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**PROJECT DESCRIPTION AND  
SUPPORT DOCUMENTATION FOR THE JOINT APPLICATION  
REGARDING THE  
SIDEWALK & PEDESTRIAN BRIDGE CROSSING CONSTRUCTION  
FOR THE  
CITY OF BRUNSWICK  
Glynn County, Georgia**

**1 –PROJECT DETAILS**

The City of Brunswick (*applicant*), is in the process of constructing new sidewalks adjacent to Johnson Street, Ocean Avenue, and Bon Air Avenue within Glynn County, Georgia (Appendix 1, Figure 1: *Project Vicinity*). The sidewalk is proposed to cross over a tidally influenced ditch connecting Bon Air Avenue to Glynn Middle School (Appendix 1, Figure 2: *Proposed Pedestrian Bridge and Sidewalk*). In order for the sidewalk to continue over the tidal ditch, a pedestrian bridge is being proposed to cross it. The Glynn Middle School was constructed in or around 2008. Since 2008, there has been an increasing need for a safe pedestrian access route from Glynn Middle School to the adjoining residential areas to the north (Appendix 1, Figure 2: *Proposed Pedestrian Bridge and Sidewalk*). The residential area includes many single-family homes that are within the school’s walking distance, however no serviceable access route currently exists that connects the two. Instead, pedestrians utilize unsafe routes in order to make this trip. For example, a worn-down foot path is evident coming out of the paved school entrance, heading north along a busy 2-lane road, Lanier Blvd, and turning west immediately after the ditch, running in between the ditch and the wood-line, and re-connecting with the southern end of Bon Air Avenue (Appendix 2, Photos 1-2). It should be noted that although portions of the proposed project are within the “jurisdiction” of the GADNR and U.S. Army Corps of Engineers, the work will be performed over the ditch and no fill or excavations are to occur within jurisdictional limits. The following information and attached materials are provided to pursue Coastal Marshlands Protection Act (CMPA) and Section 10 of the Rivers and Harbors Act permits.

**1.1 *Jurisdictional Determination:***

On the attached *Saltwater Wetland Exhibit* by EMC Engineering Services, Inc. (EMC), the “grey shaded” areas define the jurisdictional salt marsh limits delineated within the 2.241-acre delineation project limits by ESI staff in January 2017 (Appendix 3). This survey was verified by

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the GADNR according to the 10 August 2017 verification letter (Appendix 3). There are two (2) areas that would be subject to CMPA jurisdiction within the 2.241-acre delineation project limits (Appendix 3). There are no freshwater wetlands within the project boundary, however a Delineation Review of Aquatic Resources is included in this submittal and is located in Appendix 4.

The main area is a 0.023-acre (1,009 square foot) tidal ditch located south of Bon Air Avenue, running east/west and perpendicular to Lanier Blvd and then connected to adjacent marsh via box culverts under Lanier Blvd limits (Appendix 1, Figure 3: *Waterway Features*). In fact, these culverts appear to have been installed in or around 2012, therefore contributing more saltwater to what could have previously been a completely freshwater ditch. The proposed pedestrian bridge will cross this tidal ditch, which would typically be subject to state water buffer requirements, however since this is a linear transportation project, this 0.023-acre marsh is considered exempt from a buffer variance.

The second jurisdictional area is a 0.002-acre (97 square foot) salt marsh north of the ditch and adjacent to Bon Air Avenue (Appendix 3). The proposed pedestrian sidewalk will run adjacent to this salt marsh, but will not have any direct impacts on it. The sidewalk will have a minimum distance of no less than 9.95 feet between the edge of sidewalk to the salt marsh boundary (Appendix 5). Even though no impacts will be taking place within this 0.002-acre salt marsh, there would have to be an applicable 25-foot state water buffer measured from the jurisdictional limits. However, due to the method of construction, a drainage structure along the eastern side of the sidewalk, was necessary, and is depicted on the *Pedestrian Bridge Plan & Profile* (Appendix 5). Construction of this drainage structure makes this exempt from a buffer variance.

### 1.2 Construction Details:

The project engineer, EMC, proposed the attached engineering drawings, attached within Appendix 5, detailing the plan and profile view of the entire bridge project. All construction work related to this project will take place within the road and canal right of way (ROW), both managed and maintained by the City of Brunswick.

The proposed bridge crossing is located at the southern end of Bon Air Avenue. More specifically, as defined on the attached *Pedestrian Bridge Plan & Profile* by EMC Engineering

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Services, Inc. (EMC), the area outlined in a “dashed line” and labeled “limits of disturbed area within 50’ buffer” defines the work area for the pedestrian bridge construction within the 50-foot marshlands buffer (Appendix 5). The 40’ Aluminum bridge has a maximum width of 8 feet, with 42” high railings. Concrete footings are to be placed on either side of the ditch. On the northern side of the ditch, the aluminum bridge will first transition to a masonry wall which will gently slope back down to existing grade before it transitions to the concrete sidewalk. The dimensions of the masonry wall and concrete footing are to be 9.68 feet by 18 feet. A masonry wall is not needed on the southern side of the ditch, where the aluminum bridge will immediately transition into the concrete sidewalk. The stand-alone concrete footing on the southern side measured approximately 15.34 feet by 3 feet. All of these project details can be found on the attached *Pedestrian Bridge Plan & Profile* by EMC in Appendix 5.

Typical construction equipment, including heavy machinery will operate from the non-jurisdictional areas immediately adjacent to the jurisdictional line to accomplish the project. Most the construction work will take place from the Bon Air Avenue terminus, with a small portion of work taking place from the Glynn Middle School Property when needed. The pre-fabricated aluminum bridge will be set in place from the end of Bon Air Avenue. An example of this bridge approved and used on another CMPA Permit is pictured in Appendix 2 (Photos 3-4).

### 1.3 Waterway Details:

The proposed project is a bridge crossing, therefore by its nature, the entire project will span the entire +/-14.87-foot width of the tidal ditch, measured from the top of bank / mean high water (MLW) line of the waterway. The width the tidal ditch at mean low water (MLW), which has been observed to be completely dry, is the toe of slope displayed on the attached *Pedestrian Bridge Plan & Profile*, which is +/- 9.73 feet wide. The project is not directly connected to any navigable channel; however, the project site is approximately 800 feet west of an unnamed tributary to the Brunswick River, which is adjacent to Clubbs Creek and Plantation Creek. This 800-foot distance between the project area and the closest navigable water is made up of approximately 200 feet of the continuation of the subject ditch, 50 feet of road right of way for the 2-lane Lanier Blvd, 200 feet of road right of way for the 4-lane Ocean Highway, and 350 feet of vegetated marsh. The ditch originates approximately 450 feet upstream of the project area, and a

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box culvert is located approximately 200 feet downstream of the project area (Appendix 1, Figure 3: *Waterway Features*). Photos of the ditch taken from the proposed bridge crossing, facing both upstream and downstream, are displayed in Appendix 2, Photos 5-6.

1.4 *Proposed Impacts:*

The waterway will not be impacted at all except for the shading effect that the bridge will have. No work is proposed within any jurisdictional area; this exclusion applies to the absence of beams, supports, or piles. All equipment will remain in the uplands and the bridge will be set from the uplands.

Site Name	Modification Type	Habitat	Area of Impact (Acres)	Impact Type
Bridge	<ul style="list-style-type: none"> <li>Bridge footprint</li> </ul>	VM, Un-VJur	Shading Impact 129.45 sq ft.	<ul style="list-style-type: none"> <li>Shading</li> </ul>

\*\* VM = *Vegetated marsh*, Un-VJur = *Unvegetated Jurisdictional Areas*, MF = *Mud Flat*, LA = *Lagoon Area*

2 – SITE PLANS

2.1 *Marshland Component of Project:*

The marshlands component, which is defined as the part of the structure on or over an estuarine area, of this project is the 129.45-square foot area, displayed on the *Pedestrian Bridge Plan & Profile* located within Appendix 5. The entirety of this 129.45-square foot area is considered a tidal ditch, and is made up of some vegetative marsh plants and some unvegetated areas. It is approximately 8 feet in width and 17.26 feet in length. There are no currently existing features within the marshlands component, and the only proposed feature within the marshlands component is the aluminum slatted bridge itself, which will sit just above marsh vegetation, +/- 4.5 feet above MLW, and +/- 2.5 feet above MHW. No posts, beams, decking, supports, or piles will be placed within the marshlands component. However, the 129.45-square foot marshlands component of the project will result in permanent shading of 129.45-square feet of tidal ditch.

## 2.2 Upland Component of the Project:

The upland component, defined as any area located inland of the CMPA jurisdiction line that serve or augment the functioning of the marshlands component, will be the part of the aluminum bridge that extends landward over the jurisdictional line on both sides of the crossing. This will consist of an +/- 11.21-foot section of bridge north of the ditch and +/- 12.1 foot section of bridge south of the ditch. This is the only proposed feature located within the upland component, which is shown on the profile view on the attached *Pedestrian Bridge Plan & Profile* in Appendix 5. There are no existing features located within the upland component.

## 2.3 Marshlands Buffers for Upland Component:

The 50-marshland buffer, is displayed on the attached *Pedestrian Bridge Plan & Profile* (Appendix 5), measured inland from the coastal marshlands-uplands interface line. All existing features located within this buffer, applicable to the project, are also displayed on the attached *Pedestrian Bridge Plan & Profile*, Appendix 5. The main feature that currently exists within the marshlands buffer is the gravel road that connects the ends of Bon Air Avenue and Gordon Street. There are several permanent structures proposed within this buffer that are required to provide permanent access to the both the marshlands component, which is the aluminum bridge crossing over the tidal ditch, and the upland component, which is the remainder of the aluminum bridge span landward of the jurisdictional limits. Concrete footings are required within the marshlands buffer in order to safely anchor the aluminum bridge to the ground and to transition from the aluminum bridge to the concrete sidewalk. These footings and concrete sidewalks are needed on both sides of the ditch. In addition, a masonry wall is required on the northern side of the ditch due to the elevation difference, which allows for a gradual slope approaching the bridge which abides by requirements in the Americans with Disabilities Act (ADA). All forms of the above-mentioned structures that are proposed within the marshlands buffer, will allow pedestrian access for passive recreation through the marshlands buffer, especially since the purpose of a pedestrian bridge and sidewalk is for pedestrian access. There are no temporary structures proposed within the buffer. A typical Erosion, Sediment, and Pollution Control Plan will be in place according to normal Best Management Practices (BMPs), which will utilize silt fencing, hay bale check dams, outlet protection-stone, mulching, in addition to temporary and permanent grass seeding.

