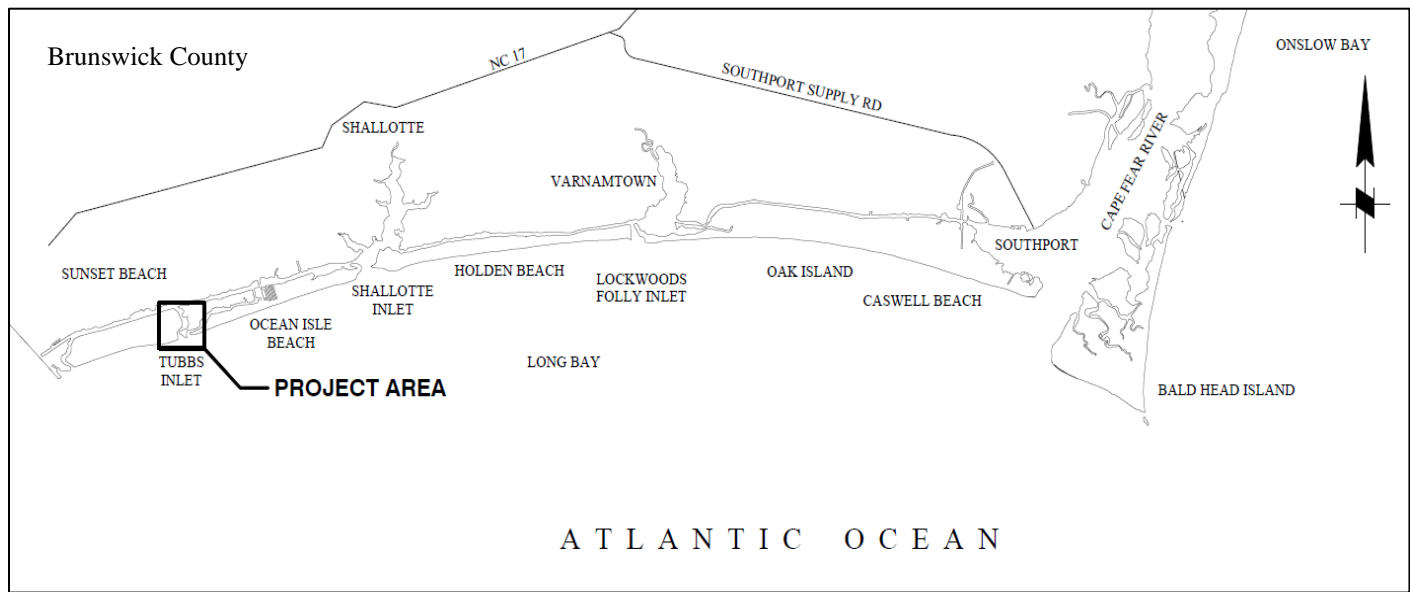


Town of Sunset Beach Navigation Project  
Bay Area Realignment & Temporary Bulkhead  
Project Narrative  
August 17, 2021

## INTRODUCTION

The Town of Sunset Beach (Town) wishes to modify CAMA Permit No. 79-19, U.S. Army Corps of Engineers Permit No. SAW-2019-01155, and State Water Quality Certification No. 2002-158 to conduct navigational dredging in the water body known as the Bay Area. Sunset Beach lies in Brunswick County, along the southern coastal border of North Carolina, adjacent to Ocean Isle Beach. The proposed project will occur along the eastern border of Sunset Beach, within the interior waters of Tubbs Inlet. Figure 1 shows the proposed project area in relation to Brunswick County.



**Figure 1. Project Vicinity Map**

The requested modification requests a change to the authorized template for the Bay Area maintenance dredging. The Town also requests authorization to construct a temporary offloading ramp at the terminus of Seaside Drive. Finally, authorization is requested to install a temporary bulkhead to aid in stabilizing the material offloading site at the previously authorized Cobia Street offloading site. The Town intends to offer both of these sites to the selected dredging contractor for their use. The contractor may choose either one or both of these sites for offloading.

