



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
CORPS OF ENGINEERS, MOBILE DISTRICT  
P.O. BOX 2288  
MOBILE, AL 36628-0001

**CESAM RD-A**  
**PUBLIC NOTICE NO. SAM-2019-01020-DCH**

**January 4, 2022**

**JOINT PUBLIC NOTICE**  
**U.S. ARMY CORPS OF ENGINEERS AND STATE OF ALABAMA**  
**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

**REQUEST TO DISCHARGE FILL MATERIAL WITHIN WATERS AND WETLANDS FOR**  
**THE RESTORATION, ENHANCEMENT, AND PROTECTION OF ADJACENT TIDAL**  
**MARSH IN FOWL RIVER, MOBILE COUNTY, ALABAMA**

**TO WHOM IT MAY CONCERN:** This District has received an application for a Department of the Army (DA) permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344). Please communicate this information to interested parties.

**APPLICANT:** Mobile Bay National Estuary Program  
Attention: Ms. Roberta Swann  
118 N. Royal Street, Suite 601  
Mobile, Alabama 36602

**AGENT:** Barry A. Vittor & Associates, Inc.  
Attention: Dr. Barry A. Vittor  
8060 Cottage Hill Road  
Mobile, Alabama 36695

**LOCATION:** Fowl River; within Sections 7, 12, & 13, Township 7 South, Range 2 West; beginning near: Latitude 30.451667° North, Longitude 88.130883° West and ending near: Latitude 30.430556° North, Longitude 88.133611° West; in Mobile County, Alabama.

**PROJECT PURPOSE:** The basic project purpose is to restore, enhance, and protect the existing tidal marsh and river system. The overall project purpose is to increase the resiliency of the five spits along Fowl River, including their shorelines and wetlands, and provide long-term sustainability of the ecosystem services provided by the coastal wetlands and submerged aquatic vegetation in the transition zone of East Fowl River.

**PROPOSED WORK:** The applicant proposes to restore, enhance, and protect five wetland spits along Fowl River. The project will encompass 28.23 acres of existing tidal marsh and wetlands, and 0.77 acre of waterbottoms. The completed project would include thin-layer placement of 136,039 cubic yards of beneficial use dredged material obtained from the North Blakely Disposal Site, the placement of 791 cubic yards of riprap, the installation of 37,700 linear feet of coir logs and hay bales, and the construction of 10,000 linear feet of timber breakwater structures. Sediment would be transported by truck from the borrow location, to the Theodore Industrial Canal where it would be loaded on barges and pushed up Fowl River to be anchored adjacent to each spit. Offload of the material will be accomplished by conveyor to a hopper where placement will then occur using a dry application to eliminate decant water. The applicant has submitted a sediment testing analysis of the borrow material

for USACE review. As described by the applicant, the thin-layer placement approach is intended to increase the overall elevation of the existing marsh in order to enhance resilience to continued sea level rise and subsidence.

Timber breakwaters would consist of 75-foot segments with 10-foot gaps (minimum) intervals between sections for water exchanges and movement of aquatic biota. To compensate for wave loading on the Timber breakwaters, the structures would be secured to 35-foot long, 12-inch diameter pilings, driven 25-feet below the mudline. The crest elevation of the riprap and timber breakwaters would be +3.0 feet (NAVD 88), with the top of each piling at approximately +4.4 feet NAVD 88, to allow for an increase in crest height if necessary, by adding another 2'x12" slat. The lowest slat will be approximately 1-2 feet off the river bottom, depending on location, to reduce the potential for scour and allow for water exchange under the wave screen. From north to south, the five spits are identified as Shrout, Perez Point, Lightcap, Tapia, and Bellingrath. The applicant proposes to complete the project in two phases, to allow for vegetative recovery and assessment of breakwater adequacy in between sediment placement events, as follows:

Phase I - Construction: 6 to 8 inches of thin-layer placement of sediment at all 5 spits to add vertical thickness across each spit via a dry application process. Coir logs will be placed along the periphery of the sediment placement areas for containment during site stabilization. Timber wave screens will be installed along the approximate three-foot contour outside of the Submerged Aquatic Vegetation (SAV) beds at each site. Installation of wave attenuation structures will be limited in Phase 1 to the areas of greatest concern for overtopping and closest proximity to the river channel. Warning signs would be installed at timber breakwater segments and riprap revetment sections in order for vessels to safely avoid these structures. During the Phase 1 period of two years, wetland enhancement areas will be monitored for vegetative community coverage and composition, shorelines and coir logs will be inspected for condition, and breakwaters will be monitored for integrity.

Phase 2 - Adaptive Management: A second 6 to 8 inches of thin-layer placement on all spits 2 years after the initial sediment placement. Wetland enhancement areas will be monitored for vegetative community coverage and composition. Additional breakwater structure installation/augmentation is dependent upon monitoring results.

Location specific project descriptions and dimensions:

Shrout: During Phase 1, thin-layer placement of 1,823 cubic yards of sediment within 0.54 acres of wetlands with staked coir logs and/or hay bales to be installed along 4,704 linear feet of shoreline for sediment containment. Installation of 402 cubic yards of riprap sills within 0.21 acre along the northern shoreline and 650 linear feet of timber breakwater structures along the southern shoreline. During Phase 2, up to 1,823 cubic yards of additional sediment will be placed within 0.54 acres of wetlands via thin-layer placement with staked coir logs and/or hay bales to be installed along an additional 2,352 linear feet of shoreline for sediment containment. An additional 550 linear feet of timber breakwater structures would be installed along the remaining project shoreline if determined necessary following review of monitoring data.

Perez Point: During Phase 1, thin-layer placement of 7,690 cubic yards of sediment within 2.27 acres of wetlands with staked coir logs and/or hay bales to be installed along 5,640

linear feet of shoreline for sediment containment. Installation of 950 linear feet of timber breakwater structures along the project shoreline. During Phase 2, up to 7,690 cubic yards of additional sediment will be placed within the 2.27 acres of wetlands via thin-layer placement with staked coir logs and/or hay bales to be installed along 2,820 linear feet of shoreline for sediment containment. An additional 450 linear feet of timber breakwater structures would be installed along the remaining project shoreline if determined necessary following review of monitoring data.

Lightcap: During Phase 1, thin-layer placement of 2,348 cubic yards of sediment within 0.69 acres of wetlands with staked coir logs and/or hay bales to be installed along 6,000 linear feet of shoreline for sediment containment. Installation of 650 linear feet of timber breakwater structures along the project shoreline. During Phase 2, up to 2,348 cubic yards of additional sediment will be placed within the 0.69 acres of wetlands via thin-layer placement with staked coir logs and/or hay bales to be installed along 3,000 linear feet of shoreline for sediment containment. An additional 450 linear feet of timber breakwater structures would be installed along the remaining project shoreline if determined necessary following review of monitoring data.

Tapia: During Phase 1, thin-layer placement of 9,551 cubic yards of sediment within 2.82 acres of wetlands with staked coir logs and/or hay bales to be installed along 6,640 linear feet of shoreline for sediment containment. Installation of 1,000 linear feet of timber breakwater structures along the west and southwest-facing shorelines. During Phase 2, up to 9,551 cubic yards of additional sediment will be placed within the 2.82 acres of wetlands via thin-layer placement with staked coir logs and/or hay bales to be installed along 3,320 linear feet of shoreline for sediment containment. An additional 1,000 linear feet of timber breakwater structures would be installed along the remaining project shoreline if determined necessary following review of monitoring data.