### 1.6 Storm water Management Plan of the Upland Component:

A storm water management plan is not required; however, it should be noted that the entire area of the upland component will be covered with the pervious aluminum slated bridge which will allow flow through as well as sheet flow off, into the surrounding natural ground. This is sufficient for storm water management involving a small project of this scale.

### 1.7 Impervious Surface Calculations of the Upland Component:

The entire area of the upland component is pervious; therefore, this section is not applicable. Please see photos 3 and 4 within appendix 2 displaying the pervious aluminum slated bridge.

## **3—DEED INFORMATION**

The majority of construction will take place within road and ditch right of ways maintained by the city of Brunswick, therefore no deed is available. However, a letter from the City of Brunswick is attached in Appendix 6, which explains that the city owns all right of ways. In addition, a small portion of work will take place within the Glynn Middle School property, which deed is also attached (Appendix 6).

## **4—ADJOINING LANDOWNERS**

A list of adjoining landowners and their addresses is attached in Appendix 7.

## **5 – ZONING AND LANDFILL/HAZARDOUS WASTE STATEMENT**

On 7 March 2017 and 9 March 2017, ESI prepared letters to contact the appropriate City of Brunswick officials concerning zoning and hazardous waste / landfills in the project areas (Appendix 8 & 9 respectively).

Additionally, Environmental Services, Inc. reviewed the Hazardous Site Index established by the Georgia Environmental Protection Division (See Appendix 9, Figure 1: *Glynn County Hazardous Site Inventory*). As a result of these efforts, it was determined that there are no known

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landfills or hazardous sites near the proposed project location (See Appendix 9, Figure 1: *Glynn County Hazardous Site Inventory*).

## **6 – DESCRIPTION OF ALTERNATIVES & MINIMIZATION OF IMPACT MEASURES**

### *2.1 Alternatives:*

The proposed project is the most direct and the safest route to provide pedestrian access from Glynn Middle School to the residential community north of the school.

One alternative was to route the access in a similar way to the unauthorized created worn-down access observed on site. This route is displayed in the attached Figure 4: *Project Alternatives* (Appendix 1). This route, is approximately 450 feet longer than the proposed route, and involves a 240-foot segment immediately adjacent to Lanier Blvd which is a busy road (Appendix 1, Figure 4: *Project Alternatives*). Not to mention, that constructing a pedestrian crossing along Lanier Blvd would also require crossing the same tidal ditch, and would therefore have similar impacts to the marsh as the proposed project. A second alternative route is similar to the above, but continues north along Lanier Blvd, until it can turn west onto Ocean Avenue, which would involve an approximate 900-foot segment immediately adjacent to Lanier Blvd (Appendix 1, Figure 4: *Project Alternatives*). Both of these alternatives were decided against because of the indirect route resulting in unsafe conditions, increased construction costs, and similar amount of tidal marsh impacts.

The proposed project will avoid the high vehicular traffic area along Lanier Blvd, thereby being much safer, will utilize the most direct path, which lowers construction and maintenance costs, and will not require any fill or excavations of tidal marsh, thereby reducing impacts. Any alternative to the proposed actions would not meet the desired safety requirements, therefore no feasible least damaging alternatives exist for the proposed project.

There has been one main minimization measure employed during the design phase of this project. The project team designed the crossing to limit permanent structures and construction activities within jurisdictional areas as much as possible, in which the final design plans was able to avoid any activity from taking place within jurisdictional areas. Not only will no permanent structures, such as earthen berms or piles, be placed within marsh jurisdiction, all activities related

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to construction will take place from the immediately adjacent upland. Although there will be temporary disturbance and permanent structures placed within the marshlands buffer, much minimization efforts have taken place regarding the marsh itself.

#### *2.1.b No-Build Alternative:*

A no-build alternative would result in pedestrian and driver safety continuing to be compromised. As stated above, the proposed bridge crossing is located proximate to an area that is already being used by pedestrians in an unsafe fashion. This currently utilized pedestrian footpath, which is depicted as Alternative 1 on the attached Figure 4 (Appendix 1), is unsafe for several reasons. First, it is located extremely close to overgrown ditches and a wooded area. A no-build alternative would continue to allow children who utilize this route to be exposed to environmental threats, including but not limited to snakes, alligators, chiggers, ticks, and mosquitoes, which is a big safety concern. In addition, children are also being subjected to heavy vehicular traffic on Lanier Blvd, which the no-build alternative would not remedy. Finally, there is another concern for human safety as relates to the driver safety, who would have to continue to diligently watch for pedestrians walking on the shoulder if the no-build alternative persisted. Given these issues, a no-build alternative does not exist for this project.

### **7 – EROSION AND SEDIMENTATION STATEMENT**

*Pursuant to CESAS Form 19; Question 16, B: 1,2,3.*

- 1) All activities will be performed in a manner to minimize turbidity into river.
- 2) No oils or other pollutants will be released from the proposed activities which will reach the river.
- 3) All work will be performed in a manner necessary to avoid interference with any legitimate water uses.

### **8 – PUBLIC INTEREST STATEMENT**

The proposed construction, outlined above, has been designed to meet the specific project purpose, while minimizing adverse impacts to the surrounding ecosystems wherever possible. This has been demonstrated during the alternative discussions above. The proposed bridge will

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prevent children walking from Glynn Middle School from using unsafe access routes, by providing a safe direct pathway from Glynn Middle School to the residential subdivision to the north. It will also increase driver safety, as it will remove pedestrians from the busy Lanier Blvd. During construction of the sidewalk and pedestrian, best management practices will be implemented.

*Pursuant to the Coastal Marshland Protection Act 12-5-286. (12)(g):*

- 1) *No unreasonable harmful obstruction to or alteration of the natural flow of navigational water within the affected area will arise as a result of the proposal.*

There are no practicable navigable waters within the affected area / project area. There are navigable waters downstream, however there are no proposed structures or activities within the tidal ditch, and all activities upslope will abide by Erosion and Sedimentation Plans, therefore there will be no unreasonable harmful obstruction to or alteration of the natural flow of navigational waters.

- 2) *No unreasonable harmful or increased erosion, shoaling of channels or stagnant areas of water will be created by this proposal.*

This project will not cause unreasonable harmful or increased erosion. An E&S Plan will be implemented during construction, and will include use of silt fencing and hay bale check dams, thereby limiting erosion. After construction is complete, temporary and permanent grass seeding will be utilized. There will be no shoaling of channels or areas of stagnant water as a result of this proposed project.

- 3) *The granting of a permit will not unreasonably interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, wildlife, or other resources, including but not limited to water and oxygen supply.*

The proposed project will employ Best Management Practices in accordance with local, state, and federal regulations. This project as proposed will not unreasonably interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, wildlife, or other resources, including but not limited to water and oxygen supply.

#### **6 – PURPOSE AND NEED STATEMENT**

The Purpose and Need Statement is to satisfy 404 (b) (1) Guidelines and public interest review (33 CFR 320.4). The purpose of the project is to construct a pedestrian bridge that will connect Glynn Middle School to the adjacent residential communities.

The need for the proposed action is to prevent children from using unsafe walking routes to and from the school and increase driver safety by removing these pedestrians from the Lanier Blvd shoulder. There is a clear need for this pedestrian bridge.

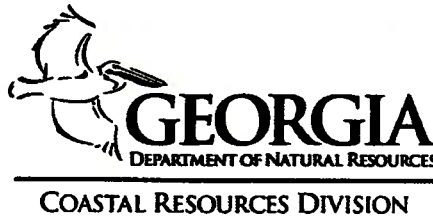
#### **7 - CULTURAL RESOURCE ASSESSMENT**

Pursuant to Section 106 of the National Historic Preservation Act, cultural resources should be considered while assessing a Federal action. As noted elsewhere in this application, the lands adjoining the project to the north consist of a series paved roads and single-family residential homes. The tidal feature being crossed is a man-made drainage feature. Located to the south is the recently developed Glynn Middle School. Therefore, the likelihood that cultural resources exist in these areas is low and impacts to cultural resources are not expected to occur as a result of this project.

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Marsh & Shore Mgt. Program



MARK WILLIAMS  
COMMISSIONER

A.G. 'SPUD' WOODWARD  
DIRECTOR

August 10, 2017

Kristen Deason  
101 B Estus Drive  
Savannah, GA 31404

**Re: Coastal Marshland Protection Act (CMPA) Jurisdictional Determination Line for the Glynn Middle School Sidewalk Connector Project, Tidal Ditch Adjacent to Lanier Boulevard, Glynn County, Georgia**

Dear Mrs. Deason,

Our office has received the survey plat, dated July 26, 2017, you completed for the City of Brunswick entitled "*Glynn Middle School Sidewalk Connector*". Based on my site inspection, this plat and survey generally depict the delineation of the marsh/upland boundary as required by the State of Georgia for jurisdiction under the authority of the Coastal Marshlands Protection Act of 1970. The delineation of the parcel is subject to change due to environmental conditions and legislative enactments. This jurisdiction line is valid for one year from date of the delineation. It will normally expire on January 26, 2018, but may be voided should legal and/or environmental conditions change.

This letter does not relieve you of the responsibility of obtaining other state, local or federal permission or authorization relative to the site. It is also incumbent upon you to contact your local government authority or the Environmental Protection Division of the Department of Natural Resources regarding any impacts of land within 25 feet of the established marshlands jurisdiction boundary. Authorization by the Coastal Marshlands Protection Committee or this Department is required prior to any construction or alteration in the marsh jurisdictional area.

We appreciate you providing us with this information for our records. Please contact me at (912) 264-7218 should you have any questions.

