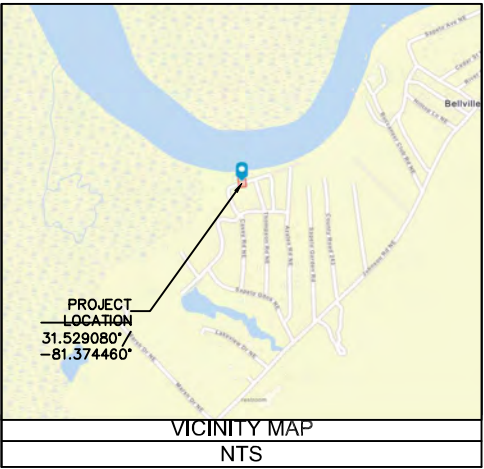


RIGGER LIVING SHORLINE COASTAL MARSHLANDS PROTECTION ACT PERMIT APPLICATION



PREPARED FOR:
DON & MARY RIGGER
1047 HEAD LANE NE
TOWNSEND, GA 31331

LABARBA ENVIRONMENTAL SERVICES
139 ALTAMA CONN. #161
BRUNSWICK, GA 31525

NOT RELEASED
FOR
CONSTRUCTION

LEGEND

These standard symbols will
be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
- [Symbol] OYSTERS
- [Symbol] RIP RAP
- [Symbol] FLEXAMAT
- [Symbol] MARSH VEG PLANTING
- [Symbol] TRANS. VEG PLANTING
- [Symbol] UPLAND VEG PLANTING

COVER

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

ORIGINAL ISSUE DATE: 11/14/24

CONTENTS		
SHEET		DATE
1	COVER	11/14/24
2	EXISTING CONDITIONS	11/14/24
3	GRADING	11/14/24
4	GRADING (CONT'D)	11/14/24
5	FLEXAMAT	11/14/24
6	RIP RAP	11/14/24
7	OYSTER SEEDING	11/14/24
8	VEGETATION PLANTING	11/14/24
9	PRODUCT SPECIFICATIONS	11/14/24

DATE: 11/14/2024
SCALE: NTS

1

SHEET:

1. BOUNDARY AND CMPA SURVEY PROVIDED BY SHUPE SURVEYING.
2. CONTOUR DATA OBTAINED FROM LIDAR PROVIDED BY ZULU MARINE.
3. EXISTING RIP RAP: 762 SF (APPROX. 56.5 CY)
4. EXISTING RIP RAP TO BE TEMPORARILY REMOVED AND INCORPORATED INTO FINAL LIVING SHORELINE BORDER
5. EXISTING OYSTERS RECRUITING ON LOWER RIP RAP SECTIONS. OYSTERS WILL BE TEMPORARILY RELOCATED TO BE INCORPORATED INTO THE LIVING SHORELINE.
6. EXISTING AREA WITH OYSTERS: 288 SF

SHEET:



1. SLOPE GRADED TO 1.5:1 FOR THE ENTIRE SHORELINE.
2. GRADING WILL INVOLVE SHAPING EXISTING SHORELINE, NO ADDITIONAL FILL DIRT WILL BE DISCHARGED INTO JURISDICTIONAL AREAS.

1. SLOPE GRADED TO 1.5:1 FOR THE ENTIRE SHORELINE.
2. GRADING WILL INVOLVE SHAPING EXISTING SHORELINE, NO ADDITIONAL FILL DIRT WILL BE DISCHARGED INTO JURISDICTIONAL AREAS.

LEGEND

These standard symbols will be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
-] OYSTERS
-] RIP RAP
-] FLEXAMAT
-] MARSH VEG PLANTING
-] TRANS. VEG PLANTING
-] UPLAND VEG PLANTING