## PROJECT PURPOSE AND NEED

The previously permitted Bay Area channel helps to address the long-term erosion patterns threatening recreational navigation access to the residential system. However, the previous alignment does not consider the unintended impacts of the additional dredging necessary for the local homeowners to access the newly dredged channel from their individual docks. The proposed realignment strives to

minimize the potential impacts of the additional dredging by considering a strategic channel design that addresses the long-term sediment infilling and residential access requirements.

## PROPOSED MODIFICATION

### Bay Area Dredge Template

The currently permitted dredge template for the Bay Area currently extends through the approximate middle of the water body and terminates at the south Jinks Creek confluence with an 80-ft width. The modification request realigns the channel terminus from one (1) wide channel to two (2) narrower channels comprising of a primary and secondary navigation route. The primary channel extends along the southern Bay Area shoreline and maintains a 50-ft to 55-ft width (top cut), while the secondary channel follows the northern shoreline at a 40-ft to 45-ft width (top cut). The maximum dredge depth remains -6-ft MLW (-5+1) with 3:1 channel side slopes. Similar to the original alignment, the average depth in the Bay Area system will be increased from approximately -2-ft to -3-ft MLW to -6-ft (-5+1) MLW.

Figure 2 shows a plan view comparison of the currently permitted alignment and the proposed realignment for the Bay Area and Tab E provides the permit drawings. The realignment extends the Bay Area primary channel by approximately 200-ft by following the southern shoreline until the template joins with south Jinks Creek. Overall, the realignment initiates at station 12+00 from the original template and terminates at approximate station 24+00 in the south Jinks Creek confluence. The impact area for the original alignment equaled approximately 2.0 acres (86,277-ft<sup>2</sup>) and the realigned channel covers approximately 2.3 acres (101,176 ft<sup>2</sup>), inclusive of both the primary and secondary channels. As shown above, the dredge volume increased from 12,200 CY (original channel) to 16,894 CY with the new alignment.

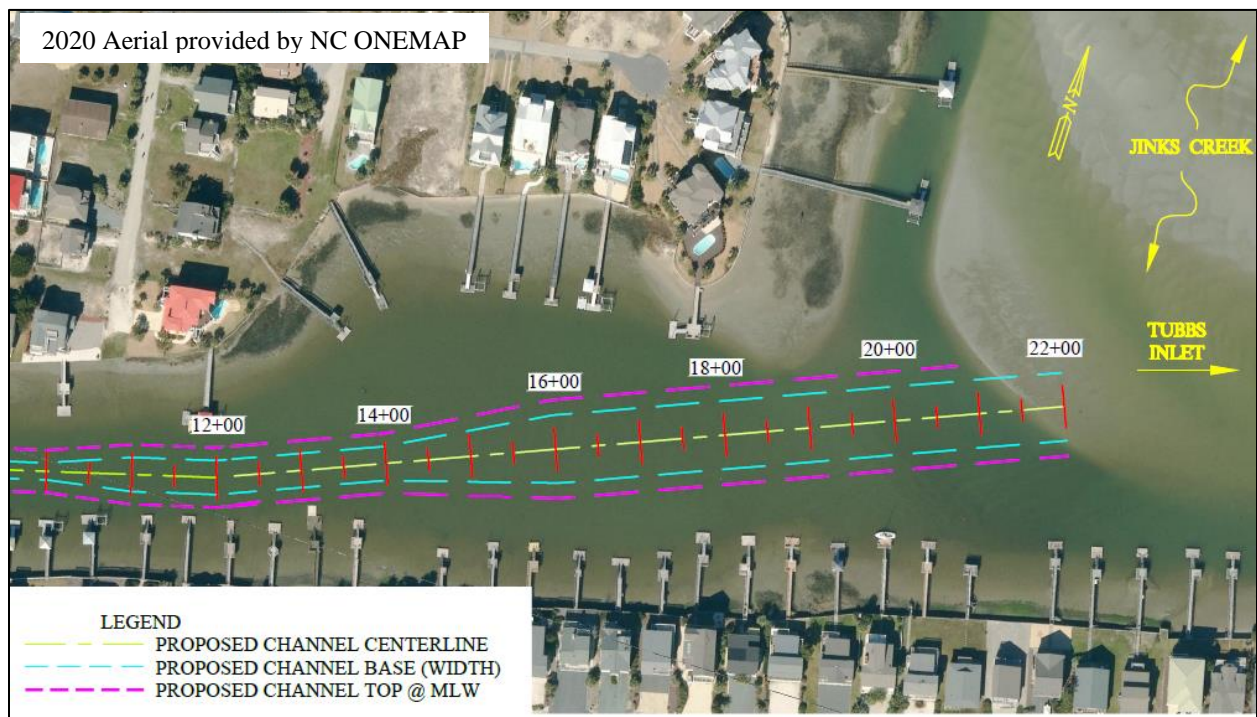
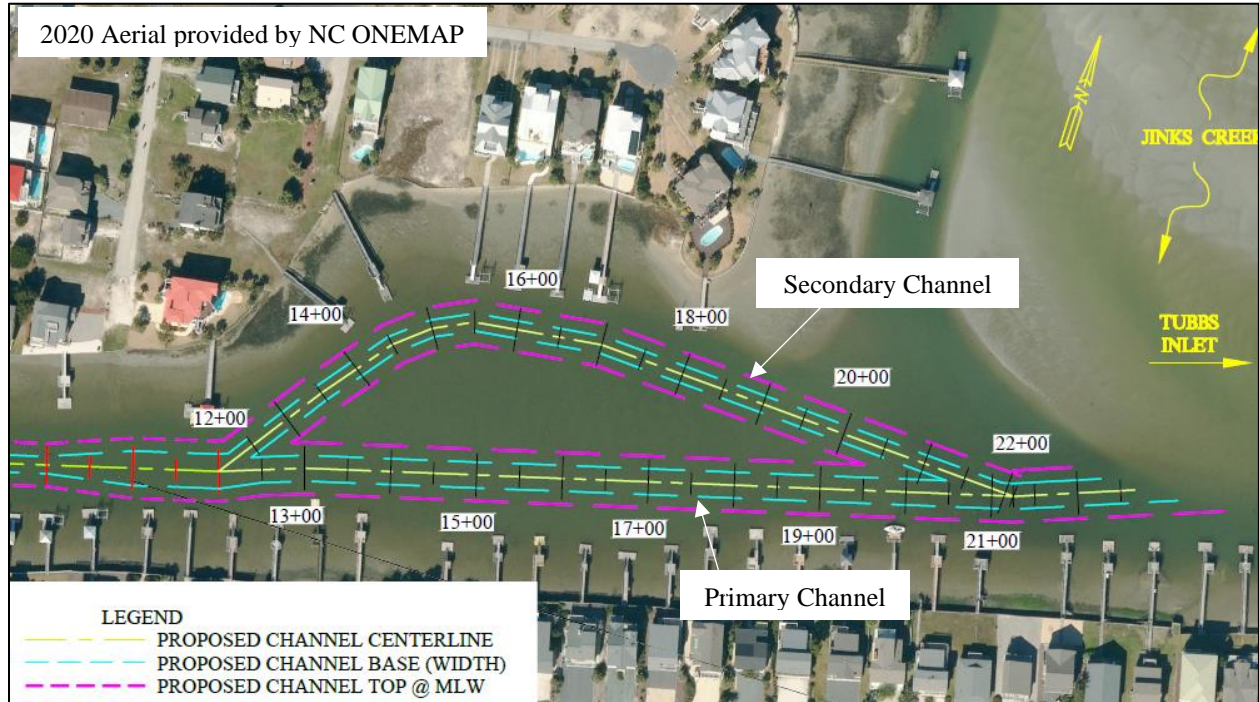


Figure 2. (a) Bay Area Currently Permitted Alignment



**Figure 2. (b) Bay Area Proposed Realignment**

Table 1 provides a summary of the proposed channel templates including the dredge volumes categorized for the primary and secondary channel. The modification request does not change the material placement site or dredging methodology. The Bay Area will be mechanically dredged with material placement occurring in an upland landfill facility.

The dredging operations will be conducted between October 1<sup>st</sup> and March 31<sup>st</sup> to reduce the potential for environmental impacts. In addition, the dredge footprint will provide a minimum 10-ft buffer from any area of coastal wetland identified at the time of construction. These items are a few of the precautions proposed to help minimize the potential for environmental impacts on this project.

**Table 1 – Dredge Template Description**

Channel	Existing Avg. Depth (MLW-ft)	Proposed Depth (MLW-ft)	Length (ft)	Width (ft)	Side Slope (H:V)	Est. Volume (CY)	Placement Location
Primary	-2 MLW	-6 (-5+1) MLW	1,200	30 (base) 50-55 (top)	3:1	13,141	Landfill
Secondary	-2 MLW	-6 (-5+1) MLW	1,000	20 (base) 40-45 (top)	3:1	3,753	Landfill
TOTAL			2,200	Varies	3:1	16,894	Landfill

The dredge material from the Bay Area will be truck hauled to a previously approved upland placement facility along Georgetown Road for final placement due to the content and grain size. The material composition contains approximately 90% fines (>230 $\Phi$ ) and therefore is not compatible for beach placement. Tab F provides the sediment analysis results for the realigned channel.

*Spartina alterniflora* exist along the intertidal and supratidal regions of the Feeder Channel and Bay Area. As shown in Tab G (Marsh Habitat Boundary), coastal wetlands have encroached within or close to the anticipated dredge area of the Bay Area but have not established near the Cobia Street terminus material off-loading site. Therefore, to minimize potential impacts to the marsh grass, no dredging will take place within 10 feet of any area of coastal wetlands. The 10-ft buffer should allow the channel adequate space to equilibrate without eroding the coastal marshes. During construction, the dredge equipment shall be prohibited from entering the buffer zone.

### Offloading Sites

As was stated above, the Town intends to offer two offload sites to the chosen dredging contractor for their use. The contractor may choose to utilize either one or both of these sites for material offloading.

**Cobia Street** - This contingency offload site will only be utilized if the primary offload site is unable to be utilized due to logistical consideration. A temporary bulkhead will be installed within the Feeder Channel at the terminus of Cobia Street (Figure 3). This temporary bulkhead will help to ensure that the existing bulkhead at this location will not be structurally compromised as a result of heavy equipment operation. The bulkhead will be comprised of a 36' by 6' gabion wall backfilled with a 36' by 1' placement of DOT #57 stone to stabilize the existing vinyl sheetpile wall. Figure 4 provides a ground level photograph of the existing sheetpile wall. The gabion filled structure will extend approximately 7-ft seaward of the existing wall and will be placed on a geotextile grid and filter fabric to limit vertical movement. All materials will be fully removed following project completion.



Figure 3. Cobia Street Material Offloading Site



**Figure 4. Existing Vinyl Sheetpile Wall (Cobia Street)**

The gabion wall will be placed below MHW in the Feeder Channel. The footprint of the proposed gabion wall with backfill will be 252 sf. To minimize the potential for shellfish impacts, any shellfish within the footprint of the temporary structure will be relocated prior to the bulkhead installation. The shellfish relocation will be conducted in conjunction with the relocation efforts already required for the dredge footprint in the Feeder Channel.

**Seaside Road (Primary Offloading Site)** – An offloading site will be constructed at the end of Seaside Road, along the Atlantic Intracoastal Waterway (See Figure 5). This offload site will handle non-beach compatible materials resulting from the dredging of the Bay Area, South Jinks Creek, the feeder canal and finger canals. It is anticipated that disposal barges will be able to traverse North Jinks Creek at and around high tide.

There is currently an unvegetated beach at the site (see Figure 6). In order to allow for land-based equipment to be able to access barges containing spoil material, a temporary 100' by 24' gabion offloading ramp will be constructed in this location. The temporary gabion ramp will be placed on a geotextile grid and filter fabric to limit vertical movement. All materials will be fully removed following project completion.

The construction of the temporary gabion ramp will impact 2,400 sf of bottom habitat. No coastal wetlands will be filled by the construction of the temporary ramp.



