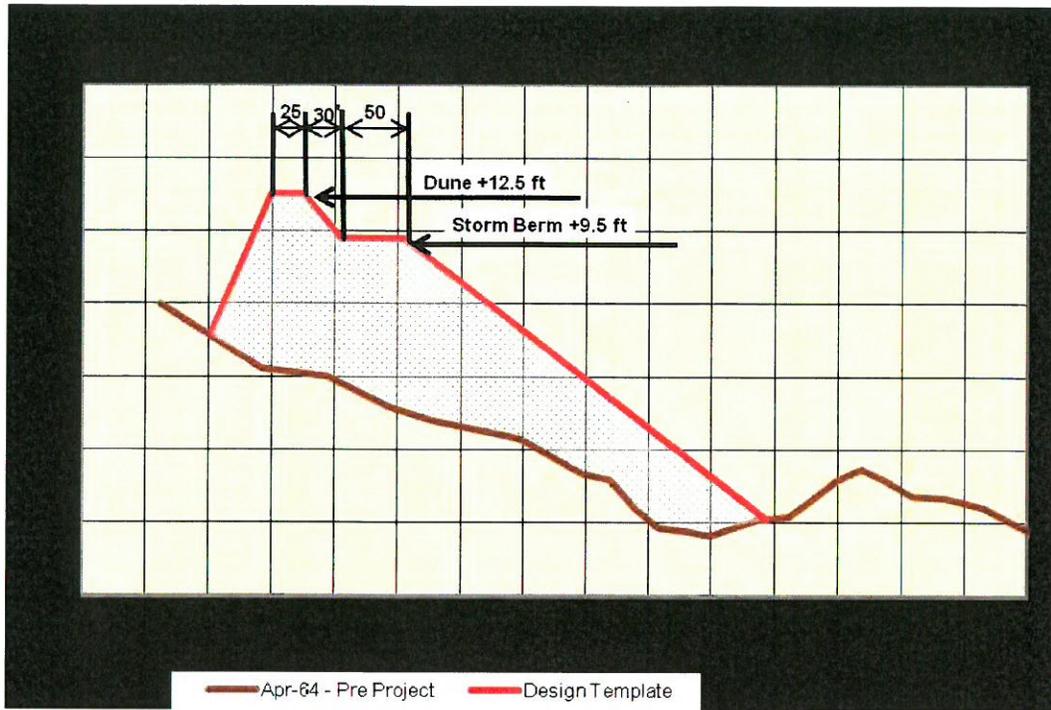


Figure Two: Typical Cross Section

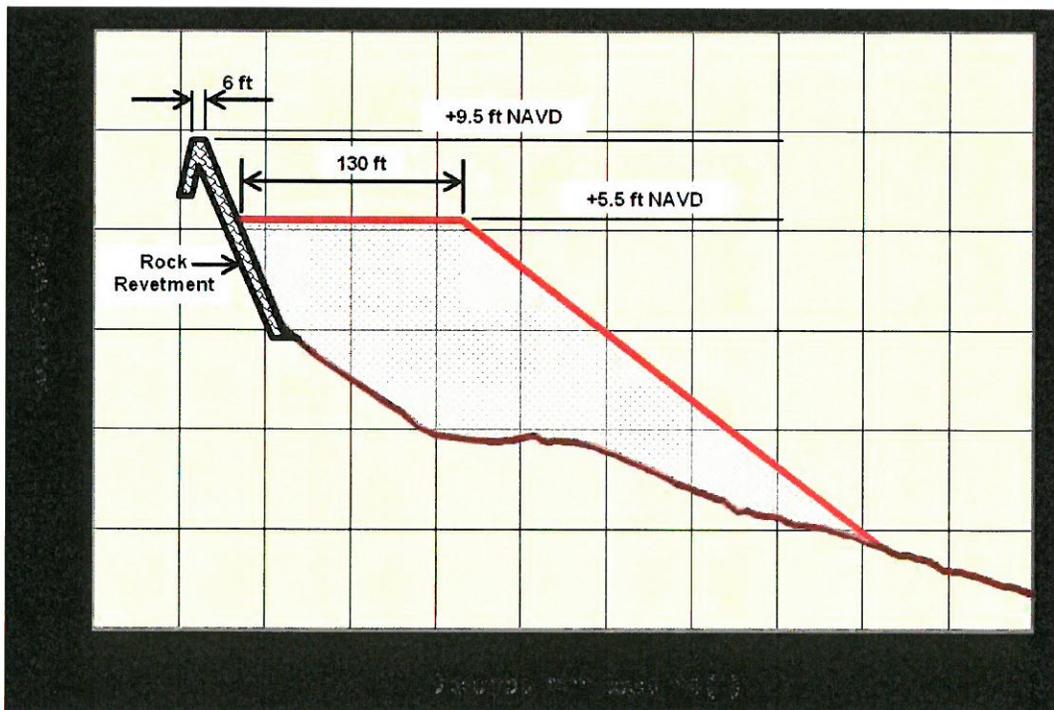


Figure Three: Typical Revetment Cross Section

The project's maintenance has been routinely implemented on three-year cycles using primarily a self-recharging borrow site within the Carolina Beach Inlet throat. The sand within the inlet borrow site meets the NC Sediment Criteria regulated by the NC Division of Coastal Management (NCDCM) and provides the volume necessary for continuing the project's three-year maintenance cycle. There is an adjacent offshore borrow site that also meets the NC Sediment Criteria that can be considered as a second borrow source for the project.

The project has functioned very well in reducing risk to life and infrastructure and has met the design's purpose and need. The following descriptors are just two examples of storm protection and system response the CB CSDR project has provided over the past several decades. *Fran*, a 120-year storm event came up the Cape Fear River in 1996 making landfall on the NHC beaches. There were no Carolina Beach structures threatened by erosion that were located behind the project's dune system. Three years later in 1999 *Floyd*, a 75-year event also made landfall on the NHC coastline and again there were no Carolina Beach structures threatened by the erosional forces brought by *Floyd*.

The Town of Carolina Beach maintains 32 public crossovers facilitating public access to the ocean front while spanning the dune system and associated dune vegetation. The town delineates areas along the dune system with educational placards and restricted pedestrian access protecting the vegetated system. As part of continued monitoring, NHC provides annual surveyed transects for Carolina Beach, Kure Beach and Wrightsville Beach. Such reproducible science is instrumental in managing the ebb and flow of sand resources along NHC's oceanfronts and inlet systems.

Proposal Requested Information

On 5 August 2014, the USACE provided a notice in the Federal Register / Vol. 79, No. 150 requesting proposals from non-Federal interests supporting "...modifications to authorized USACE water resources development projects..." NHC is providing the following supporting narrative as requested in the notification, Supplemental Information Section.