GRADING

**LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA**

**PREPARED FOR:
DON & MARY RIGGER**

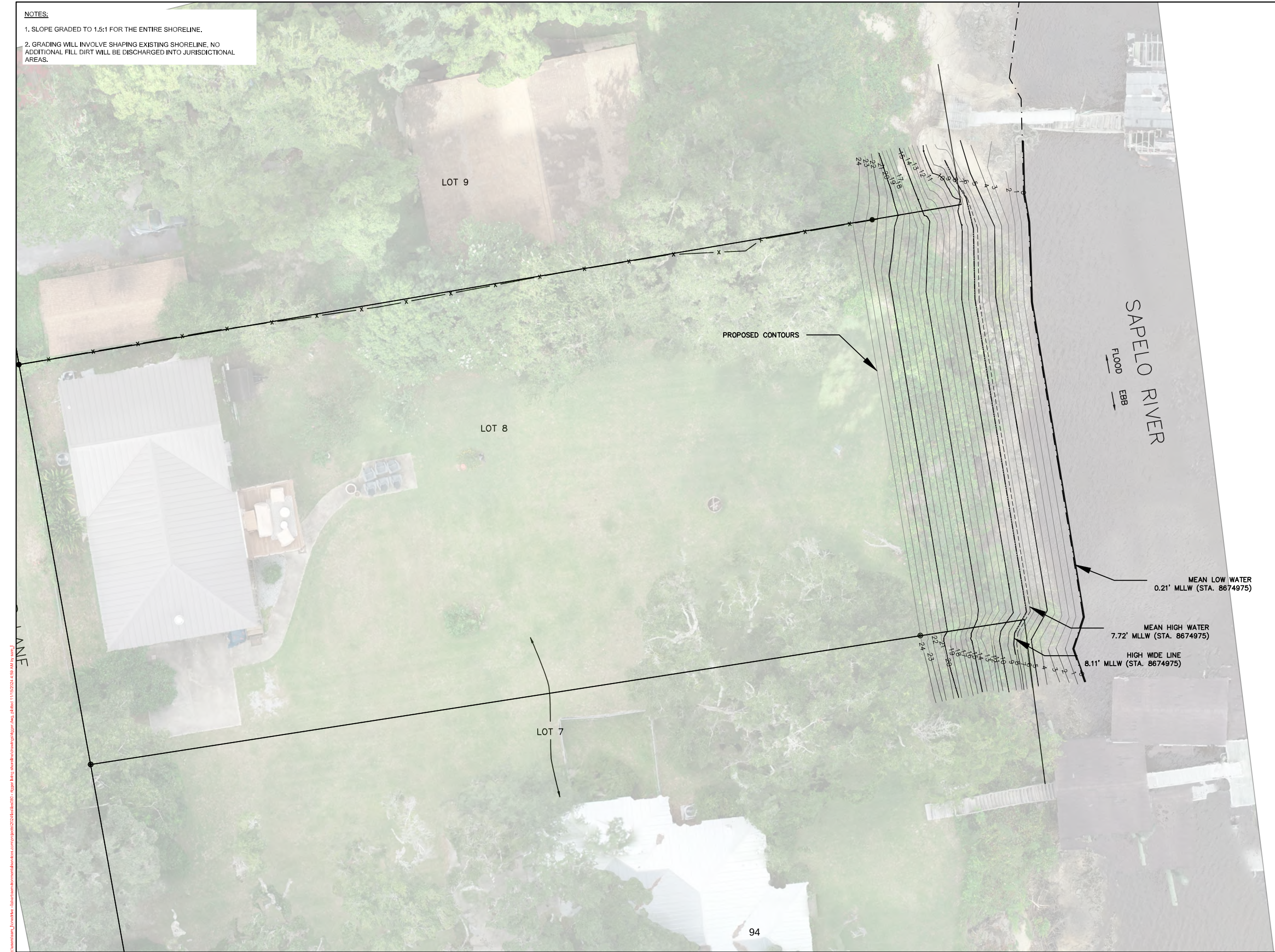
DON & MARY RIGGER

DATE: 11/14/2024

SCALE: NTS

3

SHEET:



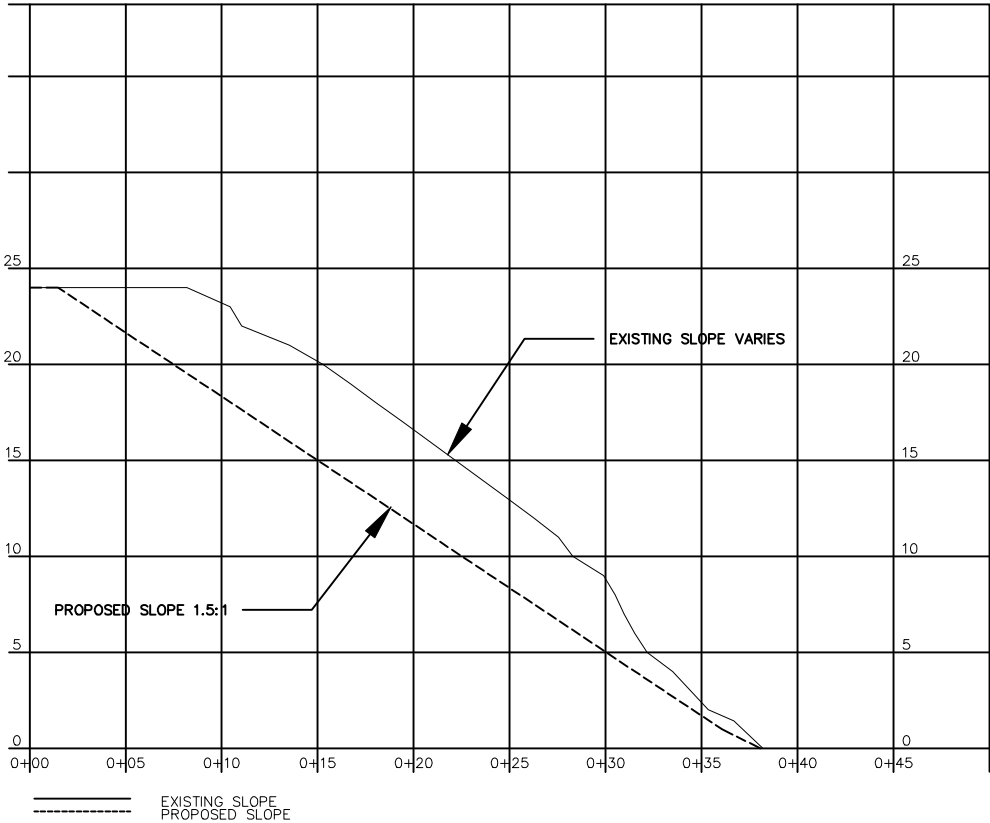
NOT RELEASED
FOR
CONSTRUCTION

LEGEND

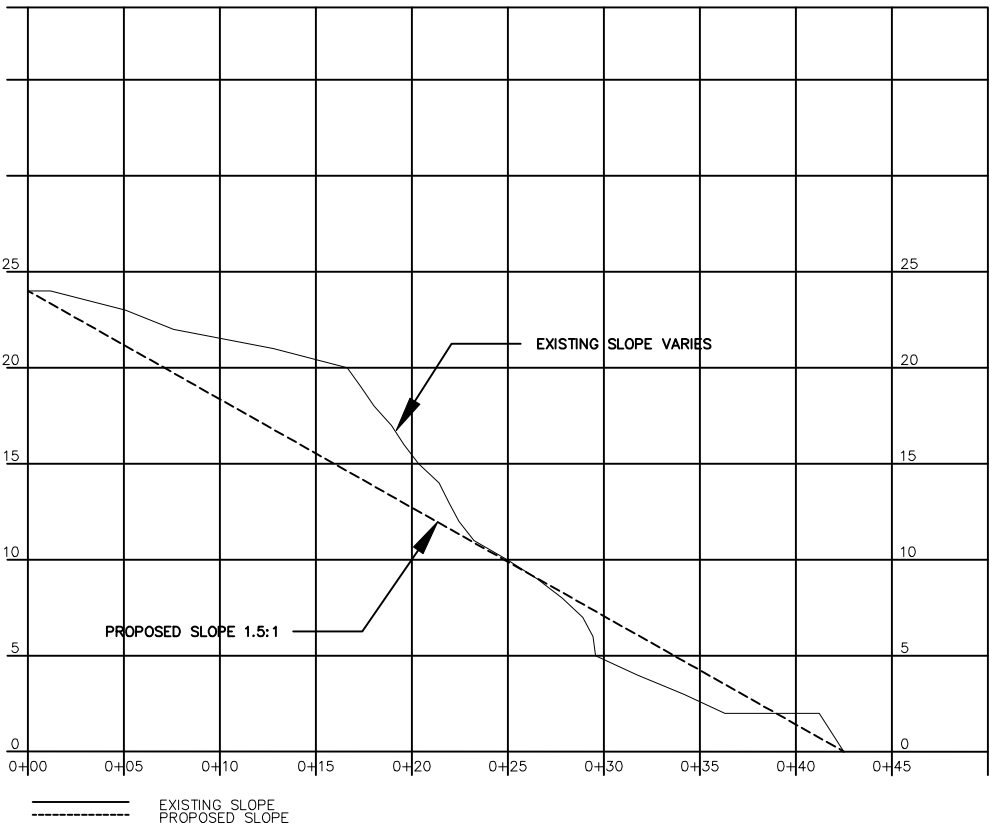
These standard symbols will be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
- OYSTERS
- RIP RAP
- FLEXAMAT
- MARSH VEG PLANTING
- TRANS. VEG PLANTING
- UPLAND VEG PLANTING

SECTION A



SECTION B



SLOPE

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024

SCALE: NTS

4

SHEET:



- NOTES:
1. FLEXAMAT INSTALLATION TO FOLLOW MANUFACTURERS STANDARDS.
 2. SINGLE LAYER OF FLEXAMAT WILL BE INSTALLED UNIFORMLY ON THE GRADED SHORELINE.
 3. 2" DIA. STAINLESS STEEL DEADMAN ANCHOR INSTALLED AT THE TOP OF THE BLUFF
 4. TOE AND SIDES OF FLEXAMAT RENCHED INTO EXISTING BANK FOR SCOUR PROTECTION.
 5. TOTAL IMPACTS
DEADMAN ANCHOR: 2" X 92' (14.72 SF)
FLEXAMAT: 3,580 SF X 0.175' THICK (626.5 CF) (23.2 CY)
 6. TOTAL IMPACTS IN CMPA JURISDICTION
DEADMAN ANCHOR: NO IMPACTS
FLEXAMAT: 1,075 SF C 0.175' THICK (188.125 CF) (6.97 CY)
 7. TOTAL IMPACTS BELOW HIGH TIDE LINE
DEADMAN ANCHOR: NO IMPACTS
FLEXAMAT: 1,158 SF C 0.175' THICK (202.65 CF) (7.5 CY)

