GEORGIA
DEPARTMENT OF NATURAL RESOURCES
COASTAL RESOURCES DIVISION
ONE CONSERVATION WAY · BRUNSWICK, GA 31520 · 912.264.7218
COASTALGADNR.ORG

MARK WILLIAMS
COMMISSIONER

DOUG HAYMANS
DIRECTOR

NOV 16 2018

Robert H. Barnes
ECS Capitol Services
1281 Kennestone Circle Suite 200
Marietta, GA 30066

Re: Letter of Permission (LOP), Geotechnical Exploration within Coastal Marshlands Protection Act (CMPA) Jurisdiction, Boring Program to Collect Soil Survey Borings SR 26/US80 between Bull River and Lazaretto Creek, McQueens Island, Chatham County, Georgia (P.I. No.: 0010560)

Dear Mr. Barnes:

This Letter of Permission (LOP) is in response to your request on behalf of ECS Southeast, LLP, to capture soil survey borings along the roadway shoulders of SR 26/US80 between Bull River and Lazaretto Creek, McQueens Island, Chatham County, Georgia. The work will begin no sooner than 15 days from the date of this letter and be completed no later than six months from the date of this letter.

The request is specifically for the soil borings along the roadway shoulders for the SR 26 / US80 soil survey. Under the work plan, a total of one hundred thirty (130) Standard Penetration Test (SPT) test borings will be performed on McQueens Island for this phase of the Soil Survey. Four (4) borings are located in the upland, ninety-seven (97) borings are located within the 25ft. buffer and twenty-nine (29) borings are located in the State's Coastal Marshlands Protection Act Jurisdiction. The soil test borings under this work plan will be performed using an ATV mounted drill rig. The SPT test borings will be performed by Amdrill Inc., under the supervision of an ECS representative. To limit impacts to the State's CMPA jurisdiction, no ATV's are authorized to traverse the project area within the State's CMPA Jurisdiction. The ATV mounted rig is required to access the twenty-nine boring locations within the CMPA Jurisdiction using vehicular matting that commences from the upland, perpendicular to the boring site to construct a temporary work platform that will provide a stable work area to support boring equipment. All matting must be removed from CMPA Jurisdiction as soon as boring samples are obtained.

Borings will be advanced using a 4-1/2 inch hollow stem auger. During drilling, representative soil samples will be obtained by means of the split-barrel sampling procedure in general accordance with ASTM Specification D-1586 with an automatic drive hammer. In this procedure, a 2-inch, split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer falling 30 inches. The maximum depth of the auger borings will be 10 feet for this phase of work. Upon completion of the boring, the borehole will be backfilled with the drilling cuttings mixed with clean sand from an upland source to plug the borehole. The boring locations are shown on the enclosed Boring Location Plans/Marsh Limits. A listing of the 130 borings and their location (i.e. coastal marshlands or upland) are summarized in the attached table.

NOV 16 2018

A separate work plan must be provided for the soil survey borings that are proposed in the salt marsh for the new approach road for the new Lazaretto Creek Bridge on the western side of Lazaretto Creek and the two bridge boring programs. This work is not authorized under this LOP.

The Department authorizes Soil Survey Borings provided Best Management Practices (BMPs) are used to prevent any erosion and sedimentation at the site and to protect Coastal Marshlands. It is the responsibility of the Agent to review the scope of work authorized by this LOP with any, and all contractors or subcontractors. It is the joint responsibility of all parties to abide by the conditions set forth in this LOP. This LOP is not meant to exempt the above referenced activity from future environmental laws. **No unauthorized equipment, materials or debris may be placed, disposed of, or stored in jurisdictional areas.** Any incidental impacts associated with this project must be rectified by fully restoring areas to their pre-operational topographic and vegetative states.

This authorization does not relieve you from obtaining any other required federal, state, or local permits. Tidal water bottoms and marshlands of coastal Georgia are public trust lands controlled by the State, except for such lands where a validated Crown Grant or State Grant exists. The construction of the project proposed for this license must be completed 6 months from the date of issuance of the license. Future maintenance activities that occur within tidal waters and have the potential to cause adverse impact, either temporary or permanent, or that will be in the public's interest shall be reported to the Georgia Department of Natural Resources' Coastal Resources Division.

Please feel free to contact Deb Barreiro at 912.266.3695 if you have any questions regarding this or any other authorizations.

Sincerely,

Jill Andrews
Chief, Coastal Management Section

Enclosures: Site Location Diagram, ECS Work Plan dated August 20, 2018, ECS Boring Location Plan SR 26US80 Pavement Evaluation Tybee Island, GA

cc: Melissa Memory
Fort Pulaski National Monument
P.O. Box 30757
Savannah, GA 31410

LOP20180165

SITE LOCATION DIAGRAM

Work Plan for Geotechnical Exploration Boring Program	Project No.: 10:9273-A	Figure No.: 1
SR 26–US 80 Soil Survey (McQueens Island Section) Savannah, Georgia	Not To Scale	
Reference: Google Earth	Date: 8/2018	

ECS Southeast, LLP

Work Plan for Geotechnical Exploration Boring Program

Soil Survey Borings - McQueens Island

SR 26/US80 @ Bull River & @ Lazaretto Creek,

Chatham County, Georgia

P.I. No.: 0010560

ECS Project Number 10:9273-A

August 20, 2018

ECS SOUTHEAST, LLP
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities

August 20, 2018

Ms. Deb Barreiro
Coastal Permit Coordinator
Marsh and Shore Management Program
GA DNR Coastal Resources Division
One Conservative Way
New Brunswick GA 31520

Reference: Work Plan for Geotechnical Exploration Boring Program
Soil Survey Borings – McQueens Island
SR 26/US80 @ Bull River & @ Lazaretto Creek
Chatham County, Georgia
P.I. No.: 0010560

ECS Project Number 10:9273-A

Dear Ms. Deb Barreiro:

As you are aware, ECS Southeast, LLP (ECS) has been tasked by the Georgia Department of Transportation (GDOT) through the project's Prime Consultant, T. Y. Lin International, Inc. with performing a Soil Survey for the planned roadway improvements and conducting Bridge Foundation Investigations (BFIs) for the Bull River and Lazaretto Creek bridges. Portions of the work will require drilling in the salt marshes and/or the 25 feet marshland buffer.

The following work plan is specifically for the soil survey borings that will be performed on McQueens Island, along the roadway shoulders for the SR 26/US80 soil survey, typically within 5 to 10 feet of the shoulder. A separate work plan will be provided for the soil survey borings that will be performed in the salt marsh for the new approach road for the new Lazaretto Creek Bridge on the western side of Lazaretto Creek and the two bridge boring programs.

Should you have questions regarding this work plan or need additional information please contact our office at (770) 590-1971.

Respectfully,

ECS SOUTHEAST, LLP represented by:

Robert H. Barnes, P.E., P.G.
Geotechnical Principal Engineer
rbarnes@ecslimited.com

K. Jay Hornsby, P.G.
Geotechnical Department Manager
jhornsby@ecslimited.com

WORK PLAN FOR GEOTECHNICAL EXPLORATION BORING PROGRAM
SOIL SURVEY BORINGS – MCQUEENS ISLAND

SR 26/US80 @ BULL RIVER & @ LAZARETTO CREEK
CHATHAM COUNTY, GEORGIA
P.I. No.: 0010560

TABLE OF CONTENTS

INTRODUCTION

Project Name and Description

The project name is: SR 26/US80 @ Bull River & @ Lazaretto Creek, PI # 0010560, Chatham County. The proposed project would replace two (2) bridges on SR 26/US 80 in Chatham County, the Lazaretto Creek Bridge and the Bull River Bridge. The project will also widen the roadway from Johnny Mercer Blvd to Old US 80 on Tybee Island with bike-able shoulders and raise the roadway at some locations to reduce closures due to flooding. The total project length is approximately 5.8 +/- miles. The 5.8 mile corridor serves as the only roadway connection between Tybee Island and the mainland.

The purpose of the project is to improve travel between Tybee Island and the mainland and to ensure the integrity of the two bridges. The approximate location of the project is shown on the attached Figure 1.

The new Bull River Bridge will be located on the southeastern side of the existing bridge. Total length of the new bridge will be 3,570 feet. The new bridge location will require the roadway approaches to be shifted to the southeast as well, extending into the tidal saltmarsh.

The new Bull River Bridge will be located on the northern side of the existing bridge. Total length of the new bridge will be 1,445 feet. The new bridge location will require the roadway approaches to be shifted to the north as well, extending into the tidal saltmarsh.

Across McQueens Island, planned roadway improvements include widening SR 26/US 80 for bike-able shoulders (bike path) and elevating the roadway for flood protection.

Project Objectives

ECS Southeast (ECS) has been tasked by the Georgia Department of Transportation (GDOT) through the project's Prime Consultant, T. Y. Lin International, Inc. with performing a Soil Survey for the planned roadway improvements and conducting Bridge Foundation Investigations (BFIs) for the Bull River and Lazaretto Creek bridges.

The purpose of these studies is to obtain subsurface (soil and groundwater) data and to collect soil samples for soil classification and engineering related laboratory testing. The field and laboratory test data will be used to provide engineering recommendations for the design and construction of the planned roadway improvements and bridges.

SCOPE OF WORK

General

This work plan is specifically for the Soil Survey borings that will be performed along both sides of SR 26/ US 80 across McQueens Island in areas accessible from the existing roadway. This work plan is only for the Soil Survey borings located on or near the shoulder of the existing road. A separate work plan(s) will be provided for the Soil Survey borings that will be performed in the salt marsh for the new approach road for new Lazaretto Creek Bridge on the western side of Lazaretto Creek and the two bridge BFI boring programs.

The geotechnical exploration for this portion of the Soil Survey is discussed in more detail in the next section. The borings will be performed along both sides of SR 26/ US 80 across McQueens Island, beginning on the southeastern side of Bull River Bridge, and extending to the western side of Lazaretto Creek Bridge. The eastern and western limits of the Soil Survey proposed for this work plan is shown in Figure 1. Our geotechnical exploration will be performed within the State of Georgia property (GDOT Right of Way). Plans showing the DOT property limits and adjacent property owners are included in the Appendix.

McQueens Island is owned by the United States of America and is part of the National Park Service (Fort Pulaski National Monument). The public boat ramp on McQueens Island is within the National Park Service. Georgia Department of Natural Resources (DNR) Coastal Resources Division has jurisdiction over the Coastal Marshland.

Geotechnical Exploration

Soil Survey (McQueens Island)

Soil testing for the soil survey on McQueens Island will involve Standard Penetration Test (SPT) borings along the shoulders of the existing roadway at intervals of approximately 300 linear feet. The drilling under this work plan will typically be performed within 5 to 10 feet of the paved roadway surface. At the west end of McQueens Island near Bull River, the approach road to the new bridge will be shifted to the southeast of the existing roadway (Photographs 1 and 2). Soil Survey borings in this portion of the project (Borings A-17, A-19, and A-21) will be performed in the upland or within 25 feet marshland buffer (at Boring A-21).

At the east end of McQueens Island near Lazaretto Creek, the approach road for the new bridge will be shifted to the north of the existing roadway. Soil Survey borings (Borings A-160, A-162, A-164, and A-166) shown on Drawings 22 and 23 are not included as part of this work plan but will be performed during the Lazaretto Creek Bridge BFI boring program.

Photograph 1: *Eastern end of Bull River Bridge. The approach road for the new bridge will be constructed on southeastern side of the existing road.* See Drawings 5 and 6 for boring locations.

Photograph 2: *Eastern end of Bull River Bridge. The approach road for the new bridge will be constructed on southeastern side of the existing road (left side in photograph).*

Based on the recently established marsh/upland boundary for the project (Reference: Georgia DNR – CRD letter dated May 15, 2018), it appears that the mapped coastal marshland extends up to the existing roadway along portions of the roadway alignment. Portions of the existing pavement are therefore within the 25 feet buffer. As such, some of the borings for this phase of the Soil Survey will need to be performed in the 25 feet buffer or at some locations a few feet into the saltmarsh adjacent to the existing roadway. Typical roadway should conditions are shown in Photographs 3, 4, and 5.

Under this work plan a total of 130 SPT test borings will be performed on McQueens Island for this phase of the Soil Survey. Four (4) borings are located in the upland, 97 borings are located within the 25' buffer and 29 borings are located on the edge or less than 5 feet into the salt marsh.

The boring locations are shown on the enclosed Boring Location Plans/Marsh Limits (Drawings 5 through 21). A listing of the 130 borings and their location (i.e. coastal marshland, 25' buffer, or upland) are summarized in the Table 1.

Photograph 3: *Typical shoulder condition near Station 90+00 (see Drawing 7.)*

Photograph 4: *Typical shoulder condition near Station 145+00 (see Drawing 11).*

Photograph 5: *Typical shoulder condition near Station 290+00 (see Drawing 22).*

Table 1 – SR 26/ US 80 Soil Survey Borings - McQueens Island

Boring #	Station	Location	Drilling Rig Type	Drawing
A-17	75+00, R	Upland	ATV	5 & 6
A-19	78+00, R	Upland	ATV	6
A-21	81+00, R	Buffer[1]	ATV	6
A-23	84+00, R	Buffer[1]	ATV	6
A-25	87+00, R	Buffer[1]	ATV	6
A-27	90+00, R	Buffer[1]	ATV	7
A-29	93+00, R	Buffer[1]	ATV	7
A-31	96+00, R	Buffer[1]	ATV	7
A-33	99+00, R	Buffer[1]	ATV	7
A-35	102+00, R	Buffer[1]	ATV	8
A-36	105+00, L	Buffer[1]	ATV	8
A-37	105+00, R	Buffer[1]	ATV	8
A-38	108+00, L	Buffer[1]	ATV	8
A-39	108+00, R	Buffer[1]	ATV	8
A-40	111+00, L	Buffer[1]	ATV	8
A-41	111+00, R	Buffer[1]	ATV	8
A-42	114+00, L	Marsh[2]	ATV	8 & 9
A-43	114+00, R	Buffer[1]	ATV	8 & 9
A-44	117+00, L	Buffer[1]	ATV	9
A-45	117+00, R	Buffer[1]	ATV	9
A-46	120+00, L	Buffer[1]	ATV	9
A-47	120+00, R	Buffer[1]	ATV	9
A-48	123+00, L	Buffer[1]	ATV	9
A-49	123+00, R	Buffer[1]	ATV	9
A-50	126+00, L	Buffer[1]	ATV	9
A-51	126+00, R	Marsh[2]	ATV	9
A-52	129+00, L	Buffer[1]	ATV	10
A-53	129+00, R	Buffer[1]	ATV	10
A-54	131+00, L	Buffer[1]	ATV	10
A-55	131+00, R	Buffer[1]	ATV	10
A-56	134+00, L	Marsh[2]	ATV	10
A-57	134+00, R	Marsh[2]	ATV	10
A-58	137+00, L	Marsh[2]	ATV	10
A-59	137+00, R	Buffer[1]	ATV	10
A-60	140+00, L	Buffer[1]	ATV	10 & 11
A-61	140+00, R	Marsh[2]	ATV	10 & 11

Notes: 1 – Within 25 feet Salt Marsh Buffer
2 – Edge of Salt Marsh

Table 1 – SR 26/ US 80 Soil Survey Borings - McQueens Island (Cont.)

Boring #	Station	Location	Drilling Rig Type	Drawing
A-62	143+00, L	Buffer[1]	ATV	11
A-63	143+00, R	Buffer[1]	ATV	11
A-64	146+00, L	Buffer[1]	ATV	11
A-65	146+00, R	Marsh[2]	ATV	11
A-66	149+00, L	Buffer[1]	ATV	11
A-67	149+00, R	Buffer[1]	ATV	11
A-68	152+00, L	Buffer[1]	ATV	11
A-69	152+00, R	Buffer[1]	ATV	11
A-70	155+00, L	Marsh[2]	ATV	12
A-71	155+00, R	Buffer[1]	ATV	12
A-72	158+00, L	Marsh[2]	ATV	12
A-73	158+00, R	Buffer[1]	ATV	12
A-74	161+00, L	Marsh[2]	ATV	12
A-75	161+00, R	Buffer[1]	ATV	12
A-76	164+00, L	Buffer[1]	ATV	12
A-77	164+00, R	Buffer[1]	ATV	12
A-78	167+00, L	Buffer[1]	ATV	13
A-79	167+00, R	Buffer[1]	ATV	13
A-80	170+00, L	Buffer[1]	ATV	13
A-81	170+00, R	Marsh[2]	ATV	13
A-82	173+00, L	Buffer[1]	ATV	13
A-83	173+00, R	Marsh[2]	ATV	13
A-84	176+00, L	Buffer[1]	ATV	13
A-85	176+00, R	Marsh[2]	ATV	13
A-86	179+00, L	Marsh[2]	ATV	13 & 14
A-87	179+00, R	Marsh[2]	ATV	13 & 14
A-88	182+00, L	Marsh[2]	ATV	14
A-89	182+00, R	Buffer[1]	ATV	14
A-90	185+00, L	Buffer[1]	ATV	14
A-91	185+00, R	Marsh[2]	ATV	14
A-92	188+00, L	Buffer[1]	ATV	14
A-93	188+00, R	Marsh[2]	ATV	14
A-94	191+00, L	Buffer[1]	ATV	14
A-95	191+00, R	Marsh[2]	ATV	14
A-96	194+00, L	Buffer[1]	ATV	15
A-97	194+00, R	Buffer[1]	ATV	15

Notes: 1 – Within 25' Salt Marsh Buffer
2 – Edge of Salt Marsh

Table 1 – SR 26/ US 80 Soil Survey Borings - McQueens Island (Cont.)

Boring #	Station	Location	Drilling Rig Type	Drawing
A-98	197+00, L	Buffer[1]	ATV	15
A-99	197+00, R	Buffer[1]	ATV	15
A-100	200+00, L	Buffer[1]	ATV	15
A-101	200+00, R	Marsh[2]	ATV	15
A-102	203+00, L	Buffer[1]	ATV	15
A-103	203+00, R	Buffer[1]	ATV	15
A-104	206+00, L	Buffer[1]	ATV	16
A-105	206+00, R	Marsh[2]	ATV	16
A-106	209+00, L	Buffer[1]	ATV	16
A-107	209+00, R	Marsh[2]	ATV	16
A-108	212+00, L	Buffer[1]	ATV	16
A-109	212+00, R	Marsh[2]	ATV	16
A-110	215+00, L	Buffer[1]	ATV	16
A-111	215+00, R	Marsh[2]	ATV	16
A-112	218+00, L	Buffer[1]	ATV	16 & 17
A-113	218+00, R	Marsh[2]	ATV	16 & 17
A-114	221+00, L	Buffer[1]	ATV	17
A-115	221+00, R	Marsh[2]	ATV	17
A-116	224+00, L	Buffer[1]	ATV	17
A-117	224+00, R	Buffer[1]	ATV	17
A-118	227+00, L	Buffer[1]	ATV	17
A-119	227+00, R	Marsh[2]	ATV	17
A-120	230+00, L	Buffer[1]	ATV	17 & 18
A-121	230+00, R	Marsh[2]	ATV	17 & 18
A-122	233+00, L	Buffer[1]	ATV	18
A-123	233+00, R	Buffer[1]	ATV	18
A-124	236+00, L	Buffer[1]	ATV	18
A-125	236+00, R	Buffer[1]	ATV	18
A-126	239+00, L	Buffer[1]	ATV	18
A-127	239+00, R	Buffer[1]	ATV	18
A-128	242+00, L	Buffer[1]	ATV	18
A-129	242+00, R	Buffer[1]	ATV	18
A-130	245+00, L	Buffer[1]	ATV	19
A-131	245+00, R	Buffer[1]	ATV	19
A-132	248+00, L	Buffer[1]	ATV	19
A-133	248+00, R	Buffer[1]	ATV	19

Notes: 1 – Within 25' Salt Marsh Buffer
2 – Edge of Salt Marsh

Table 1 – SR 26/ US 80 Soil Survey Borings - McQueens Island (Cont.)

Boring #	Station	Location	Drilling Rig Type	Drawing
A-134	251+00, L	Buffer[1]	ATV	19
A-135	251+00, R	Buffer[1]	ATV	19
A-136	254+00, L	Buffer[1]	ATV	19
A-137	254+00, R	Marsh[2]	ATV	19
A-139	257+00, R	Buffer[1]	ATV	20
A-141	260+00, R	Buffer[1]	ATV	20
A-143	263+00, R	Buffer[1]	ATV	20
A-145	266+00, R	Buffer[1]	ATV	20
A-146	269+00, L	Buffer[1]	ATV	20
A-147	269+00, R	Buffer[1]	ATV	20
A-148	272+00, L	Buffer[1]	ATV	21
A-149	272+00, R	Buffer[1]	ATV	21
A-150	275+00, L	Buffer[1]	ATV	21
A-151	275+00, R	Buffer[1]	ATV	21
A-152	278+00, L	Buffer[1]	ATV	21
A-153	278+00, R	Buffer[1]	ATV	21
A-154	281+00, L	Buffer[1]	ATV	21
A-155	281+00, R	Buffer[1]	ATV	21
A-156	284+00, L	Buffer[1]	ATV	22
A-157	284+00, R	Buffer[1]	ATV	22
A-158	287+00, L	Upland	ATV	22
A-159	287+00, R	Upland	ATV	22

Notes: 1 – Within 25' Salt Marsh Buffer
2 – Edge of Salt Marsh

Borings A-160, A-162, A-164, and A-166 are not included in this Work Plan submittal.

Schedule

Work is expected to start approximately 5 to 10 working days after receiving the necessary permits and authorization from the various State and Federal entities with jurisdictions over the proposed work and/or work areas.

The planned work schedule is Monday through Saturday unless otherwise restricted by local code, the National Park Service, or GDOT. Lane closures on SR 26/US 80 are restricted by GDOT to the hours of 9 AM to 4 PM. The anticipated duration of this phase of work is approximately 15 to 30 working days depending upon weather.

Testing Equipment and Test Methods

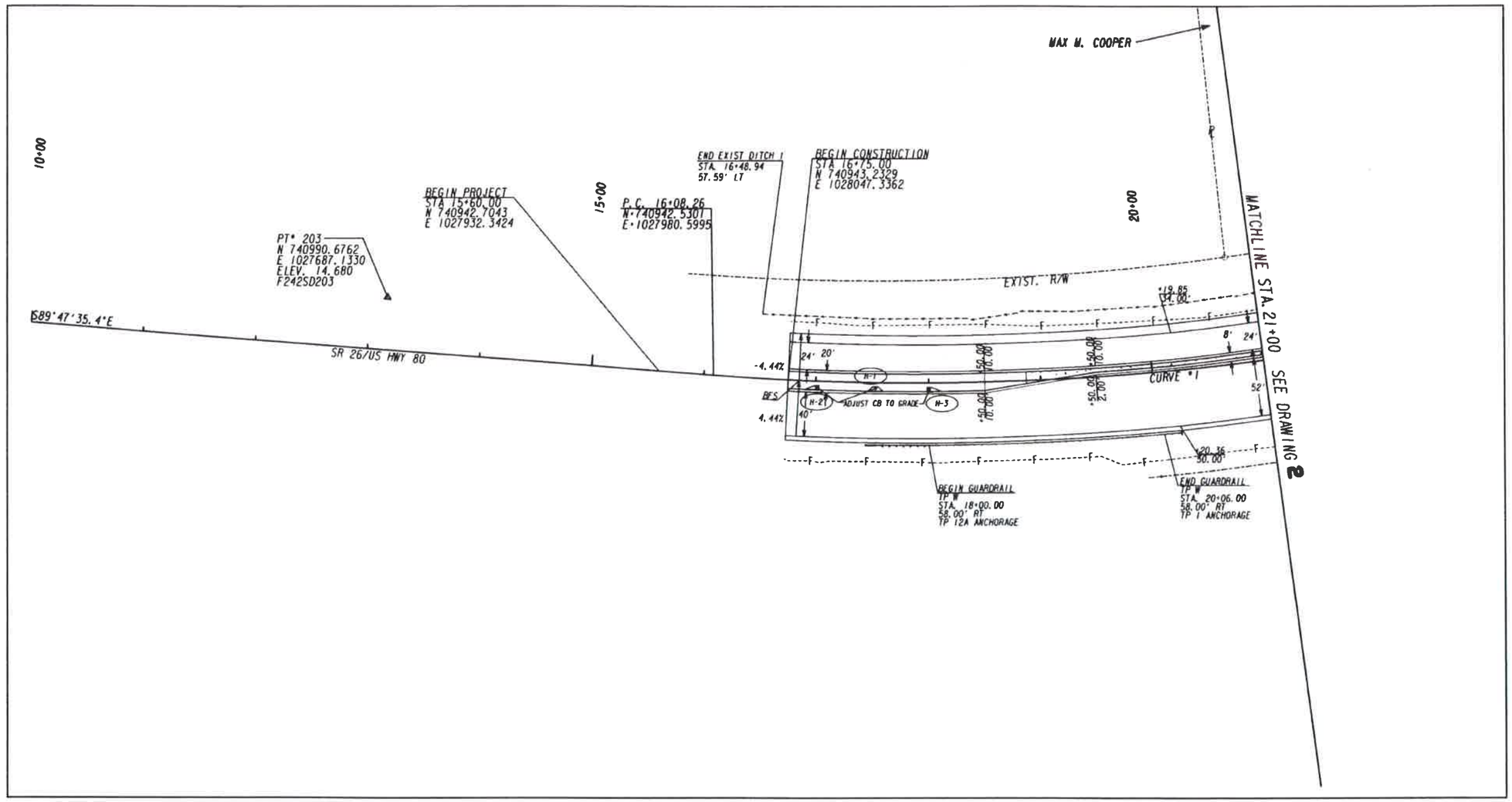
SPT Test Boring Equipment and Procedure

The soil test borings under this work plan will be performed using a typical rubber tire ATV mounted drill rig. The SPT test borings will be performed by Amdrill Inc., under the supervision of an ECS representative. Specialized amphibious and barge mounted drill rigs will be used at a later date for the borings located within the marshland.

Borings will be advanced using a 4-1/2" OD hollow stem auger. During drilling, representative soil samples will be obtained by means of the split-barrel sampling procedure in general accordance with ASTM Specification D-1586 with an automatic drive hammer. In this procedure, a 2-inch O.D., split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer falling 30 inches. The maximum depth of the auger borings will be 10 feet for this phase of work. Upon completion of the boring, the borehole will be backfilled with the drilling cuttings mixed with bentonite pellets to plug the borehole.

Split spoon and bulk samples will be collected during the field exploration. The samples are sealed. Labeled, and transported to the ECS laboratory for further visual examination and laboratory testing.

Appendix



LEGEND

- Approximate Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

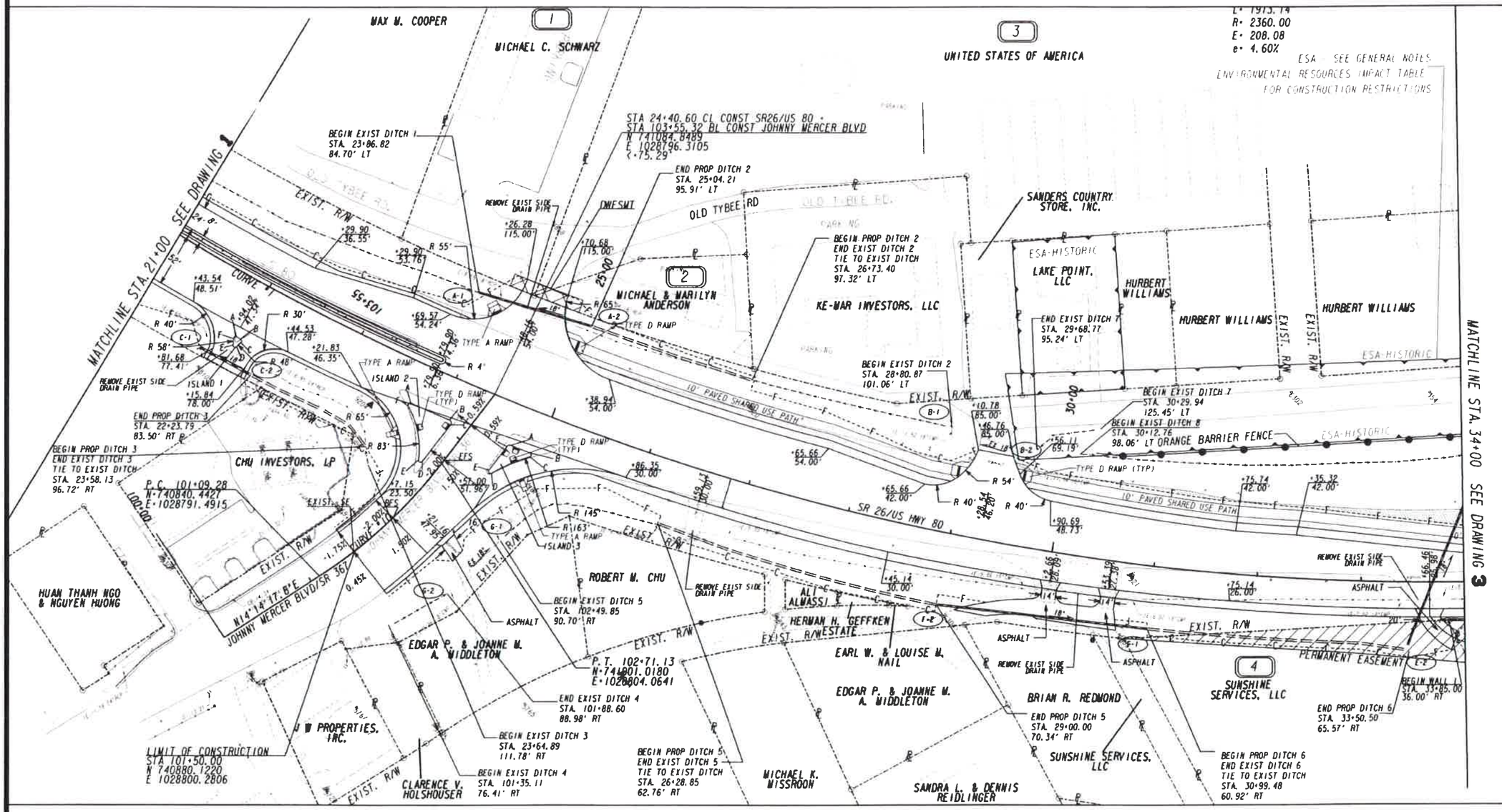
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 1



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

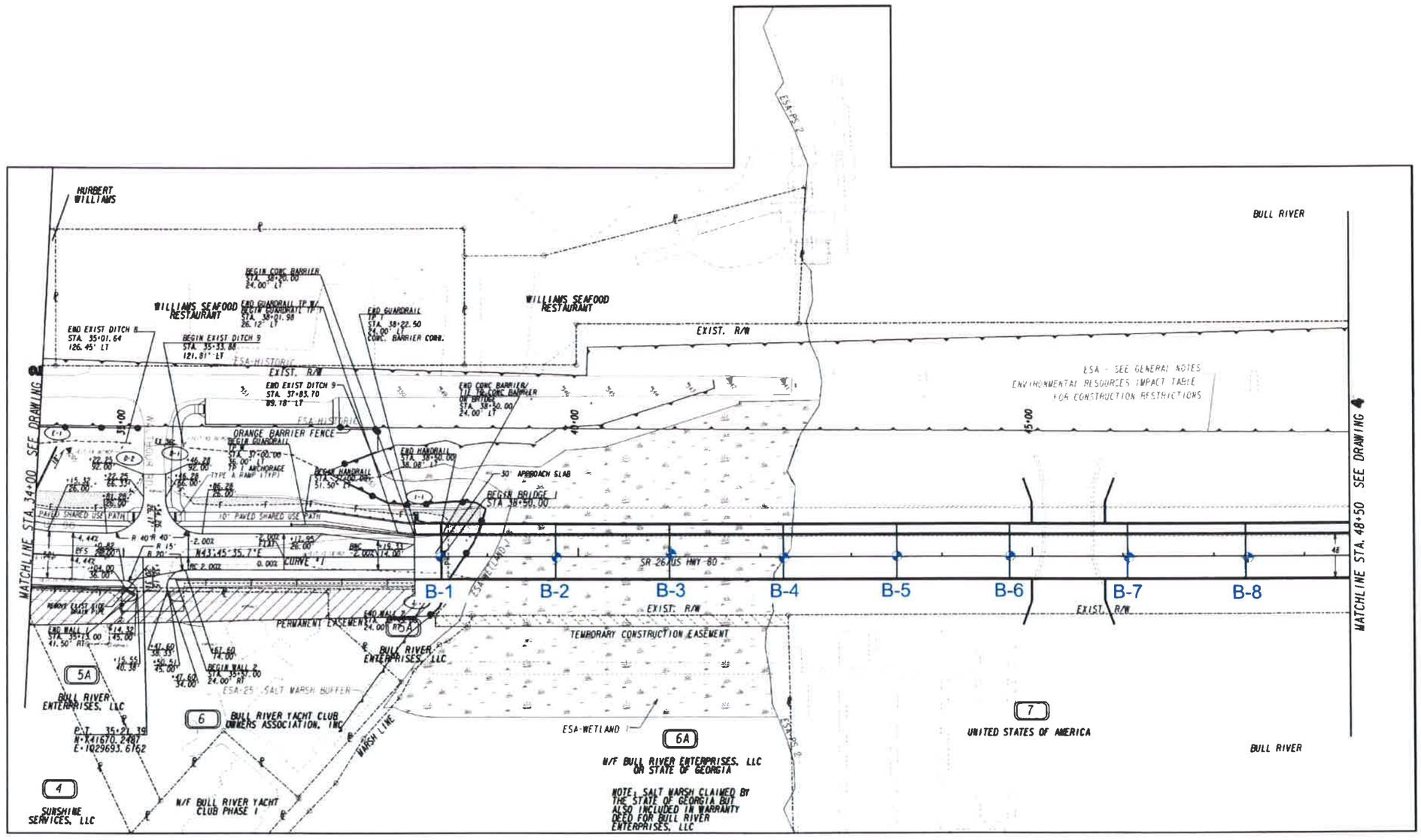
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 2



LEGEND

- Approximate Road Boring Location — A-# Boring Designation
- Approximate Bull River Bridge Boring Location — B-# Boring Designation

Graphic Scale 1"=120'

120 60 0 20 40 60 80 100 120

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS	

JOB NO.	10:9273-A
SCALE	1"=120'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 3

CURVE #2			
STA.	SE	LEFT	RIGHT
56+21	ENC	-2.00%	-2.00%
57+47	FLAT	0.00%	-2.00%
58+73	RC	2.00%	-2.00%
59+99	RFS	4.00%	-4.00%
72+30	EFS	4.00%	-4.00%
73+25	RC	2.00%	-2.00%
74+50	RC	2.00%	-2.00%
75+10	FLAT	0.00%	-2.00%
75+70	ENC	-2.00%	-2.00%

5

UNITED STATES OF AMERICA

BULL RIVER

ESA-PS 2

ESA-PROPOSED WILDERNESS

ESA-HISTORIC FORT PULASKI

ESA-HISTORIC

EXIST. R/W

ESA-25' SALT MARSH BUFFER

MATCHLINE STA. 48+50 SEE DRAWING 3

50+00

55+00

60+00

ESA - SEE GENERAL NOTES
ENVIRONMENTAL RESOURCES IMPACT TABLE
FOR CONSTRUCTION RESTRICTIONS

N:742738.1625
E:1030716.2748

BRIDGE 1

SR 26/US HWY 80

ENC -2.00%

FLAT 0.00% -2.00%

RC 2.00% -2.00%

CURVE #2

RFS 4.00% EFS 4.00%

48'

B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16 B-17 B-18 B-19

EXIST. H/W

TEMPORARY CONSTRUCTION EASEMENT

P.C. 58+89.48
N:743380.5833
E:1031331.4722

MATCHLINE STA. 62+00 SEE DRAWING 5

BULL RIVER

ESA-HISTORIC FORT PULASKI

ESA-PROPOSED WILDERNESS

ESA-PS 2

ESA-WETLAND 1

7

UNITED STATES OF AMERICA

LEGEND

- Approximate Road Boring Location — A-# Boring Designation
- Approximate Bull River Bridge Boring Location — B-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

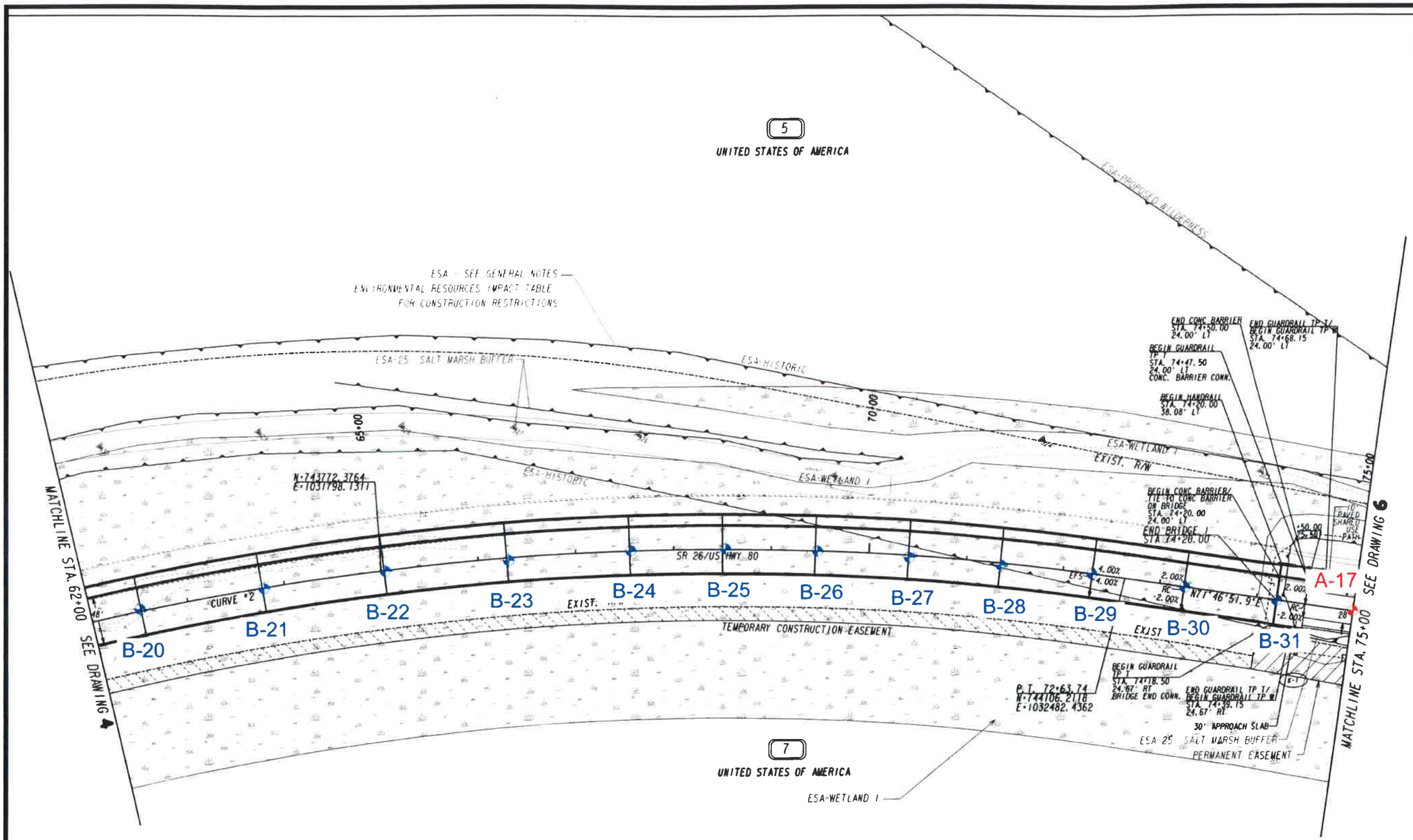
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 4



LEGEND

- Approximate Road Boring Location — A-# Boring Designation
- Approximate Bull River Bridge Boring Location — B-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

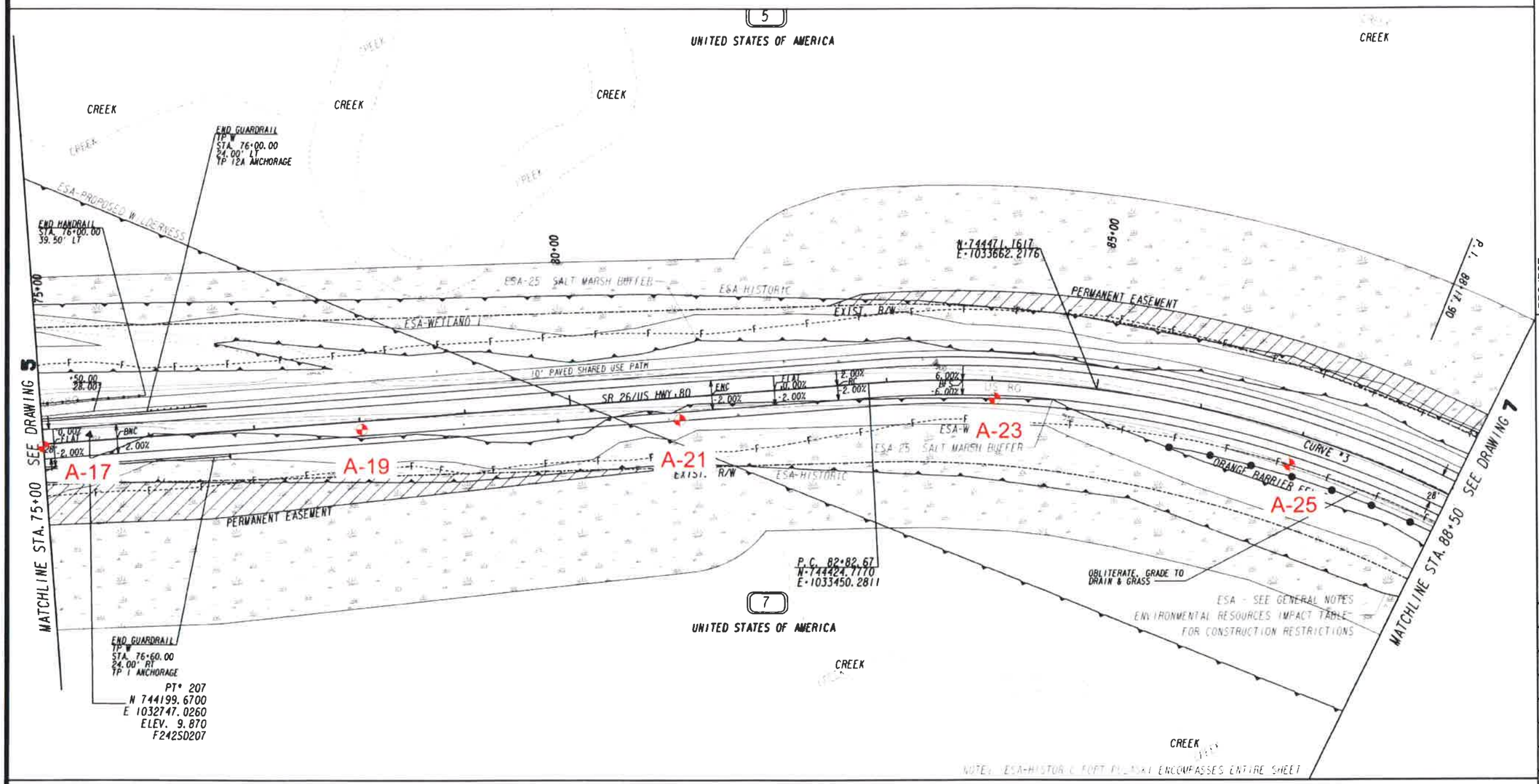
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 5



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

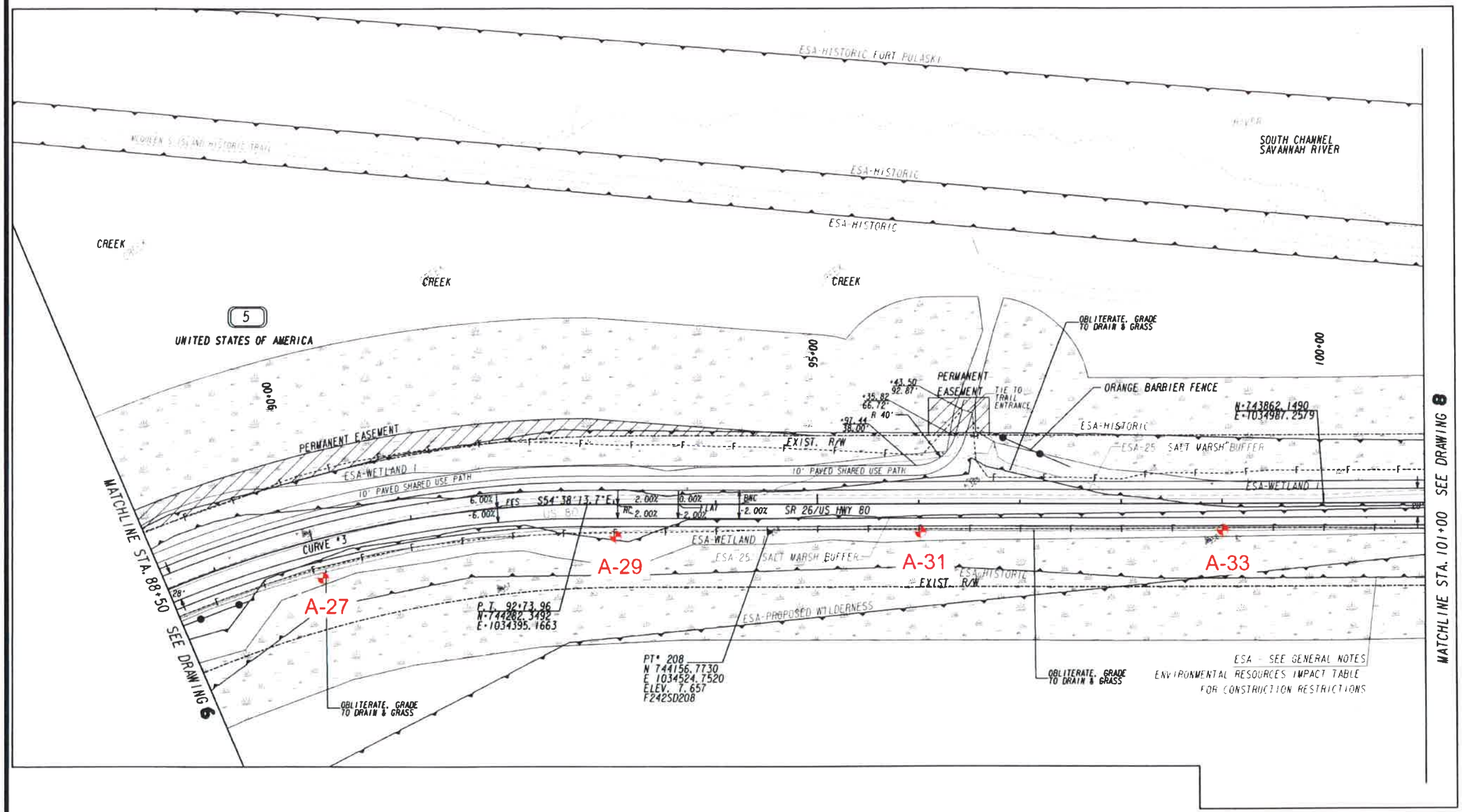
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR	KJH	7/2018

Drawing No.:
6



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

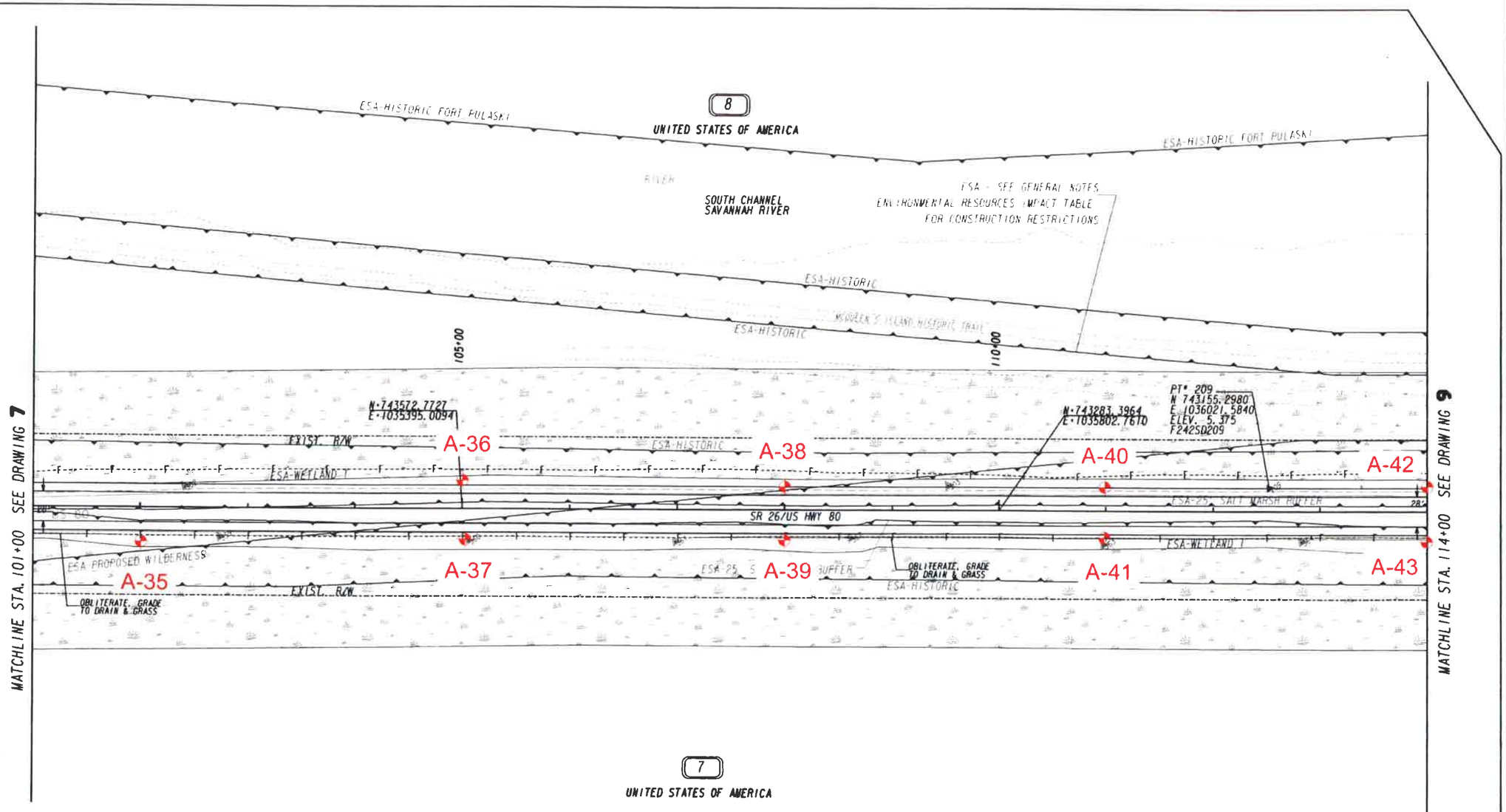
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.
7



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

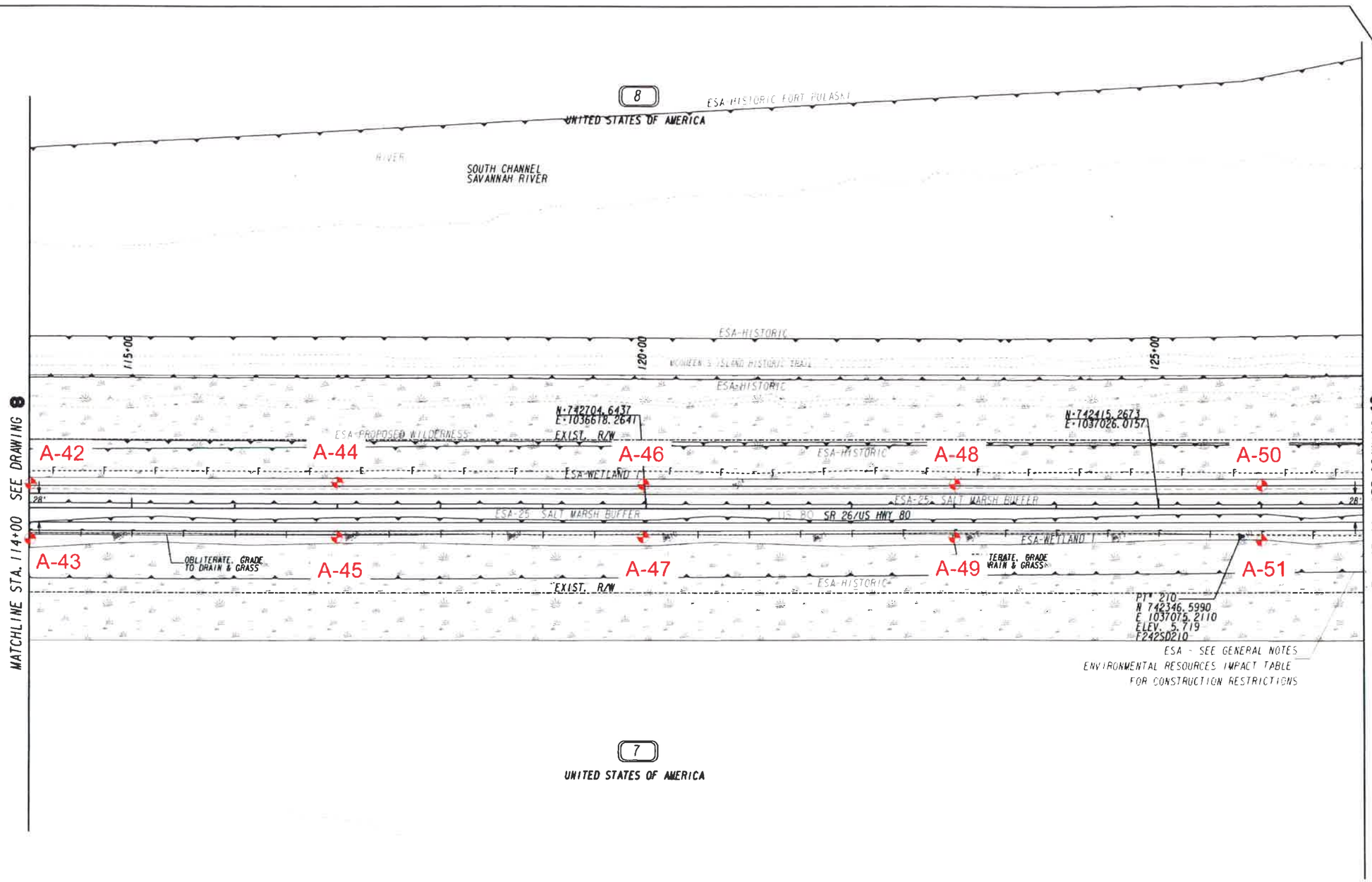
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 8



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

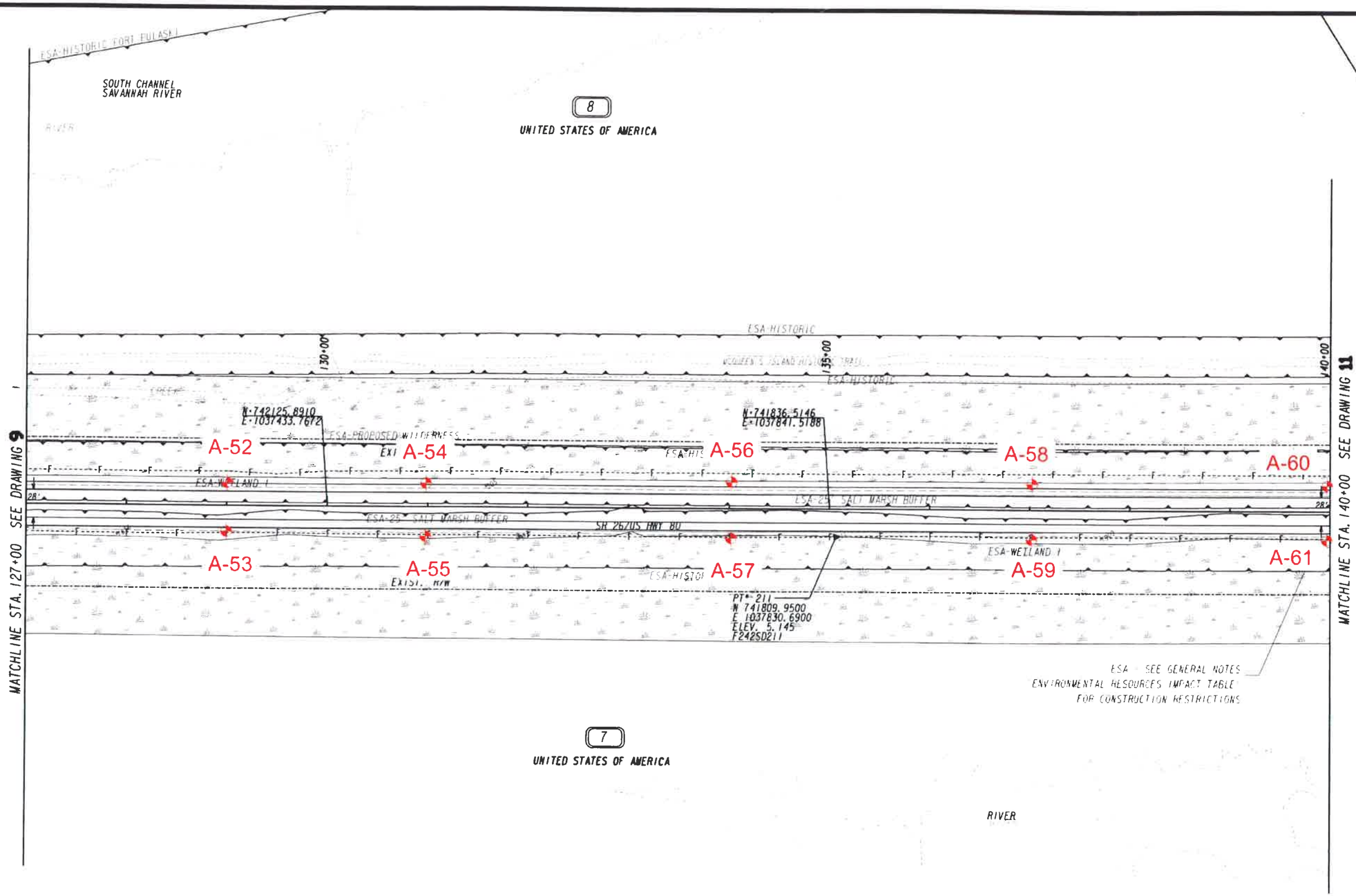
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 9



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

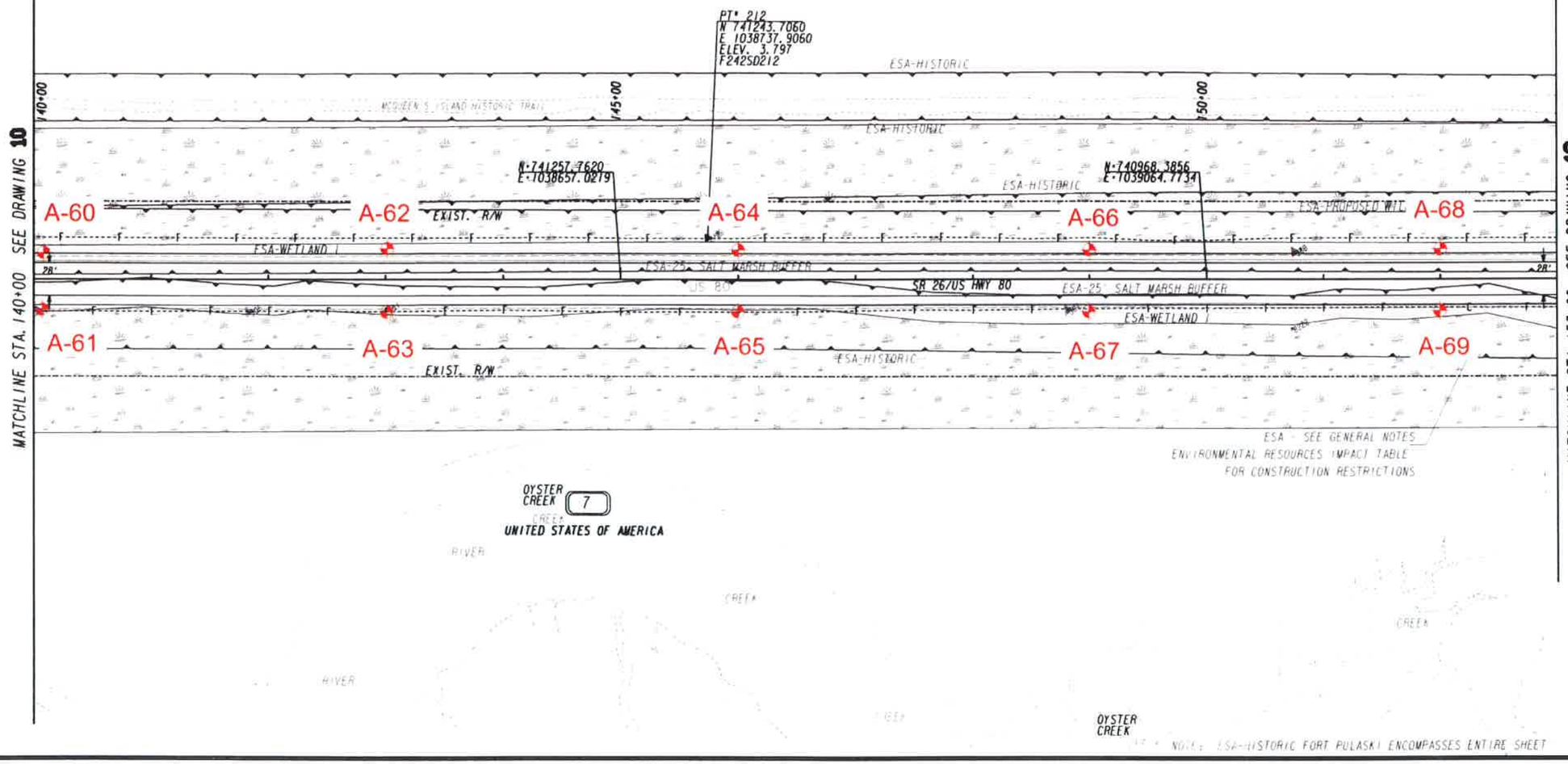
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 10



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

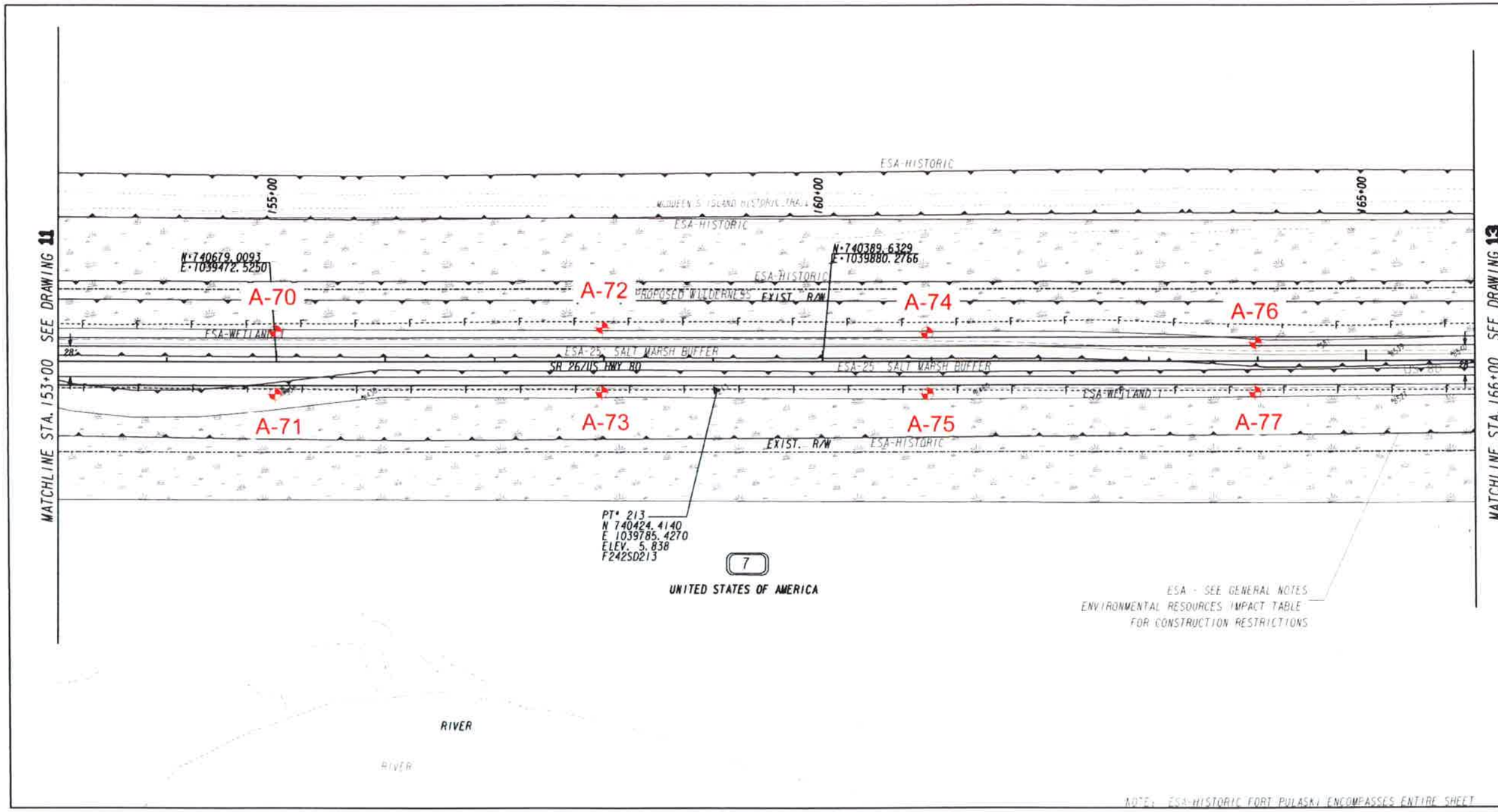
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 11



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

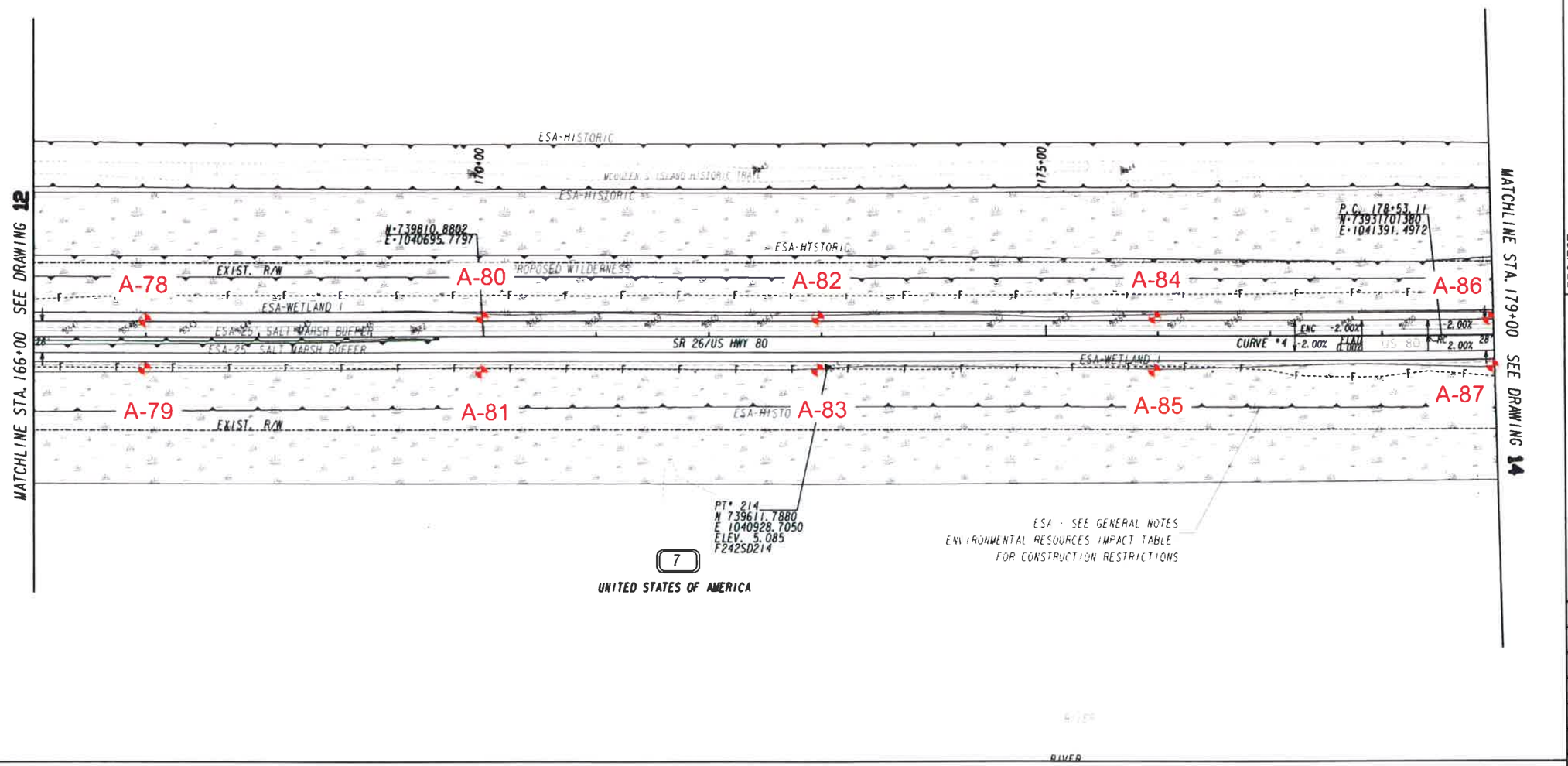
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.
12



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

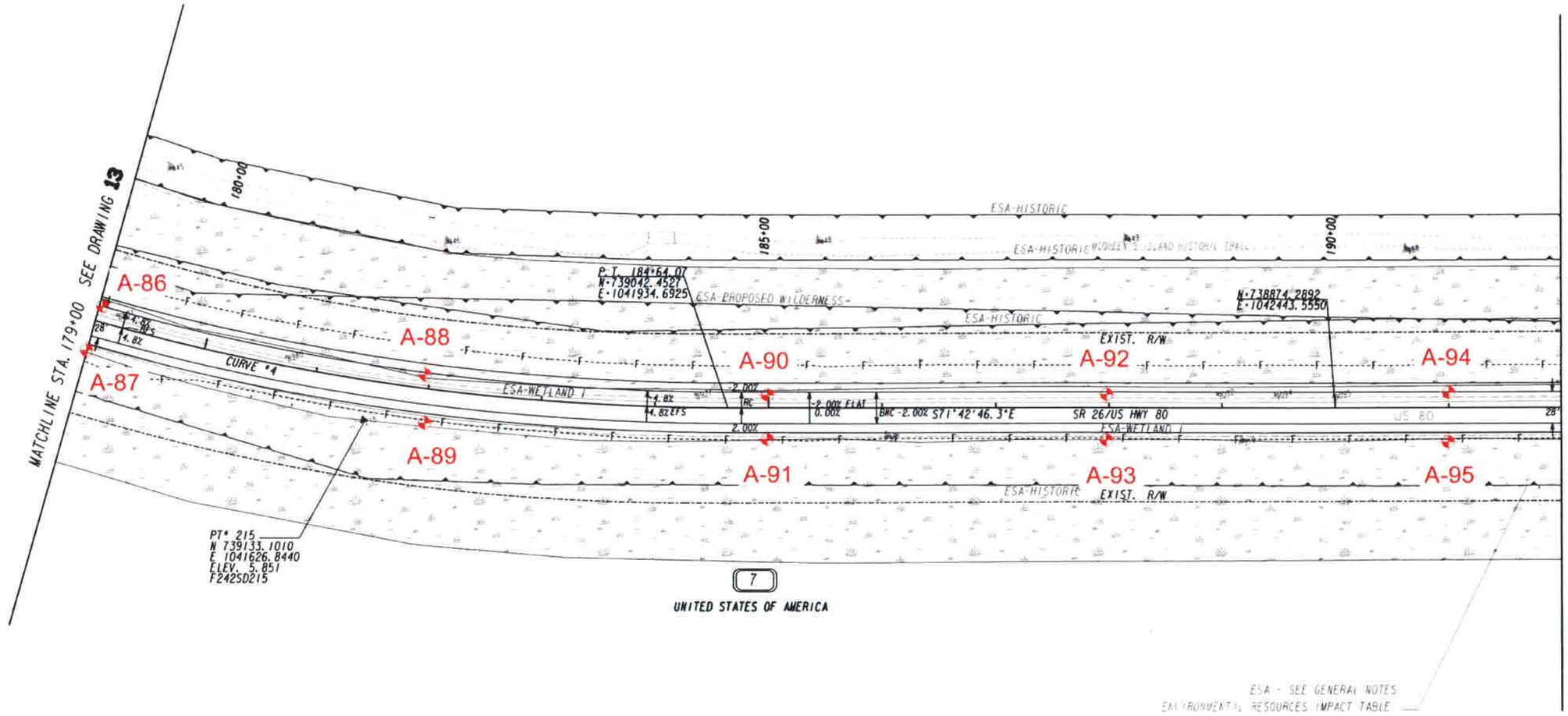
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 13



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

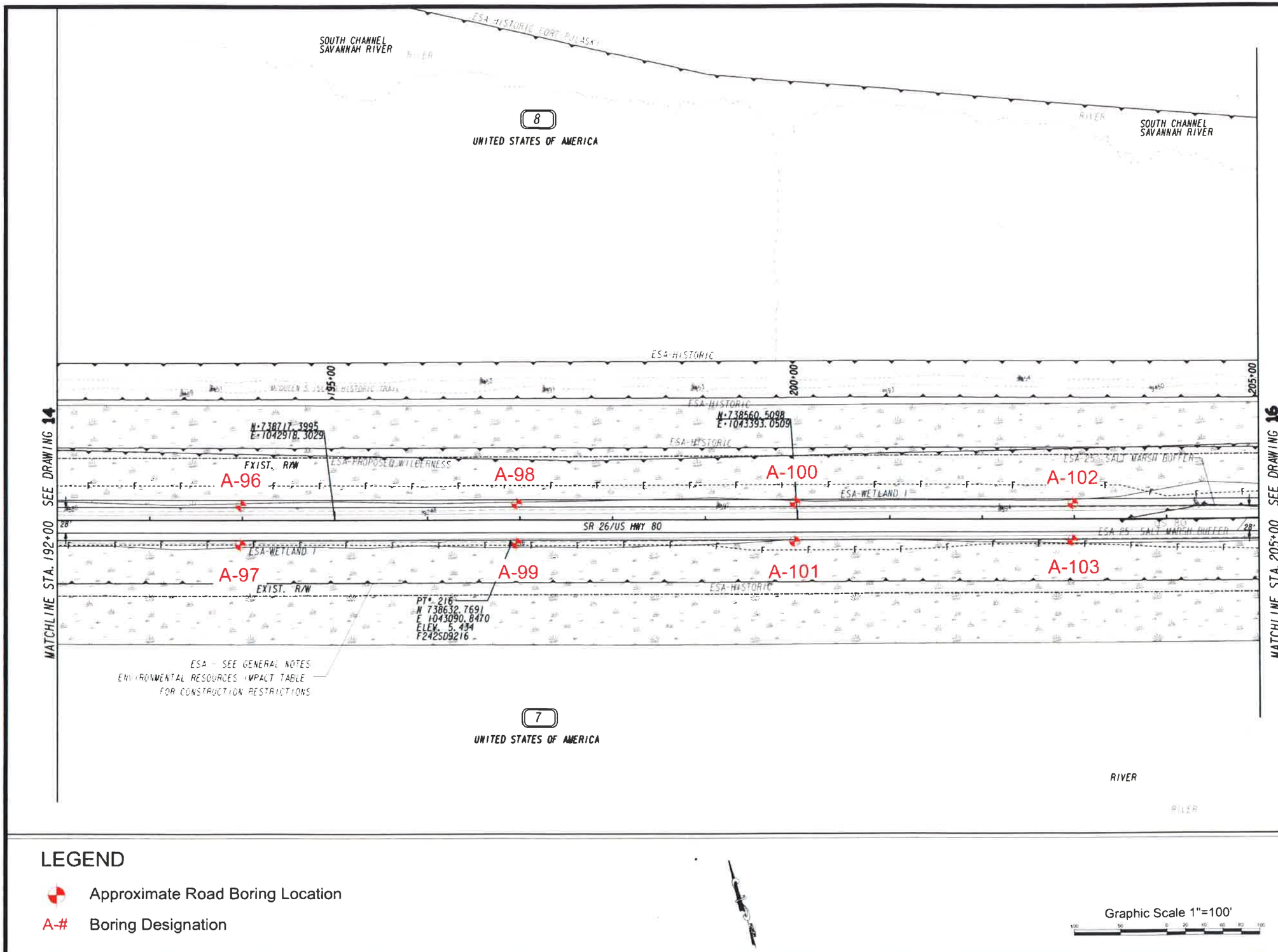
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 14



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

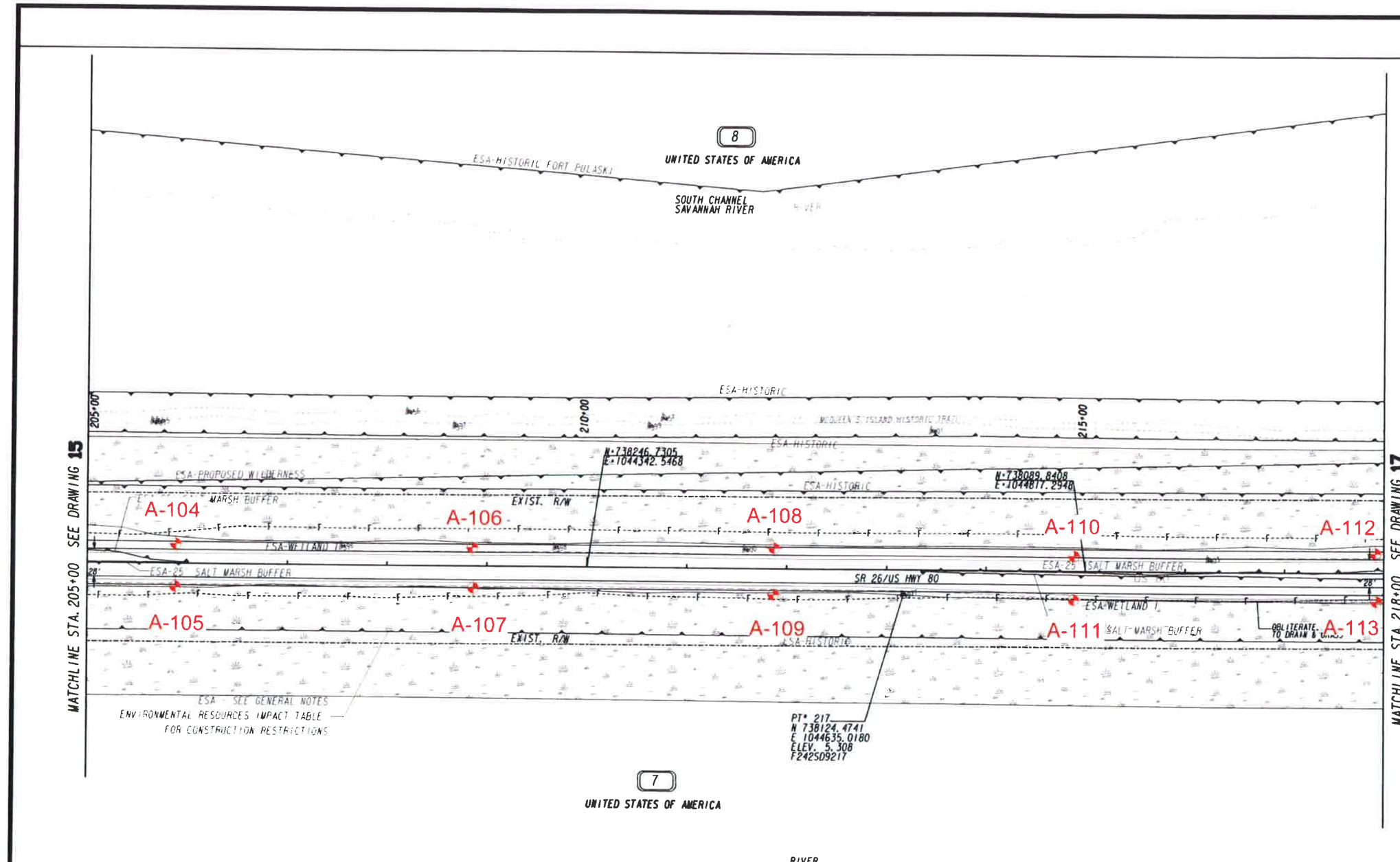
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.:
15

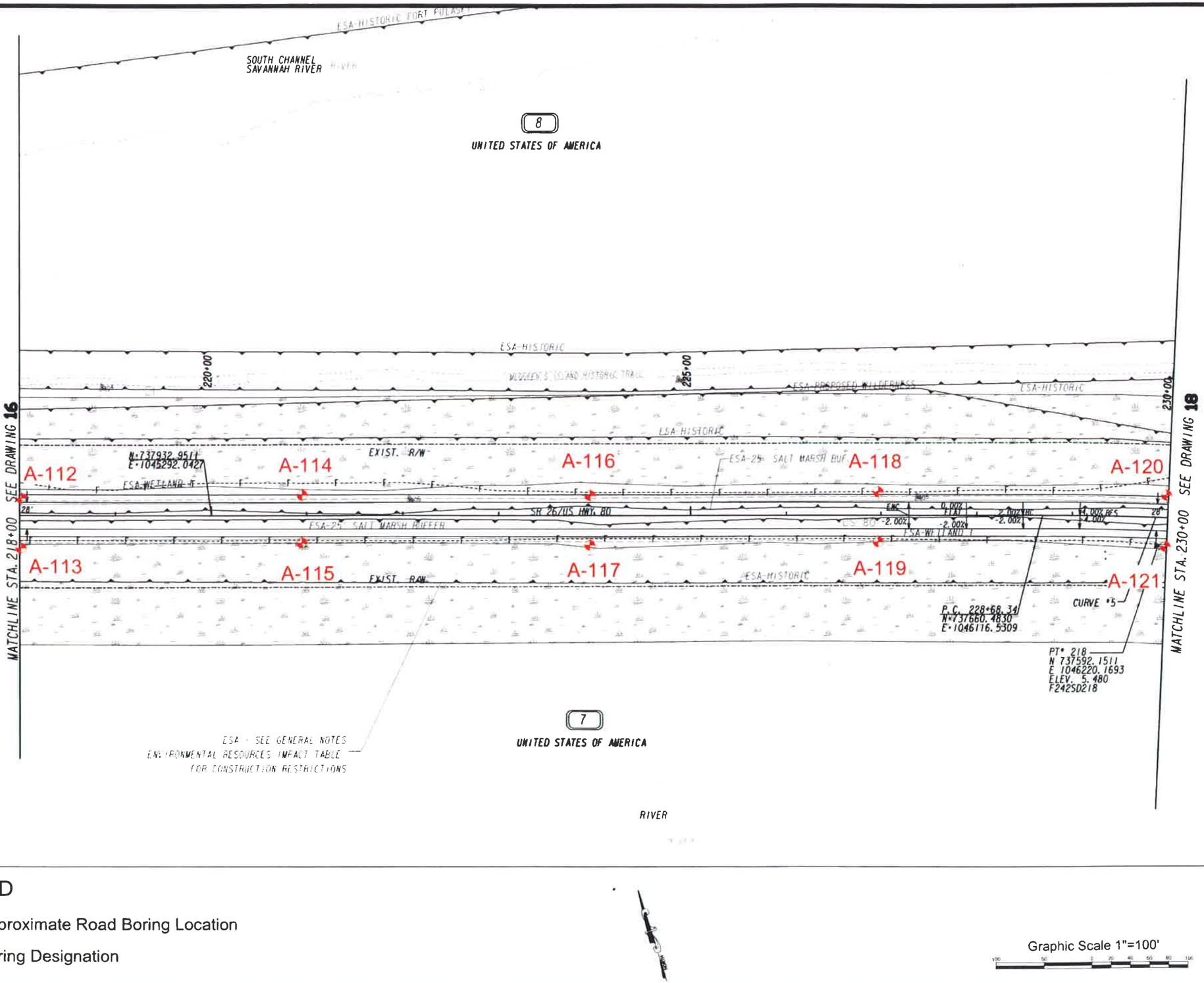


LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT:	SR 26US 80 - Pavement Evaluation Tybee Island, GA
PREPARED FOR:	T. Y. Lin International, Inc.
FIGURE NAME:	BORING LOCATION PLAN
REFERENCE:	Construction Plan By: Tylin International
REVISIONS	
JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018
Drawing No.:	16



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

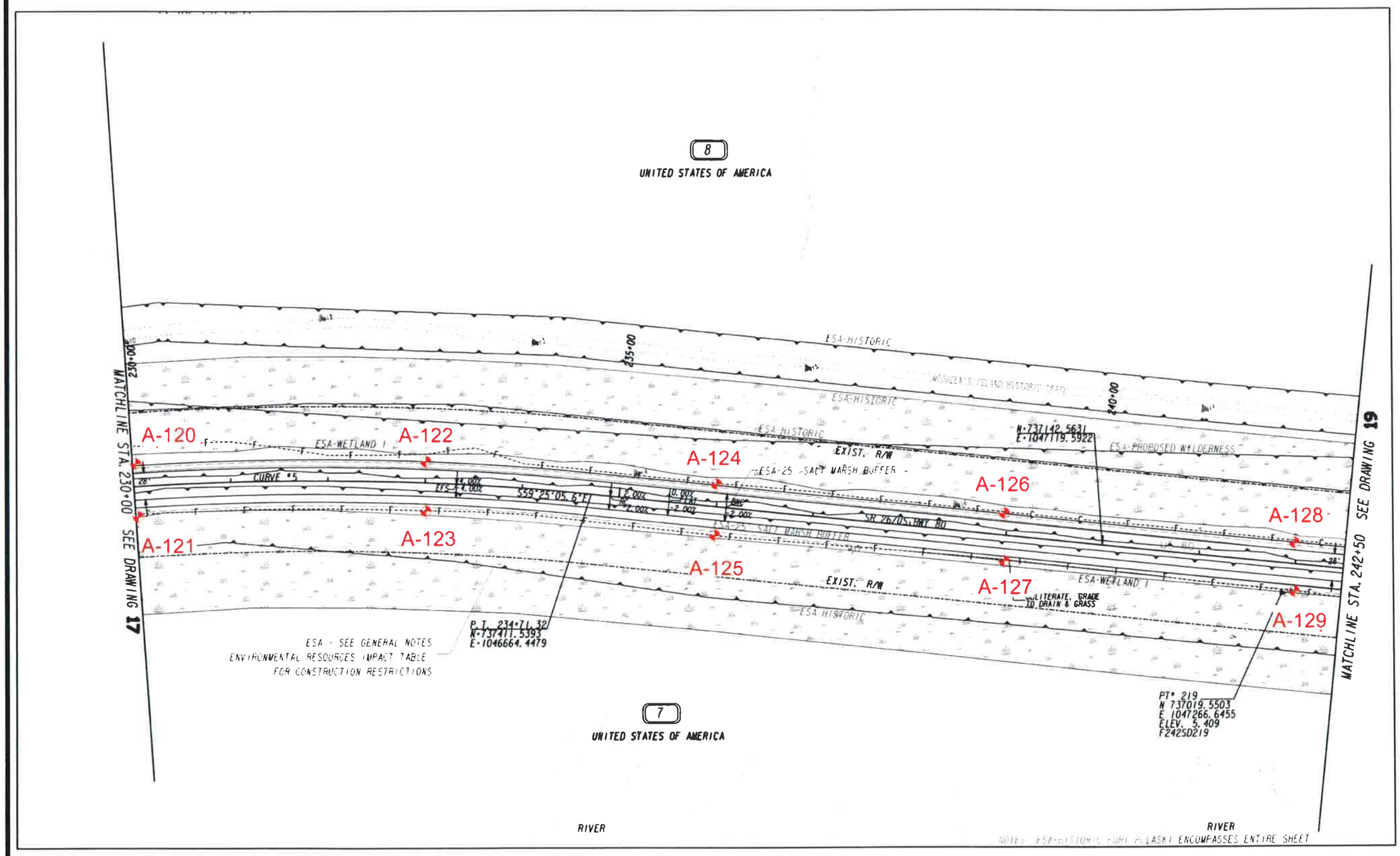
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 17



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

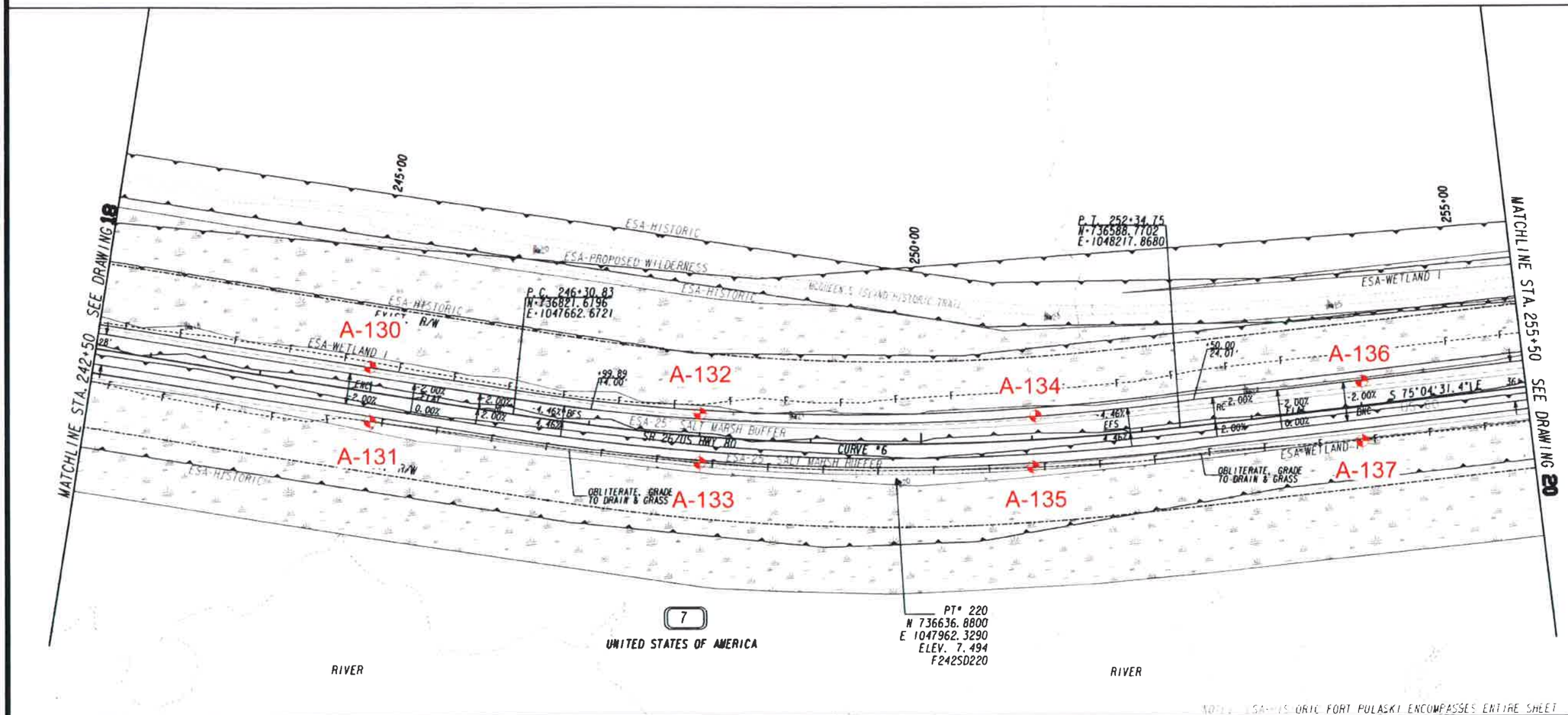
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 18



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

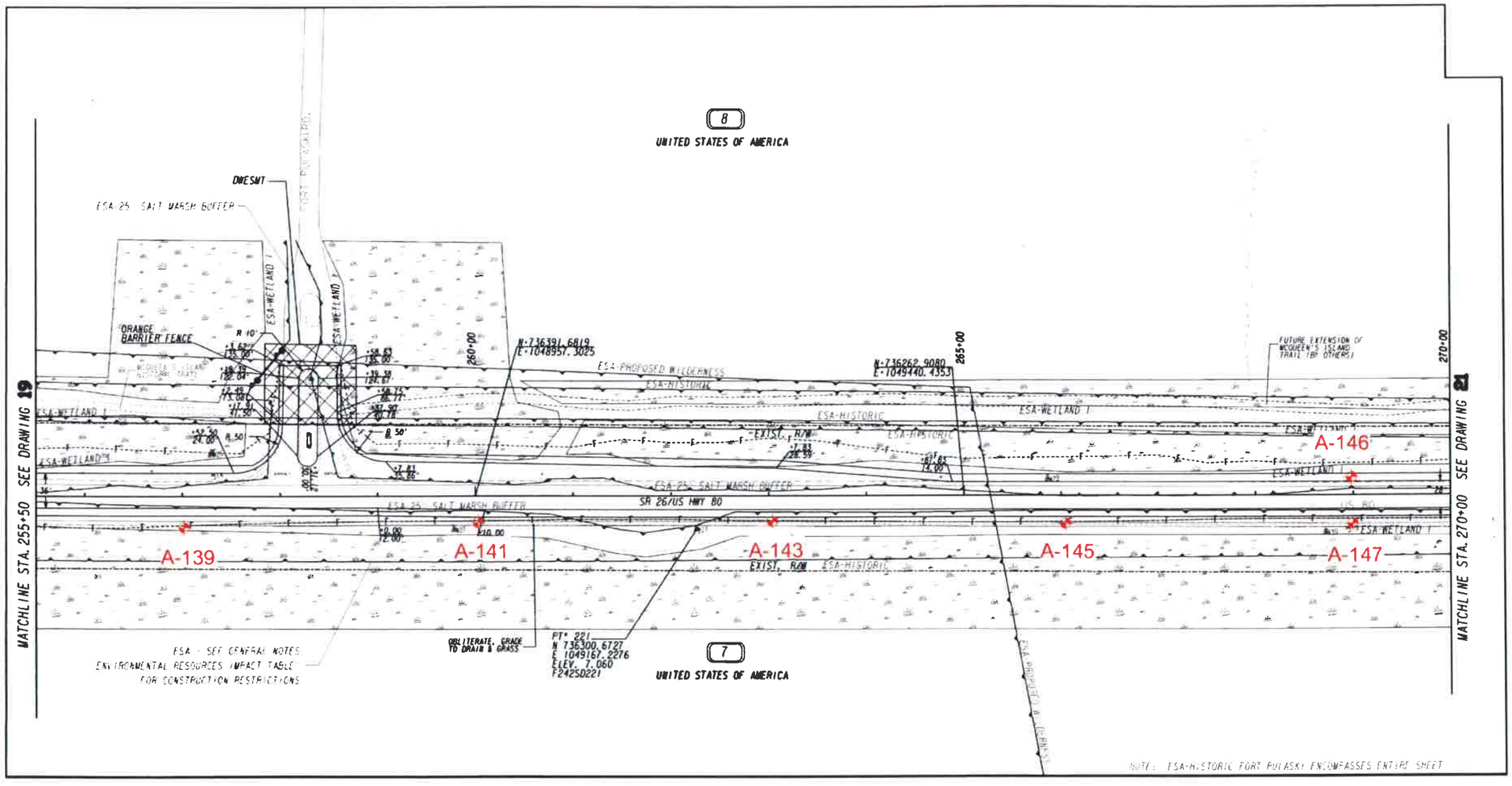
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 19



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=120'

120 60 0 20 40 60 80 100 120

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

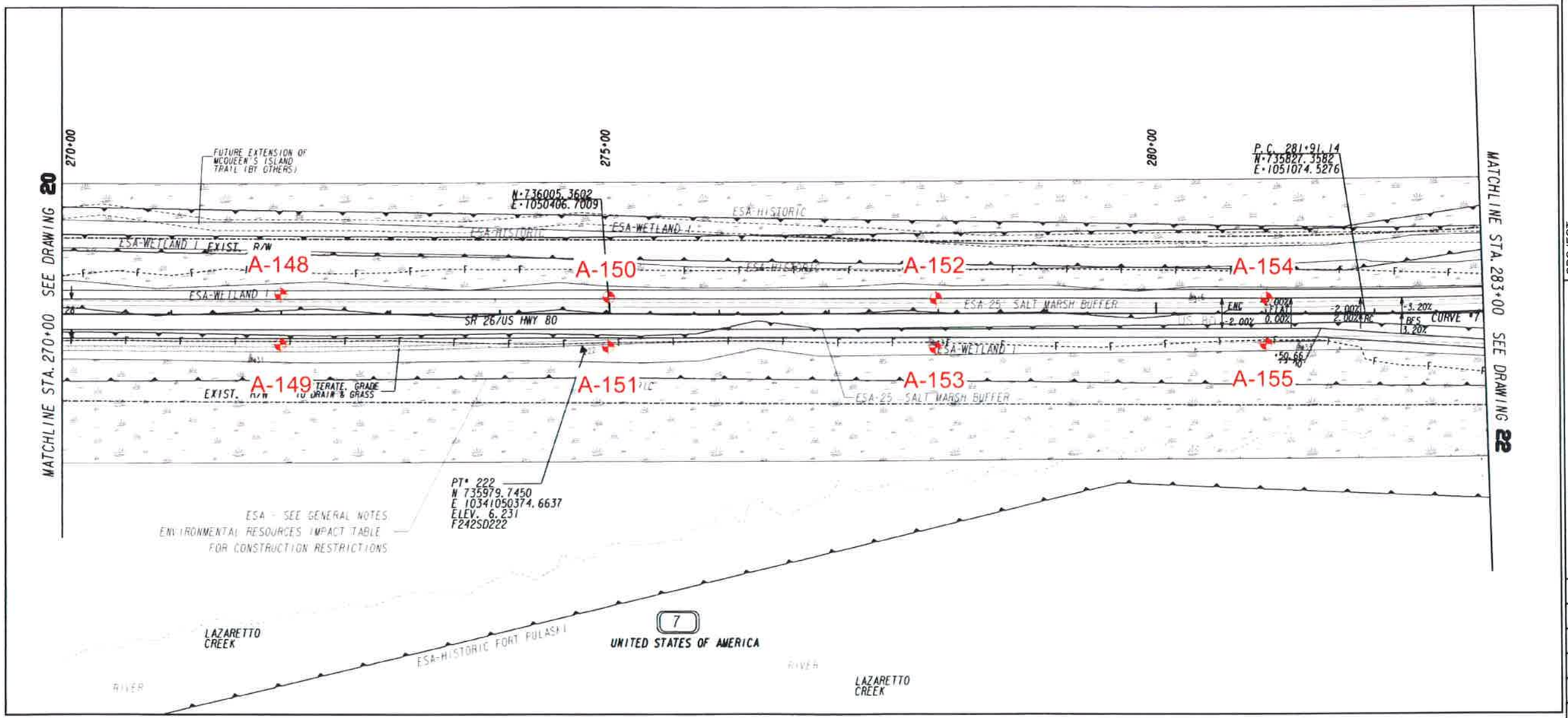
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=120'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.:
20



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

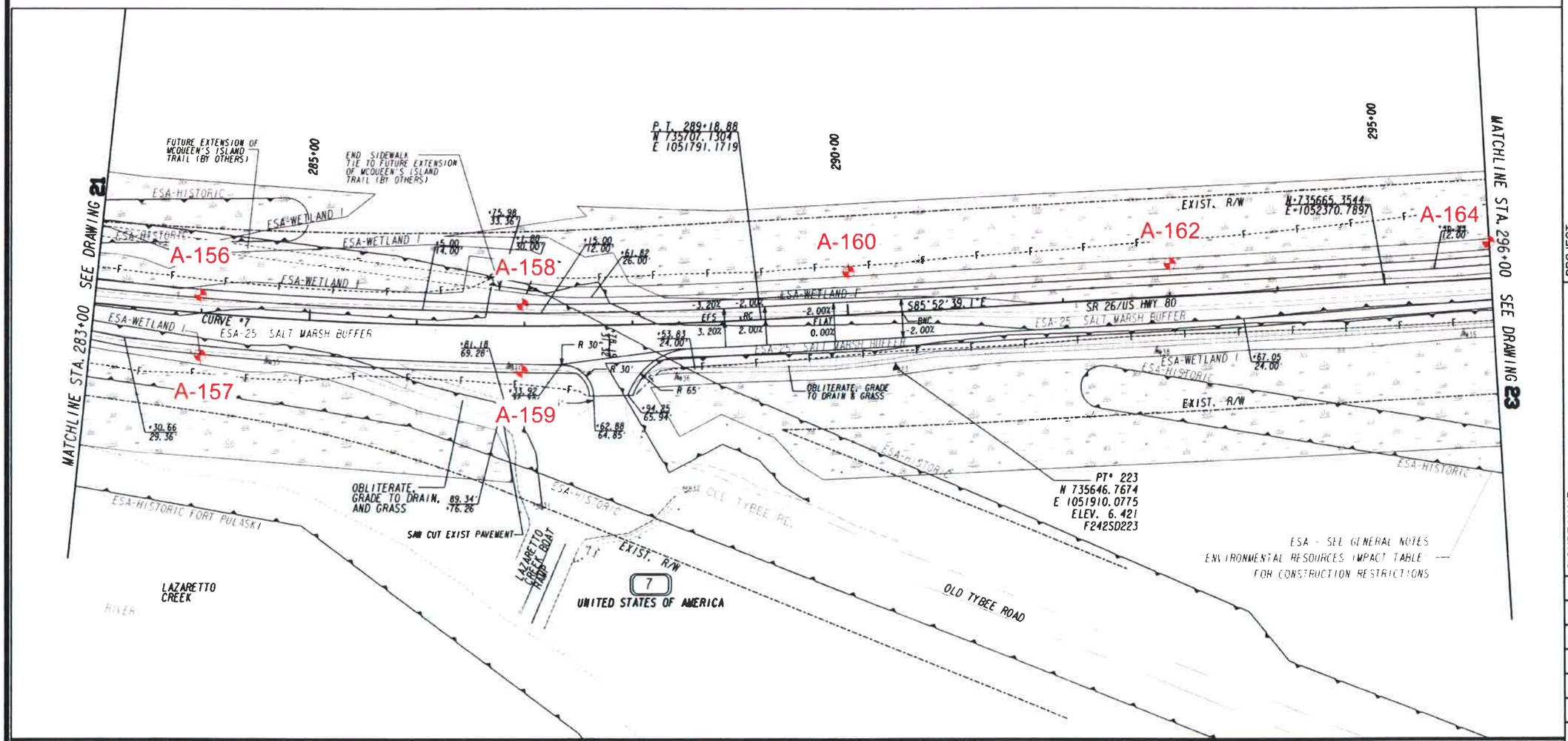
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS

JOB NO.	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 21



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

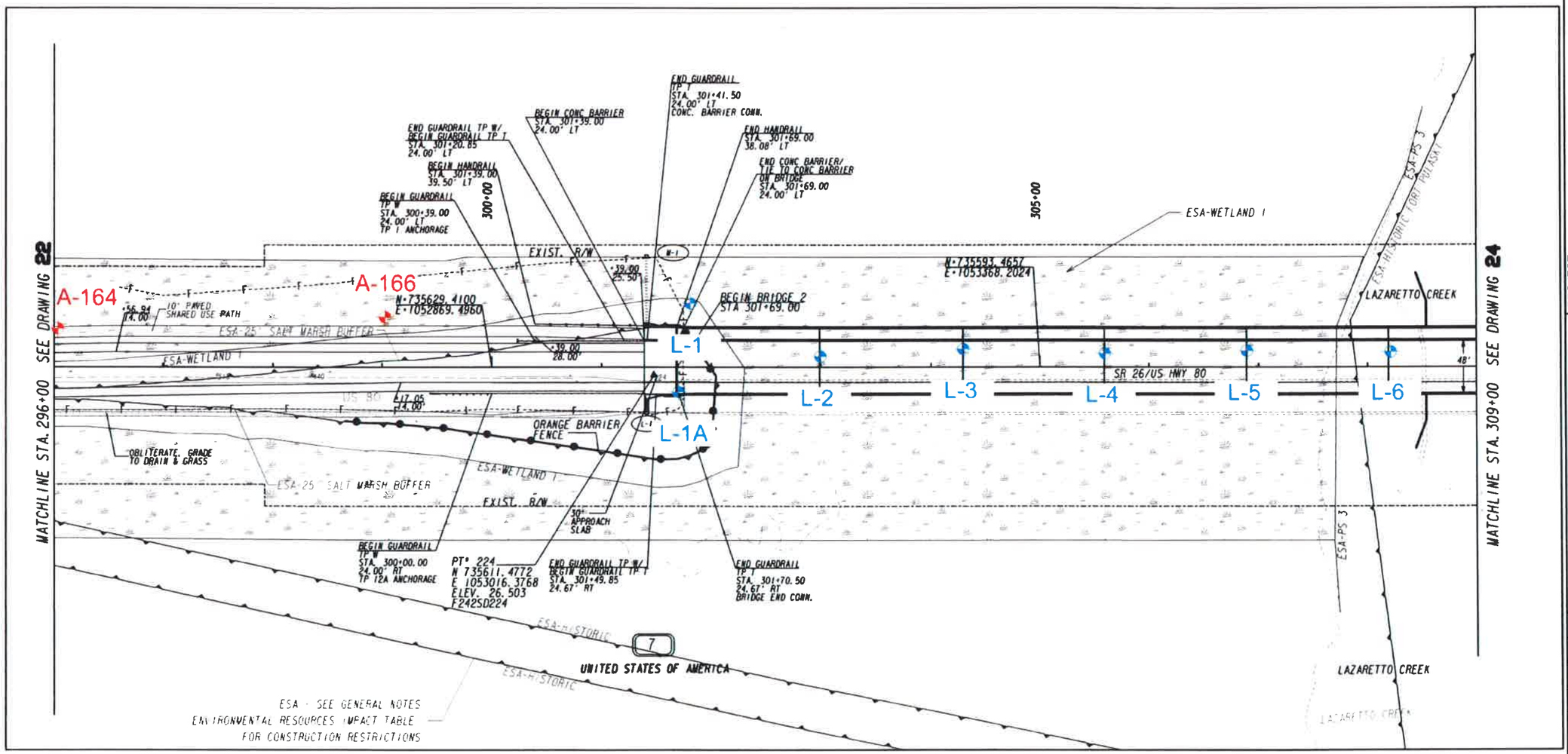
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan
By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 22



LEGEND

- Approximate Road Boring Location — A-# Boring Designation
- Approximate Lazaretto Creek Bridge Boring Location — L-# Boring Designation

Graphic Scale 1"=100'

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

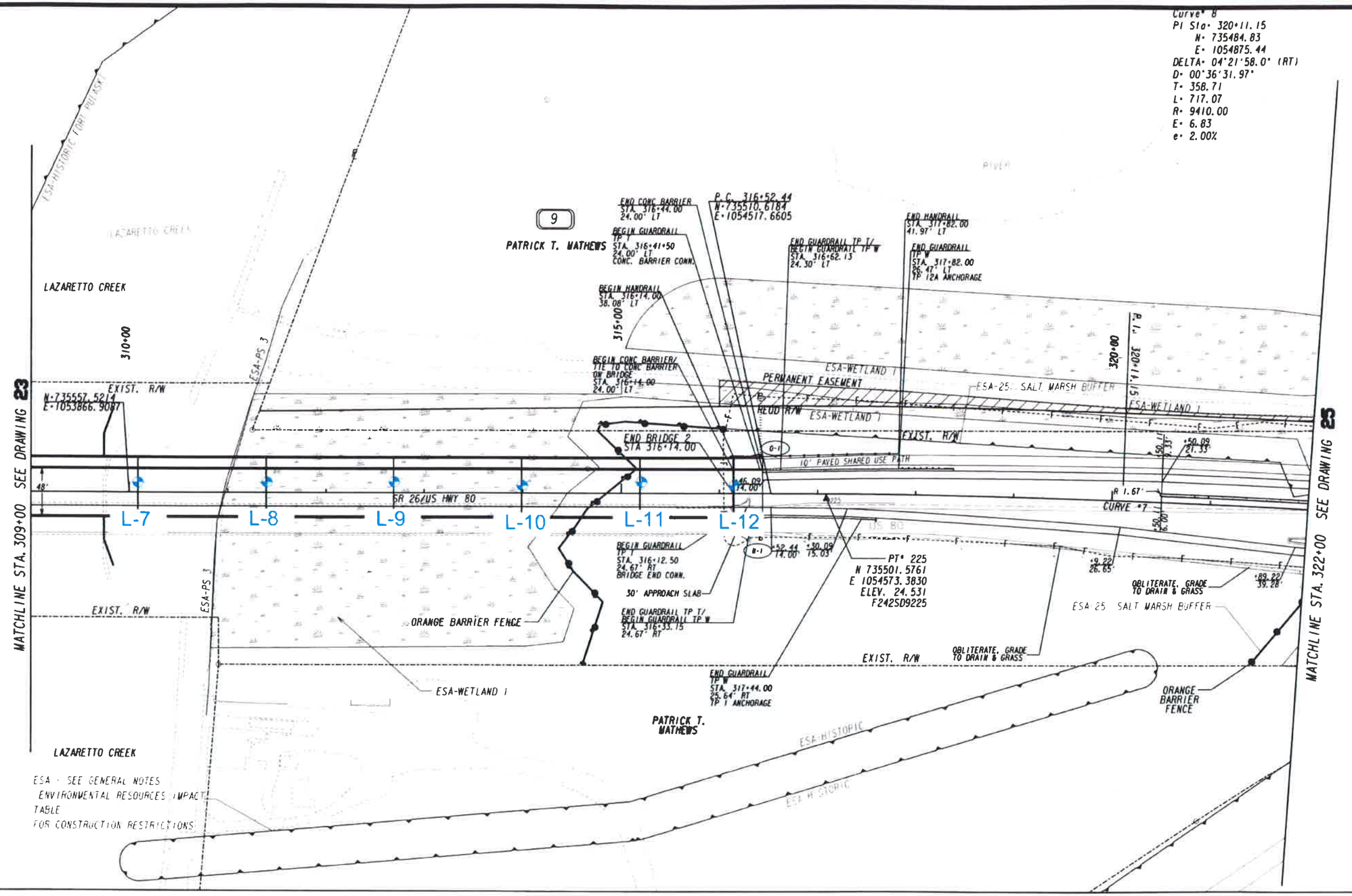
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS

JOB NO	10:9273-A
SCALE	1"=100'
DRAWN	CLN 7/2018
APPR.	KJH 7/2018

Drawing No.: 23



LEGEND

- Approximate Road Boring Location — A-# Boring Designation
- Approximate Lazaretto Creek Bridge Boring Location — L-# Boring Designation

Graphic Scale 1"=100'

ECS

PROJECT: SR 26US 80 - Pavement Evaluation
Tybee Island, GA

PREPARED FOR: T. Y. Lin International, Inc.

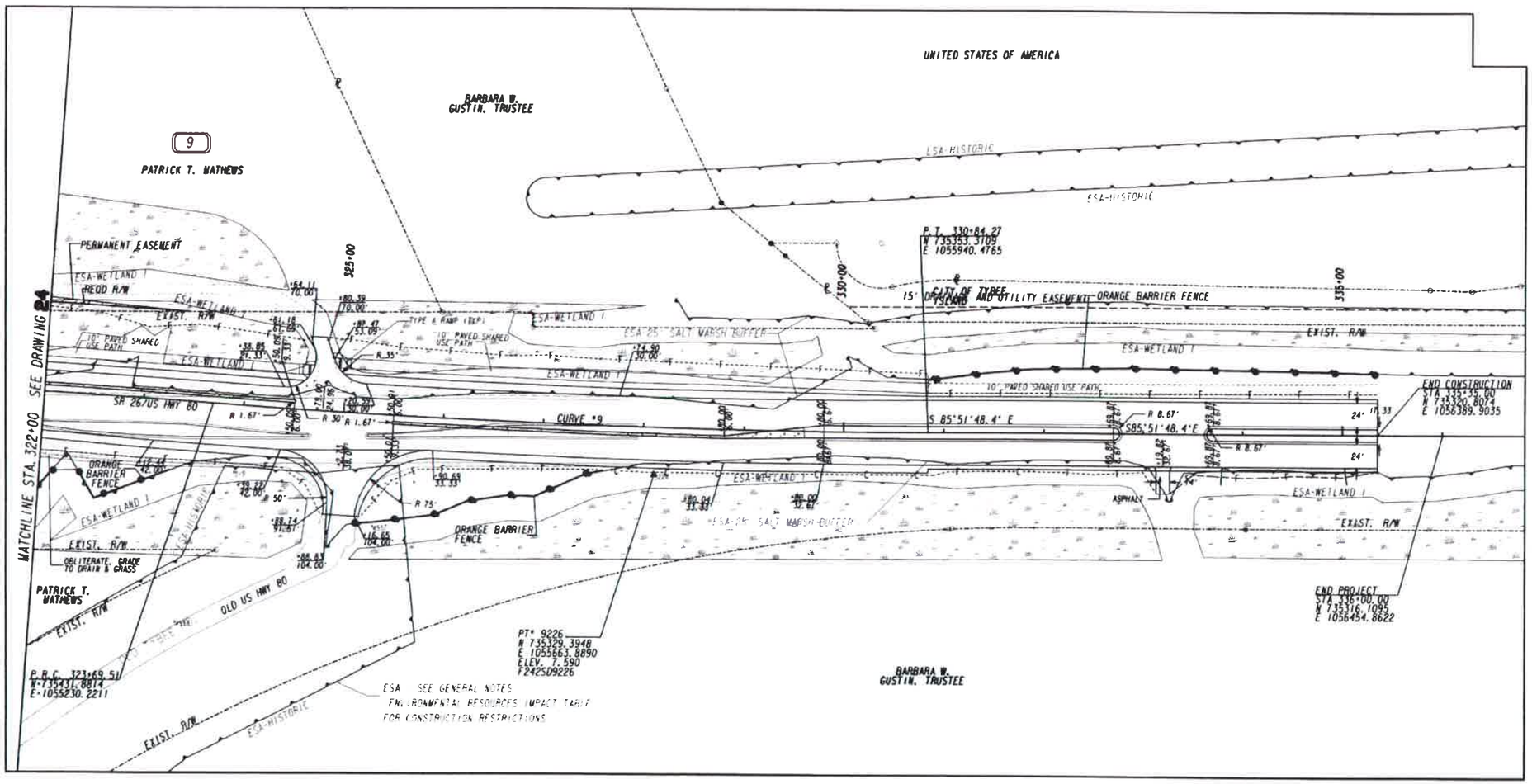
FIGURE NAME: BORING LOCATION PLAN

REFERENCE: Construction Plan By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=100'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.: 24



LEGEND

- Approximate Road Boring Location
- A-# Boring Designation

Graphic Scale 1"=120'

120 60 0 20

PROJECT:	SR 26US 80 - Pavement Evaluation Tybee Island, GA
PREPARED FOR:	T. Y. Lin International, Inc.
FIGURE NAME:	BORING LOCATION PLAN
REFERENCE:	Construction Plan By: Tylin International

REVISIONS	

JOB NO.	10:9273-A	
SCALE	1"=120'	
DRAWN	CLN	7/2018
APPR.	KJH	7/2018

Drawing No.:
25