1. Provide the name of all non-Federal interests planning to act as the sponsor, including any non-Federal interest that has contributed or is expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Three NC governmental entities have represented the CB CSDR project as active stakeholders. The Town of Carolina Beach is the non-Federal signatory of the USACE's Project Cooperation Agreement. New Hanover County is fiscally responsible for the non-Federal cost share allocation. The State of North Carolina's Department of Environment and Natural Resources (NCDENR), Division of Water Resources (DWR) also participates as a non-Federal stakeholder. This cooperative arrangement has been a solid Federal-State-Local collaboration that would continue if the 15-year extension is found to be justified by the USACE and authorized by Congress. Included are letters of support from both the NCDENR and the Town of Carolina Beach.

2. State if this proposal is for a feasibility study or a modification to an authorized USACE project or feasibility study and, if a modification, specify the authorized project or study.

SEC 1037 of WRDA 2014 states that “the Secretary shall, at the request of the non-Federal interest, carry out a study to determine the feasibility of extending the period of nourishment...for a period not to exceed 15 additional years...” There are no changes proposed to the project design nor its operation and maintenance and the project has demonstrated a half century of success in accomplishing its mission. The stakeholders propose that the requirements of *SEC 1037* be met through a modification to the existing authorized project substantiated by a review and update of continued Federal economic justification and environmental compliance. The stakeholders further support the inclusion of a “Plan for Continued Risk Reduction to People and Property” as required by *SEC 1037* “(c).

3. State the project purpose of the proposed study or modification.

The project has successfully reduced public health risks and public/private infrastructure exposure from coastal storms and hurricanes including direct and indirect effects of *Hugo, Fran, Bonnie, Bertha, Floyd, Irene, Sandy* and several other hurricanes over the last 50 years. The CB CSDR project has served as a significant and effective measure to protect lives while also protecting the public and private infrastructure that supports a vibrant tourism industry, tax bases, small businesses and important natural resources’ habitats. The proposed approach would use the principles of “Smart Planning” to evaluate just what is needed to assess continued Federal participation. Considering the project’s historical success, this proposal supports no reformulation of the existing project.