Bellingrath: During Phase 1, thin-layer placement of 114,627 cubic yards of sediment within 21.91 acres of wetlands with staked coir logs and/or hay bales to be installed along 14,708 linear feet of shoreline for sediment containment. Installation of 389 cubic yards of riprap sills within 0.56 acre along the eastern marsh cells. Timber breakwater structures will be installed along 2,250 linear feet of shoreline. During Phase 2, up to 49,484 cubic yards of additional sediment will be placed within the 21.91 acres of wetlands via thin-layer placement with staked coir logs and/or hay bales to be installed along 7,354 linear feet of shoreline for sediment containment. An additional 2,050 linear feet of timber breakwater structures would be installed along the remaining project shoreline if determined necessary following review of monitoring data.

**AVOIDANCE AND MINIMIZATION:** The applicant conducted an analysis of alternative project designs using various shoreline stabilization techniques and has concluded that the proposed design incorporates the greatest diversity of shoreline types/habitat with similar environmental impacts as other alternatives while also maintaining more natural shoreline versus fully hardened shoreline alternatives. The applicant has proposed the use of thin-layer placement and coir logs as turbidity controls around the marsh fill areas to minimize the transport of fine-grained sediments from the construction areas. The applicant proposes to monitor turbidity levels daily during construction to ensure compliance with applicable State water quality standards (i.e., no more than 50 NTU above ambient background levels outside a 750-foot mixing zone). If turbidity exceeds State water quality

parameters, work would be suspended until compliant turbidity levels are re-established. The applicant has proposed the use of signs and/or buoys during construction to warn navigational interests of potential hazards. Similarly, dredging equipment and pipelines would be marked and lighted in accordance with U.S. Coast Guard requirements. The U.S. Army Corps of Engineers (USACE), Mobile District has not verified the adequacy of the applicant's avoidance and minimization efforts at this time.

**MITIGATION:** SAV currently exists within the proposed riprap breakwater locations at the Shrout and Bellingrath sites. On the north side of Shrout, a 3,049-square-foot (0.07-ac) area with a narrow band of wild celery and eastern grasswort (*Lilaeopsis chinensis*) would be eliminated by the Project. On the southeast corner of Bellingrath, a 17,860-square-foot (0.41-ac) area primarily with Eurasian watermilfoil (*Myriophyllum spicatum*) and lesser amounts of widgeongrass (*Ruppia maritima*), would be affected by the project. Prior to project implementation, the affected areas will be inspected to document SAV occurrence. The applicant stated that the methods used will significantly reduce the potential for secondary impacts to SAV and surrounding water quality and fortification of the spits will promote the sustainability of SAV resources by maintaining ambient flow velocities in the upper part of the river's transition zone. The U.S. Army Corps of Engineers (USACE), Mobile District has not verified the adequacy of the applicant's mitigation efforts at this time.

**WATER QUALITY/COASTAL ZONE MANAGEMENT:** The applicant will apply for certification from the State of Alabama in accordance with Section 401(a)(1) of the Clean Water Act, as well as Coastal Zone Management (CZM) consistency certification in accordance with the Alabama Coastal Zone Management Program. Upon completion of the required advertising and public comment review, a determination relative to water quality certification and CZM consistency will be made by the Alabama Department of Environmental Management (ADEM) within an established reasonable period of time.

**HISTORIC PROPERTIES:** In accordance with Section 106 of the National Historic Preservation Act and Appendix C of 33 CFR Part 325, the undertaking defined in this notice is being considered for the potential to affect cultural and historic properties within the permit area. In accordance with Appendix C of 33 CFR Part 325, the Mobile District has determined the permit area consists of the entire undertaking in waters of the United States, which includes the footprint of the proposed dredge and fill areas that would be disturbed by construction of the project. The National Register of Historic Places will be consulted for properties listed, or eligible for listing, in the National Register, which are known to exist and would be affected by the proposed work. The Mobile District is seeking comments regarding the existence, or the potential for existence, of significant cultural and historic properties within the permit area. The applicant has provided a Phase I Cultural Resources Assessment of the project site. At this time, the USACE, Mobile District has made no determination regarding potential effects of the project on cultural/historic resources. Further coordination with the State Historic Preservation Officer and/or federally recognized American Indian tribes will be performed as determined to be appropriate.

**ESSENTIAL FISH HABITAT:** This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. During construction, staging areas would cause temporary shading impacts to 0.49 acres of estuarine water column, with minor substrate disturbances resulting from temporary barge mooring structures (spuds or pilings). Thin-layer placement of dredged material is

expected to permanently impact 28.23 acres of the existing tidal marsh by raising the elevation of the systems. Rip rap breakwater structures would permanently impact 0.77 acres of estuarine substrate and water column, as well as 0.48 acre of SAV beds, in order to protect the restored tidal marsh area. Timber breakwater structures would cause further permanent impacts to 10,000 linear feet of estuarine substrate and water column. The applicant has provided an EFH Assessment and Marsh Planting and Monitoring Plan to the USACE, Mobile District which will be coordinated with the National Marine Fisheries Service (NMFS) as part of this consultation. Our initial determination is that the proposed action would have a minimal adverse effect on EFH or federally managed fisheries due to the temporary nature of the proposed impacts and the overall ecological benefits to restoring, enhancing, and protecting the 28.23 acres of tidal marsh system and providing long-term protection against future erosion and habitat loss. Our final determination relative to project impacts and the need for mitigative measures is subject to review by and coordination with the National Marine Fisheries Service (NMFS).

**ENDANGERED SPECIES:** Preliminary review of this application and the U.S. Department of the Interior's List of Endangered and Threatened Wildlife and Plants indicate the following federally listed species are known or expected to occur within the project area: Alabama Red-bellied Turtle (E), West Indian Manatee (T), Wood Stork (T), Eastern Indigo Snake (T), Black Pine Snake (T), and Gulf Sturgeon (T). There is no designated critical habitat within the project action area. At this time, the USACE, Mobile District has made no determination with regard to potential effects of the project on the above-listed species. Further coordination with the U.S. Fish and Wildlife Service (USFWS) and NMFS will be performed as determined to be appropriate.

**COMMENTS:** This public notice is being distributed to all known interested persons in order to assist in developing facts on which a decision by the USACE can be based. The Mobile District is soliciting comments from the public, federal, state and local agencies and officials, Indian tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state with particularity, the reasons for holding a public hearing. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing, setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic

properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, and in general, the needs and welfare of the people. Evaluation of the probable impacts involving deposits of dredged or fill material into waters of the United States will also include the application of guidelines established by the Administrator of the U.S. Environmental Protection Agency.

Correspondence concerning this notice should refer to Public Notice Number **SAM-2019-01020-DCH**, and should be directed to the District Engineer, Mobile District, Regulatory Division, Attention: **Ms. Elizabeth Hamilton**, Post Office Box 2288, Mobile, Alabama 36628-0001, or by e-mail at [elizabeth.a.hamilton@usace.army.mil](mailto:elizabeth.a.hamilton@usace.army.mil), or (251) 694- 3781. Copies of all comments should be furnished to the ADEM at [coastal@adem.alabama.gov](mailto:coastal@adem.alabama.gov), or sent to: Alabama Department of Environmental Management, Mobile Branch, Coastal Section, 3664 Dauphin Street, Suite B, Mobile, Alabama 36608.

**All comments should be received no later than 30 days from the date of this Public Notice.**

For additional information about our Regulatory Program, please visit our web site at [www.sam.usace.army.mil/Missions/Regulatory.aspx](http://www.sam.usace.army.mil/Missions/Regulatory.aspx).