Sincerely,

Skye Stockel  
Coastal Permit Coordinator  
Marsh and Shore Management Program

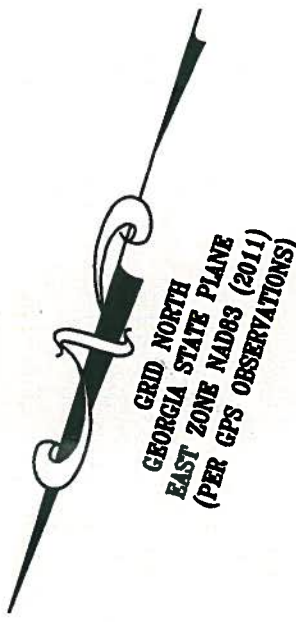
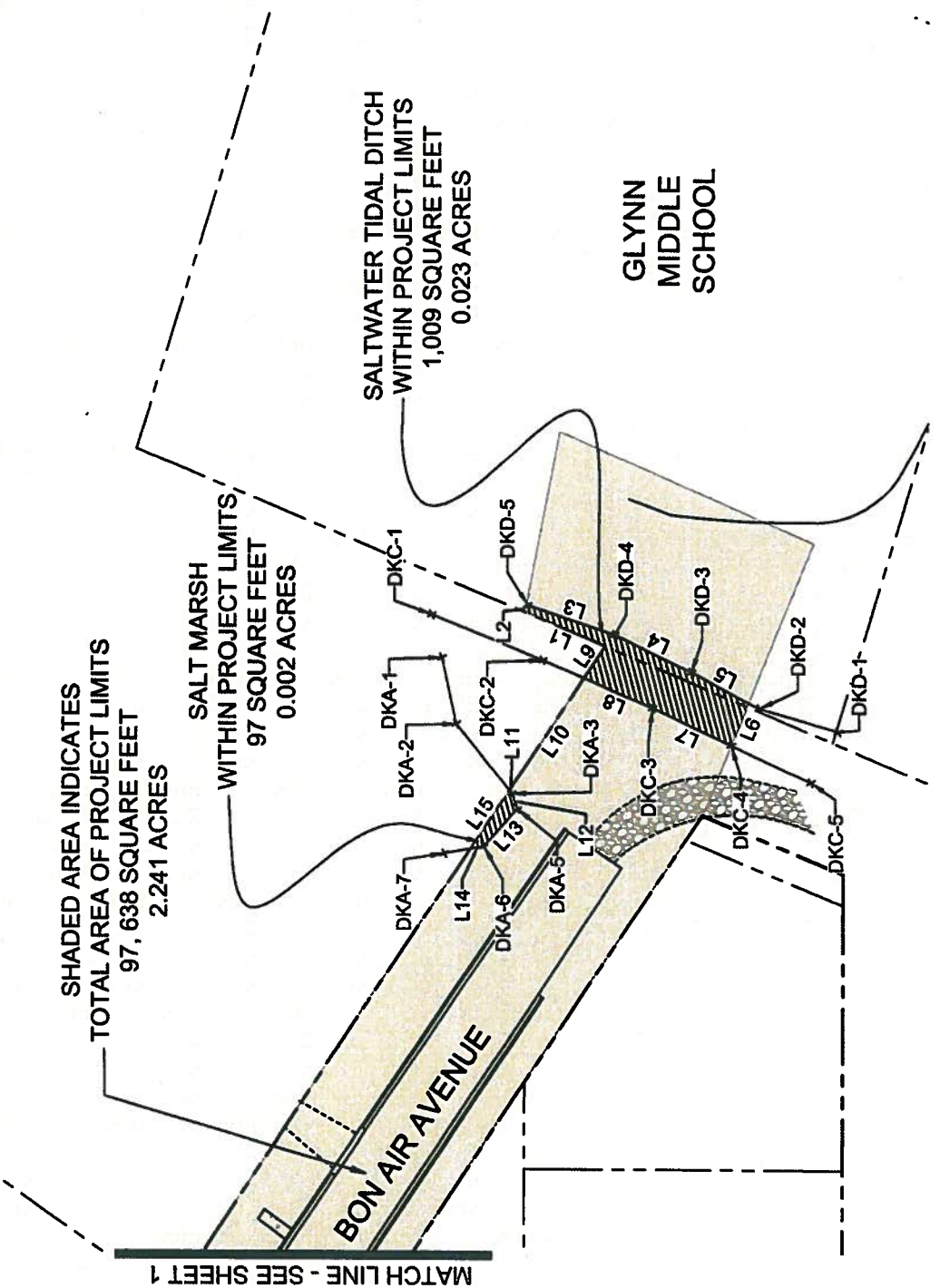
Enclosure: *Glynn Middle School Sidewalk Connector Survey*  
File: JDS20170029

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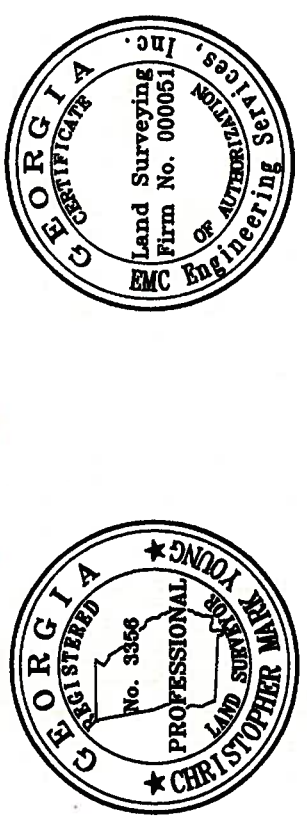
Marsh & Shore Mgt. Program

LINE TABLE		
LINE#	DIRECTION	LENGTH
L1	S85° 08' 20"E	30.05
L2	S06° 40' 15"E	2.37
L3	N89° 31' 56"W	32.28
L4	N82° 46' 52"W	29.27
L5	N80° 37' 25"W	22.26
L6	N04° 34' 53"E	15.64
L7	S83° 13' 26"E	29.96
L8	S85° 08' 20"E	25.79
L9	S16° 06' 33"W	13.06
L10	N16° 06' 33"E	45.85
L11	N57° 31' 38"W	1.39
L12	N37° 44' 59"W	5.62
L13	N24° 22' 17"E	17.33
L14	N62° 00' 45"E	4.72
L15	S16° 06' 33"W	24.14



**SURVEYOR'S CERTIFICATE**  
 TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS SURVEY WAS PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR TOPOGRAPHIC/SPECIAL SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-07-07 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS NOT TO BE RECORDED OR USED TO CONVEY PROPERTY.

*Christopher M. Young*  
 CHRISTOPHER M. YOUNG, RLS  
 GEORGIA L.S. REG. NO. 3356  
 DATE 07/26/17



- SURVEY NOTES**
1. BASIS OF BEARINGS AND HORIZONTAL CONTROL WAS OBTAINED UTILIZING GPS (GLOBAL POSITIONING SYSTEMS). THE EQUIPMENT USED TO OBTAIN THIS DATA WAS A CHAMPION TKO RECEIVER WITH A SCEPTER II DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A VERIZON JETPACK MIFI 6620L FROM THE eGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM A TRIMBLE VRS REAL TIME NETWORK OPERATED BY eGPS SOLUTIONS, INC.
  2. THIS PROJECT IS LOCATED IN ZONE AET3.0, A SPECIAL FLOOD HAZARD AREA PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP NO. 13127C, PANEL 0238F; EFFECTIVE DATE: SEPTEMBER 06, 2006.
  3. THE TERM "CERTIFICATION" AS USED IN BOARD RULE 180-6-.09(2) AND (3) AND RELATING TO PROFESSIONAL SURVEYING SERVICES AS DEFINED IN O.C.G.A. 43-15-2(6) AND (11) SHALL MEAN A SIGNED STATEMENT BASED UPON FACTS AND KNOWLEDGE KNOWN TO THE REGISTRANT AND IS NOT A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED.
  4. THIS SURVEY IS VALID ONLY IF PRINT HAS THE ORIGINAL SIGNATURE OF THE SURVEYOR.
  5. THE WETLAND DELINEATION FLAGS AS SHOWN HEREON WERE PLACED BY KRISTEN DEASON, ENVIRONMENTAL SERVICES, INC. (ESI) OF SAVANNAH, GA. ON JANUARY 12, 2017.
  6. ALL WETLANDS ARE UNDER THE JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS AND/OR THE STATE OF GEORGIA DEPARTMENT OF NATURAL RESOURCES. LOT OWNERS ARE SUBJECT TO PENALTY BY LAW FOR DISTURBANCE TO THESE PROTECTED AREAS WITHOUT PROPER PERMIT APPLICATION AND APPROVAL.

