

### PERMIT DRAWINGS

### DEAN CREEK NATURE TRAIL IMPROVEMENTS SAPELO ISLAND, GEORGIA

### **OWNER'S REPRESENTATIVE**

JOEL GRIFFIN SOUTHERN REGION ENGINEERING AND CONSTRUCTION 912-381-2511 JOEL.GRIFFIN@DNR.GA.GOV

### CIVIL ENGINEER

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### LANDSCAPE ARCHITECT

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### STRUCTURAL ENGINEER

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FOR THE

GEORGIA DEPARTMENT OF NATURAL RESOURCES **ENGINEERING AND CONSTRUCTION** #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334 (404) 656-6531

MAY, 2023

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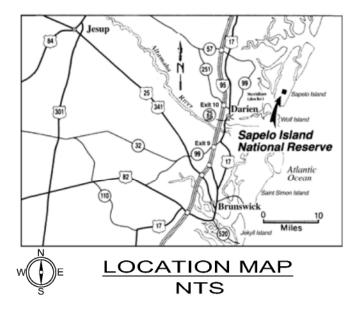


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FREEDMAN ENGINEERING **GRØUP** 

Suite 320, #218 (770) 851-3175

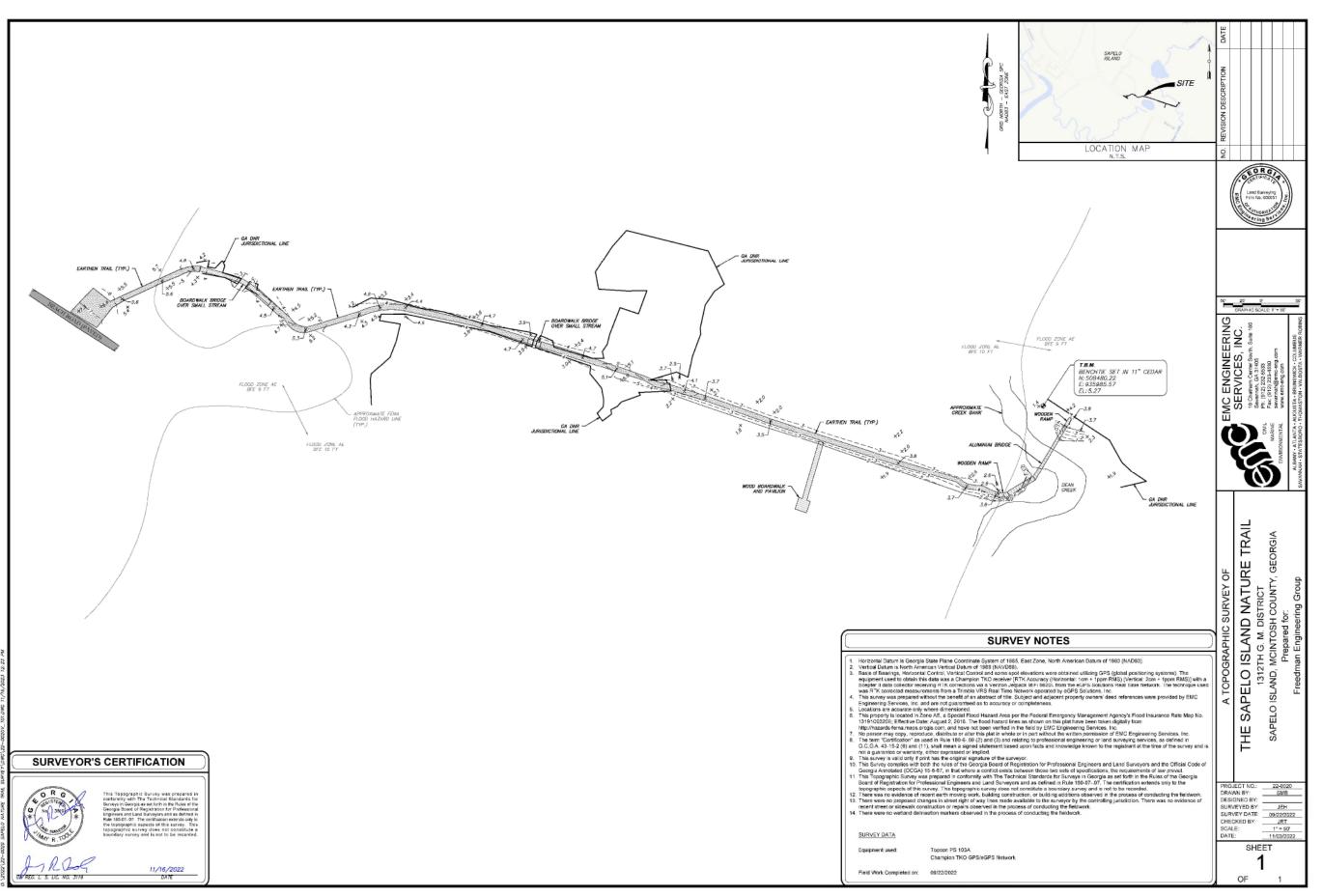


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TRAIL IMPROVEMENTS

NATURE

**COVER SHEET** 



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TRAIL IMPROVEMENTS GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334 CREEK DEAN NATURE

Sheet Title: **EXISTING** CONDITIONS

Sheet No:

### NOTES

- 1. CONTRACTOR TO STAKE OUT NEW BOARDWALKS FOR OWNER'S APPROVAL INCLUDING ELEVATIONS.
- ALL LUMBER/TIMBER TO BE SOUTHERN YELLOW PINE NUMBER 1.
   ALL LUMBER/TIMBER SHALL BE OF SOUND STOCK, DELIVERED DRY, AND SHALL BE FULLY PROTECTED AT ALL TIMES FROM INJURY AND DAMPNESS, SPLIT, BROKEN, OR OTHERWISE DAMAGED PIECES WILL NOT BE ALLOWED IN THE WORK.
- 4. LUMBER/TIMBER SHALL BE TREATED WITH PRESERVATIVES TO THE FOLLOWING REQUIREMENTS IN ACCORDANCE WITH AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1 OR ICC-ES EVALUATION
- a. 6" BY 6" OR 8" DIAMETER PILES AND 8" BY 8" TIMBERS USE CATEGORY UC5B, 2.5 PCF CCA.
- b. STRUCTURAL LUMBER FOR BOARDWALKS AND STAIRS 8" x 8", 2" x 12", 2" x 10", 6" x 6", 4" x 4" - USE CATEGORY UC4B, 0.60 PCF CCA.
- c. HANDRAIL SYSTEM INCLUDING 2" x 8" TOP RAIL, PLATFORM, AND BOARDWALK CURBING - 4" x 6", 2" x 6", 2" x 4", 4" BY 4" - USE CATEGORY UC4B, 0.31 PCF CA-C
- 5. ALL TREATMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OF THE AMERICAN WOOD PROTECTION ASSOCIATION FOR TREATING WOOD. APPLY A HEAVY COAT OF THE SAME PRESERVATIVE USED IN TREATING TO ALL SURFACES CUT AFTER TREATMENT.
- 6. HURRICANE ANCHORS TO BE SIMPSON H2.5ASS (STAINLESS STEEL) WITH STAINLESS STEEL NAILS AS RECOMMENDED BY ANCHOR MANUFACTURER.
- ALL HARDWARE (BOLTS, SCREWS, NAILS, ETC.) TO BE STAINLESS STEEL.
- 8. CONNECTING HARDWARE TO BE AS FOLLOWS:
- a. DECKING TO STRINGERS 3 3" STAINLESS STEEL SCREWS AT EACH STRINGER
- b. 2" X 6" CURB TO DECKING 3" STAINLESS STEEL SCREWS EVERY 12"
- c. 4" X 6" CURB THROUGH 2" X 6" TO DECKING 5/8" DIAMETER STAINLESS STEEL BOLTS EVERY 18". COUNTERSINK BOLTS SO THEY ARE FLUSH WITH WOOD SURFACE.
- d. BLOCKING 3" STAINLESS STEEL SCREWS
- e. STRINGER SPLICE PLATE TWO 5/8" DIAMETER STAINLESS STEEL BOLTS WITH 3" FLAT WASHERS AT EACH SIDE OF JOINT
- f. SPLIT PILE CAPS TO PILES TWO 3/4" DIAMETER STAINLESS STEEL
- BOLTS WITH 3" FLAT WASHERS. g. RAILINGS – 3" STAINLESS STEEL SCREWS
- h. RAIL POSTS TWO 3/4" DIAMETER STAINLESS STEEL BOLTS WITH 3" FLAT WASHERS

BEGIN PROJECT AT TRAIL HEAD

HIGH TIDE ELEVATION (HTL) = 5.32 -

(SEE SITE PLAN NOTE 1) BOARDWALK NUMBER 1

CONSTRUCTION ACCESS PATH, TYP. -

MEAN HIGH WATER (MHW) = ELEVATION 2.9

- 9. FOR BOLTED WORK, BORE HOLES OF SAME DIAMETER AS BOLTS AND DRIVE
- 10. WASHERS SHALL BE PROVIDED UNDER ALL BOLT HEADS AND NUTS.
- 11. BOLTS SHALL BE STANDARD HEX HEAD. 12. DECKING SHALL BE INSTALLED WITH THE BARK SIDE UP TO
- AND ALL OTHER ACCESSIBLE SURFACES SHALL BE GROUND SMOOTH WITH NO SHARP EDGES OR CORNERS.
- 14. BOARDWALK HEIGHT WITHOUT RAILINGS, TOP OF DECK TO GROUND SURFACE, CANNOT EXCEED THIRTY (30) INCHES.
- 15. DESIGN IS BASED ON A LIVE LOAD OF 85 POUNDS PER SQUARE FOOT.
- 16. ALL DEMOLITION MATERIALS TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
- 17. ALL POSTS AND UNDERGROUND ELEMENTS TO BE REMOVED TO BE CUT OFF ONE (1) FOOT BELOW THE GROUND SURFACE.
- 18. THE OWNER RESERVES THE RIGHT TO RETAIN ANY MATERIALS IDENTIFIED FOR DEMOLITION, THESE MATERIALS TO BE NEATLY STACKED IN A LOCATION DESIGNATED BY THE OWNER.
- 19. SUBMITTALS ARE REQUIRED ON ALL MATERIALS TO BE INCORPORATED INTO THE WORK.
- 20. EXISTING SIGNAGE ALONG TRAIL, WHEN IMPACTED BY PROPOSED WORK, TO BE REMOVED, STORED, AND REPLACED IN THE SAME LOCATION UPON COMPLETION OF THE WORK

CONSTRUCTION ACCESS PATH, TYP. -

(SEE SITE PLAN NOTE 1) SMALL STREAM CROSSING -

BOARDWALK NUMBER 2

EX. SOFT SURFACE TRAIL, TYP.

SITE PLAN NOTES:

- CONSTRUCTION ACCESS PATH TO BE 14 FEET WIDE, 7 FEET ON EITHER SIDE OF THE BOARDWALK CENTERLINE. MATS TO BE PLACED ON THE GROUND IN ALL AREAS WITHIN THE DNR JURISDICTIONAL LINE.
- HIGH TIDE LINE ELEVATION = 5.32.
- MEANT HIGH WATER ELEVATION = 2.9.

FREEDMAN ENGINEERING **GRØUP** 

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MW

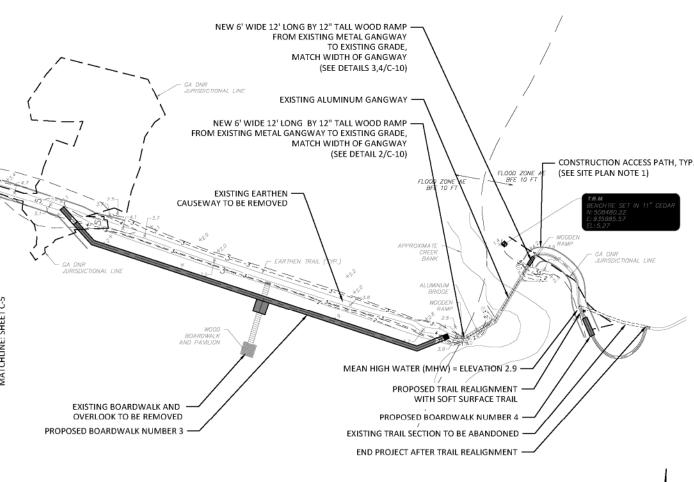
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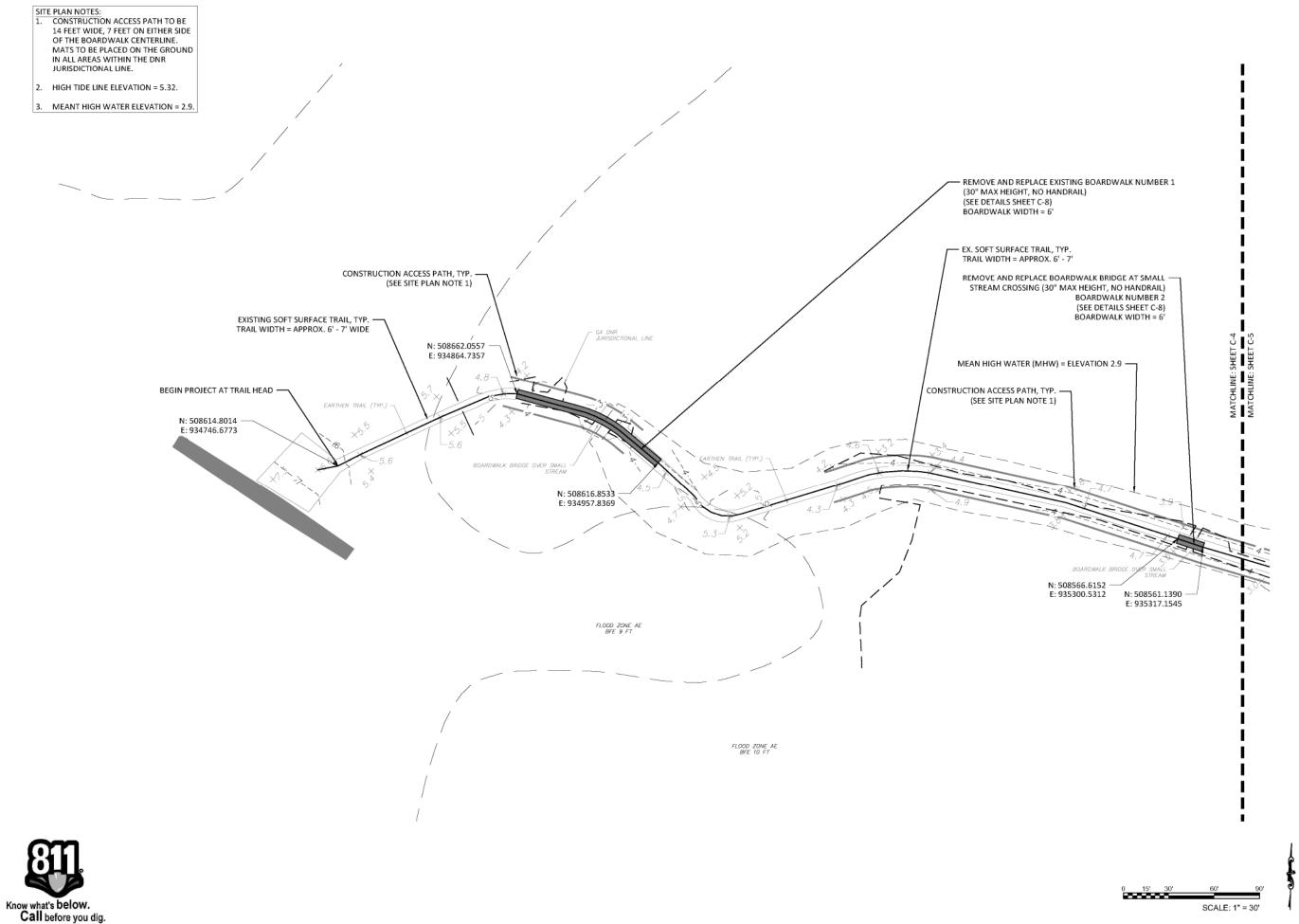
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Sheet Title SITE PLAN **KEY MAP** 



Know what's below Call before you dig.

SCALE: 1" = 60'



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NATURE TRAIL IMPROVEMENTS

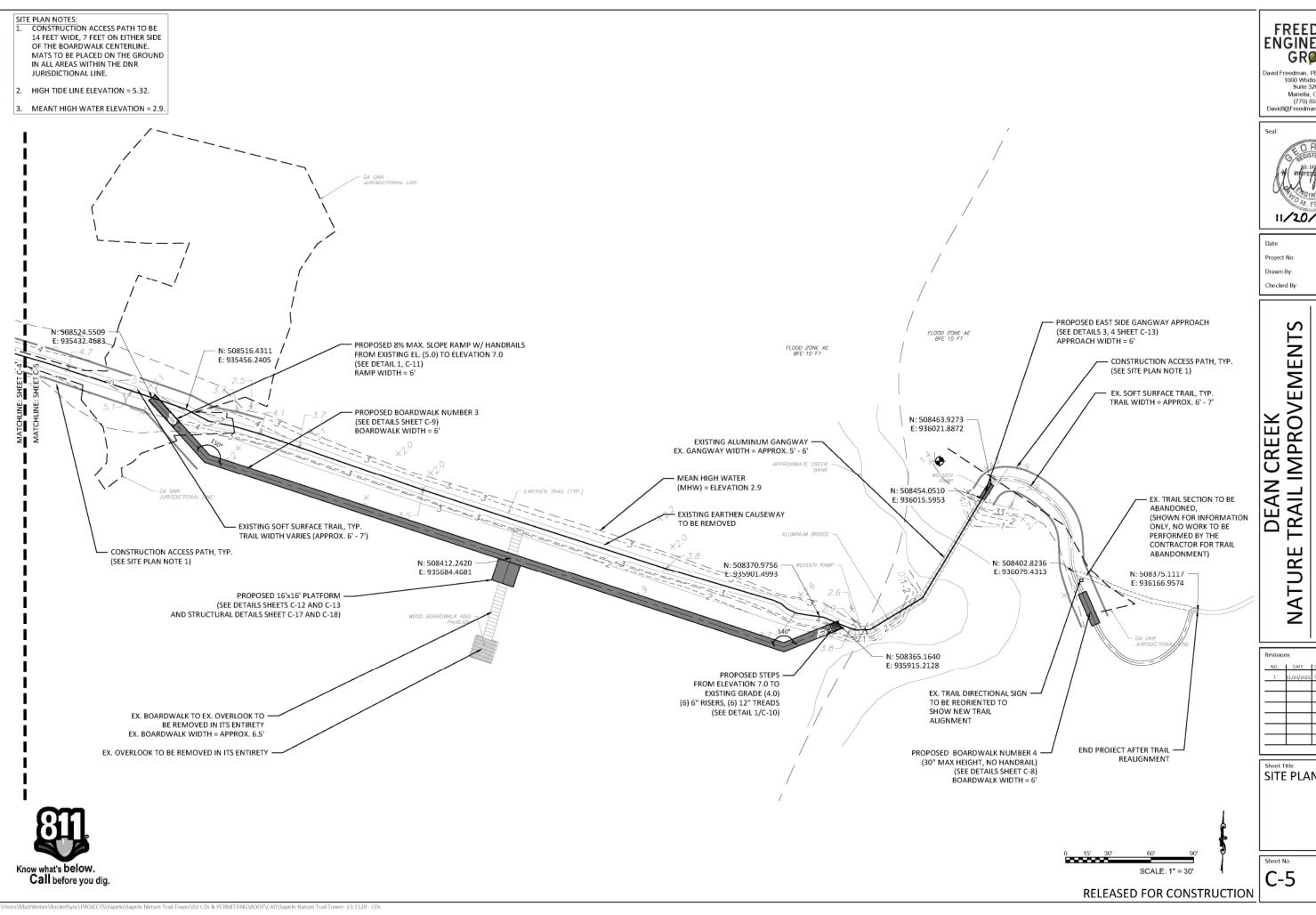
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#2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352
ATLANTA, GA 30334

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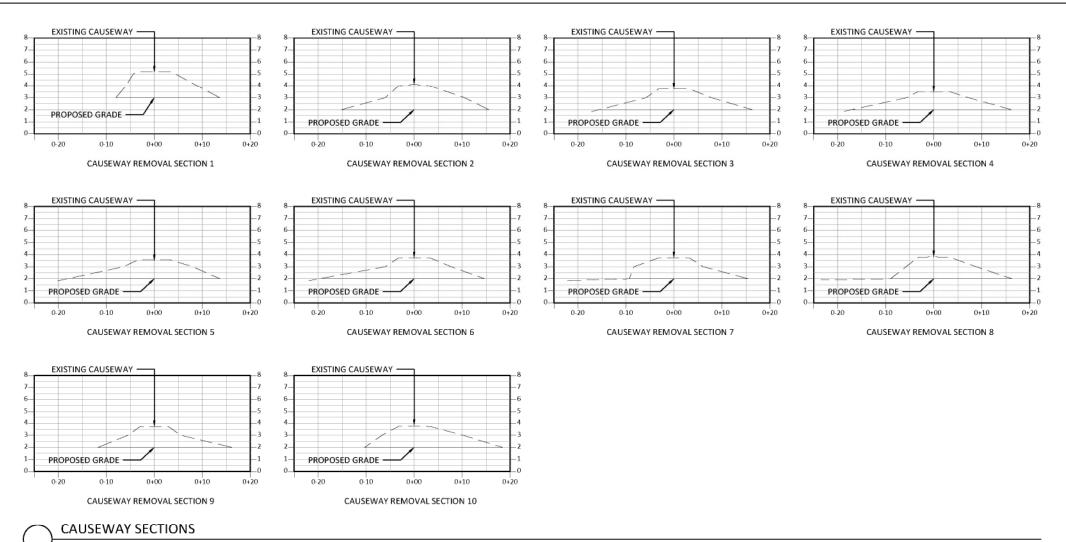


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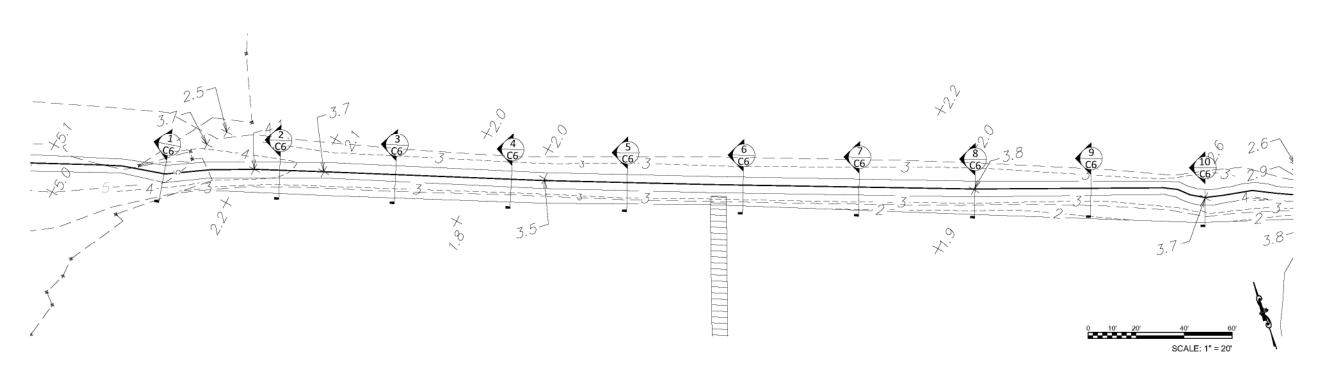
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# GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334

SITE PLAN



HORIZONTAL SCALE: 1" = 10'-0'



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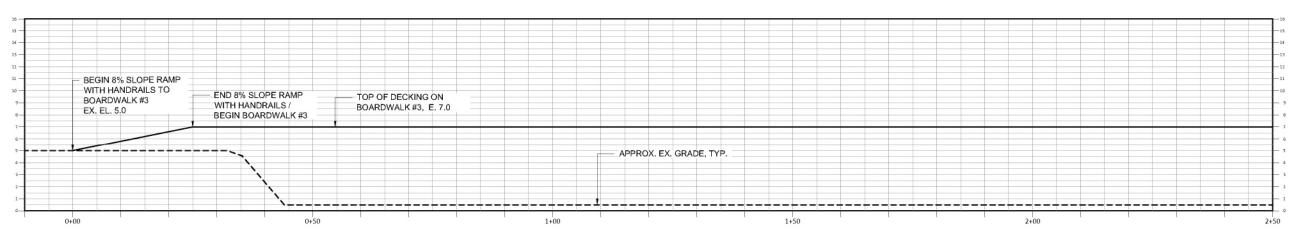
GEORGIA DEPARTMENT OF NATURAL RESOURCES
#2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352
ATLANTA, GA 30334

DEAN

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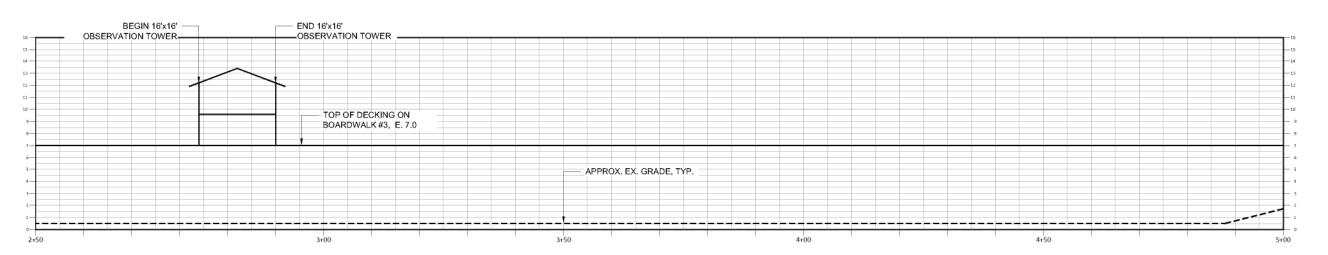
Sheet Title: CAUSEWAY SECTIONS

Sheet No



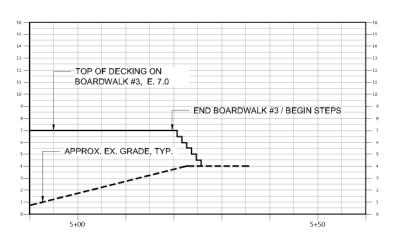
**BOARDWALK #3 PROFILE: SECTION A** 

HORIZONTAL SCALE: 1" = 10'-0" VERTICAL SCALE: 1" = 4'-0"



BOARDWALK #3 PROFILE: SECTION B HORIZONTAL SCALE: 1" = 10'-0"

VERTICAL SCALE: 1" = 4'-0"



### BOARDWALK #3 PROFILE: SECTION C

HORIZONTAL SCALE: 1" = 10'-0"

### GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334 NATURE

BOARDWALK PROFILES

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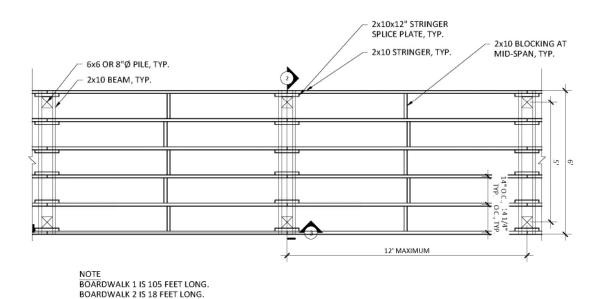
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TRAIL IMPROVEMENTS

DEAN

05/16/2023

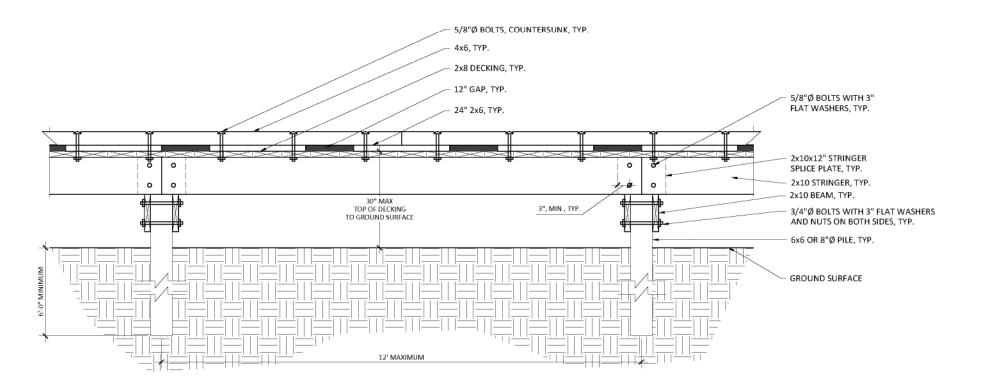
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- 2x8 DECKING, TYP. - 2x10 STRINGER, TYP. HURRICANE ANCHOR, TYP. DOUBLE 2x10 BEAM, TYP. 3/4"Ø BOLTS WITH NUTS AND 14 1/4" O.C WASHERS ON BOTH SIDES, TYP. 6x6 OR 8"Ø PILE, TYP. GROUND SURFACE

TYPICAL FRAMING PLAN - BOARDWALKS 1, 2, AND 4 (NO HANDRAIL)

TYPICAL CROSS SECTION - BOARDWALKS 1, 2, AND 4 (NO HANDRAIL)



TYPICAL PROFILE SECTION - BOARDWALKS 1, 2, AND 4 (NO HANDRAIL)

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4x6, TYP. - 2x6, TYP.



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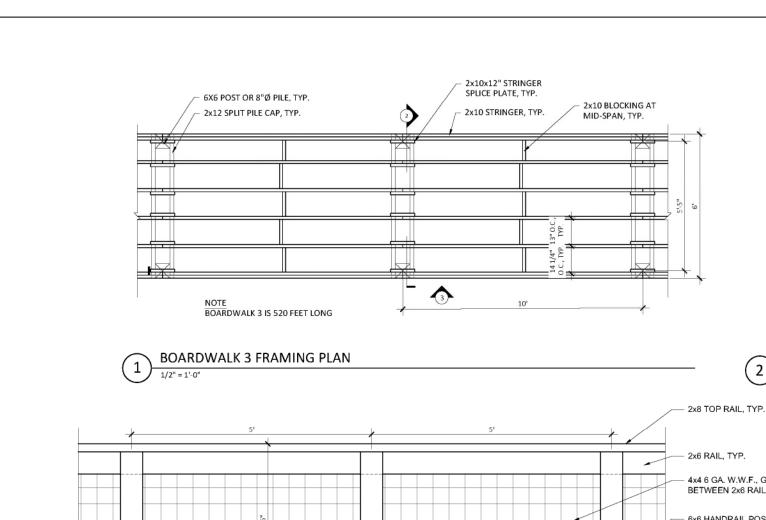
GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334

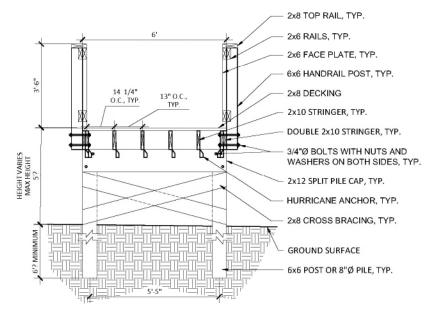
**DEAN CREEK** 

NATURE

CONSTRUCTION DETAILS

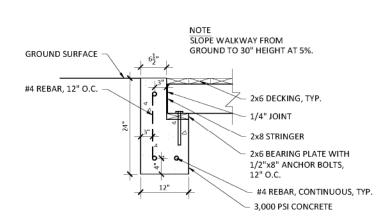
BOARDWALK 4 IS 24 FEET LONG.





**BOARDWALK 3 CROSS SECTION** 

4x4 6 GA. W.W.F., GALV. BETWEEN 2x6 RAILS, TYP. 6x6 HANDRAIL POST, TYP. 2x6 FACE PLATE BEHIND 2x6 RAIL, TYP. 2x8 DECKING DOUBLE 2x10 STRINGER, TYP. 3/4"Ø BOLTS WITH NUTS AND WASHERS ON BOTH SIDES, TYP. 2x12 SPLIT PILE CAP, TYP. 2x8 CROSS BRACING, TYP. 6x6 POST OR 8"Ø PILE, TYP. GROUND SURFACE



**TYPICAL PROFILE SECTION - BOARDWALK 3** 

ABUTMENT DETAIL

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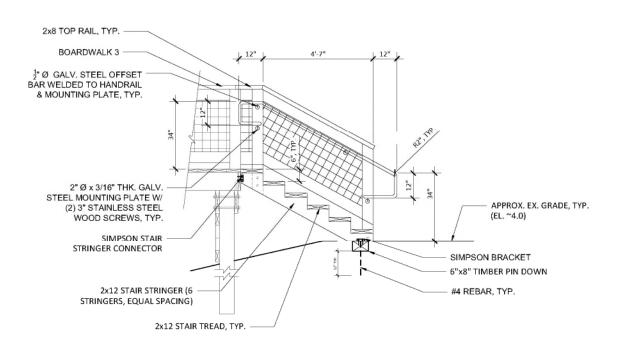
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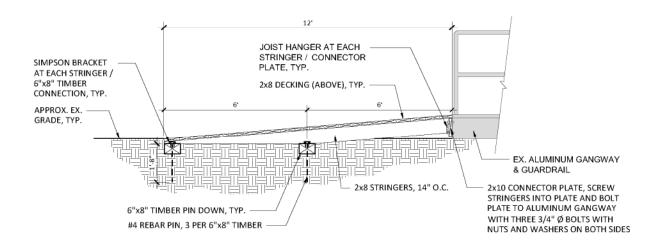
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TRAIL IMPROVEMENT GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334 CREEK DEAN NATURE

CONSTRUCTION DETAILS



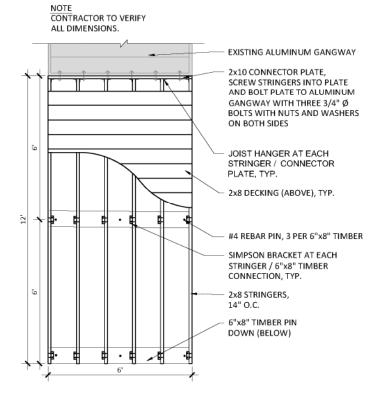
PROPOSED STEPS AT END OF BOARDWALK 3 (AT WEST SIDE GANGWAY APPROACH) - SECTION 1/2" = 1'-0"



EAST SIDE GANGWAY APPROACH - FRAMING PLAN

CONTRACTOR TO VERIFY ALL DIMENSIONS. EXISTING ALUMINUM GANGWAY 2x10 CONNECTOR PLATE SCREW STRINGERS INTO PLATE AND BOLT PLATE TO ALUMINUM GANGWAY WITH THREE 3/4" Ø **BOLTS WITH NUTS AND WASHERS** ON BOTH SIDES 4x4 POST, TYP. DRIVE 3' MINIMUM INTO GROUND 2x10 SPLIT PILE CAP, TYP. BOLT TO POST WITH TWO 3/4" Ø BOLTS WITH NUTS AND WASHERS ON BOTH SIDES 2x8 DECKING, TYP. 2x8 STRINGERS 14" O.C. 6"x8" TIMBER PIN DOWN

WEST SIDE GANGWAY APPROACH - FRAMING PLAN 2



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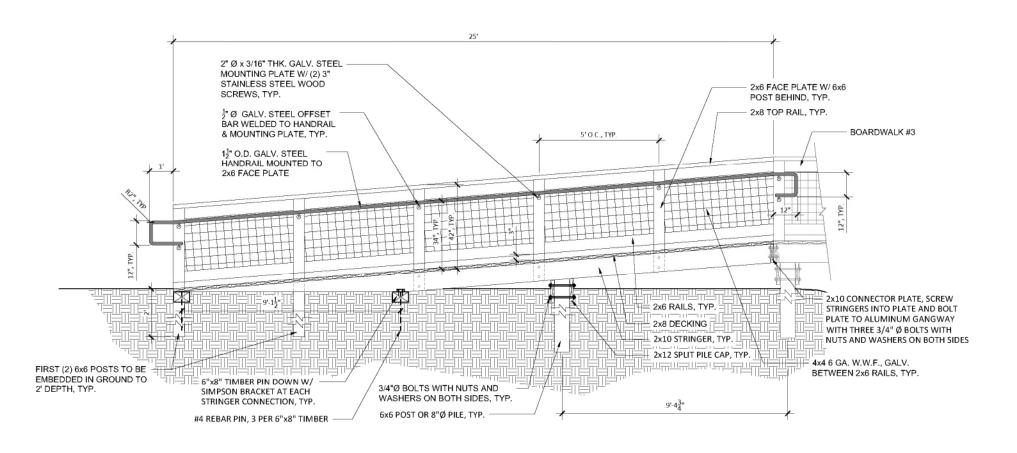
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GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, ĜA 30334 NATURE

CONSTRUCTION **DETAILS** 

C-10

**EAST SIDE GANGWAY APPROACH - SECTION** 



### RAMP @ BEGINNING OF BOARDWALK #3 - LONGITUDINAL SECTION

BOARDWALK GUARDRAIL (SEE DETAIL 2, C-11) 1<sup>1</sup>/<sub>2</sub>" CLEAR, TYP. 12" O.D. GALV. STEEL HANDRAIL MOUNTED TO 2x6 FACE PLATE (ALL JOINTS TO BE WELDED & GROUND SMOOTH) ½" Ø GALV. STEEL OFFSET BAR WELDED TO HANDRAIL & MOUNTING PLATE, TYP. 2" Ø x 3/16" THK. GALV. STEEL MOUNTING PLATE MOUNT HANDRAIL W/ (2) #10x3" STAINLESS STEEL WOOD SCREWS (ONE SCREW ON EACH SIDE OF OFFSET BAR)

GALV. STEEL HANDRAIL - CROSS SECTION

3" = 1'-0"

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NATURE TRAIL IMPROVEMENT
GEORGIA DEPARTMENT OF NATURAL RESOURCES
#2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352
ATLANTA, GA 30334

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Revisions:

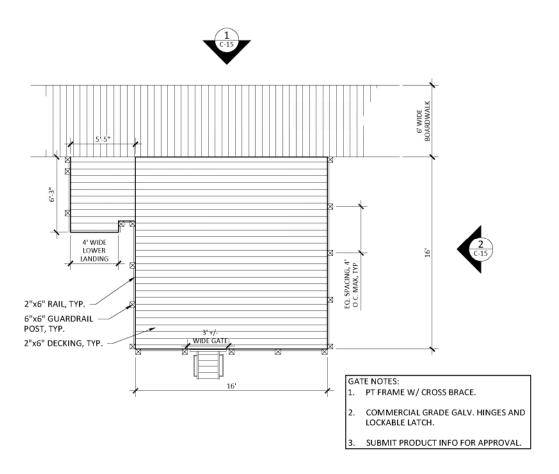
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Sheet Title:
CONSTRUCTION
DETAILS

REFER TO STRUCTURAL PLANS FOR MEMBER SIZES, CONNECTIONS, FASTENERS, AND FOUNDATIONS.





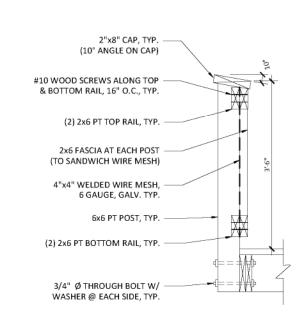
HANDRAIL TO EXTEND 12" BEYOND FACE OF TOP AND BOTTOM RISER, TYP. STAIRS FROM LOWER LANDING TO MIDDLE LANDING (12 RISERS, 12 TREADS) 34" HT. GALV. STEEL HANDRAIL, TYP. (BOTH 2"x6" DECKING, TYP. SIDES OF STAIRS) 2"x6" RAIL, TYP. 6"x6" GUARDRAIL POST, TYP. 6'-3<del>3</del>"  $10'-6\frac{3}{4}"$ 34" HT. GALV. STEEL STAIRS FROM MIDDLE LANDING TO HANDRAIL, TYP. (BOTH UPPER LANDING (12 RISERS, 12 TREADS) SIDES OF STAIRS)

PLATFORM FLOOR PLAN - LOWER PLATFORM

PLATFORM FLOOR PLAN - UPPER PLATFORM

1/4" = 1'-0"

2"x8" CAP, TYP, (10° ANGLE ON CAP) 2x6 PT TOP RAIL, TYP. FASTEN ALL MEMBERS WITH #10 WOOD SCREWS, TYP. 4"x4" WELDED WIRE MESH, 6 GAUGE, GALV. TYP. BETWEEN 2x6 RAILS 6x6 PT POST, TYP. 2x6 PT BOTTOM RAIL, TYP. DECKING (SEE STRUCTURAL) 0 RIM JOIST (SEE STRUCTURAL) (2) 3/4" Ø THROUGH BOLTS W/ WASHERS @ EACH SIDE, TYP.



42" GUARDRAIL - TYPICAL SECTION

RELEASED FOR CONSTRUCTION

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GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, ĜA 30334 NATURE

DEAN

CONSTRUCTION DETAILS

C-12

42" GUARDRAIL - TYPICAL ELEVATION

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TRAIL IMPROVEMENTS CREEK

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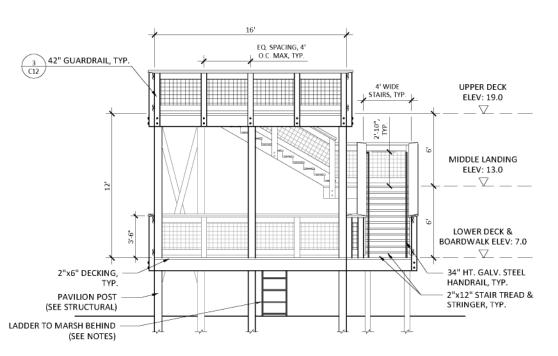
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NATURE

CONSTRUCTION DETAILS

C-13

MEMBER SIZES, CONNECTIONS, FASTENERS, AND FOUNDATIONS.



LADDER TO MARSH NOTES: 1. MANUFACTURER THE DOCK DOCTORS, LLC (800) 870-6756 thedockdoctors.com

> SHALLOW WATER STAIRS MODEL: ONE-PIECE WELDED ALUMINUM SHALLOW WATER DOCK STAIRS WITH ALUMINUM HANDRAILS, NON-SLIP TREADS & ADJUSTABLE FOOTPADS

SIZE NUMBER OF TREADS TO BE DETERMINED BY FIELD CONDITIONS. ATTACHMENT SEE STRUCTURAL

EQ. SPACING, 4' O.C. MAX, TYP. 3 42" GUARDRAIL, TYP. STAIRS, TYP. UPPER DECK ELEV: 19.0  $\nabla$ 2"x12" STAIR TREAD & STRINGER, MIDDLE LANDING ELEV: 13.0 TYP. (BEHIND) BOARDWALK LOWER DECK & BOARDWALK ELEV: 7.0 LANDING POSTS & CROSS BRACING 2"x6" DECKING, TYP. (SEE STRUCTURAL) PAVILION POST (SEE STRUCTURAL) LADDER TO MARS

PLATFORM FRONT ELEVATION

REFER TO STRUCTURAL PLANS FOR

PLATFORM LEFT SIDE ELEVATION

1/4" = 1'-0"

(SEE NOTES)

SOILS NOTE: ALL SOILS WITHIN THE PROJECT AREA ARE DUNE LAND, Dsl.

EROSION CONTROL PLAN NOTES:

- CONSTRUCTION ACCESS PATH TO BE 14 FEET WIDE, 7 FEET ON EITHER SIDE OF THE BOARDWALK CENTERLINE. MATS TO BE PLACED ON THE GROUND IN ALL AREAS WITHIN THE DNR JURISDICTIONAL LINE.
- HIGH TIDE LINE ELEVATION = 5.32.
- MEANT HIGH WATER ELEVATION = 2.9.

### FREEDMAN ENGINEERING GRØUP

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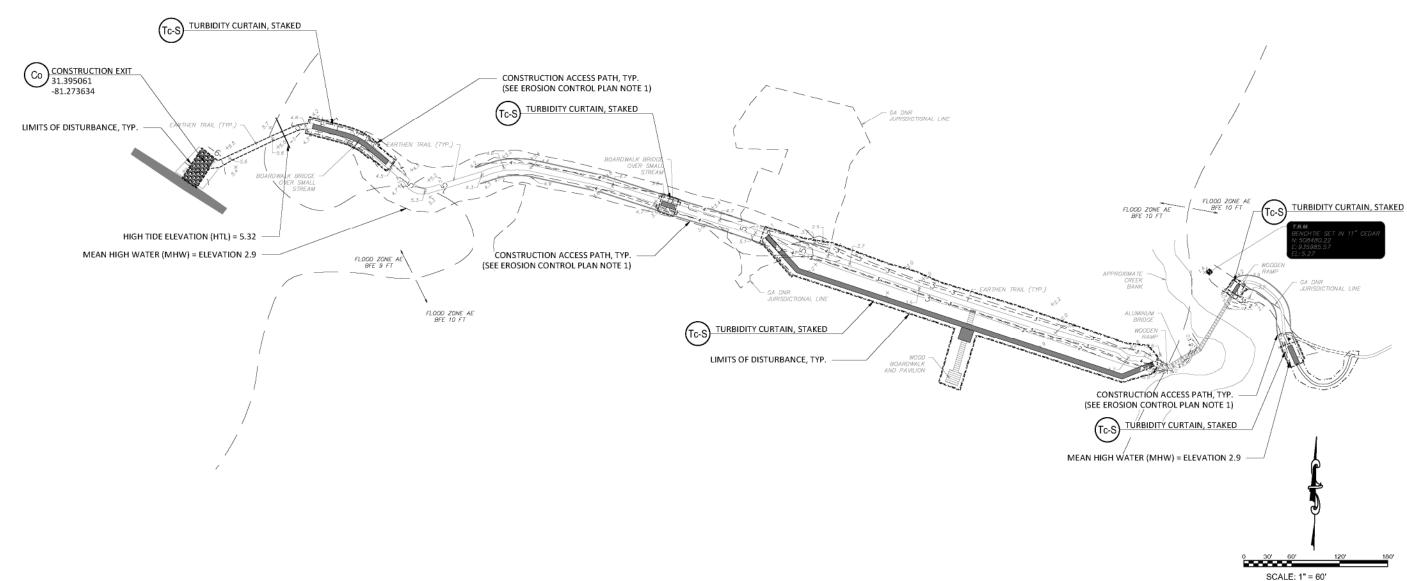
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## TRAIL IMPROVEMENTS

DEAN NATURE

GEORGIA DEPARTMENT OF NATURAL RESOURCES #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1352 ATLANTA, GA 30334

EROSION AND **SEDIMENTATION CONTROL PLAN** 



	STAND ALONE CONSTRUCTION PROJECTS
Project Name	SWCD: W Coastal, Region 3  Dean Creek Nature Trail Improvements Address: Sapelo Island, GA, 31037
	Sapelo Island/McIntosh Date on Plans: _5/16/2023
Name & ema	Il of person filling out checklist: David Freedman, Davidf@Freedmanengineering.com
Plan Include Page # Y/N	TO BE SHOWN ON ES&PC PLAN
C-15 Y	1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ESSPC Plan or the Plan will not be reviewed)
C-1 Y	2 Level II cartification number issued by the Commission, signature and seal of the carrifed design professional. (Signature, seal and level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)
N/A N/A	3 Limits of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the GAEPO District Office. If GAEPO approves the request to disturb 50 acres or more at any one time, the Plan mu include at least 4 of the BMPe listed in Appendix 1 of this chacklist and the GAEPD approval lister. * (A copy of the written approval by GAEPD must be attached to the plan for the Plan to be reviewed.)
C-1 Y	4 The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.
C-16 Y	5 Provide the name, address, email address, and phone number of primary permittee.
C-16 Y	6 Note total and disturbed acreages of the project or phase under construction.
C-14 Y	7 Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.
C-16 Y	8 Initial date of the Plan and the dates of any revisions made to the Plan induction the entity who requested the covision

C-16 Y 8 Initial date of the Pien and the dates of any revisions made to the Pian including the entity who requested the revision

C-16 Y 9 Description of the nature of construction activity and existing site conditions.

C-1 Y 10 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary

11 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, manshlands, etc. which may be affected.

12 Design confessional's certification statement and signature that the site was visited note to development of the

C-16 Y 12 Design professional's certification statement and signature that the site was visited prior to development of the ESAPC Plan as stated on Part M page 19 of the permit.

N/A N/A 13 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on Part IV page 19 of the permit. \*

N/A N/A 14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the

In Cearly note the statement that the design processional who prepared the ESA-C-main is to respect the installation of the initial sed ment storage requirements and perimeter control BMPs within 7 days after installation."

in accordance with Part M.A.5 page 25 of the permit. \*

C-16 Y 15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot

undisturbed stream buffers as measured from the point of weested vegetation or within 25-feet of the coastal marshhand buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."

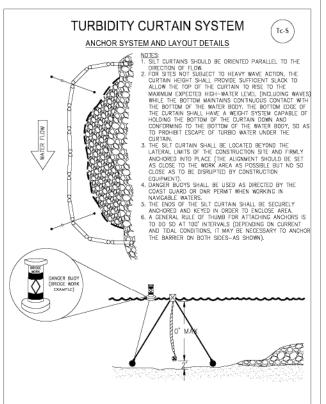
C-16 Y 16 Provide a description of any buffer encroschments and indicate whether a buffer variance is required.

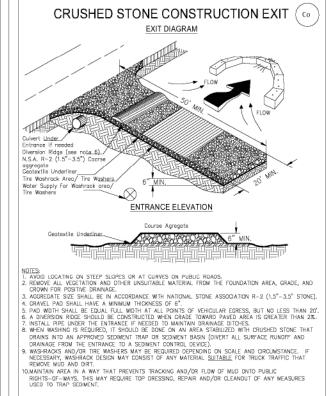
N/A N/A 17 Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional." \*

N/A	N/A 18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *
C-16	Y 19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."
C-16	Y 20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."
C-16	Y 21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
N/A	N/A 27	Any construction activity which discharges storm water into an impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the permit. Include the completed Appendix 1 listing all the BIMPs that will be used for those creas of the site which discharge to the impaired Stream Segment. **
N/A	N/A 23	If a TMDL implementation Plan for sediment has been finalized for the impaired Stream Segment (identified in flarm 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *
N/A	N/A 24	BMPs for concrete washdown of tocis, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited. *
C-16	Y 25	Provide BMPs for the remediation of all petroleum spills and leaks.
N/A	N/A 26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *
N/A	N/A 27	Description of practices to provide cover for building materials and building products on site. *
N/A	N/A 28	Description of the practices that will be used to reduce the pollutants in storm water discharges. *
C-16	y 25	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sectiment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
N/A	N/A 30	Provide complete requirements of inspections and record keeping by the primary permittee. *
N/A	N/A 31	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *
N/A	N/A 32	Provide complete details for Retention of Records as per Part IV.F. of the permit. *
N/A	N/A 33	Description of analytical methods to be used to collect and analyze the samples from each location. *
N/A	N/A 34	Appendix B rationale for NTU values at all outfall sampling points where applicable. *
N/A	N/A 35	Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged. *
N/A	N/A 36	A description of appropriate controls and measures that will be implemented at the construction site including:  (1) initial sectiment storage requirements and perimeter control BMPs. (2) intermediate grading and drainage

BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter

control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine





NOTE: CONSTRUCTION EXIT AS NEEDED BASED ON SITE CONDITIONS. C-14 Y 37 Graphic scale and North arrow.

C-14 V 38 Existing and proposed combour lines with contour lines drawn at an interval in accordance with the following:

Map Scale Ground Slope Confour Intervals, ft.

I inch = 100ft or Flat D - 2% 9.5 cr 1

larger scale Rolling 2 - 5% 1 or 2

C-15 Y 39 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.georgia.gov.

Steep 8% +

N/A N/A 40 Use of afternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. \*

(C-14 Y 41 Delineation of the applicable 25-toot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.

C-14 Y 42 Delinection of on-site wedands and all state waters located on and within 200 feet of the project site.

C-16 Y 43 Delinection and acreage of contributing drainage basins on the project site.

N/A N/A 44 Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions. \*

45 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.

C-16 Y 46 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.

C-14 Y 47 Soil series for the project sile and their defineation.

C-16 Y 48 The limits of disturbance for each phase of construction.

C-16 Y

49 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retroffted detertion pond, and/or excavated intet sediment traps for each common drainage location. Sediment storage volume must be in place prior be and during all land distributione activities until final stabilization of the site has been adhieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be induded in the Plan for each common drainage location in which a sectiment basin is not provided. A written justification as to why 87 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMPs and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw valet from the surface, unless inflessible. If outlet structures that withdraw water from the surface, unless inflessible. If outlet structures that withdraw water from the surface, unless inflessible.

a written justification explaining this decision must be included in the Plan.

C-14 Y 50 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sectiment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with

C-15 Y 51 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.

C-16 Y 52 Provide vegetative plan , noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizor, lime and mulching rates. Vegetative plan shall be site specific for appropriate time

of the year that seeding will take place and for the appropriate geographic region of Georgia.

\* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a cerennial stream, the \* checklist liters would be N/A.

fective January 1, 2023

### FREEDMAN ENGINEERING GRØUP

Oavid Freedman, PE, LEED AP-BD&C 1000 Whitlock Avenue Suite 320, #218 Marietta, GA 30054 (770) 851-3175 Davidf@Freedmanengineering.com



Date: 05/16/2023

Project No: Drawn By:

Drawn By: MW
Checked By: DF

I CREEK
IMPROVEMENTS
OF NATURAL RESOURCES
NG, JR. DRIVE, SUITE 1352

GEORGIA DEPARTMENT OF NATURAL RESOU #2 MARTIN LUTHER KING, JR. DRIVE, SUITE 1 ATLANTA, GA 30334

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Revisions:

NO. DATE DESCRIPTION

1 31/20/2023 UPDATED TOPO

Sheet Title:
EROSION AND
SEDIMENTATION
CONTROL
DETAILS AND
NOTES

Sheet No:

### PROJECT DESCRIPTION

THE PROJECT CONSISTS OF REPLACING AN EXISTING BOARDWALK, CONSTRUCTING A NEW BOARDWALK AND OBSERVATION PLATFORM, AND REMOVING AN EXISTING EARTHEN CAUSEWAY. THE DISTURBED AREA IS 0.72 ACRE AND THE VOLUME OF EARTH TO BE DISTURBED IS 517 CUBIC YARDS.

### CONSTRUCTION ACTIVITIES FOR THE PROJECT WILL INCLUDE THE FOLLOWING:

- INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES
   DEMOLITION
- . ESTABLISHING TEMPORARY AND PERMANENT VEGETATION

DISTURBED AREAS WILL BE RESTORED WITH PERMANENT GRASS VEGETATION AND LANDSCAPE MULCHING. THE REMAINING AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WILL BE RETURNED TO THEIR ORIGINAL CONDITIONS. TOPOGRAPHY WILL BE RETURNED TO ORIGINAL GRADE AND SLOPE AS MUCH AS POSSIBLE, AND RUNOFF COEFFICIENTS WILL BE COMPARABLE TO PRE CONSTRUCTION VALUES. STORM WATER RUNOFF RATES WILL BE MINIMALLY AFFECTED AS A RESULT OF THIS PROJECT.

### STORM-DRAIN PIPE AND WEIR VELOCITIES:

EXISTING SITE DRAINAGE PATTERNS WILL NOT BE ALTERED AS A RESULT OF THE PROJECT. NO STORM DRAINAGE STRUCTURES WILL BE INSTALLED.

### SEDIMENT STORAGE:

CONSTRUCTION ACTIVITY IS LIMITED TO INSTALLING AND MAINTAINING EROSION CONTROL MEASURES AND SITE IMPROVEMENTS. GIVEN THE SMALL SITE DRAINAGE AREA ASSOCIATED WITH THIS PROJECT AS WELL AS THE LINEAR NATURE OF THE IMPROVEMENTS, DIVERTING FLOWS ANDIOR CONSTRUCTING TEMPORARY SEDIMENT BASINS OR EQUIVALENT CONTROLS IS NOT FEASIBLE. SILT FEINES, MULCHING, AND GRASSING WILL BE USED FOR SE DIMENT CONTROLS.

DISTURBED AREA TOTAL = 0.72 ACRE

REQUIRED VOLUME OF SEDIMENT STORAGE = (0.06 ACRES)(67 C.Y./ACRE) = .48.2 CUBIC YARDS

SILT FENCE STORAGE = 1.E. X.1.5 HIGH X.1.5 DEEP = 0.003 CY.1.F.

TOTAL AMOUNT OF SILT FENCE REQUIRED FOR SEDIMENT STORAGE = (48.2 CUBIC YARDS)/(0.000CUBIC YARDS)/LINEAR FOOT) = .581 LINEAR FEET
THE AMOUNT OF SILT FENCE SHOWN ON THE PLANS EXCEEDS THIS AMOUNT.

SEDIMENT ACCUMULATED BEHIND SILT FENCE WILL BE REMOVED WITHIN 3 DAYS OF A STORM EVENT

### POLLUTION PREVENTION PRACTICES & REMEDIATION OF PETROLEUM SPILLS AND LEAKS:

THE CONTRACTOR IS PROHIBITED FROM STORING OIL OR ANY HAZARDOUS WASTE MATERIAL AT THE CONSTRUCTION SITE. CONSTRUCTION EQUIPMENT AND VEHICLES ARE THE ONLY ANTICIPATED SOURCE OF POTENTIAL POLLUTION EXPECTED WITHIN THE CONSTRUCTION AREA FOR THIS PROJECT.

### PREVENTION OF SPILLS AND LEAKS-

THE CONTRACTOR IS RESPONSIBLE FOR MINIMIZING THE POTENTIAL OF POLLUTION FROM EQUIPMENT AND VEHICLE LEAKS OR SPLLS REACHING ANY RECEIVING WATERS. AT A MINIMUM, THE FOLLOWING PRACTICES SHALL BE IMPLEMENTED:

REGULARLY INSPECT ONSITE VEHICLES AND EQUIPMENT FOR LEAKS AND REPAIR IMMEDIATELY.

CHECK INCOMING VEHICLES AND EQUIPMENT FOR LEAKING OIL AND FLUIDS. DO NOT ALLOW LEAKING VEHICLES OR EQUIPMENT ONSITE

IF FUELING MUST OCCUR ONSITE, USE LOCATIONS AWAY FROM DRAINAGE COURSES TO PREVENT THE RUNOFF OF STORMWATER AND THE RUNOFF OF SPILLS. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN, WHEN FUELING TO CATCH SPILLS/LEAKS.

IF MAINTENANCE MUST OCCUR ONSITE, USE A DESIGNATED AREA AND SECONDARY CONTAINMENT, LOCATED AWAY FROM DRAINAGE COURSES, TO PREVENT THE RUNOFF OF STORMWATER AND THE RUNOFF OF SPILLS.

ALWAYS USE SECONDARY CONTAINMENT, SUCH AS DRAIN PAN OR DROP CLOTH, TO CATCH SPILLS OR LEAKS WHEN REMOVING OR CHANGING FLUIDS. PROMPTLY TRANSFER USED FLUIDS TO PROPER WASTE OR RECYCLING CONTAINERS. IMMEDIATELY REMOVE FROM SITE AND AND DISPOSE OF IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REGULATIONS.

TO THE EXTENT THAT THE WORK CAN BE ACCOMPLISHED SAFELY, SPILLS OF OIL OR PETROLEUM PRODUCTS SHOULD BE CONTAINED AND CLEANED UP IMMEDIATELY. SPILLS SHOULD BE COVERED AND PROTECTED FROM STORMWATER RUNOFF DURING RAINFALL TO THE EXTENT THAT IT DOESN'T COMPROMISE CLEAN UP ACTIVITIES.

### CLEANUP OF PETROLEUM LEAKS OR SPILLS

CLEAN UP LEAKS AND SPILLS IMMEDIATELY. NEVER HOSE DOWN OR BURY SPILLS. REMOVE CONTAMINATED SOILS AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

MINOR SPILLS
CONTAIN THE SPREAD OF THE SPILL, REMOVE CONTAMINATED SOILS, AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SEMI-SIGNIFICANT SPILLS

SPILLS SHOULD BE CLEANED UP IMMEDIATELY WITH THE AID OF AS MANY ONSITE PERSONNEL AS NECESSARY. IMMEDIATELY CONTAIN THE SPILL BY CONSTRUCTING AN EARTHEN DIKE. DIG UP AND PROPERLY DISPOSE OF CONTAININATED SOIL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SIGNIFICANT SPILLS
FOR SIGNIFICANT SPILLS THAT CANNOT BE CONTROLLED BY PERSONNEL IN THE IMMEDIATE VICINITY, THE FOLLOWING STEPS SHOULD BE TAKEN:

NOTIFY THE LOCAL EMERGENCY RESPONSE BY CONTACTING 911. IN ADDITION TO 911, THE CONTRACTOR WILL NOTIFY THE PROPER 24 HOUR EMERGENCY CONTACT.
THE SERVICES OF A SPILLS CONTRACTOR OR A HAZ-MAT TEAM SHOULD BE OBTAINED IMMEDIATELY. CONSTRUCTION PERSONNEL SHOULD NOT ATTEMPT TO CLEAN UP UNTIL THE APPROPRIATE AND QUALIFIED STAFFS HAVE ARRIVED AT THE JOB SITE.

THE CONTRACTOR IS REQUIRED TO ADHERE TO ALL REPORTING REQUIREMENTS OF GEORGIAS OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. \$\frac{1}{2}\$\text{E1}\$\$\text{SEO}\_1\$\$ 00 GPR PART 302 WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER CORGAN'S OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C. G. \$\frac{3}{2}\$\text{E1}\$2 + 14, ET SEO\_1\$, 40 GPR 174 OR 4 OR 782 COOLINS SUBRIAGA \$\frac{1}{2}\$\$\text{E1}\$ 14, ET SEO\_1\$, 40 GPR 174 OR 4 OR 782 COOLINS SUBRIAGA \$\frac{1}{2}\$\$\text{E1}\$\$\t

### POST CONSTRUCTION POLLUTION CONTROL MEASURES:

DISTURBED AREAS WILL BE RETURNED TO PRE-CONSTRUCTION GRADES AND SLOPES AND PERMANENT GRASS VEGETATION WILL BE ESTABLISHED AS WORK PROGRESSES TO CONTROL POLLUTANTS IN STORM WATER THAT WILL OCCUR AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED.

THE CONTRACTOR SHALL ENSURE SATISFACTORY GROWTH AND COVERAGE OF PERMANENT GRASS VEGETATION ON DISTURBED AREAS. GRASSED AREAS WILL BE CONSIDERED ACCEPTABLE WHEN PERMANENT GRASS VEGETATION HAS REACHED A POINT OF MATURITY, COVERAGE IS AT LEAST 95% OF THE TOTAL AREA WITH NO BARE SPOTS EXCEEDING ONE SOURISE FOOT, AND GROUND SURFACE IS FULLY STABILIZED ACAINST EROSION. SILT FENCE AND MULCH INSTALLED DURING INSTALLATION OF THE PPELLINE WILL BE KEPT IN PLACE AND MAINTAINED UNTIL, PERMANENT VEGETATION HAS BEEN EFFECTIVELY ESTABLISHED AND CONTRACTOR HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER.

WAS TE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT BY A SECTION 404 PERMIT. ANY WAS TE MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE COLLECTED AND STORED IN A SECURE, LIDDED CONTAINER. AT THE END OF EACH WORK DAY WAS TE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISCHOOLSED OF PROPERTY.

IF EXISTING SANITARY FACILITIES ARE UNAVAILABLE, PORTABLE SANITARY FACILITIES SHALL BE PROVIDED. CONTRACTOR SHALL PAY THE COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY SANITARY FACILITIES. UNITS SHALL BE CLEANED AND SANITARY WASTE SHALL BE COLLECTED A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER AND IN COMPLIANCE WITH LOCAL AND STATE REGULATIONS.

UNITS SHALL BE LOCATED AT SUCH PLACES AS APPROVED BY THE OWNER AND WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE.

THESE PLANS ARE IN COMPLIANCE WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, AND SEPTIC SYSTEM REGULATIONS

CONTRACTOR IS TO NOTIFY ES AND PC DESIGN PROFESSIONAL WHEN CONSTRUCTION IS TO BEGIN. THE DESIGN PROFESSIONAL WHO PREPARED THE ES AND PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE RECUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION IN ACCORDANCE WITH PART TAX, PAGE 35 OF THE CENTERAL MYDES PERBIN.

### ES&PC PLAN AMENDMENTS/REVISIONS:

ANY AMENDMENT TO THE EROSION CONTROL PLANS WHICH HAS A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE ESSPC PLAN DESIGN PROFESSIONAL.

CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, DRUMS, THE REAR OF VEHICLES, AND/OR ANY OTHER EQUIPMENT IS PROHIBITED ON THE PROJECT SITE.

PRIMARY PERMITTEE:
THE PRIMARY PERMITTEE FOR THIS SITE IS THE GEORGIA DEPARTMENT OF NATURAL RESOURCES, #2 MLK JR. DRIVE, SUITE 1352, ATLANTA, GA, 30334, 912-381-2511, JOEL GRIFFIN@DNR.GA.GOV

STATE WATERS:
THIS PROJECT IS LOCATED WITHIN 200 FEET OF STATE WATERS. THERE IS A MINOR ENCROACHMENT ASSOCIATED WITH THIS PROJECT. THE RECEIVING WATERS FOR THIS PROJECT ARE DEAN CREEK. SINCE THE PROJECT HAS TO

EXISTING LAND USE: THE EXISTING LANDS AT THE PROJECT SITE ARE A NATIONAL ESTUARINE RESEARCH RESERVE

### CRITICAL AREAS INFORMATION: THERE ARE NO CRITICAL AREAS WITHIN THIS PROJECT

WETLANDS: THERE ARE WETLANDS WITHIN THE PROJECT AREA.

EROSION, SEDIMENTATION AND POLLUTION CONTROL INSPECTIONS AND REPORTING: INSPECTIONS AND REPORTING REQUIREMENTS ARE NOT REQUIRED.

### EROSION CONTROL NOTES:

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

THE ESCAPE OF SEDMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

THE EXTENT AND LOCATION OF EROSION CONTROL MEASURES SHOWN ARE THE ESTIMATED THE CALEN MAD LOCATION OF THOSING COUNTROL MEASURES MAY BE REQUIRED. OF THE ESTIMATED RECOVERED ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO THE ACTUAL FIELD CONDITIONS, AND WILL BE INSTALLED AT THE CONNERDEVELOPERS EXPENSE WHEN DIRECTED BY THE PROPER GOVERNING AUTHORITY.

ALTERNATE TYPE CISILIT FENCE CAN BE USED PROVIDED IT IS APPROVED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION.

NO CLEARING OF THE SITE UNTIL ALL BASINS, DIVERSIONS, AND SEDIMENT CONTROLS ARE

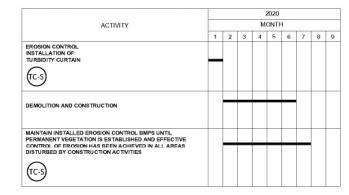
THE GSWCC MANUAL REQUIRES TWO ROWS OF TYPE'S SEDIMENT BARRIERS, 36 INCHES APART, ALONG ALL STATE WATERS.

### IMPAIRED STREAM REQUIREMENTS, TMDL PLANS, AND ALTERNATIVE BMP NOTES

- STORM WATER FROM THIS PROJECT WILL DISCHARGE INTO DEAN CREEK, A TIDAL STREAM THAT DISCHARGES INTO DOBOY SOUND, WHICH IS NOT AN IMPAIRED STREAM (SOUND).
- 2. ALTERNATIVE BMPS WILL NOT BE INSTALLED DURING THIS PROJECT.

NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50 FOOT UNDISTURBED 5 TREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VIGETATION OR WITHIN 25 FEET OF A COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

GIVEN THE SMALL "SITE" DRAINAGE AREAS ASSOCIATED WITH THIS PROJECT, DIVERTING FLOWS AND/OR CONSTRUCTING TEMPORARY SEDMENT BASINS OR COUNTAINED CONTROLS IS NOT ATTANABLE. EST FENCE, TEMPORARY CRASSING, MULCHING AND PERMANENT CRASSING WILL BE USED FOR SEDMENT CONTROL FOR THE PROJECT.



### DRAINAGE BASIN INFORMATION

### ONSITE DRAINAGE BASIN

AREA DESCRIPTION	RUNOFF	PRE-	PRE-	POST-	POST-
	COEFFICIENT	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
	(C)	SIZE	CA	SIZE	CA
		(SQUARE FEET)		(SQUARE FEET)	
WOODEN	0.75	1,727	1,295	4,312	3,234
BOARDWALK					
GRASS/VEGETATION	0.25	4,152	1,038	2,760	690
ALUMINUM	0.75	540	405	540	405
GANGWAY					
TOTAL		6,419	2,738	7,612	4,329

PRE-CONSTRUCTION RUNOFF COEFFICIENT = 2,738/6,419 = 0.43

ALUMINUM GANGWAY A VALUE OF 0.75 WAS ASSUMED

POST-CONSTRUCTION RUNOFF COEFFICIENT = 4,329/7,612 = 0.57

NOTE: THERE IS NO OFFSITE DRAINAGE

SINCE THERE IS NO PUBLISHED RUNOFF COEFFICIENT FOR A WOODEN BOARDWALK OR

### **ENGINEERING GRØUP** avid Freedman, PE, LEED AP-BD&C 1000 Whitlock Avenue Suite 320, #218

FREEDMAN

(770) 851-3175 Davidf@Freedmanengineering.com



Date 05/16/2023 roject No. Drawn By MW

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Checked By

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EAN

### S **EMENT** RESOURCES SUITE 1352

OF NATURAL F VG, JR. DRIVE, S A, GA 30334 IMPROV EPARTMENT O LUTHER KING ATLANTA, ( TRAIL GEORGIA DEF #2 MARTIN I ATURI

**EROSION AND SEDIMENTATION** CONTROL DETAILS AND NOTES

C-16

I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT. UNDER MY SUPERVISION

Chil Fel 5/16/2023 DAVID FREEDMAN DATE
P.E. - LICENSE NO. 14392, GSWCC LEVEL II CERTIFICATION NO. 66474