MOBILE DISTRICT  
U.S. Army Corps of Engineers

Attachments



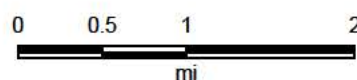
## Project Location



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021., City of Mobile GIS Department, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA



**SAM-2019-01020-DCH**



Map Center: 88.140252°W 30.45517°N

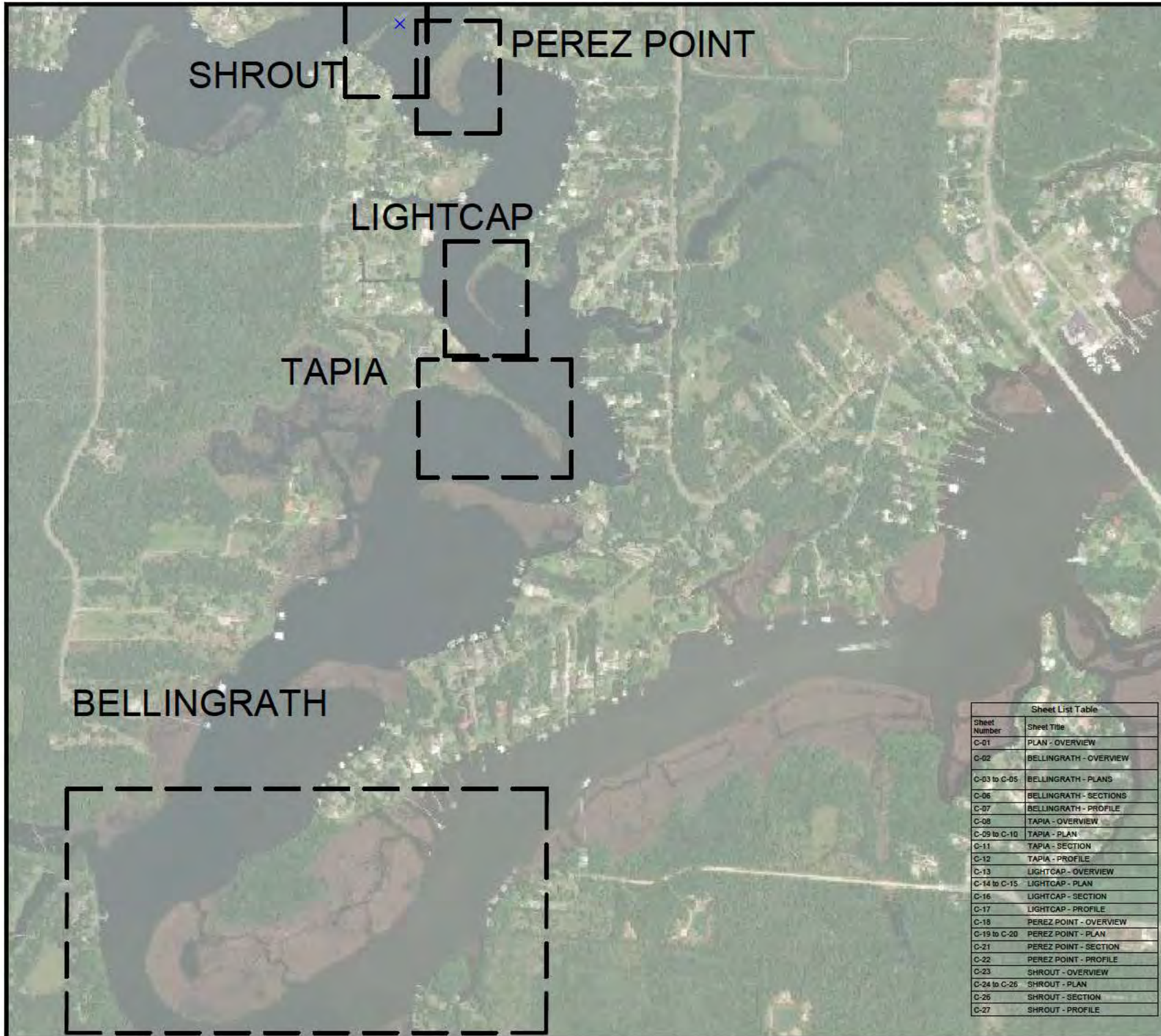
Map Created by: Elizabeth Hamilton

Date: 1/3/2022

Coordinate System: WGS 1984 Web  
Mercator Auxiliary Sphere



FILE: P:\01 CAD\Bentley\2010\081500 Fowl River Marsh and Shoreline Stabilization and Restoration - Phase 1\DWG\081500 Fowl River Marsh and Shoreline Stabilization - Permit\_01.dwg PLOT DATE: 7/27/2021 10:51:58 PM PLOTTED BY: BRIAN FLYNN



Sheet List Table	
Sheet Number	Sheet Title
C-01	PLAN - OVERVIEW
C-02	BELLINGRATH - OVERVIEW
C-03 to C-05	BELLINGRATH - PLANS
C-06	BELLINGRATH - SECTIONS
C-07	BELLINGRATH - PROFILE
C-08	TAPIA - OVERVIEW
C-09 to C-10	TAPIA - PLAN
C-11	TAPIA - SECTION
C-12	TAPIA - PROFILE
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C-14 to C-15	LIGHTCAP - PLAN
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C-23	SHROUT - OVERVIEW
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C-26	SHROUT - SECTION
C-27	SHROUT - PROFILE



4200 WEST CYPRESS ST.,  
STE. 450  
TAMPA, FL 33607  
OFFICE - 813.207.7200  
WWW.ESASSOC.COM

STAMP

CONSULTANT

PROJECT NAME

FOWL RIVER MARSH AND  
SHORELINE STABILIZATION

FOWL RIVER, ALABAMA

REVISIONS

#	DATE	DESCRIPTION
0	7/26/21	PERMIT

DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF
	38926

PROJECT NUMBER D190585.00

ISSUE DATE 07/23/21

SCALE IS AS SHOWN WHEN  
PLOTTED TO FULL SIZE (8.5"x11")

PHASE

PERMIT NG

SHEET TITLE

PLAN-OVERVIEW

SHEET NUMBER

C-01

SHEET 1 OF 27



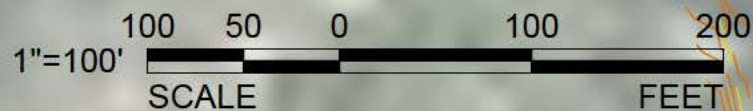
LEGEND:

-  THIN LAYER PLACEMENT - (0.54 AC, 1,823 CY)
-  COIR LOGS - (7,056 LF)
-  TIMBER BREAKWATER - (1,200 LF)
-  RIP RAP - (0.21 AC, 402 CY)
-  SUBMERGED AQUATIC VEGETATION (SAV)
-  WETLANDS
-  MHHW = 0.82 FT (NAVD 88)

TYPICAL MOORING WITH BARGE & PUSHBOAT. SPUDS OR TEMPORARY PILINGS WILL BE USED TO SECURE BARGE DURING OFFLOAD OF SEDIMENT VIA CONVEYOR (DRY) OR PIPE (WET).