NO.	REVISION DESCRIPTION	BY	DATE

Marsh & Shore Mgt. Program  
 GABNR  
 SEP 27 2017

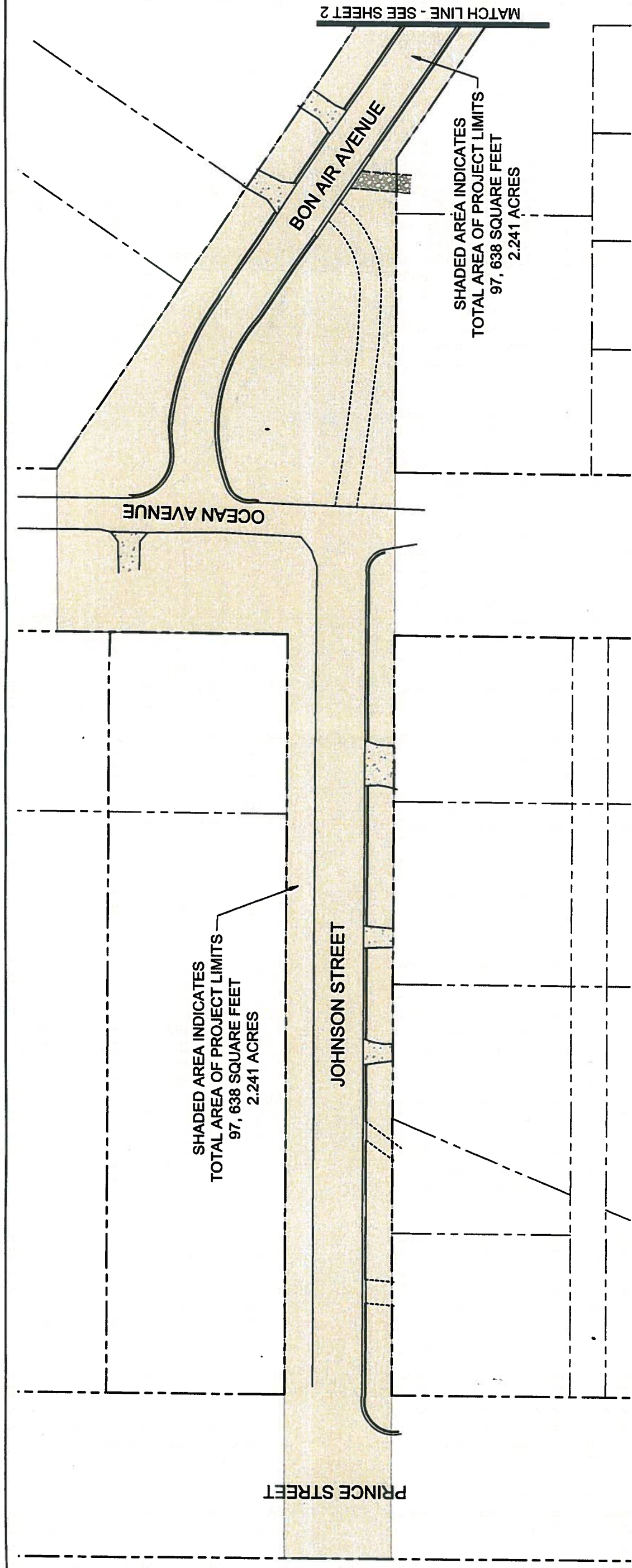
**EMC ENGINEERING SERVICES, INC.**  
 504 Gloucester Street  
 Brunswick, GA 31520  
 P: (912) 265-1838  
 F: (912) 233-4590  
 www.emc-eng.com  
 Email: emc@emc-eng.com

ENVIRONMENTAL MARINE CIVIL  
 OFFICE LOCATIONS: SAVANNAH, STAFFSBORO, AND VALDOSTA  
 ATLANTA, ALBUQUERQUE, BIRMINGHAM, BRUNSWICK, COLUMBUS, GAITHERSBURG, GREENSBORO, HUNTSVILLE, JEFFERSONVILLE, KANSAS CITY, MOBILE, NASHVILLE, RICHMOND, TAMPA, WASHINGTON, DC

SALTWATER WETLAND EXHIBIT  
 GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR  
 26TH GA MILITIA DISTRICT  
 BRUNSWICK, GLYNN COUNTY, GEORGIA  
 Prepared for:  
 CITY OF BRUNSWICK

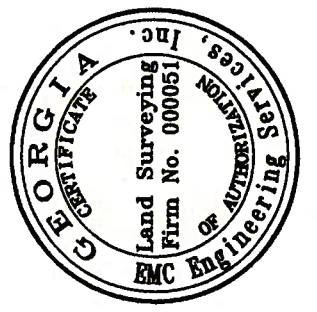
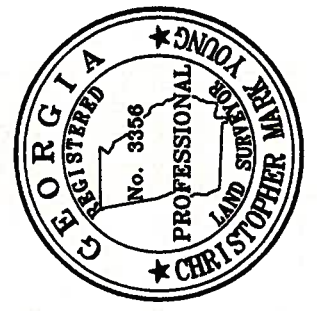
PROJECT NO.:	17-5001
DRAWN BY:	MA
DESIGNED BY:	MA
SURVEYED BY:	JNH
SURVEY DATE:	01/29/2017
CHECKED BY:	MA
SCALE:	AS SHOWN
DATE:	01/29/2017

SHEET 1 OF 2



**SURVEYOR'S CERTIFICATE**  
 TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS SURVEY WAS PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR TOPOGRAPHIC/SPECIAL SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-07-.07 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS NOT TO BE RECORDED OR USED TO CONVEY PROPERTY.

*Christopher M. Young*  
 CHRISTOPHER M. YOUNG, RLS  
 GEORGIA L.S. REG. NO. 3356  
 DATE 07/26/17



GRID NORTH  
 GEORGIA STATE PLANE  
 EAST ZONE NAD83 (2011)  
 (PER GPS OBSERVATIONS)

- SURVEY NOTES**
1. BASIS OF BEARINGS AND HORIZONTAL CONTROL WAS OBTAINED UTILIZING GPS (GLOBAL POSITIONING SYSTEMS). THE EQUIPMENT USED TO OBTAIN THIS DATA WAS A CHAMPION TKO RECEIVER WITH A SCEPTER II DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A VERIZON JETPACK MIFI 6620L FROM THE eGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM A TRIMBLE VRS REAL TIME NETWORK OPERATED BY eGPS SOLUTIONS, INC.
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**Appendix 8**

*Zoning Letters*

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Marsh & Shore Mgt. Program

ENVIRONMENTAL SERVICES, INC.

101 B Estus Drive  
Savannah, Georgia 31404

Phone 912-236-4711 \* Fax 912-236-3668

[www.environmentalservicesinc.com](http://www.environmentalservicesinc.com)

9 March 2017

Ms. Brenda Daiss  
Planning, Zoning, Building & Codes Director  
Planning & Zoning  
601 Gloucester Street  
Brunswick, GA 31520

**RE: City of Brunswick  
Sidewalk & Pedestrian Bridge Crossing Construction  
Zoning Compliance Statement  
Glynn County, Georgia**

**ESI#: ES16007.00**

Dear Ms. Daiss:

Environmental Services, Inc., as agent for the City of Brunswick, is submitting a permit application to the Coastal Marshlands Protection Committee for a Coastal Marshlands Protection Act (CMPA) permit for the construction of a sidewalk adjacent to Johnson Street, Ocean Avenue and Bon Air Avenue, in addition to a pedestrian bridge crossing over a tidally influenced ditch within Glynn County, Georgia (See attached Figures 1 & 2, and EMC Conceptual Sidewalk Route Sheets 1-2).

The proposed activities consist of sidewalk construction entirely within uplands, in addition to a pedestrian bridge over a tidally influenced ditch which is subject to CMPA jurisdiction. Once complete, the pedestrian bridge crossing over the tidal ditch will serve as a connection between Glynn Middle School to the south and the adjoining residential community to the north.

As part of the application process, we must include a statement from the local governing authorities stating that the proposed project is in compliance with any zoning laws. Additionally, a copy of the most current version of the plans must be signed and dated by the local zoning authority. Please find the above referenced Conceptual Sidewalk Route Sheets 1-2 prepared by EMC and dated 2/28/2017.

At your earliest convenience, please provide written verification that the proposed project is consistent with local zoning regulations. Additionally, please review the attached conceptual plans, sign and date each in the lower right hand corner and return to ESI for processing to City of Brunswick.

If you should have any questions or require additional information, please do not hesitate to call. In advance, we thank you for your timely review of this request.

Sincerely yours,  
ENVIRONMENTAL SERVICES, INC.



Kristen Stauff  
Senior Scientist

**GA DNR**

**SEP 27 2017**

Marsh & Shore Mgt. Program

KS/al  
ESI16007.00 COB Glynn County Middle School - Zoning Compliance Let.docx  
(March 2017)

cc: Mr. Kip Goodbread, EMC Engineering Services, Inc.

NO.	REVISION DESCRIPTION	BY	DATE

**GADIR**

**SEP 27 2017**

Marsh & Sheehy, Inc. **gt. Program**



www.811.com  
Call before you dig

GRAPHIC SCALE 1" = 20'

**EMC ENGINEERING SERVICES, INC.**

504 Gloucester Street  
Brunswick, GA 31520  
Tel: (912) 265-8538  
Fax: (912) 233-4580  
www.emc-eng.com  
Brunswick@emc-eng.com

CIVIL  
MARINE  
ENVIRONMENTAL

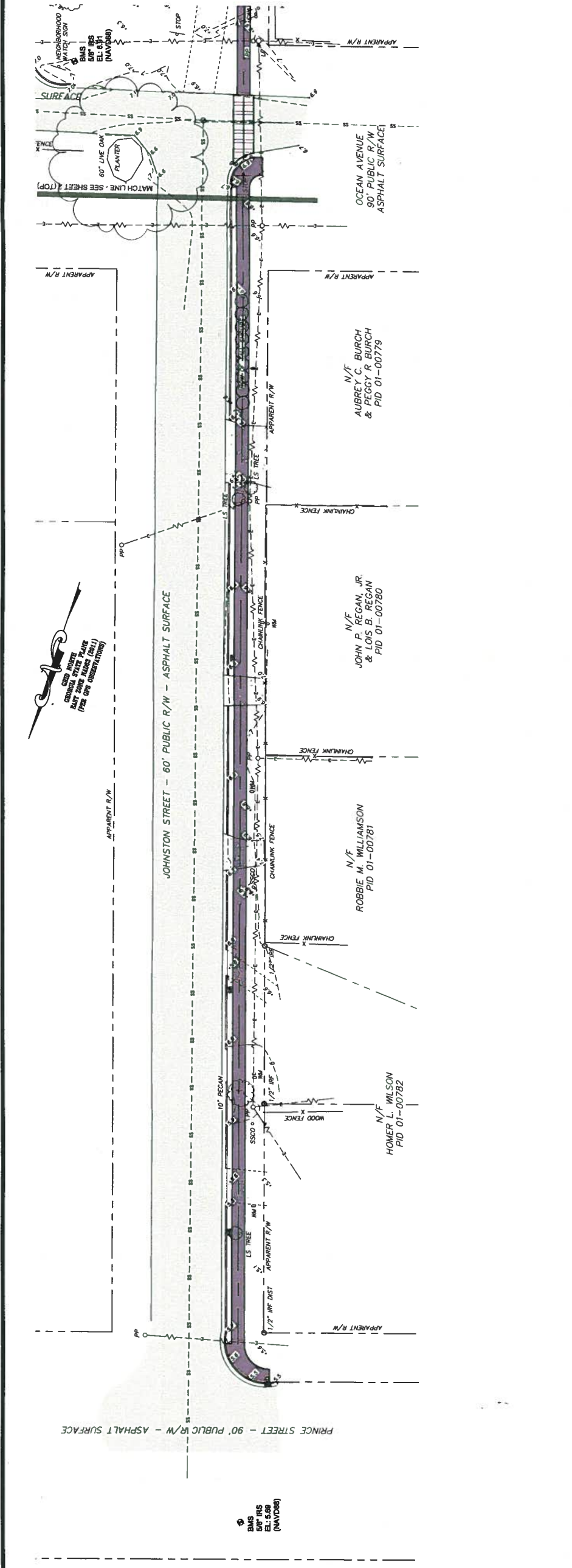
OFFICE LOCATIONS: ALBANY, SAVANNAH, STATESBORO, AND VALDOSTA, GEORGIA

**CONCEPTUAL SIDEWALK ROUTE**

26TH GA MILITIA DISTRICT  
BRUNSWICK, GEORGIA  
Prepared for:  
**CITY OF BRUNSWICK**

PROJECT NO.:	17-5801
DESIGNED BY:	EMC
DRAWN BY:	EMC
SURVEYED BY:	EMC
CHECKED BY:	EMC
DATE:	02/28/2017

**SHEET 1 OF 2**



**LEGEND**

Symbol	Description
○	BENCHMARK SET
○	OPEN TOP PIPE FOUND
○	IRON REBAR FOUND
○	5/8" IRON REBAR SET #/CAP
○	POWER POLE
○	CUT WIRE ANCHOR
○	LIGHT POLE
○	SPOT ELEVATION
○	SINGLE POLE SIGN
○	SAINTARY SEWER GLENDIT
○	SAINTARY SEWER MANHOLE
○	STORM SEWER MANHOLE
○	MAILBOX
○	WATER METER
○	WATER VALVE
○	FIRE HYDRANT
○	ROW OR FORMERLY ROW
○	RIGHT OF WAY
---	OVERHEAD POWER LINE
---	UNDERGROUND WATER LINE
---	STORM SEWER LINE
---	SAINTARY SEWER LINE
---	ASPHALT SURFACE
---	CONCRETE SURFACE
---	GRAVEL SURFACE
---	DIRT SURFACE

**GENERAL NOTES**

1. ALL FIELD BOOK REFERENCES SHOWN HEREON ARE RECORDED IN THE CLERK OF SUPERIOR COURT'S OFFICE OF QUINN COUNTY, GEORGIA.
2. THE SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE.
3. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES WHICH ARE NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. OBTAINED UTILITIES INFORMATION IS FOR INFORMATION ONLY. THE SURVEYOR DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION. THE DATA WAS A CHAMPION TO RECEIVER WITH A SCEPTER II DATA COLLECTOR. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE DATA FROM THE MAPS SOLUTIONS BEING THAT THE SURVEYOR HAS USED WAS RTK CORRECTED MEASUREMENTS FROM A TRIMBLE VRS REAL TIME NETWORK. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE DATA FROM THE MAPS SOLUTIONS BEING THAT THE SURVEYOR HAS USED WAS RTK CORRECTED MEASUREMENTS FROM A TRIMBLE VRS REAL TIME NETWORK.
4. THIS PROJECT IS LOCATED IN ZONE 18Q UTM COORDINATE SYSTEM. SPECIAL FLOOD HAZARD INSURANCE RATE MAP NO. 13127C, PANEL 0238F, EFFECTIVE DATE: 08/11/09.
5. STRUCTURES VISIBLE ON THE DATE OF SURVEY ARE SHOWN HEREON.
6. LOCATIONS ARE ACCURATE ONLY WHERE DIMENSIONED.
7. THE UTILITIES SHOWN ARE PER THE LOCATION OF POLES, MANHOLES, AND OTHER MARKERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. EITHER IN SERVICE OR NOT IN SERVICE. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION. THE SURVEYOR HAS CONDUCTED A VISUAL CHECK OF THE INFORMATION AVAILABLE TO HIM.
8. NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF EMC ENGINEERING SERVICES, INC.
9. THE TERM "CERTIFICATION" AS USED IN BOARD RULE 180-6-.06(2) AND (3) AND RELATING TO PROFESSIONAL SURVEYING SERVICES AS DEFINED IN O.C.G.A. 43-15-266 AND (11) SHALL MEAN A BONDED STATEMENT BASED ON THE SURVEYOR'S BEST KNOWLEDGE AND BELIEF AND IS NOT A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED, AND IS NOT A GUARANTEE OF ACCURACY.
10. THIS SURVEY IS VALID ONLY IF PRINT HAS THE ORIGINAL SIGNATURE OF THE SURVEYOR.

PRINCE STREET - 90' PUBLIC R/W - ASPHALT SURFACE

JOHNSTON STREET - 60' PUBLIC R/W - ASPHALT SURFACE

OCEAN AVENUE - 90' PUBLIC R/W - ASPHALT SURFACE

BMS  
56° 18'S  
EL. 5.88  
(NAVDS83)



NO.	REVISION DESCRIPTION	BY	DATE

GA DNR

SEP 27 2017

Marsh & Shore Mgmt. Program



**EMC ENGINEERING SERVICES, INC.**

504 Gloucester Street  
Brunswick, GA 31520  
Phone: (912) 265-7936  
Fax: (912) 233-4500  
www.emc-eng.com

ENVIRONMENTAL MARINE CIVIL

OFFICE LOCATIONS: ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH, STATESBORO, AND WALDSTON

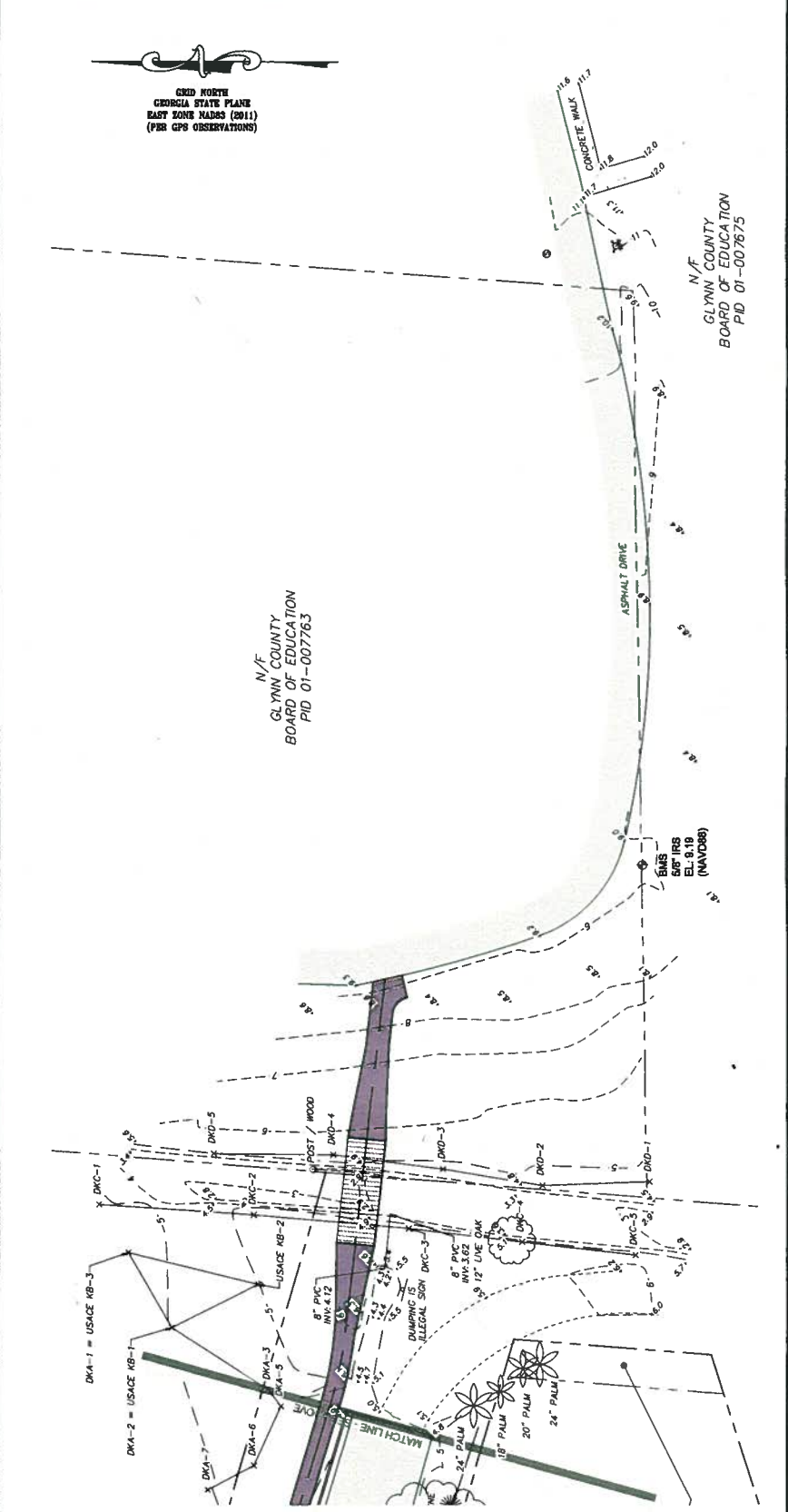
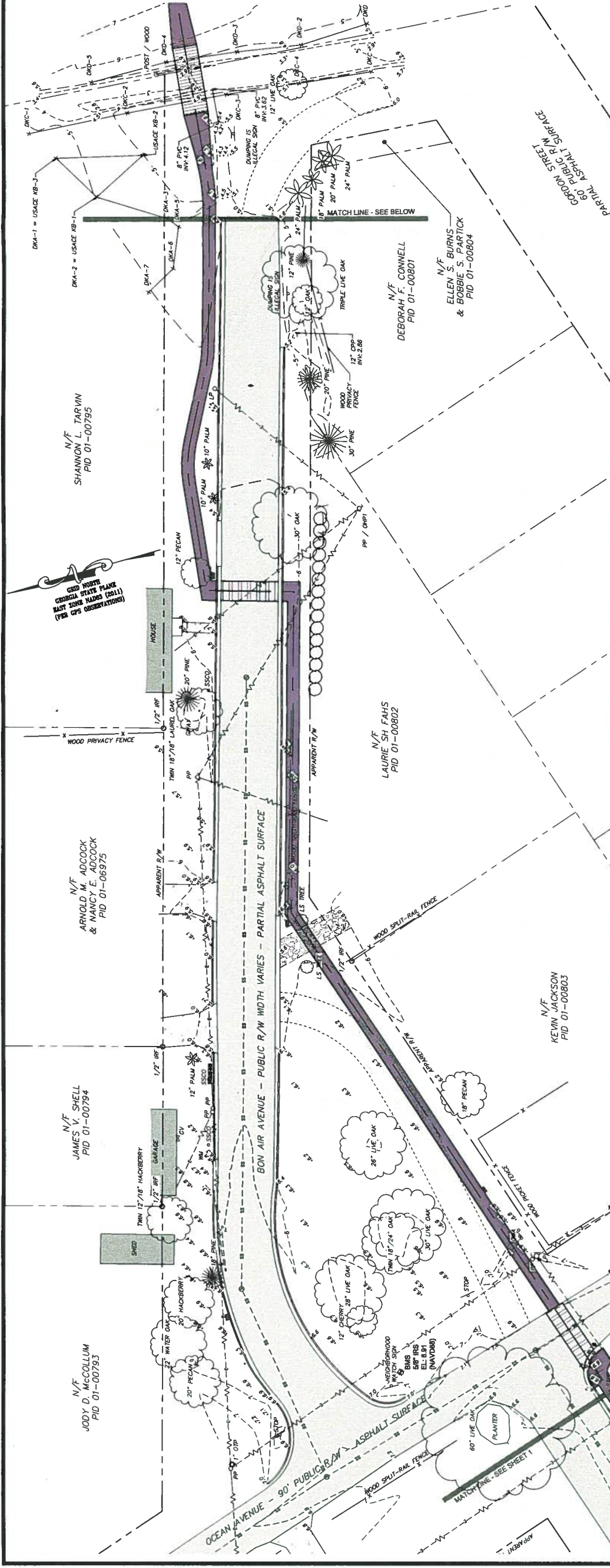
**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**

26TH GA MILITIA DISTRICT  
BRUNSWICK, GLYNN COUNTY, GEORGIA

Prepared for:  
CITY OF BRUNSWICK

PROJECT NO: 17-5001  
DRAWN BY: CMY  
DESIGNED BY: KFS  
SURVEYED BY: JMH  
SURVEY DATE: 01/20/2017  
CHECKED BY: TWH  
SCALE: 1" = 20'  
DATE: 02/28/2017

SHEET 2 OF 2



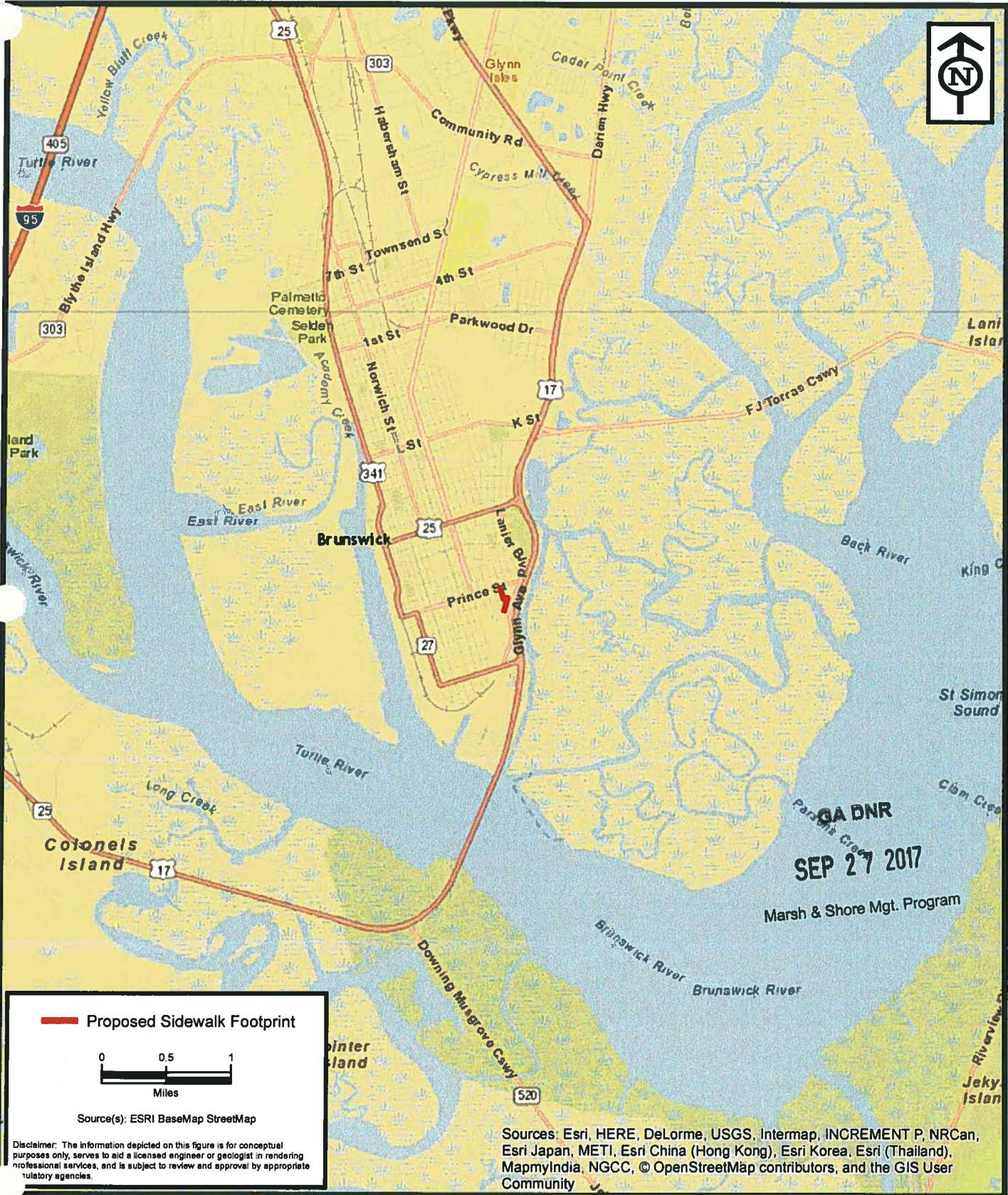
**LEGEND**

⊕ BMS	BENCHMARK SET
○	OPEN TOP PIPE FOUND
□	IRON REBAR FOUND
⊕	5/8" IRON REBAR SET W/CAP
⊕	POWER POLE
⊕	GUY WIRE ANCHOR
⊕	LIGHT POLE
⊕	SPOT ELEVATION
⊕	SINGLE POLE SIGN
⊕	RIGHT OF WAY
⊕	SANITARY SEWER CLEANOUT
⊕	SANITARY SEWER MANHOLE
⊕	STORM SEWER MANHOLE
⊕	MAILBOX
⊕	WATER METER
⊕	WATER VALVE
⊕	FIRE HYDRANT
⊕	N/OV OR FORMERLY
⊕	OVERHEAD POWER LINE
⊕	UNDERGROUND WATER LINE
⊕	STORM SEWER LINE
⊕	SANITARY SEWER LINE
⊕	ASPHALT SURFACE
⊕	CONCRETE SURFACE
⊕	GRAVEL SURFACE
⊕	DIRT SURFACE

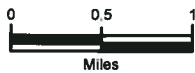
**GENERAL NOTES**

1. ALL DEED BOOK REFERENCES SHOWN HEREIN ARE RECORDED IN THE CLERK OF SUPERIOR COURT'S OFFICE OF GLYNN COUNTY, GEORGIA.
2. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE ABSTRACT OF TITLE SUBJECT AND ADJACENT PROPERTY OWNERS DEED REFERENCES WERE PROVIDED BY EMC ENGINEERING SERVICES, INC. ARE NOT GUARANTEED.
3. BACKSIGHTS AND FORESIGHTS WERE OBTAINED UTILIZING GPS (GLOBAL POSITIONING SYSTEMS). THE EQUIPMENT USED TO OBTAIN THIS DATA WAS A CHAMPION T10 RECEIVER WITH A SCHEPHER I DATA COLLECTOR. THE GPS SOLUTIONS FROM THE NETWORK, THE TECHNIQUE USED WAS RTK. CORRECTED MEASUREMENTS FROM A TRIMBLE VRS REAL TIME NETWORK.
4. THIS PROJECT IS LOCATED IN ZONE AE13.0, A SPECIAL FLOOD HAZARD AREA PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP NO 13127C, PANEL 02387, EFFECTIVE DATE: SEPTEMBER 06, 2006.
5. LOCATIONS ARE ACCURATE ONLY WHERE DIMENSIONED.
6. STRUCTURES VISIBLE ON THE DATE OF SURVEY ARE SHOWN HEREIN.
7. VALUES, PREDESTALS, ETC. AND INFORMATION PROVIDED BY UTILITY PERSONNEL. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THE INFORMATION AVAILABLE.
8. NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN ANY PART WITHOUT THE WRITTEN PERMISSION OF EMC ENGINEERING SERVICES, INC.
9. THE TERM "CERTIFICATION" AS USED IN BOARD RULE 180-6-.09(2) AND (3) AND RELATING TO PROFESSIONAL SURVEYING SERVICES AS DEFINED IN BOARD RULE 180-6-.09(2) AND (3) IS NOT APPLICABLE TO THIS PROJECT. THE SURVEYOR DOES NOT GUARANTEE OR WARRANT, EITHER EXPRESSED OR IMPLIED, THAT THIS SURVEY IS VALID ONLY IF PRINT HAS THE ORIGINAL SIGNATURE OF THE SURVEYOR.

FIELD WORK COMPLETED ON: JANUARY 30, 2017



Proposed Sidewalk Footprint



Source(s): ESRI BaseMap StreetMap

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



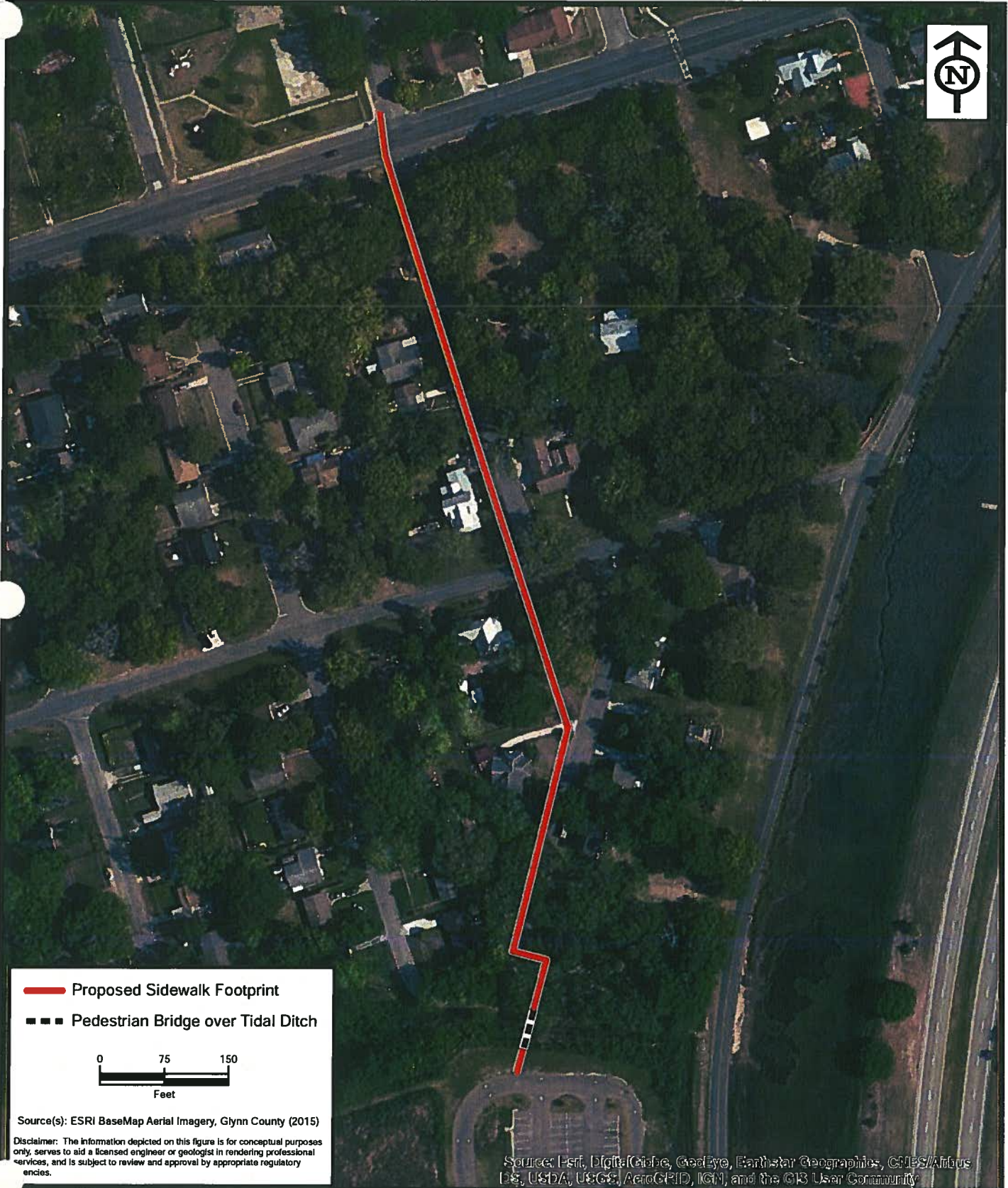
**ENVIRONMENTAL SERVICES, INC.**

101 B Estus Drive  
Savannah, GA 31404  
(912) 236-4711  
(912) 236-3888 Fax

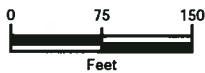
[www.environmentalservicesinc.com](http://www.environmentalservicesinc.com)

Project Vicinity  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project: ES16007.00  
Date: Jan. 2017  
Drwn/Chkd: KHS/MJD  
Figure: 1



- Proposed Sidewalk Footprint
- Pedestrian Bridge over Tidal Ditch



Source(s): ESRI BaseMap Aerial Imagery, Glynn County (2015)

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**ENVIRONMENTAL SERVICES, INC.**

101 B Estus Drive  
Savannah, GA 31404  
(912) 236-4711  
(912) 236-3668 Fax

[www.environmentalservicesinc.com](http://www.environmentalservicesinc.com)

Aerial (2015)  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project:	ES16007.00
Date:	Jan. 2017
Drwn/Chkd:	KHS/MJD
Figure:	2

# CITY OF BRUNSWICK

601 Gloucester Street \* Post Office Box 550 \* Brunswick \* Georgia \* 31520-0550 \* (912) 267-5500 \* Fax (912) 267-5549

Cornell L. Harvey, Mayor  
Julie T. Martin, Mayor Pro Tem  
John A. Cason III, Commissioner  
Felicia M. Harris, Commissioner  
Vincent T. Williams, Commissioner

City Attorney  
Brian D. Corry

City Manager  
James D. Drumm

March 16, 2017

Ms. Kristen Stauff  
Senior Scientist  
Environmental Services, Inc.  
101 B Estus Drive  
Savannah, Georgia 31404

RE: City of Brunswick  
Sidewalk & Pedestrian Bridge Crossing Construction  
Zoning Compliance Statement  
Glynn County, Georgia  
ESI#: ES16007.00

Dear Ms. Stauff,

I have reviewed the submitted plans for the construction of a sidewalk adjacent to Johnson Street, Ocean Avenue, and Bon Air Avenue in addition to a pedestrian bridge crossing over a tidally influenced ditch within the City of Brunswick, Georgia.

The proposed activities are consistent with Brunswick Code and all local zoning regulations. The proposal is also consistent with our intension of creating safe routes to schools throughout the City. Additionally, I have reviewed the conceptual plans and signed and dated each in the lower right hand corner.

Sincerely,



Brenda L White Daiss  
Director  
Planning, Development & Codes Department

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program

NO	REVISION DESCRIPTION	BY	DATE

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program



Georgia 811  
Call before you dig  
www.georgia811.com

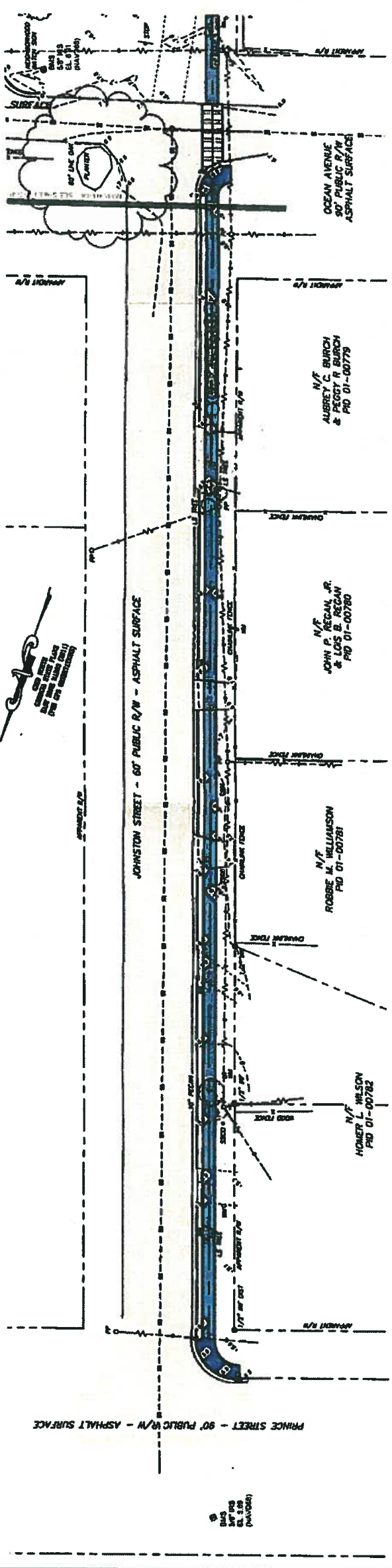
**EMC ENGINEERING SERVICES, INC.**  
 804 Chatham Street  
 Brunswick, GA 31520  
 Phone: (912) 265-7500  
 Fax: (912) 224-4500  
 www.emc-eng.com

OFFICE LOCATIONS: ATLANTA, AUGUSTA, BRUNSWICK, COLLETSVILLE, SAVANNAH, STATESBORO, WADSWORTH

**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**  
 26TH GA MILITIA DISTRICT  
 BRUNSWICK, GLYNN COUNTY, GEORGIA  
 Prepared for  
 CITY OF BRUNSWICK

PROJECT NO	17-2001
DRAWN BY	CHY
DESIGNED BY	SNQ
SURVEYED BY	RECH
SUPPLIED BY	STC/ML
CHECKED BY	LJ-20
SCALE	1" = 30'
DATE	02/02/2017