4. Provide an estimate, to the extent practicable, of the total cost of the proposed study or modification.

Please recognize there are no design or template changes requested; the existing borrow source remains sufficient; historical maintenance cycles remain adequate; cost sharing percentages are supported and no detrimental ecological effects have been documented. In order to make the determination required by *SEC 1037*, an economic and environmental review should be reasonably completed and considered at a cost estimate ranging from \$200K to \$300K within a time frame of 18-months. A 15-year extension would provide five additional maintenance cycles at an approximate cost of \$6.5M/cycle. Annualized over 15 years, the total project costs are estimated at approximately \$2.1M/year; whereas, in 2008 direct expenditures on Carolina Beach were documented within the North Carolina Beach Inlet Management Plan at \$48,891,415.00.

5. Describe, to the extent practicable, the anticipated monetary and non-monetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

USACE Policy Guidance Letter No. 22 dated November 1991 stipulates “Federal participation in periodic beach nourishment at existing projects may be extended if it is determined that based on current evaluation guidelines and policy, the existing project is economically justified”.

In February 1993, the USACE produced a Section 934 Re-evaluation Report and Environmental Assessment for the CB CSDR project. In the 1993 re-evaluation, a commercial/residential property summary indicated a potential loss of nearly 800 structures including infrastructure (transportation/utility) features. The total present worth (1993) of potential losses was approximately \$54.2M. The total expected annual project benefits were approximately \$5.3M and total annual project costs were approximately \$2.7M. The benefit cost ratio was determined as 1.98 to 1.00 and the project's authorization was justified through 2014.

Today's "without-project risks" have grown both in terms of life safety, small business development and structural investment. Carolina Beach has an approximate 6,000 year-round population and an approximate 30,000 seasonal population with a 2014/2015 estimated tax base of \$1,665,949,000.00. The tax base estimate is inclusive of real property estimated at \$1,567,900,000.00, business personal property at \$21,000,000.00 and personal property at \$18,000,000.00. Based on recent NHC tax records, over 40 States and the District of Columbia are represented through property owners in Carolina Beach. Considering routinely used economic analyses, indirect and induced multipliers track the ripple effects from direct expenditures. As such, direct expenditures on Carolina Beach for the year 2008 were documented at \$48,891,415.00 and the annualized CSDR project costs (2011) were computed from Western Carolina University's Beach Nourishment Viewer equating to a \$1,448,500.00/year over the project's entire construction history. The "with-project" economic multipliers extend from the Carolina Beach businesses/owners resulting in a national economic effect. Over 40 States are either residentially and/or commercially represented on Carolina Beach and have benefited from the USACE's CB CSDR project.

The CB CSDR project has successfully co-existed with NC's natural resources including several listed species and their critical habitat. By continuing to maintain Carolina Beach's coastal infrastructure, species such as the loggerhead sea turtle (*Caretta caretta*), piping plover (*Charadrius melodus*) and the red knot (*Calidris canutus*) will continue to have access to habitats conducive to their continued existence.

6. Describe if local support exists for the proposal.

Concurrence has been received from the Town of Carolina Beach and the project's NC non-Federal stakeholder, the NCDENR. Both entities have supplied input for the proposal as well as letters of support (Attachments). NHC Management and NHC's Board of Commissioners support the proposal effort recognizing the success and needed continuance of Federal participation in the CB CSDR project.

7. State if the non-Federal interest has the financial ability to provide for the required cost share.

NHC and NC have successfully co-sponsored the non-Federal fiscal responsibilities' since the project's inception. NHC has a dedicated funding source through a room occupancy tax (ROT) that will continue to support the project's non-Federal cost share allocations. NC recognizes the importance of coastal risk reduction and resiliency as well as the statewide benefits tourism and our natural resources represent in supporting our coastal industrial base. NC will continue

supporting CB's CSDR project's successful management.

8. Submit a letter or statement of support from each associated non-Federal interest. (Attachments)

Process Considerations

NHC requests the ASA to consider the following project specific attributes during the deliberation of the Congressional criteria.

- The CB CSDR was the first coastal shoreline damage control project to successfully complete a 50-year USACE project mission. The project has without a doubt met and/or exceeded the project's purpose and need and the USACE's mission statement.

"The Corps of Engineers' flood and coastal storm damage reduction mission is to provide safe and reliable projects that reduce economic and environmental damages, and prevent loss of life from both inland flooding and coastal storms."

- NHC appreciates the need to ensure continued Federal interest justifying the project's 15-year extension. NHC also recognizes the importance of the ASA's required concurrence as well as that of Congress, likely within future WRRDA legislation.
- In WRRDA 2014, the CB CSDR project was granted an additional three years of authorization; the proposed 15-year extension would require further Congressional action.
- NHC's request for a 15-year extension of Federal authorization has not been included in previous USACE Annual Reports.
- Considering our relationship with the USACE and our CSDR project history, there is no doubt the USACE would continue providing the same level of project success.

Attachments:

North Carolina Letter of Support

Town of Carolina Beach Letter of Support

References:

New Hanover County (NHC). 2011. NHC Beach Nourishment Contingency Plan, prepared by CPE. May 2011. Wilmington, NC.

North Carolina Division of Coastal Management (NCDCM). 2011. NC Beach Inlet and Management Plan (BIMP). Final Report, April 2011. Prepared by Moffatt & Nichol. Raleigh, NC.

North Carolina Division of Water Resources (NCDWR). 2014. Personal communication with Staff Project Manager, D. England. August 2014.

Sea Grant. 2014. Personal communication with Coastal Geologist/Engineer, S. Rogers. August 2014.

Town of Carolina Beach. 2014. Personal communication with Town Manager, M. Cramer. August 2014.

United States Army Corps of Engineers (USACE). 2014. Coastal and Hydraulics Laboratory - Engineer Research and Development Center, Waterways Experiment Station - Vicksburg, Mississippi. Accessible on line at <http://chl.erdc.usace.army.mil/fcsdr>. August 2014.

USACE. 1993. Section 934 Re-evaluation Report and Environmental Assessment. Carolina Beach & Vicinity – Carolina Beach Portion, Carolina Beach, NC. February 1993.

Western Carolina University. 2014. Beach Nourishment Viewer. Accessible on line at <http://beachnourishment.wcu.edu/results.php?state=NC>. August 2014.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

August 19, 2012

Brigadier General C. David Turner, Commander
HQs, United States Army Corps of Engineers, SAD
60 Forsyth Street NW, Room 9M15
Atlanta, Georgia 30303-8801

Dear Brigadier General Turner:

I am writing with respect to the U.S. Army Corps of Engineers Carolina Beach, NC Coastal Storm Damage Reduction Project (CSDR) located in New Hanover County, N.C. The State of North Carolina has historically supported the USACE's CSDR program along our NC coastline and will continue supporting the successful management of our coastal resources and infrastructure. The Corps CSDR projects have helped to limit potential loss of life and infrastructure from coastal impacting weather events during the last several decades.

It is our understanding that New Hanover County wishes to explore the continued federal participation in the Carolina Beach CSDR as authorized in the 2014 WRRDA. With the 50 years of substantiated success of the Carolina Beach CSDR Project, the State fully supports the New Hanover County efforts to extend the life of the project.

Sincerely,



Mitch Gillespie
Assistant Secretary for Environment

Cc: Colonel Kevin Landers, SAW
Chris Coudriet, NHC Manager
Tom Reeder, NCDWR
Layton Bedsole, NHC Shore Protection Coordinator

Dan Wilcox
Mayor

Sarah Friede
Council Member

Steve Shuttleworth
Council Member



LeAnn Pierce
Mayor Pro Tem

Gary Doetsch
Council Member

Michael Cramer
Town Manager

TOWN OF CAROLINA BEACH
1121 N. Lake Park Boulevard
Carolina Beach, North Carolina 28428
910 458 2996
FAX 910 458 2997

September 8, 2014

Chris Coudriet
New Hanover County Manager
County Government Complex
230 Government Center Dr.
Wilmington, NC 48203

Dear Chris,

I am writing with respect to the U.S. Army Corp of Engineers Carolina Beach, NC Coastal Storm Damage Reduction Project (CSDR) located in New Hanover County, NC. For the past 50 years the Town of Carolina Beach, New Hanover County and the State of North Carolina have supported the USACE's CSDR program and would like to continue to support the successful management of our coastal resources and infrastructure. The Corps CSDR projects in Carolina Beach have helped to limit potential loss of life and infrastructure from coastal weather events during the last several decades.

It is our understanding that New Hanover County wishes to explore the continued federal participation in the Carolina Beach CSDR as authorized in the 2014 WRRDA. The Town of Carolina Beach would like to offer our assistance with this endeavor and fully support the New Hanover County efforts to extend the life of the project. We believe that with the wealth of supporting information on the benefits of the CSDR Program we will be able to conduct a study of the effects of the CSDR and enable Carolina Beach to extend our authorization for another 15 years. Please let us know how we can participate in the study.

Sincerely,

Michael Cramer
Town Manager

Cc: Colonel Kevin Landers, SAW
Tom Reeder, NCDWR
Layton Bedsloe, NHC Shore Protection Coordinator