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MHHW CONTOUR  
0.8' NAVD 88



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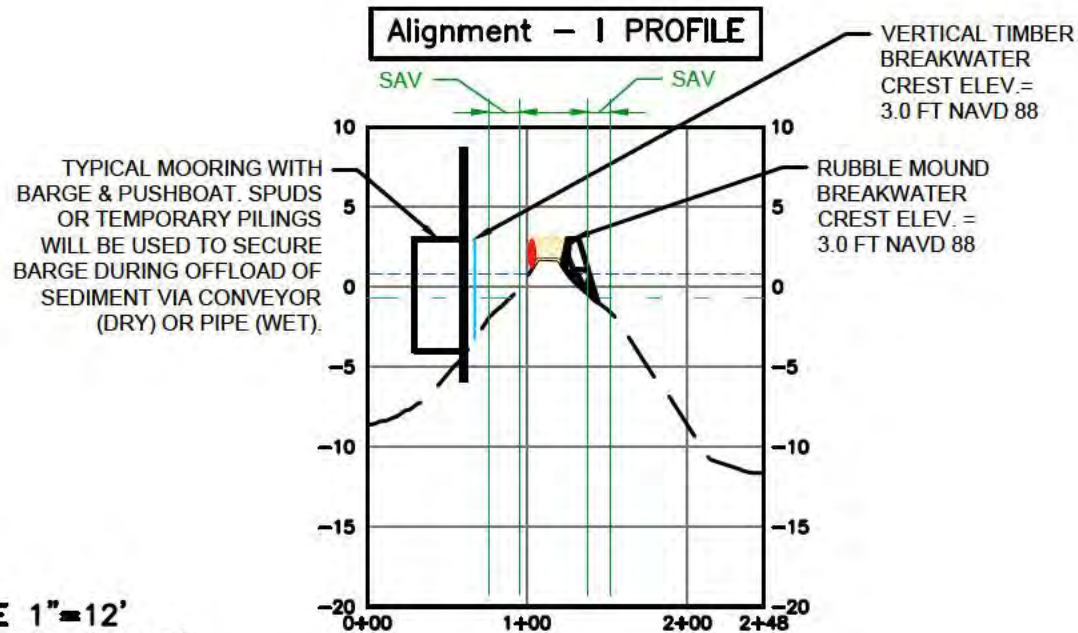
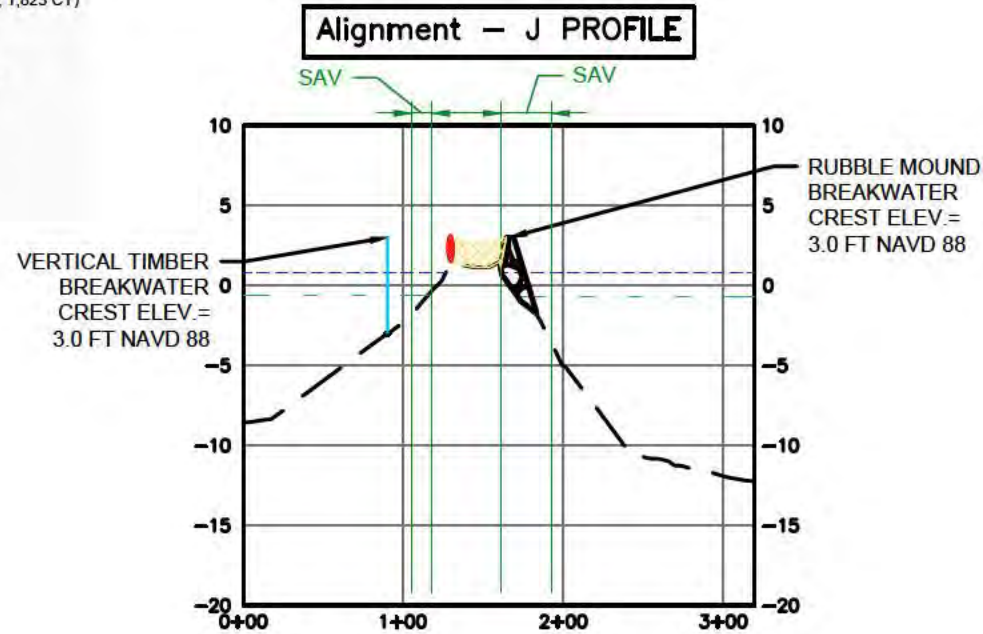
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**SHROUT -  
OVERVIEW**

SHEET NUMBER  
**C-1**

SHEET 1 OF 16



 THIN LAYER PLACEMENT - (0.54 AC, 1,823 CY)  
 CO R LOGS - (7,056 LF)  
 T MBER BREAKWATER - (1,200 LF)  
 RIP RAP - (0.21 AC, 402 CY)  
 MHHW = 0.82 FT (NAVD 88)  
 MLW = -0.7 FT (NAVD 88)



VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



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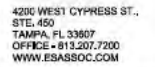
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SHROUT -  
SECTION

SHEET NUMBER  
C-2

SHEET 2 OF 18

 THIN LAYER PLACEMENT - (0.54 AC, 1,823 CY)  
 CO R LOGS - (7,056 LF)  
 TIMBER BREAKWATER - (1,200 LF)  
 R P RAP - (0.21 AC, 402 CY)  
 MHHW = 0.82 FT (NAVD 88)  
 MLW = -0.7 FT (NAVD 88)

VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



CONSULTANT

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SHEET TITLE  
SHROUT -  
PROFILE

SHEET NUMBER  
**C-3**

SHEET 3 OF 16



LEGEND:

-  THIN LAYER PLACEMENT (2.27 AC, 7,690 CY)
-  COIR LOGS - (8,460 LF)
-  T MBER BREAKWATER - (1,400 LF)
-  SUBMERGED AQUATIC VEGETATION (SAV)
-  WETLANDS
-  MHHW = 0.82 FT (NAVD 88)

TYPICAL MOORING WITH BARGE & PUSHBOAT. SPUDS OR TEMPORARY PILINGS WILL BE USED TO SECURE BARGE DURING OFFLOAD OF SEDIMENT VIA CONVEYOR (DRY) OR PIPE (WET).

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SHEET TITLE  
**PEREZ POINT - OVERVIEW**






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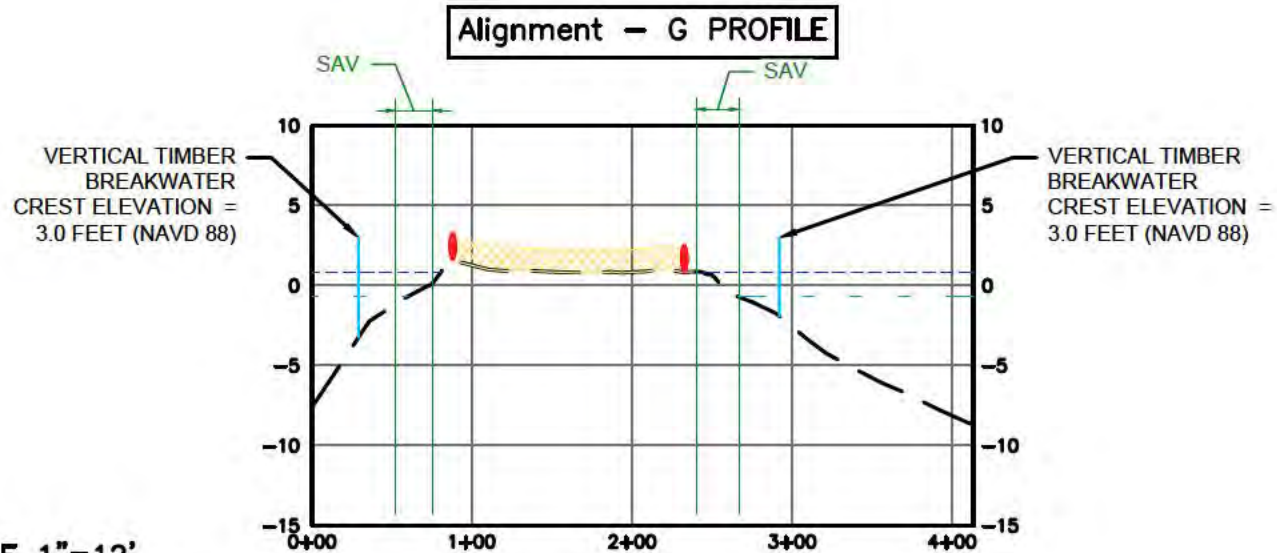
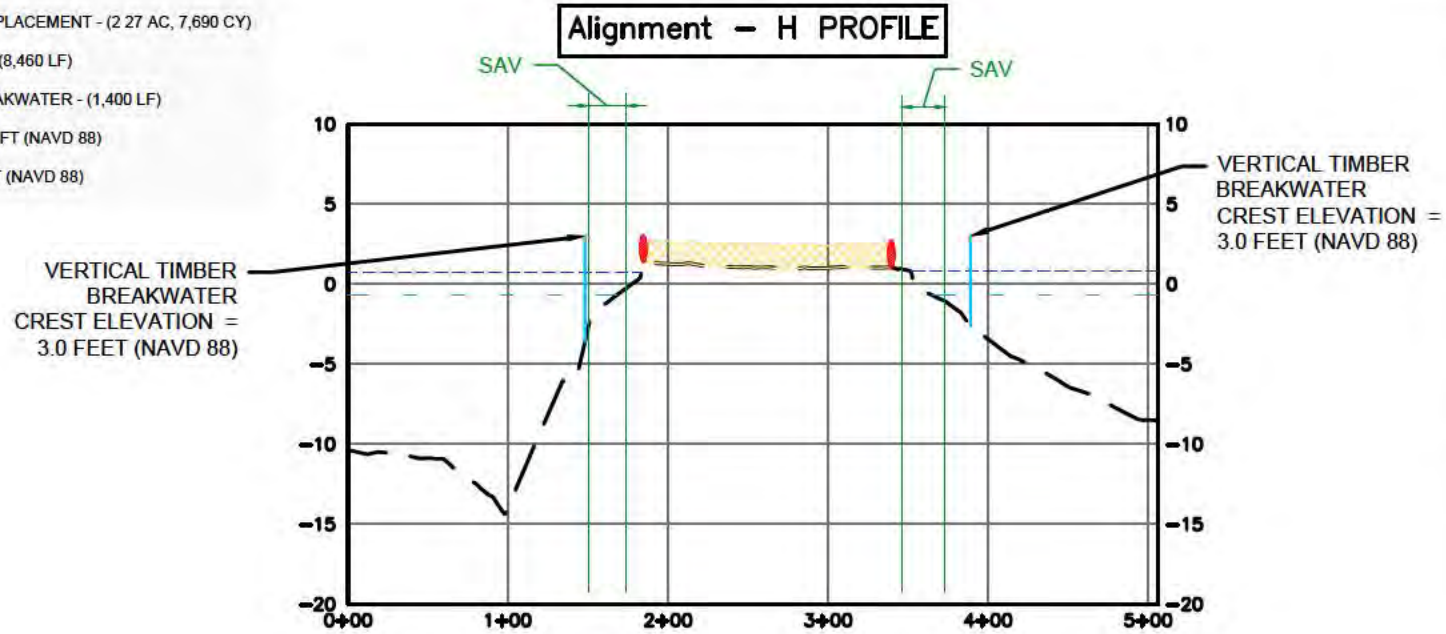
SHEET 4 OF 16