NOT RELEASED
FOR
CONSTRUCTION

LEGEND

These standard symbols will be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
- [Symbol] OYSTERS
- [Symbol] RIP RAP
- [Symbol] FLEXAMAT
- [Symbol] MARSH VEG PLANTING
- [Symbol] TRANS. VEG PLANTING
- [Symbol] UPLAND VEG PLANTING

FLEXAMAT

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024
SCALE: NTS

5

SHEET:



- NOTES:
1. FLEXAMAT INSTALLATION TO FOLLOW MANUFACTURERS STANDARDS.
 2. SINGLE LAYER OF FLEXAMAT WILL BE INSTALLED UNIFORMLY ON THE GRADED SHORELINE.
 3. 2" DIA. STAINLESS STEEL DEADMAN ANCHOR INSTALLED AT THE TOP OF THE BLUFF
 4. TOTAL IMPACTS
RIP RAP: 3' WIDE X 162' LONG X 2' THICK (486 SF) (972 CF) (36 CY)
 5. TOTAL IMPACTS IN CMPA JURISDICTION
RIP RAP: 333 SF (666 CF) (24.66 CY)
 6. TOTAL IMPACTS BELOW HIGH TIDE LINE
RIP RAP: 337 SF (674 CF) (24.96 CY)

NOT RELEASED
FOR
CONSTRUCTION

LEGEND

These standard symbols will be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
- [Pattern] OYSTERS
- [Pattern] RIP RAP
- [Pattern] FLEXAMAT
- [Pattern] MARSH VEG PLANTING
- [Pattern] TRANS. VEG PLANTING
- [Pattern] UPLAND VEG PLANTING

RIP RAP BORDER PROTECTION

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA

PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024

SCALE: NTS

6

SHEET:



- NOTES:
- 1. OYSTER HARVESTED PRIOR TO GRADING WILL BE REPLANTED INTO THE LOWER INTERTIDAL ZONE OF THE LIVING SHORELINE TO RECRUIT ON THE RIP RAP AND FLEXAMAT.
 - 2. IMPACTED AREA WILL BE LESS THAN THE EXISTING FOOTPRINT DUE TO THE CLOSER SPACING OF OYSTERS AFTER GRADING.
 - 3. TOTAL IMPACTS
OYSTERS: 158 SF
 - 4. TOTAL IMPACTS IN CMPA JURISDICTION
OYSTERS: 158 SF
 - 5. TOTAL IMPACTS BELOW HIGH TIDE LINE
OYSTERS: 158 SF

NOT RELEASED
FOR
CONSTRUCTION

LEGEND

- These standard symbols will be found in the drawing.
- MEAN LOW WATER
 - MEAN HIGH WATER
 - HIGH TIDE LINE
 - [Symbol] OYSTERS
 - [Symbol] RIP RAP
 - [Symbol] FLEXAMAT
 - [Symbol] MARSH VEG PLANTING
 - [Symbol] TRANS. VEG PLANTING
 - [Symbol] UPLAND VEG PLANTING