Figure 5. Seaside Road Material Offloading Site



Figure 6. Seaside Road Material Offloading Site

## ADDITIONAL ENVIRONMENTAL CONCERNS

As part of the previously permitted components of this project, the applicant conducted studies to evaluate potential impacts to managed or endangered species that may occur as a result of the overall project. While these reports were completed as part of the original permit submittals, the findings should reasonably be expected to apply to the proposed realigned channel. Tab H provides an Essential Fish Habitat (EFH) assessment and Tab I provides a Biological Assessment (BA) for the project. Generally, the referenced reports support the project should not adversely impact any threatened or managed species. Additional precautions proposed for the maintenance project include following U.S. Fish and

Wildlife Service (USFWS) recommended guidelines for avoiding impacts to West Indian Manatee and recommendations provided by the National Marine Fisheries Service (NMFS) to help protect sea turtles and smalltooth sawfish. Tab J (Manatee Avoidance Guidelines) shows the manatee guidelines while Tab K (NMFS Recommendations) provides the sea turtle and smalltooth sawfish precautions.

## HISTORIC RESOURCES

The applicant has also contacted the State Historic Preservation Office (SHPO) as part of the original permit submittals to inquire on any known historic resources in the area such as shipwrecks or archeological artifacts. These inquiries did not identify any known resources with the potential to be impacted by the project. Tab L (SHPO Resource Review) provides the written response from SHPO. It is again reasonably expected that these findings may be also be applied to proposed project modification.

## SUMMARY

The Town of Sunset Beach requests a permit modification to realign the proposed Bay Area channel, install a temporary bulkhead at the Cobia Street terminus, and construct a temporary offloading ramp at Seaside Road to support material offloading efforts. The Bay Area realignment will assist in reducing future dredging impacts anticipated by property owners requesting personal access to the navigation channel. These modifications will provide a viable plan for completing the dredging efforts with minimal environmental impacts. The project provides a key element for the Town and residents to manage the established navigation corridors on the east end of Sunset Beach.

The project will help restore navigation access to the waterway systems on the east end of Sunset Beach while maintaining a buffer zone between the work area and any coastal marsh or wetland habitat. The project will also relocate shellfish located near the temporary bulkhead installation to reduce the potential for impacts. All materials installed as part of the temporary bulkhead will be removed at the completion of work. The work will also follow additional guidelines and recommendations provided by USFWS and NMFS to further minimize the potential for environmental impacts during construction. The project will adhere to environmental moratoria design to protect juvenile fish and shellfish. Additionally, the project will follow construction guidelines designed to protect manatee, sea turtle, and smalltooth sawfish.

## ADDITIONAL ITEMS RELATED TO CAMA PERMIT APPLICATION PACKAGE

### State Environmental Policy Act (SEPA) Compliance

§ 113A-12(6) states that the preparation of an environmental document shall not be required for projects that require a Coastal Area Management Act major permit. Therefore, no SEPA document will be prepared for the proposed project modification.

### Application Fee

A permit application processing fee of \$475 will be provided separately.

#### N.C. Division of Water Resources (NCDWR) Pre-Filing Notification

In accordance with the federal Clean Water Act (CWA), a pre-filing notification was filed on Jul 2, 2021. A copy of the returned email resulting from that submission is also included as a part of this CAMA permit application (Tab M).

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

#### Letters of Authorization to Utilize Seaside Road Offload Site

An authorization letter from the owners of the Seaside Road offload site is included in Tab N of this application package.

#### Adjacent Riparian Property Owner Notifications

At the advice of NCDWM staff, adjacent riparian property owner notifications were mailed (certified mail, return receipt requested) to the riparian properties immediately adjacent to the two offload sites, as well as the properties immediately adjacent to the primary and secondary channels. A copy of the letter submitted, as well as a listing of notified property owners are attached in Tab O.



## List of Tabs

Tab A	CAMA Major Permit Form MP1
Tab B	CAMA Major Permit Form MP2
Tab C	Agent Authorization
Tab D	Project Narrative
Tab E	Permit Drawings
Tab F	Sediment Analysis for Realigned Channel
Tab G	Marsh Habitat Boundary Survey
Tab H	EFH Assessment
Tab I	Biological Assessment
Tab J	Manatee Avoidance Guidelines
Tab K	NMFS Recommendations
Tab L	SHPO Resource Review
Tab M	401 Water Quality Certification Pre-Filing Notification
Tab N	Authorization letter for the Seaside Road Offload Site
Tab O	Adjacent Riparian Property Owner Notifications