LEGEND:

-  THIN LAYER PLACEMENT - (2 27 AC, 7,690 CY)
-  COIR LOGS - (8,460 LF)
-  T MBER BREAKWATER - (1,400 LF)
-  MHHW = 0.82 FT (NAVD 88)
-  MLW = -0.7 FT (NAVD 88)



VERTICAL SCALE 1"=12'  
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SHEET TITLE  
**PEREZ POINT -  
SECTION**

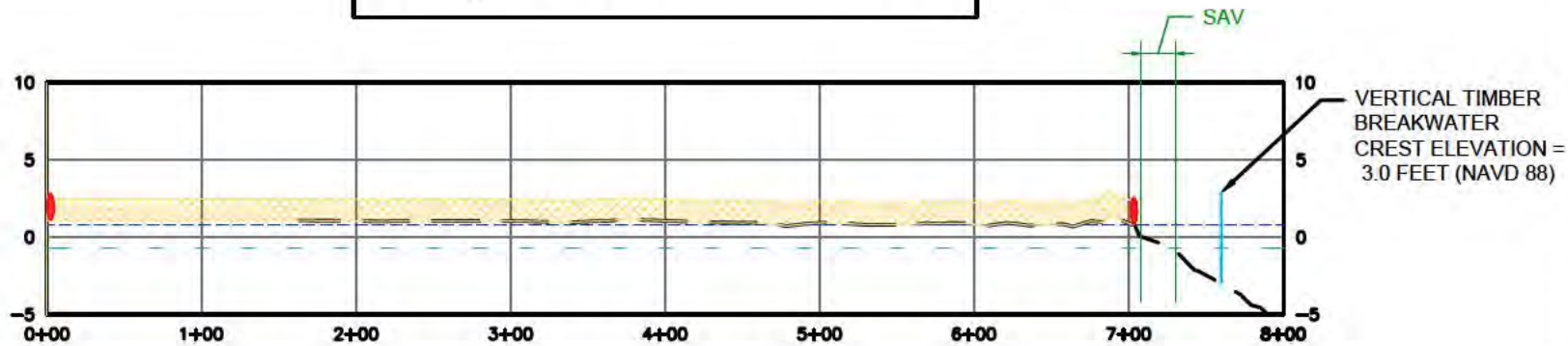
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SHEET 5 OF 16

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- TH N LAYER PLACEMENT - (2.27 AC, 7,690 CY)
- COIR LOGS - (8,460 LF)
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## Alignment — PP



VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



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PERMIT NG

SHEET TITLE  
PEREZ POINT -  
PROFILE

SHEET NUMBER  
**C-6**

SHEET 6 OF 16



**LEGEND:**

- THIN LAYER PLACEMENT - (0.69 AC, 2,348 CY)
- COIR LOGS - (9,000 LF)
- TIMBER BREAKWATER - (1,100LF)
- SUBMERGED AQUATIC VEGETATION (SAV)
- WETLANDS
- MHHW = 0.82 FT (NAVD 88)



**ESA**

4200 WEST CYPRESS ST.,  
STE. 450  
TAMPA, FL 33607  
OFFICE - 813.207.7200  
WWW.ESASSOC.COM

STAMP

CONSULTANT

**PROJECT NAME**  
FOWL RIVER MARSH AND  
SHORELINE STABILIZATION  
FOWL RIVER, ALABAMA

**REVISIONS**

#	DATE	DESCRIPTION
0	7/26/21	PERMIT

DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF 35926

PROJECT NUMBER D190585.00

ISSUE DATE 12/23/21

SCALE IS AS SHOWN WHEN  
PLOTTED TO FULL SIZE (8.5"x11")

**PHASE**  
PERMITTING

**SHEET TITLE**  
LIGHTCAP-OVERVIEW

**SHEET NUMBER**  
C-7






SHEET 7 OF 16

TYPICAL MOORING WITH BARGE & PUSHBOAT. SPUDS OR TEMPORARY PILINGS WILL BE USED TO SECURE BARGE DURING OFFLOAD OF SEDIMENT VIA CONVEYOR (DRY) OR PIPE (WET).



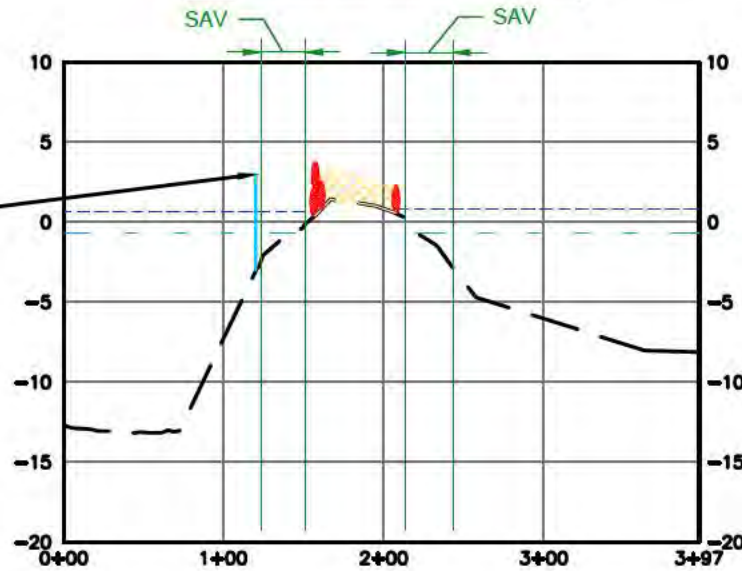
F:\E:\P\51 CALVEX\CD20190805\00 Fowl River Marsh and Shoreline Stabilization - Phase I\CD20190805\Working\_Permits\_Lightcap\_BDF\_Aug PLOT DATE: 12/23/21 10: 52 AM PLOTTED BY: BRYAN FLINN

LEGEND:

-  THIN LAYER PLACEMENT - (0.69 AC, 2,348 CY)
-  COIR LOGS - (9,000 LF)
-  T MBER BREAKWATER - (1,100 LF)
-  MHHW = 0.82 FT (NAVD 88)
-  MLW = -0.7 FT (NAVD 88)

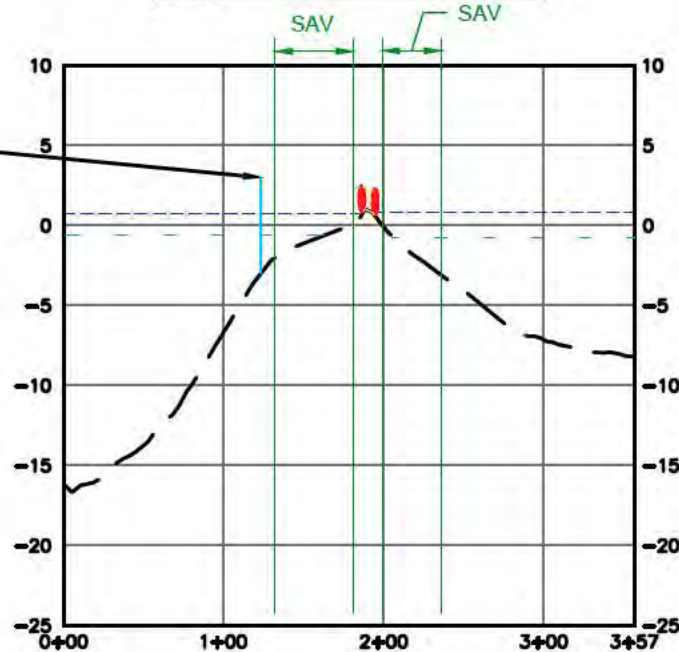
VERTICAL TIMBER  
BREAKWATER  
CREST ELEVATION =  
3.0 FT (NAVD 88)

Alignment - F PROFILE



Alignment - E PROFILE

VERTICAL TIMBER  
BREAKWATER  
CREST ELEVATION =  
3.0 FT (NAVD 88)



VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



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CONSULTANT

PROJECT NAME  
**FOWL RIVER MARSH AND  
SHORELINE STABILIZATION**  
FOWL RIVER, ALABAMA

REVISIONS		
#	DATE	DESCRIPTION
0	7/26/21	PERMIT
DESIGNED	BDF/TC	
DRAWN	TT	
CHECKED	BDF	
IN CHARGE	BDF	
	38926	
PROJECT NUMBER	D190585.00	
ISSUE DATE	12/23/21	
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (8.5"x11")		






PHASE  
PERMITTING

SHEET TITLE  
LIGHTCAP -  
SECTION

SHEET NUMBER  
**C-8**

SHEET 8 OF 16



 TH N LAYER PLACEMENT - (0.69 AC, 2,348 CY)  
 COIR LOGS - (9,000 LF)  
 TIMBER BREAKWATER - (1,100 LF)  
 MHHW = 0.82 FT (NAVD 88)  
 MLW = -0.7 FT (NAVD 88)

VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



CONSULTANT

**PROJECT NAME** FOWL RIVER MARSH AND SHORELINE STABILIZATION

REVISIONS	
#	DATE DESCRIPTION
0	7/26/21 PERMIT
DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF 38926
PROJECT NUMBER D190585.00	
ISSUE DATE	12/23/21
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (8.5"x11")	

PHASE  
PERMITTING

SHEET TITLE  
LIGHTCAP -  
PROFILE

SHEET NUMBER  
C-9

SHEET 9 OF 18



STAMP

CONSULTANT

PROJECT NAME  
FOWL RIVER MARSH AND  
SHORELINE STABILIZATION

FOWL RIVER, ALABAMA

REVISIONS		
#	DATE	DESCRIPTION
0	7/26/21	PERMIT

DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF 38926

PROJECT NUMBER D190585.00

ISSUE DATE	12/23/21
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SCALE IS AS SHOWN WHEN  
PLOTTED TO FULL SIZE (8.5"x11")