RIP RAP BORDER PROTECTION

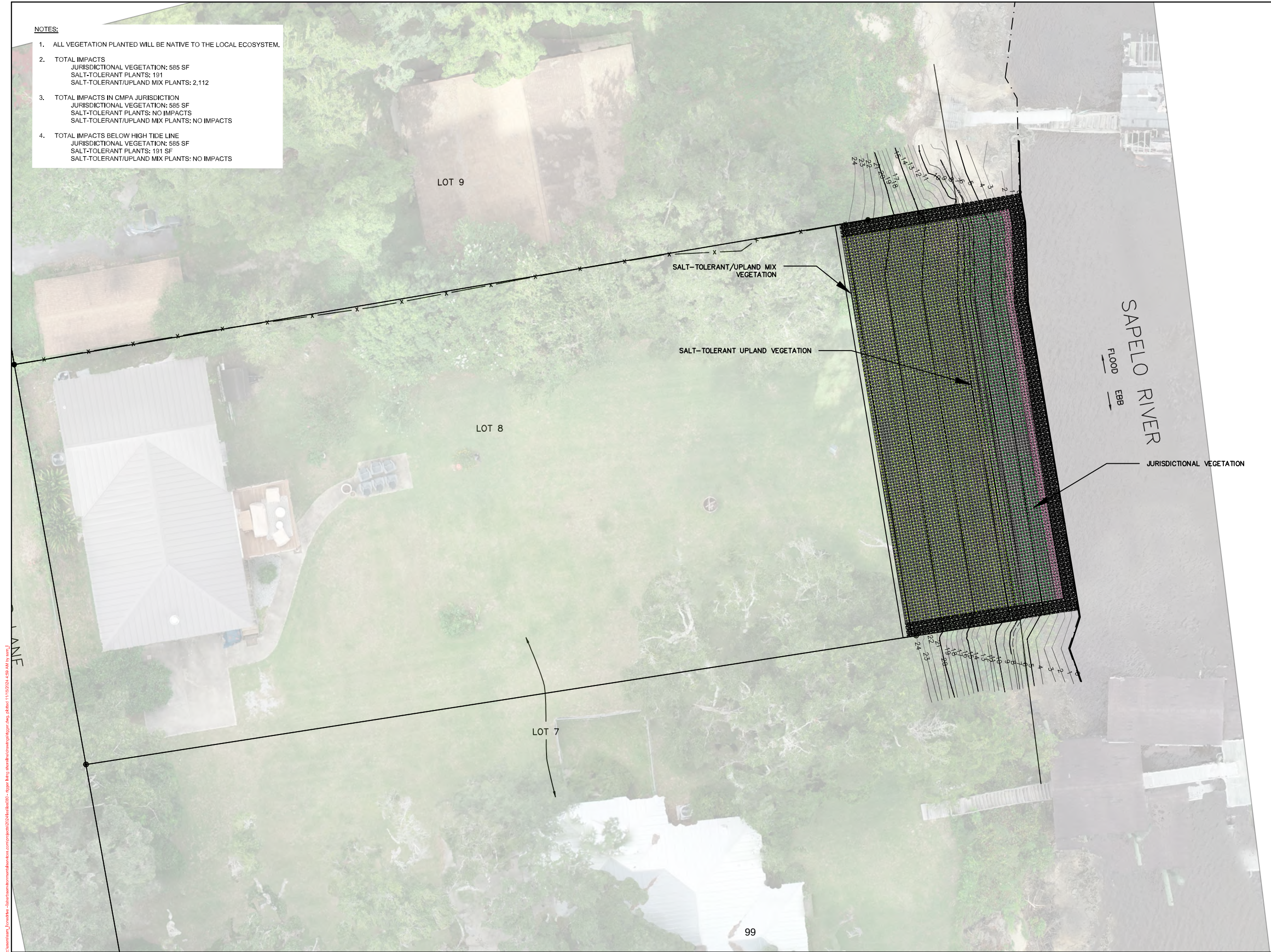
LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024
SCALE: NTS

7

SHEET:

- NOTES:
1. ALL VEGETATION PLANTED WILL BE NATIVE TO THE LOCAL ECOSYSTEM.
 2. TOTAL IMPACTS
JURISDICTIONAL VEGETATION: 585 SF
SALT-TOLERANT PLANTS: 191
SALT-TOLERANT/UPLAND MIX PLANTS: 2,112
 3. TOTAL IMPACTS IN CMPA JURISDICTION
JURISDICTIONAL VEGETATION: 585 SF
SALT-TOLERANT PLANTS: NO IMPACTS
SALT-TOLERANT/UPLAND MIX PLANTS: NO IMPACTS
 4. TOTAL IMPACTS BELOW HIGH TIDE LINE
JURISDICTIONAL VEGETATION: 585 SF
SALT-TOLERANT PLANTS: 191 SF
SALT-TOLERANT/UPLAND MIX PLANTS: NO IMPACTS



NOT RELEASED
FOR
CONSTRUCTION

LEGEND

These standard symbols will
be found in the drawing.

- MEAN LOW WATER
- MEAN HIGH WATER
- HIGH TIDE LINE
- [Symbol] OYSTERS
- [Symbol] RIP RAP
- [Symbol] FLEXAMAT
- [Symbol] MARSH VEG PLANTING
- [Symbol] TRANS. VEG PLANTING
- [Symbol] UPLAND VEG PLANTING

VEGETATION PLANTING

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024
SCALE: NTS

8

SHEET:

NOT RELEASED
FOR
CONSTRUCTION

VEGETATION PLANTING

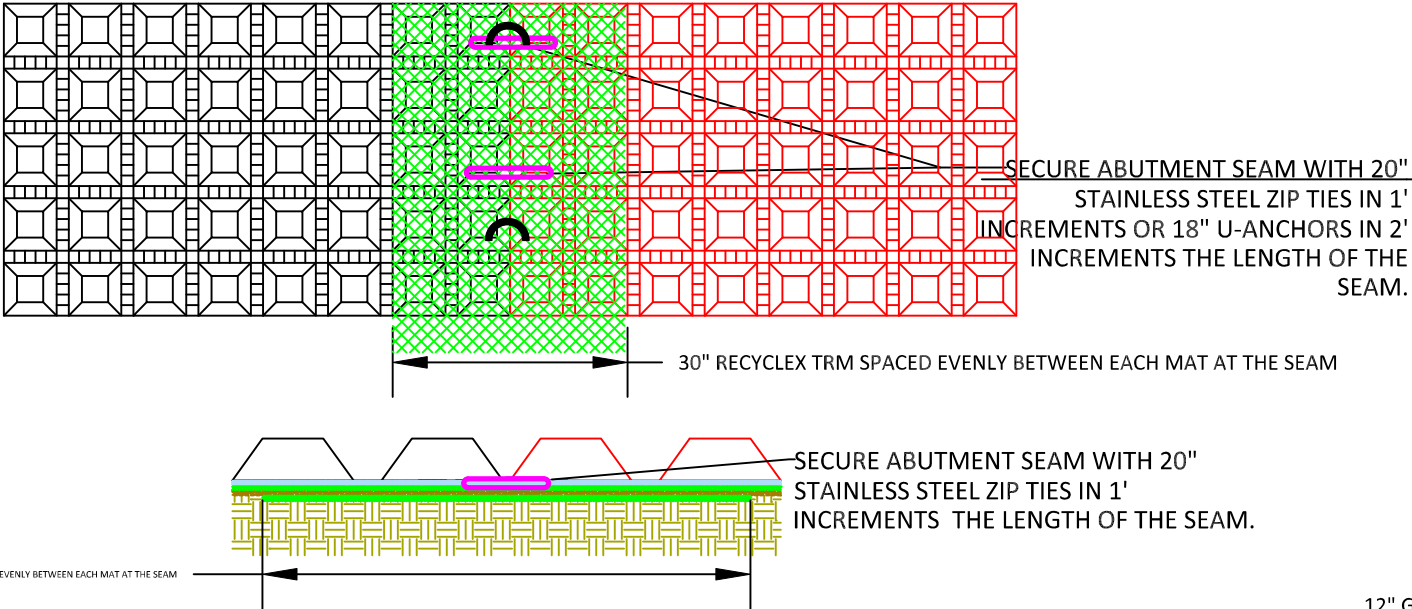
LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024
SCALE: NTS

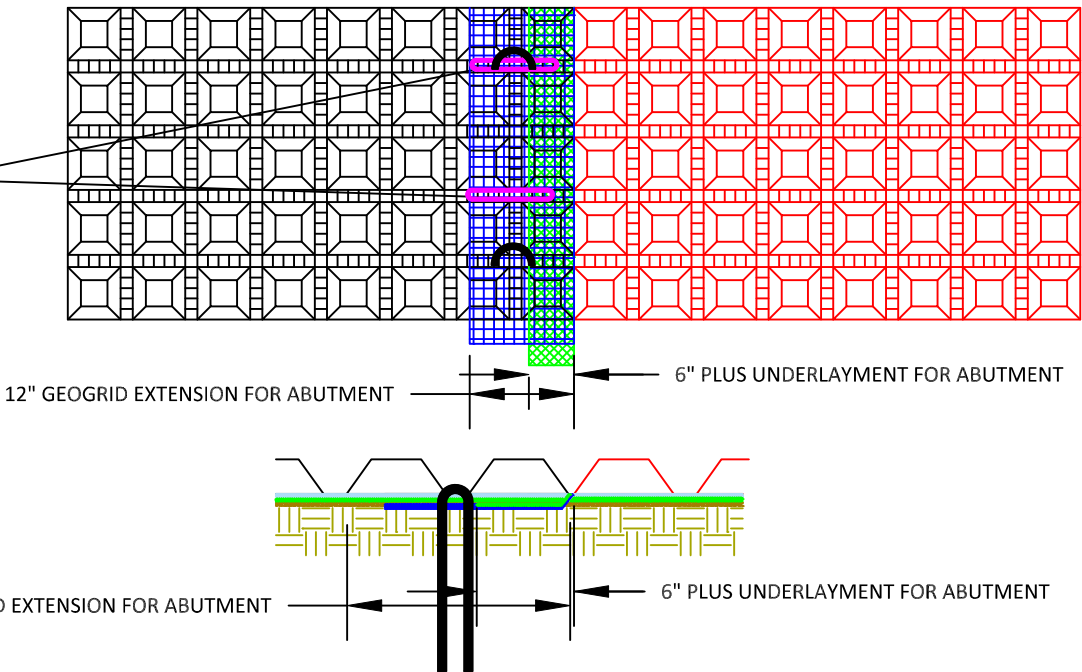
9

SHEET:

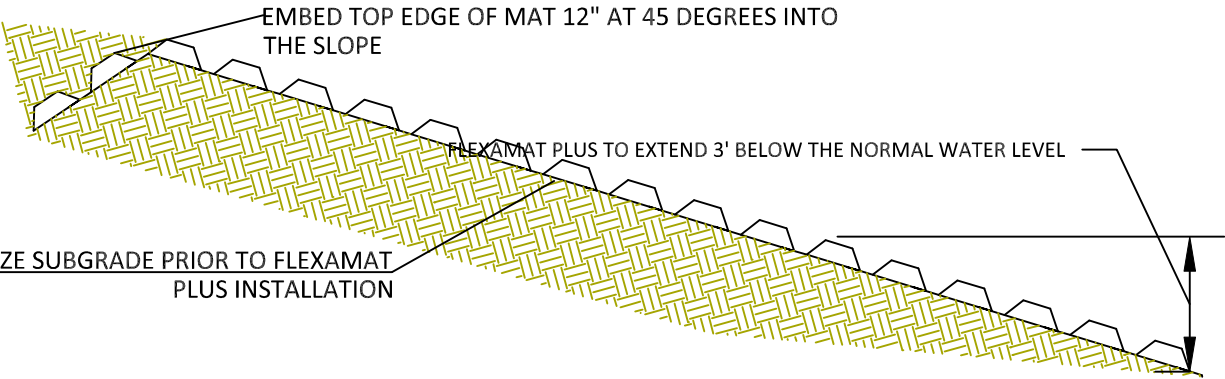
ABUTMENT METHOD FOR SHORELINE WIDTH LESS THAN 16'



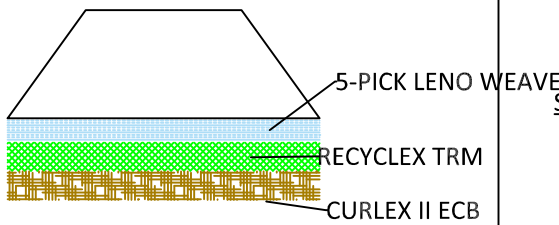
ABUTMENT METHOD FOR SHORELINE WIDTH GREATER THAN 16'



PROFILE VIEW OF SLOPE AND ANCHOR TRENCH



FLEXAMAT PLUS UNDERLAYMENT



FLEXAMAT PLUS - SHORELINE ARMORING

CONSTRUCTION NOTES:

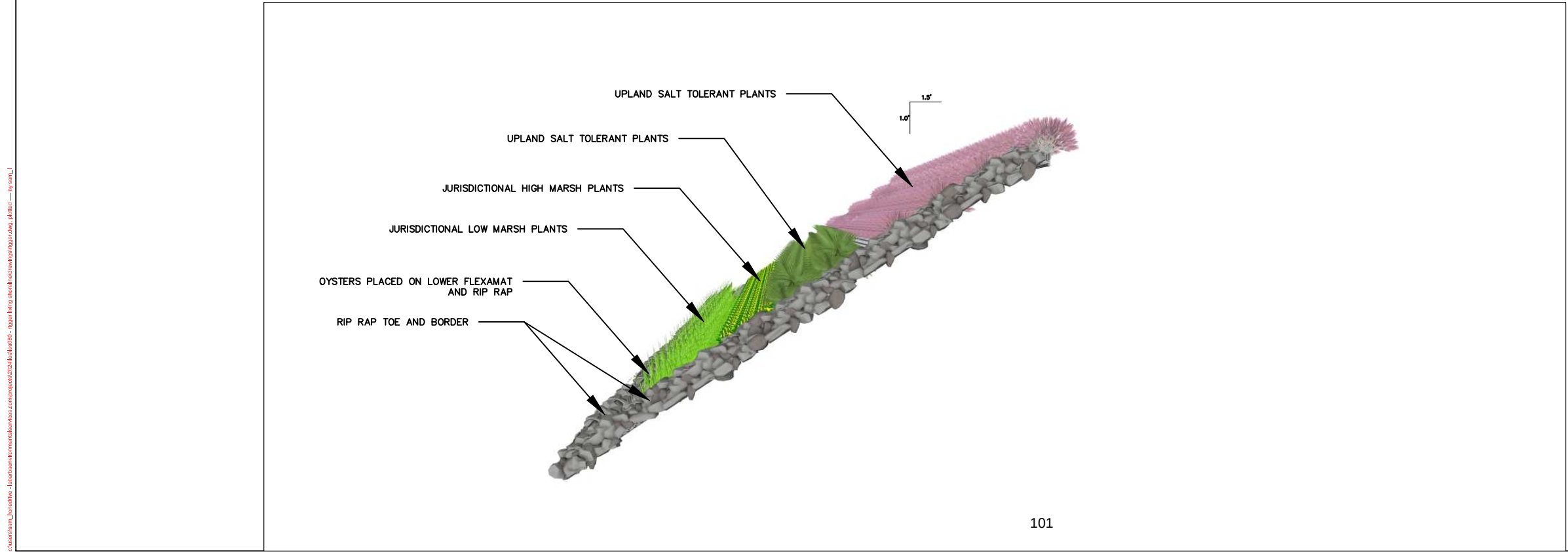
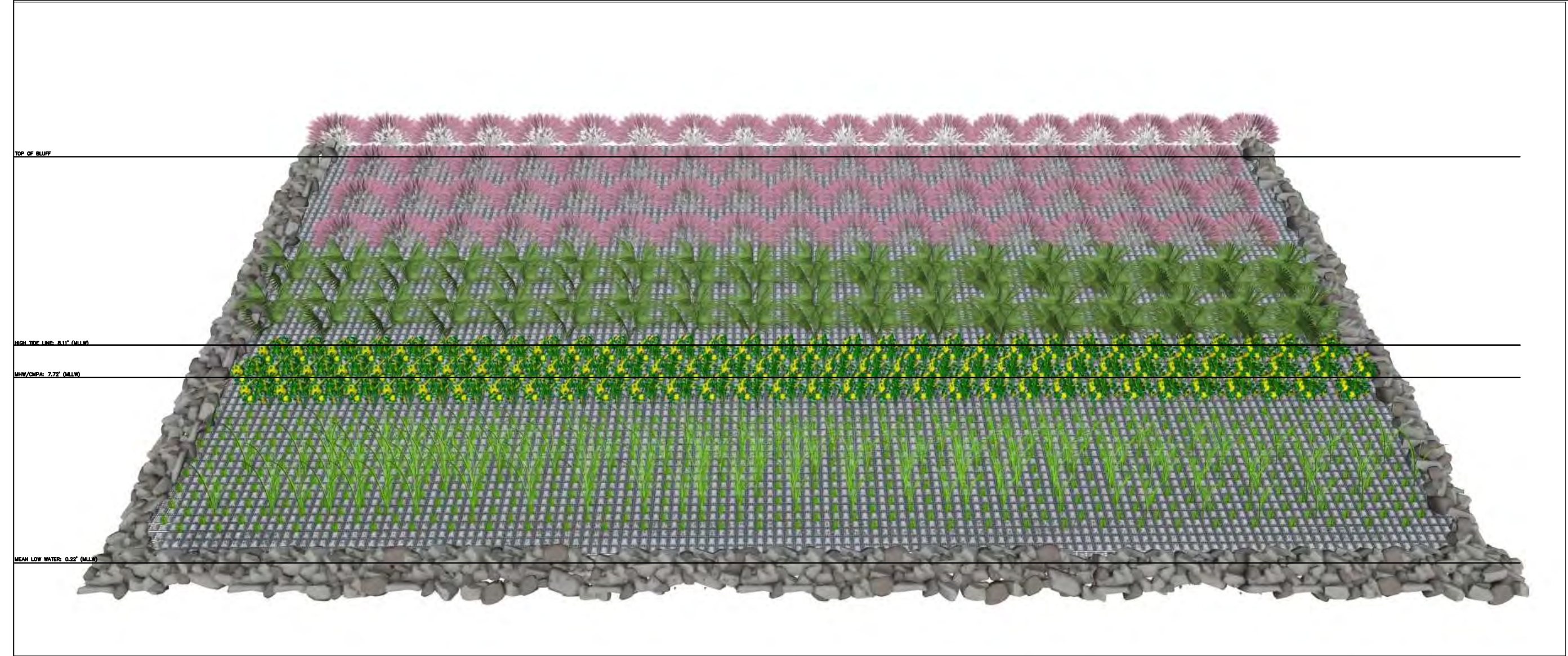
1. AN ENGINEER OR MANUFACTURES REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
3. PRIOR TO FLEXAMAT PLUS INSTALLATION, SEED AND FERTILIZE SUBGRADE WITH SITE SPECIFIC SEED MIX IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. .
4. INSTALL FLEXAMAT PLUS ROLLS, MATS SHALL BE CONTINUOUS FOR ENTIRE LENGTH OF SLOPE.
 - 4.1. MATTING SHALL EXTEND 3' BELOW ORDINARY WATER LEVEL.
5. AT MAT ABUTMENT SEAMS, INSTALL RECYCLEX TRM SEAMS EVENLY UNDER EACH MAT.
6. SECURE ABUTMENT SEAMS IN 2' INCREMENTS USING STAINLESS STEEL ZIP TIES OR #3 REBAR - 18" U-ANCHORS. ZIP TIES SHALL ENCOMPASS 3 CORDS OF GRID OF EACH ABUTTING MAT OR GEOGRID EXTENSION. U-ANCHORS SHALL ENCOMPASS 2 CORDS OF GEOGRID OF EACH ABUTTING MAT OR GEOGRID EXTENSIONS.
7. AT THE BEGINNING AND END OF THE SHORELINE PROTECTION, EMBED THE MAT 18" PAST THE ANTICIPATED SCOUR POINT. FILL AND COMPACT TERMINATION TRENCH WITH COHESIVE SOIL.
8. RECESS TOP TWO BLOCKS OF MAT INTO THE SLOPE.

MOTZ
ENTERPRISES, INC.

Flexamat
(513)772-6689
Info@Flexamat.com
Flexamat.com



REV - 2



NOT RELEASED
FOR
CONSTRUCTION

PROFILE VIEW

LABARBA ENVIRONMENTAL SERVICES
BRUNSWICK, GA
PREPARED FOR:
DON & MARY RIGGER

DATE: 11/14/2024
SCALE: NTS

10

SHEET: