

Town of Sunset Beach Navigation Project
Maintenance Dredging of Mary's and Turtle Creek
CAMA Major Permit Modification Request
Project Narrative
July 14, 2023

INTRODUCTION

The Town of Sunset Beach (Town) requests authorization to modify CAMA Permit No. 132-18, U.S. Army Corps of Engineers Permit No. SAW-2002-00247, and State Water Quality Certification No. 2001-1868v2, which were originally issued to allow shallow navigational dredging in Mary's and Turtle Creek. This project falls within a larger scope by the Town to maintain navigation access to the residential channels and canals along the eastern portion of Sunset Beach. Mary's and Turtle Creek connect to the AIWW near the entrance to North Jinks Creek and the Sunset Beach causeway. These creeks lie adjacent to public and private properties within the Town of Sunset Beach (Brunswick County) and provide navigation access to residents and visitors of the area. Figure 1 shows the project area in relation to Brunswick County.

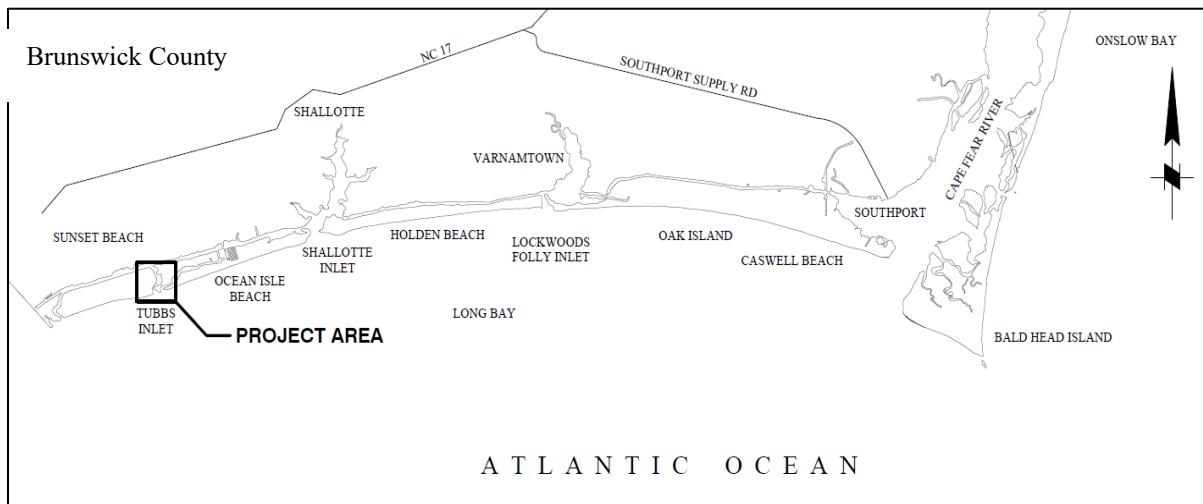


Figure 1. Project Vicinity Map

This modification requests the authorization to update the dredge footprint for Mary's and Turtle Creek. The modification is based on recent bathymetric surveys and incorporates the inclusion of side slopes in the design template. Additionally, this modification involves establishing a new primary offloading area at the western end of Mary's Creek specifically designated for the dredged material from this project. Offloading at Mary's Creek would be conducted in similar method as Cobia St., with temporary gabion baskets to support the existing vinyl sheet pile wall from landside loading.

PROJECT PURPOSE AND NEED

While the currently authorized dredge footprints help to address long-term erosion and shoaling patterns threatening recreational navigation access to the residential system, these previous extents do not consider impacts due to the equilibration of the side slopes when dredging the main channel or additional shoaling that will have occurred since the time of original survey (2020). The proposed dredge design limits have been modified in areas from the previously approved based on a strategic channel design that addresses long-term sediment infilling, a marsh grass survey and residential access needs.

Additionally, the Town has now identified the Town owned park on the western side of Mary's Creek for the offloading of dredge material. Use of this offloading area would expedite the construction process during the 2023/2024 dredge season by significantly decreasing the distance to the offload site, which will decrease downtime between digging and offloading. While the Contractor does not intend to utilize the previously permitted Seaside Road Staging and Offloading Area or Cobia St. Offloading Area as the primary offloading area for the upcoming dredge effort planned to start in October 2023, the Town reserves the right to allow the Contractor to utilize either of these two areas if unforeseen circumstances lead to the Mary's Creek offload area becoming unavailable for usage.

PROPOSED MODIFICATION

Dredge Footprint Modification

The currently authorized dredge footprint for these channels were based on the surveys performed in August 23-24, 2016. The original permitted template was a box cut and did not account for side slopes. The template was updated to account for an assumed side slope of 3H:1V for both Mary's and Turtle Creek. An updated survey was performed by Geodynamics between August 24 – 27, 2020, which shows the existing ground within the dredging limits averaged between -0.5– -0.7 ft MLW. The dredge alignment and template were modified from previously permitted, as noted in Table 1, due to the addition of side slopes.

The modified dredge footprints or estimated equilibrated slopes do not impact marsh grass or docks with structural piles. A field investigation identifying key structures to avoid was performed by Moffatt & Nichol in July 2021. These locations were utilized in the redesign of the channel to ensure no adverse impact to structural piles while maximizing material removal. *Spartina alterniflora* exists along the intertidal and supratidal regions of Mary's and Turtle Creek. An updated marsh grass survey was performed in June of 2021 for Mary's and Turtle Creek, which is shown on Sheet C-101 of the permit drawings included in Tab C.

Coastal marsh grass has encroached within or close to the originally anticipated dredge area of Mary's and Turtle Creek. Therefore, to minimize potential impacts to the marsh grass, no excavation, including the excavation of side slopes, will take place within 10 ft of any marsh grass with the affected area. This 10 ft buffer differs from the originally permitted 20 ft buffer due to the fact that the 20 ft buffer was based off of a box cut during dredging; therefore, the 20 ft buffer needed to account for equilibration of side slopes. Because the current proposed dredge template incorporates the dredging of side slopes, a 10 ft buffer has been determined to be sufficient. During construction, the dredge equipment shall be prohibited from entering this marsh grass buffer zone. These precautions will help minimize the potential for environmental impacts on this project.

The modifications made have resulted in an overall increase in both the footprint and volume of dredging in Mary's and Turtle Creek. Table 2 provides a summary of the difference between the currently authorized area and the area based on the design modifications, showing an increase of 0.3 acres. This increase is attributed to the inclusion of side slopes up to elevation -2.0 MLW in the dredge limit. Table 3 summarizes the widened dredge limits within each creek, highlighting the change in dredge limit. The original permit did not consider side slopes, but the new drawings now incorporate slopes up to -2.0 MLW. For further reference, please review the permit drawing in Tab C. The increase in volume from the

previously authorized amount is approximately 1,900 cy (previously permitted volume was 15,900 cy) as shown in Table 1. This adjustment was made in part due to the lessons learned from the South Jinks Creek Navigation project where the dredge area changed between the time of permitting and the time of construction. The updated dredge extents and alignments are shown on Sheet C-101 of the permit drawings included in Tab C.

Table 1 – Dredge Limit Description

Channel	Existing Avg. Depth (MLW-ft)	Proposed Depth (MLW-ft)	Length (ft)	Width (ft)	Side Slope (H:V)	Permitted Volume (CY)	Maximum Volume (CY)
Mary's Creek	-0.7	-6 (-5+1) -5 (-4+1) -4 (-3+1)	1,075	25 – 84	3:1	8,100	8,100*
Turtle Creek	-0.5	-6 (-5+1) -5 (-4+1) -4 (-3+1)	1,100	26 – 64	3:1	7,800	9,723
TOTAL			2,175	Varies	3:1	15,900	17,823

*Volume Reported from Original Permit Application

Table 2 – Area Summary

Channel	Permitted Area (Acres)	Proposed Area (Acres)	Difference (Acres)
Mary's Creek	1.1	1.1	0.0
Turtle Creek	1.0	1.3	0.3
Total	2.1	2.4	0.3

Table 3 – Dredge Limit Change

Channel	Dredge Limit Change
Mary's Creek	0 – +12 ft (0+00 – 4+00) -24 – +10 ft (4+00 – 8+00) -9 – -3 ft (8+00 – 10+82)
Turtle Creek	0 – +12 ft (0+00 – 9+00) -14 – +3 ft (9+00 – 11+00)

Note 1: Dredge limit change is quantified by the distance from the previously permitted dredge limit to the proposed dredge limit on either side of the channel.

Note 2: Positive numbers indicate an increase in distance and negative numbers indicate a decrease in distance.

Offloading Site Modification

During the 2022/2023 dredge window, the Contractor requested approval to use the Town owned property on the western side of Mary's Creek as the primary offloading site for dredge material from Mary's Creek and Turtle Creek as shown in Figure 2. The Contractor noted this site as being more efficient due to the shorter transit time when compared to the currently permitted offloading site at Seaside Road. Offloading at Mary's creek would be conducted in similar method as Cobia St. Temporary gabion baskets are required to support the existing vinyl sheet pile wall from landside loading. The area targeted for

install of the gabion baskets and offloading of material is an area approximately 15 – 20 ft wide that is void of marsh grass as shown in Figure 2 in order to minimize environmental impact.



Figure 2: Primary Offloading Site: Mary's Creek Marsh Grass

The design of the temporary gabion bulkhead is shown on Sheet S-501 of the permit drawings. The Contractor will be required to install silt fence around the active offloading area and install temporary timber matting for support of construction vehicles. Material offloaded from the barges will be required to be placed directly into sealed dump trucks for transit to the previously permitted disposal area off Old Georgetown Road. At no time will dewatering of material be allowed at this site. Sufficient safety signage and traffic control measures will be required at the ingress/egress given this is a high traffic area for residents and visitors. After construction is complete, the Contractor will be required to make any repairs to damage caused by the Project work in order to return the offloading area to pre-project conditions.

In order to assess the potential impact to coastal marsh grass due offloading activities, the Town will monitor the area post construction for 12 months via photo documentation. If loss of marsh grass is recorded, the Town will implement marsh grass planting in order to mitigate the impact.

[Cobia Street Alternate Offload Area](#)

The previously permitted Cobia St. Offloading Area has been identified as an alternate offloading area in the event that the Seaside and Mary's Creek sites become unusable. The Cobia offloading area is already constructed and has obtained the necessary permits for work within the Bay Area, Feeder, and Finger Canals. The proposed plan ensures that barges would only travel through North Jinks Creek when water levels are such that the barges will not adversely affect the bottom habitat of the creek.

ADDITIONAL ENVIRONMENTAL CONCERNS

As part of the previously permitted components of this project, the Town evaluated 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 be expected to apply to the proposed project modifications. Tab F provides an Essential Fish Habitat (EFH) assessment, and Tab G provides a Biological Assessment (BA) for the project. Generally, the referenced reports support the findings that the project should not adversely impact 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 H (Manatee Avoidance Guidelines) shows the manatee guidelines while Tab I (NMFS Recommendations) includes the sea turtle and smalltooth sawfish precautions. Based on the scoping meeting on July 1, 2022, the Town will coordinate with permitting and resource agencies to avoid and minimize impacts to coastal marsh and other resources within the proposed modification footprint.

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 J (SHPO Resource Review) provides the written response from SHPO. It is again reasonably expected that these findings may also be applied to the proposed project modification.

SUMMARY

The Town of Sunset Beach requests a permit modification to 1) modify the dredge area to account for the side slope and minimize infrastructure and environmental impacts, and 2) add a new primary offloading area at Mary's Creek for the dredge material from Mary's Creek and Turtle Creek. These modifications will provide a viable plan for completing the dredging efforts with minimal environmental impacts.

The project will help restore navigation access to the AIWW while maintaining a buffer zone between the work area and any coastal marsh or wetland habitat. 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 manatees, sea turtles, 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. Previous permits and the agency scoping meeting associated with this project are provided for reference in Tab K.

Application Fee

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

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 Mary's and Turtle Creek. A copy of the letter submitted is attached in Tab L. This data will be provided to NCDWM by the Town of Sunset Beach.

NCDWR Pre-Filing Notification

- A scoping meeting was held at which DWR was present. The date of the scoping meeting was July 1, 2022, and this project was discussed. This meeting met the requirement for requesting a pre-filing meeting under 40 CFR Part 121 for 401 Certifications in accordance with the federal Clean Water Act.
- 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.
- A Section 401 Pre-Filing Notification for the proposed project modification was submitted to the N.C. Division of Water Resources on April 17, 2023.

List of Tabs

Tab A	Agent Authorization
Tab B	Project Narrative
Tab C	Permit Drawings
Tab D	USACE Consent Agreement
Tab E	Sediment Chemical Analysis
Tab F	EFH Assessment
Tab G	Biological Assessment
Tab H	Manatee Avoidance Guidelines
Tab I	NMFS Recommendations
Tab J	SHPO Resource Review
Tab K	Previous Permits and Agency Scoping Meeting
Tab L	Adjacent Riparian Property Notice
Tab M	401 Pre-Filing Notification