PHASE PERMITTING

SHEET TITLE  
TAPIA-OVERVIEW






SHEET NUMBER

C-10

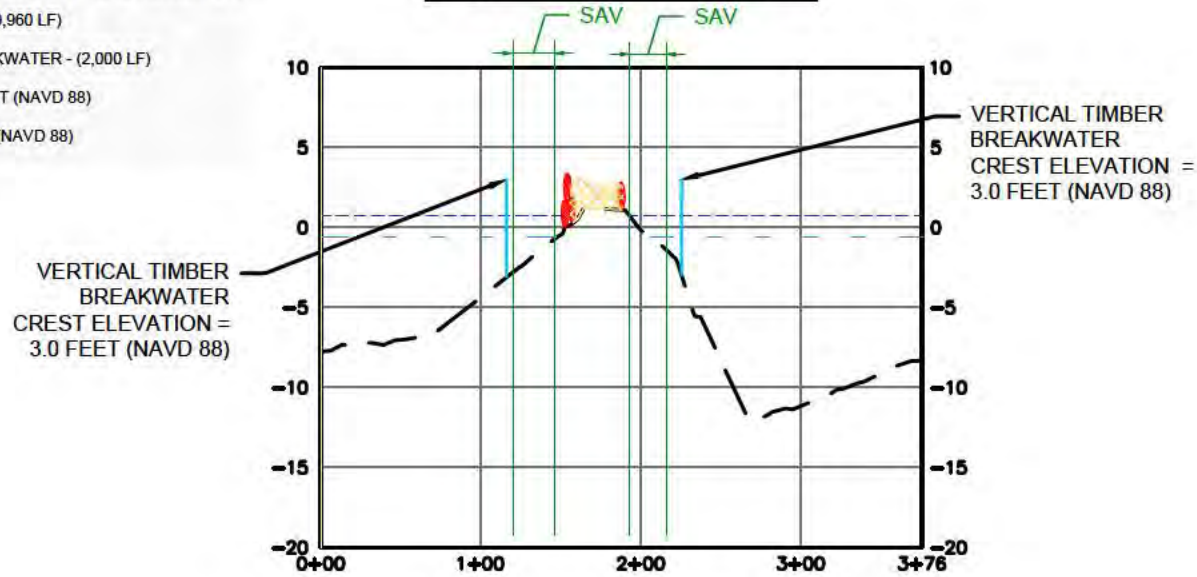
SHEET 10 OF 16



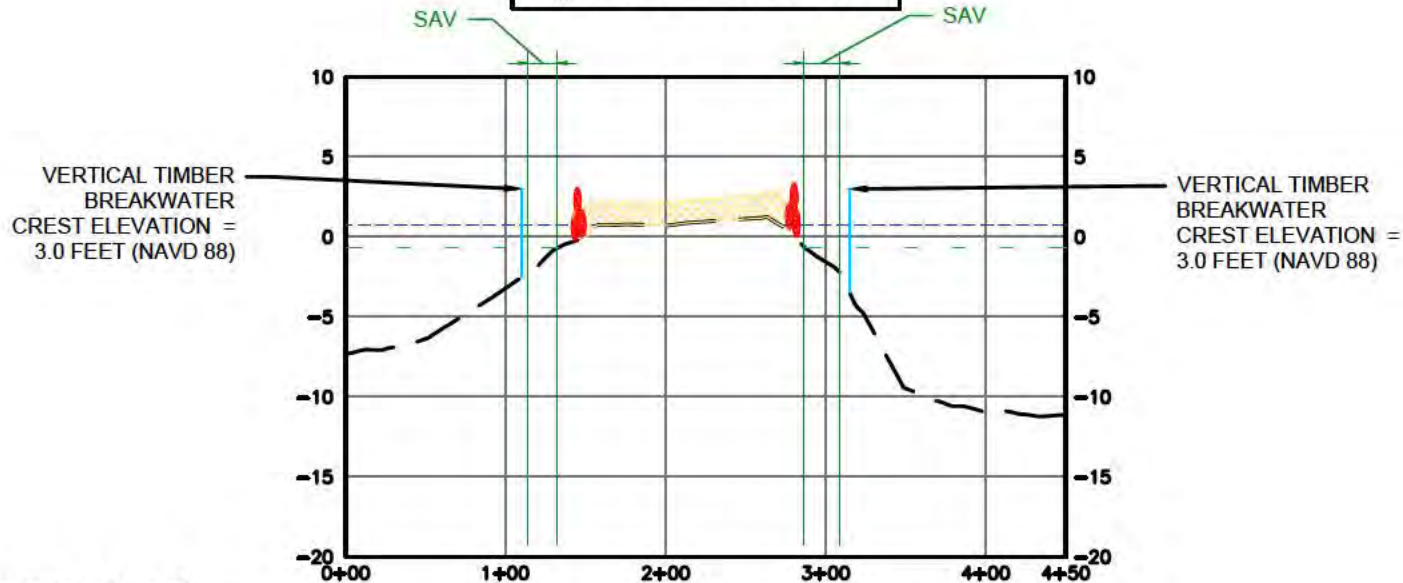
LEGEND:

-  THIN LAYER PLACEMENT - (2.82 AC, 9,551 CY)
-  CO R LOGS - (9,960 LF)
-  T MBER BREAKWATER - (2,000 LF)
-  MHHW = 0.82 FT (NAVD 88)
-  MLW = -0.7 FT (NAVD 88)

Alignment - D PROFILE



Alignment - C PROFILE



VERTICAL SCALE 1"=12'  
HORIZONTAL SCALE 1"=120'



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PROJECT NAME  
FOWL RIVER MARSH AND  
SHORELINE STABILIZATION

FOWL RIVER, ALABAMA

REVISIONS

#	DATE	DESCRIPTION
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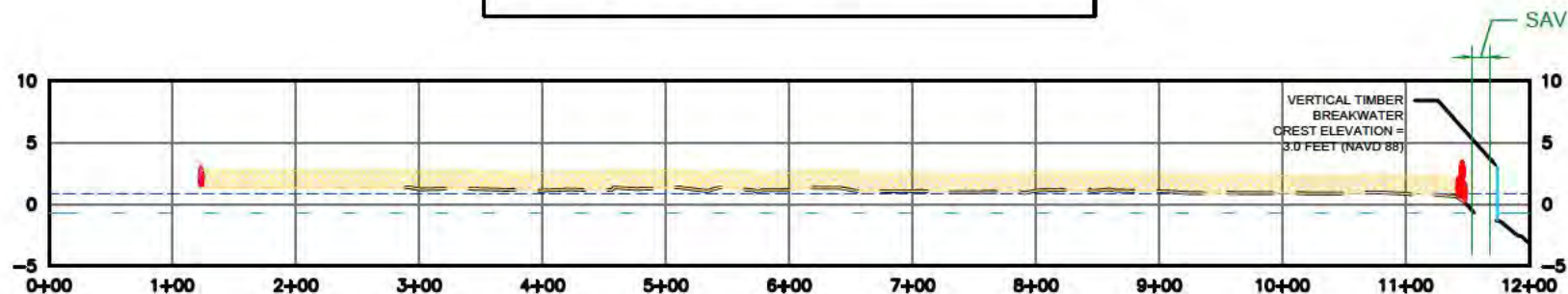




LEGEND:

- THIN LAYER PLACEMENT - (2.82 AC, 9,551 CY)
- CO R LOGS - (9,960 LF)
- TIMBER BREAKWATER - (2,000 LF)
- MHHW = 0.82 FT (NAVD 88)
- MLW = -0.7 FT (NAVD 88)

# Alignment — TP



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PROJECT NAME  
FOWL RIVER MARSH AND  
SHORELINE STABILIZATION

FOWL RIVER, ALABAMA

REVISIONS		
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0	7/26/21	PERMIT
DESIGNED	BDF/TC	
DRAWN	TT	
CHECKED	BDF	
IN CHARGE	BDF	
	38926	
PROJECT NUMBER D190585.00		
ISSUE DATE		12/23/21
SCALE IS AS SHOWN WHEN PLOTTED TO FULL SIZE (8.5"x11")		

PHASE  
PERMITTING

SHEET TITLE  
TAPIA -  
PROFILE

SHEET NUMBER  
C-12

SHEET 12 OF 16

VERTICAL SCALE 1"=15'  
HORIZONTAL SCALE 1"=150'



LEGEND:

-  THIN LAYER PLACEMENT - (21 91 AC, 114,627 CY)
-  COIR LOGS - (22,062 LF)
-  T MBER BREAKWATER (4,300 LF)
-  RIP RAP - (0 56 AC, 389 CY)
-  SUBMERGED AQUATIC VEGETATION (SAV)
-  WETLANDS
-  MHHW = 0.82 FT (NAVD 88)

1"=300'  
SCALE  
300 150 0 300 600  
FEET



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PROJECT NAME  
**FOWL RIVER MARSH AND  
SHORELINE STABILIZATION**

FOWL RIVER, ALABAMA

#	DATE	DESCRIPTION
0	7/26/21	PERMIT

DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF 35926

PROJECT NUMBER D190585.00

ISSUE DATE 12/23/21

SCALE IS AS SHOWN WHEN  
PLOTTED TO FULL SIZE (8.5"x11")

PHASE  
PERMITTING

SHEET TITLE  
**BELLINGRATH  
- OVERVIEW**

SHEET NUMBER  
**C-13**

SHEET 13 OF 16

MHHW CONTOUR  
0.82' NAVD 88

POTENTIAL  
OUTFLOW  
LOCATION

POTENTIAL OUTFLOW  
LOCATION

BG

TYPICAL MOORING WITH  
BARGE & PUSHBOAT.  
SPUDS OR TEMPORARY  
PILINGS WILL BE USED TO  
SECURE BARGE DURING  
OFFLOAD OF SEDIMENT VIA  
CONVEYOR (DRY) OR PIPE  
(WET).



LEGEND:

THIN LAYER PLACEMENT - (21.91 AC, 114,627 CY)

COR LOGS - (22,062 LF)

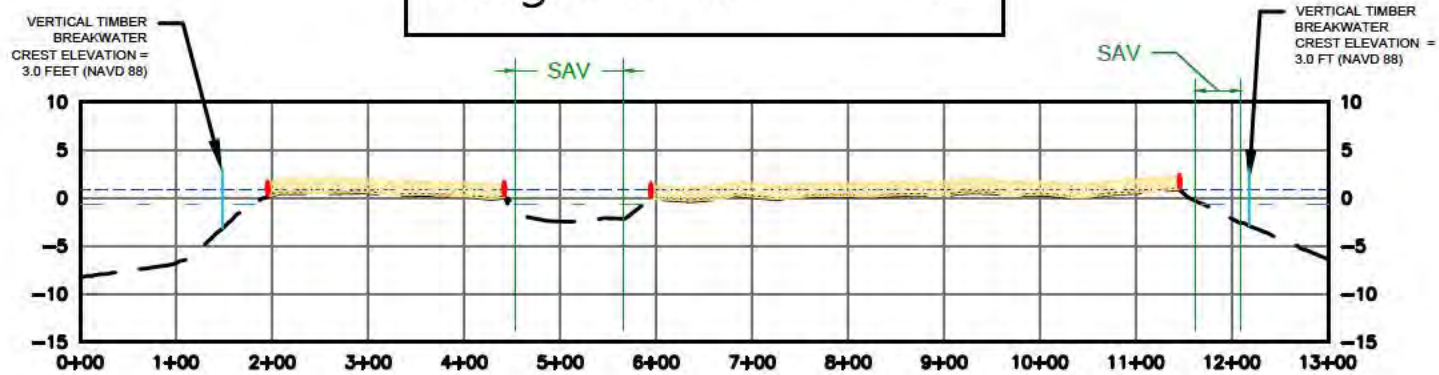
TIMBER BREAKWATER - (4,300 LF)

