

Town of Emerald Isle

Mayor
Arthur B. Schools, Jr.

Mayor Pro-Tem
Floyd Messer, Jr.

Board of Commissioners
Pete Allen
Nita Hedreen
Robert Isenhour
John Wootten



Town Manager
Frank A. Rush, Jr.
frush@emeraldisle-nc.org

Mailing Address
Town of Emerald Isle
7500 Emerald Drive
Emerald Isle, NC 28594

Voice 252-354-3424
Fax 252-354-5068

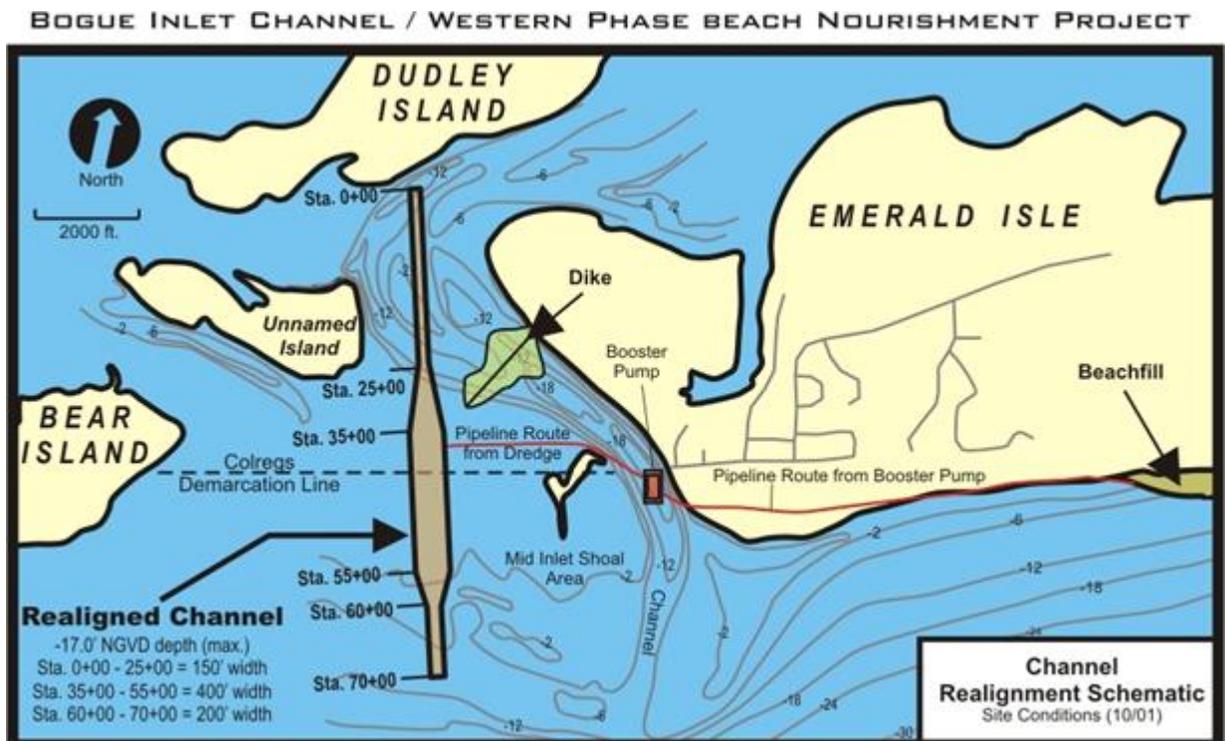
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Bogue Inlet Channel / Western Phase Beach Nourishment Complete!

After more than 3 ½ years of formal efforts (and many earlier preliminary efforts), the Town has finally succeeded in relocating the main channel in Bogue Inlet away from threatened homes and infrastructure at The Point. The project was completed on Friday, April 22 after a 2 ½ month construction period that began in early February.

The completed project includes three main components – 1) the construction of a new main channel in Bogue Inlet, 2) the construction of a sand dike to prevent flow through the existing channel and re-direct flow through the new channel, and 3) the nourishment of approximately 4.5 miles of oceanfront beach in western Emerald Isle. The total project cost, including all environmental documentation, permitting, and engineering, and post-construction environmental monitoring, is approximately \$11.4 million. The total project cost is financed solely by the Town of Emerald Isle (\$7.6 million) and the State of North Carolina (\$3.8 million). The Town's contribution is financed primarily with General Obligation bonds and special district tax revenues earmarked for beach nourishment activities.



The graphic above depicts the various components of the Bogue Inlet Channel / Western Phase Beach Nourishment Project, which was fully completed on April 22, 2005. (Graphic courtesy of Carteret County Shore Protection Office.)

The completed new channel is nearly 7,000 feet long, 150 – 400 feet wide, and has depths currently ranging from – 12 ½ feet to - 21 feet, with an average depth of -17 feet. Weeks Marine, Inc., the dredging contractor, removed nearly 1,040,000 cubic yards of high quality sand to construct the new channel. The new channel is located approximately 3,500 linear feet west of Emerald Isle (equidistant between Bear Island and Emerald Isle), and is bordered by mid-inlet shoals on both sides and the new sand dike located directly east of the new channel. The new sand dike is approximately 2,200 feet long, and connects from the existing spit at the far western tip of Emerald Isle to the mid-inlet shoals. The new dike is approximately 150 feet wide, and is approximately 5 ½ feet high. A total of approximately 325,000 cubic yards of sand was used to construct the dike.