RIP RAP - (0.56 AC, 389 CY)

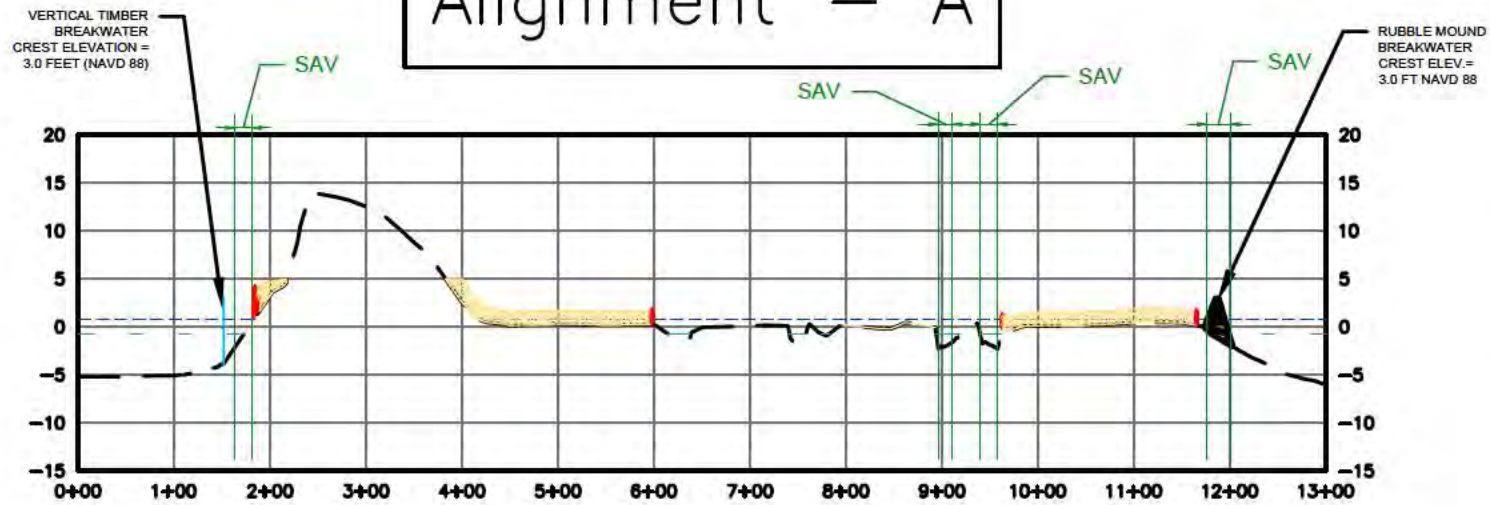
MHHW = 0.82 FT (NAVD 88)

MLW = -0.7 FT (NAVD 88)

## Alignment — B



## Alignment — A



VERTICAL SCALE 1"=20'  
HORIZONTAL SCALE 1"=200'



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FOWL RIVER MARSH AND  
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FOWL RIVER, ALABAMA

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CHECKED	BDF
IN CHARGE	BDF
	38926

PROJECT NUMBER D190585.00

ISSUE DATE 12/23/21

SCALE IS AS SHOWN WHEN  
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PHASE  
PERMITTING

SHEET TITLE  
BELLINGRATH  
- SECTION

SHEET NUMBER  
C-14

SHEET 14 OF 16



 TH N LAYER PLACEMENT - (21 91 AC, 114,627 CY)  
 CO R LOGS - (22,062 LF)  
 TIMBER BREAKWATER - (4,300 LF)  
 R P RAP - (0.56 AC, 389 CY)  
 MHHW = 0.82 FT (NAVD 88)  
 MLW = -0.7 FT (NAVD 88)

VERTICAL TIMBER  
BREAKWATER  
CREST ELEVATION =  
3.0 FT (NAVD 88)

VERTICAL SCALE 1"=15'  
HORIZONTAL SCALE 1"=150'



CONSULTANT

PROJECT NAME **FOWL RIVER MARSH AND  
SHORELINE STABILIZATION**

FOWL RIVER, ALABAMA

REVISIONS		
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PHASE PERMITTING

SHEET TITLE  
BELLINGRATH  
PROFILE

SHEET NUMBER

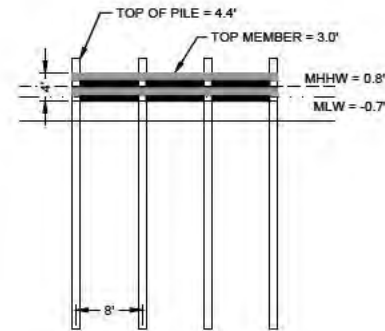
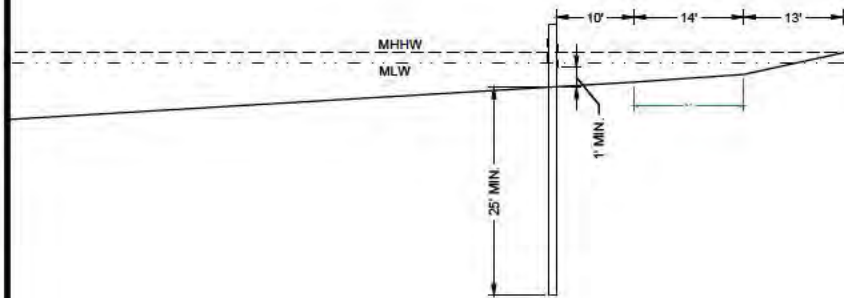
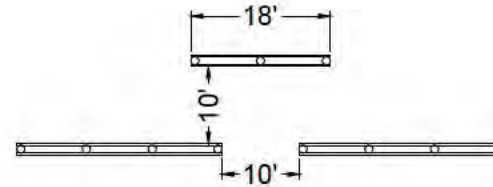
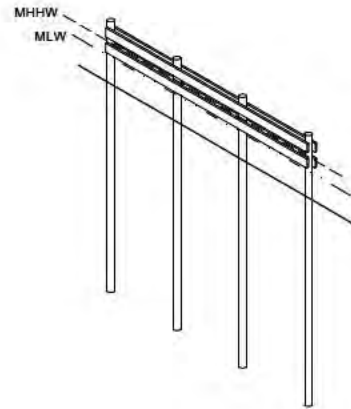
C-15

SHEET 15 OF 18

LEGEND:

----- MHHW = 0.82 FT (NAVD 88)

----- MLW = -0.7 FT (NAVD 88)



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CONSULTANT

PROJECT NAME  
**FOWL RIVER MARSH AND  
SHORELINE STABILIZATION**  
FOWL RIVER, ALABAMA

REVISIONS

#	DATE	DESCRIPTION
0	7/26/21	PERMIT

DESIGNED	BDF/TC
DRAWN	TT
CHECKED	BDF
IN CHARGE	BDF 38926

PROJECT NUMBER D100585.00

ISSUE DATE 12/23/21

SCALE IS AS SHOWN WHEN  
PLOTTED TO FULL SIZE (8.5"x11")

PHASE  
PERMIT NG

SHEET TITLE  
**DETAIL -  
TIMBER  
BREAKWATER**

SHEET NUMBER  
**C-16**

SHEET 16 OF 16





**Sediment Delivery Truck Route for the MBNEP East Fowl River Wetland Restoration (SAM-2019-01020-DCH)**