The picture above was taken on April 11, 2005, approximately 11 days prior to full project completion. The dike shown in the picture above is approximately 1,300 feet long, and was eventually extended to a total length of 2,200 feet when the project was completed on April 22. The dike ties into the existing shoals shown in the photo above, and prevents flow into the old channel in Bogue Inlet. (Photo courtesy of Carteret County Shore Protection Office.)

The oceanfront beach was widened with approximately 715,000 cubic yards of sand placed along 4.5 miles of beach from Santa Maria Drive to the Lands End clubhouse. The initial additional width of the flat beach ranged from 125 feet to 160 feet with very steep slopes at the water's edge, and this additional width will recede somewhat as the beach profile equilibrates to a natural slope in the coming months. The quality of the sand placed on the beach is excellent, with a light tan color with minimal shell content. This additional sand placement will enhance the shore protection function of the beach, and also provides a wider recreational area for our residents, property owners, and visitors.

The project did not involve the direct placement of sand in front of the sandbags at The Point, however, Coastal Planning & Engineering, the project's environmental and engineering consultants, predicts that the existing channel will fill in naturally over the next 4 - 6 years and result in the re-establishment of a long spit that previously existed in this area in the 1980s and 1990s. This process is expected to occur gradually over the next 4 - 6 years, and there is already evidence of sand

accreting directly adjacent to the sandbags. As this area stabilizes, the Town will eventually reopen public pedestrian and vehicle access points in this area.



The picture above was taken on April 5, 2005, and is early evidence of natural accretion in the area currently protected by sandbags at the western tip of Emerald Isle. Coastal Planning & Engineering, the project's environmental and engineering consultants, predicts that the existing channel will fill in completely over the next 4-6 years and re-create the long spit that existed in this area in the 1980s and 1990s. (Photo courtesy of Coastal Planning & Engineering.)

Despite many hurdles, the project was completed successfully and will provide significant benefits to the residents, property owners, and visitors to Emerald Isle, the boating community in the surrounding area, and the inlet's natural environment. The project has five main benefits – 1) relief for property owners and public infrastructure in the entire neighborhood at The Point from threatening currents in the old channel, 2) high quality sand to nourish nearly 4.5 miles of oceanfront beach from Santa Maria Drive to Lands End, 3) an improved navigation channel through Bogue Inlet, 4) the eventual reopening of public pedestrian and vehicle access to the spit at The Point, and 5) additional land-based habitat in the inlet complex.

The completed project is the result of several important actions over the past 3 ½ years. The project was conceived in August 2001, and shortly thereafter Coastal Science & Engineering (the Town's initial consultants) began a reconnaissance-level study to determine the feasibility of relocating the main channel in Bogue Inlet and using the material removed from the new channel to nourish the beach as part of the Town's planned beach nourishment project. In January 2002, the project was officially included in the scope of the Town's beach nourishment bond referendum, and in March 2002 the referendum was approved by the Town's voters. Coastal Planning & Engineering was selected to complete the formal project design, complete an Environmental Impact Statement, and secure necessary permits for the project in May 2002. This effort culminated with the issuance of all necessary Federal and State permits in September 2004. The Town secured a \$3.8 million grant from the NC Division of Water Resources in November 2004, and immediately thereafter awarded a \$9.8 million construction contract to Weeks Marine, Inc. Construction began on February 11, 2005, and was completed on April 22.

The Town is extremely pleased to complete this important project, and expresses its sincere gratitude to everyone involved in making this project a reality. The project would not have been completed without the diligent efforts of many individuals, agencies, and organizations.

The Town expresses its sincere thanks to Weeks Marine, Inc. for their hard work and commitment to project success, and also recognizes the hard work and important contributions of Coastal Planning & Engineering to formulate and oversee construction of the project. Coastal Science & Engineering and the Carteret County Shore Protection Office have also made important contributions to the project.

The Town is most appreciative of the cooperative spirit that existed between the Town and the US Army Corps of Engineers, the NC Division of Coastal Management, the NC Wildlife Resources Commission, the US Fish and Wildlife Service, the National Marine Fisheries Service, the NC Division of Marine Fisheries, the NC Division of Water Quality, and other agencies and stakeholders, and is proud of the fact that the project minimized environmental impacts to the maximum degree practical.

The Town extends its sincere gratitude to the NC Division of Water Resources for partnering with the Town to finance this important and worthwhile project. Their commitment to enhancing water resources is vital to coastal North Carolina, and the Town is fortunate that this agency recognized the numerous water resources benefits of the Bogue Inlet Channel / Western Phase Beach Nourishment Project.

The Town also extends its thanks to the property owners at The Point for their continued support and patience, and to the overall Emerald Isle community for its widespread support for the project. Finally, and most importantly, the Mayor and Board of Commissioners exhibited steadfast and unwavering support for this project, without which this project would not have been completed successfully.

Enjoy the new inlet channel, the sand dike, and the widened ocean beach! We're pleased to have completed the project!