SHEET 1 OF 2



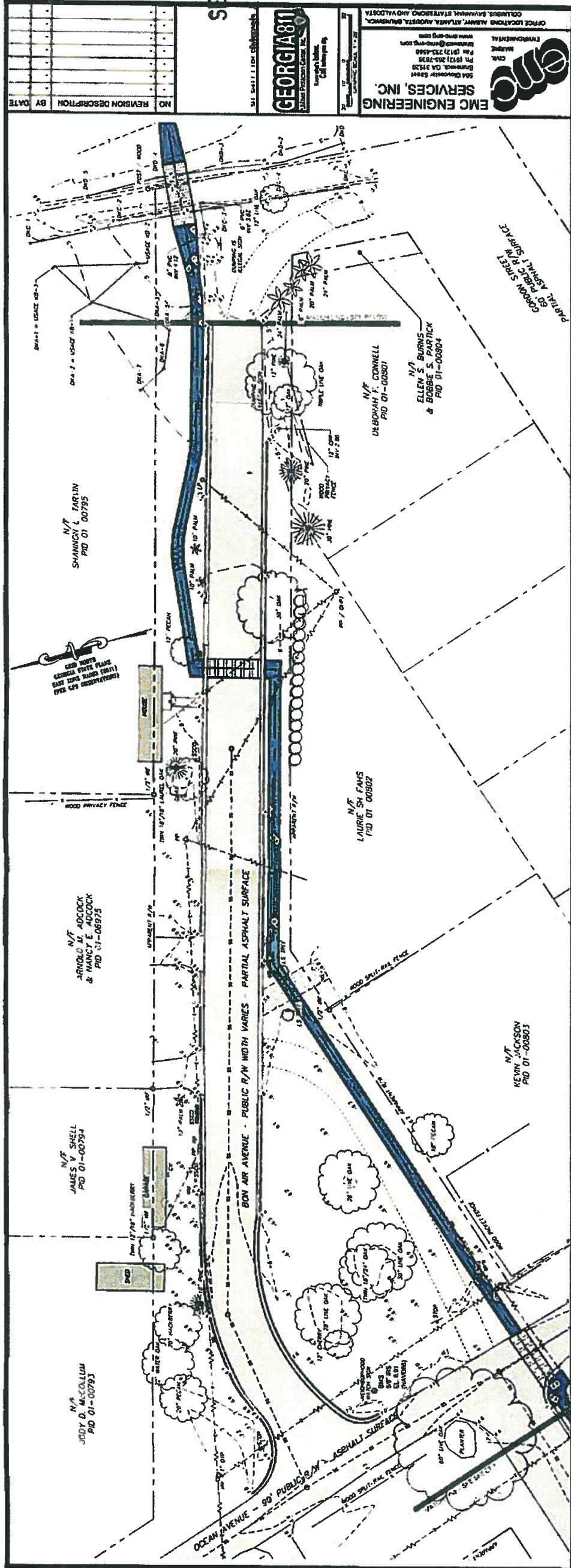
**GENERAL NOTES**

1. ALL NOTES AND DIMENSIONS SHOWN ARE UNLESS OTHERWISE NOTED.  
 2. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ASSESSMENT OF THE PROJECT AND ANY UNUSUAL PROPERTY CONDITIONS OR SURVEYING OBSTACLES AS TO ACCURACY OF DIMENSIONS.  
 3. THE DATA AND DIMENSIONS SHOWN WERE OBTAINED FROM A SURVEY CONDUCTED BY THE ENGINEER AND HIS STAFF ON THE DATE SHOWN.  
 4. THIS PROJECT IS LOCATED IN THE CITY OF BRUNSWICK, GEORGIA.  
 5. THE PROJECT IS SUBJECT TO ALL CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND ORDINANCES.  
 6. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.  
 7. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF ANY INFORMATION PROVIDED BY ANY OTHER PARTY.  
 8. THE ENGINEER'S LIABILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.  
 9. THE ENGINEER'S LIABILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.  
 10. THE ENGINEER'S LIABILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.

**LEGEND**

①	EXISTING	SAFETY ZONE BOUNDARY	①	EXISTING	PAVED SIDEWALK
②	NEW	SAFETY ZONE BOUNDARY	②	NEW	PAVED SIDEWALK
③	NEW	SAFETY ZONE BOUNDARY	③	NEW	PAVED SIDEWALK
④	NEW	SAFETY ZONE BOUNDARY	④	NEW	PAVED SIDEWALK
⑤	NEW	SAFETY ZONE BOUNDARY	⑤	NEW	PAVED SIDEWALK
⑥	NEW	SAFETY ZONE BOUNDARY	⑥	NEW	PAVED SIDEWALK
⑦	NEW	SAFETY ZONE BOUNDARY	⑦	NEW	PAVED SIDEWALK
⑧	NEW	SAFETY ZONE BOUNDARY	⑧	NEW	PAVED SIDEWALK
⑨	NEW	SAFETY ZONE BOUNDARY	⑨	NEW	PAVED SIDEWALK
⑩	NEW	SAFETY ZONE BOUNDARY	⑩	NEW	PAVED SIDEWALK

*Brenda L White Driss - C. Brunswick*  
 09/10/17



**EMC SERVICES, INC.**

4844 DeSoto Drive  
Buckhead, GA 30326  
Phone: (404) 252-1500  
Fax: (404) 252-1501  
www.emc-eng.com

Office Locations: Albany, Atlanta, Augusta, Brunswick, Columbus, Savannah, Tallahassee, Valdosta

**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**

2671 GA MILITARY DISTRICT  
BRUNSWICK, GLYNN COUNTY, GEORGIA

Prepared for:  
CITY OF BRUNSWICK

PROJECT NO: 17-000  
DRAWN BY: JES  
DESIGNED BY: JES  
SURVEY DATE: 07/20/17  
CHECKED BY: JES  
SCALE: 1" = 20'  
DATE: 02/20/2017

SHEET **2**  
OF 2

**EMC SERVICES, INC.**

4844 DeSoto Drive  
Buckhead, GA 30326  
Phone: (404) 252-1500  
Fax: (404) 252-1501  
www.emc-eng.com

Office Locations: Albany, Atlanta, Augusta, Brunswick, Columbus, Savannah, Tallahassee, Valdosta

**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**

2671 GA MILITARY DISTRICT  
BRUNSWICK, GLYNN COUNTY, GEORGIA

Prepared for:  
CITY OF BRUNSWICK

PROJECT NO: 17-000  
DRAWN BY: JES  
DESIGNED BY: JES  
SURVEY DATE: 07/20/17  
CHECKED BY: JES  
SCALE: 1" = 20'  
DATE: 02/20/2017

SHEET **2**  
OF 2

**GENERAL NOTES**

1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED.
2. THE SURVEY WAS CONDUCTED BY EMC SERVICES, INC. ON BEHALF OF THE CITY OF BRUNSWICK. THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE GEORGIA SURVEYING ACT AND THE GEORGIA PROFESSIONAL SURVEYING REGULATIONS.
3. THIS PROJECT IS LOCATED IN ZONE A3.3. A SPECIAL FLOOD HAZARD AREA MAP HAS BEEN OBTAINED FROM THE FLOOD INSURANCE RATE MAP NO. 13112C PANEL 0242. UTILITY DATA IS PROVIDED ON THIS PLAN.
4. THE UTILITIES SHOWN ARE PER THE LOCATION OF STREET MAPS. THE UTILITIES ARE SHOWN AS SHOWN ON THE LOCATION OF STREET MAPS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE ACCURATE. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
5. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
6. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
7. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
8. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
9. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.
10. THE SURVEYOR HAS MADE NO ATTEMPT TO VERIFY THE LOCATION OF UTILITIES SHOWN ON THE LOCATION OF STREET MAPS.

**LEGEND**

⊙	ENCLOSURE SET
○	OPEN TOP AND ROUND
○	WITH SLANT / ROUND
○	5/8" ROUN REPAIR SET 8/8"
○	POLE POLE
○	CUT W/ 2" ANCHOR
○	LIGHT POLE
○	SPOT ELEVATION
○	SHORT POLE SIGN
○	ROOF OF W/
○	SANITARY SEWER CLEANOUT
○	SANITARY SEWER MANHOLE
○	SEWER SEWER MANHOLE
○	MANHOLE
○	WATER METER
○	WATER VALVE
○	FEET METER
○	HOW ON CENTER
○	OVERHEAD POWER LINE
○	UNDERGROUND WATER LINE
○	SEWER SEWER LINE
○	SANITARY SEWER LINE
○	ASPHALT SURFACE
○	CONCRETE SURFACE
○	GRAVEL SURFACE
○	DIRT SURFACE

11/10/17  
Brendal White-Daiss, C. Brunswick

GA DNR  
SEP 27 2017  
Shore Mgt. Program

---

**Appendix 9**

*Landfill and Hazardous Waste Information*

**GA DNR**

**SEP 27 2017**

Marsh & Shore Mgt. Program



 Hazardous Sites

Source(s): Glynn County Hazardous Site Inventory Data

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.



**ENVIRONMENTAL SERVICES, INC.**

101 B Estus Drive  
Savannah, GA 31404  
(912) 236-4711  
(912) 236-3688 Fax  
www.environmentalservicesinc.com

Glynn County Hazardous Site Inventory  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project:	ES16007.00
Date:	July 2017
Drwn/Chkd:	KHD/MJD
Figure:	1



ENVIRONMENTAL SERVICES, INC.  
101 B Estus Drive  
Savannah, Georgia 31404

Phone 912-236-4711 \* Fax 912-236-3668

[www.environmentalservicesinc.com](http://www.environmentalservicesinc.com)

7 March 2017

Mr. Paul Andrews  
County Engineer  
1725 Reynolds Street  
Suite 200  
Brunswick, GA 31520

**RE: City of Brunswick  
Sidewalk & Pedestrian Bridge Crossing Construction  
Landfill or Hazardous Waste Statement  
Glynn County, Georgia**

**ESI#: ES16007.00**

Dear Mr. Andrews:

Environmental Services, Inc., as agent for the City of Brunswick, is submitting a permit application to the Coastal Marshlands Protection Committee for a Coastal Marshlands Protection Act (CMPA) permit for the construction of a sidewalk adjacent to Johnson Street, Ocean Avenue and Bon Air Avenue, in addition to a pedestrian bridge crossing over a tidally influenced ditch within Glynn County, Georgia (See attached Figures 1 & 2, and EMC Conceptual Sidewalk Route Sheets 1-2).

The proposed activities consist of sidewalk construction entirely within uplands, in addition to a pedestrian bridge over a tidally influenced ditch which is subject to CMPA jurisdiction. Once complete, the pedestrian bridge crossing over the tidal ditch will serve as a connection between Glynn Middle School to the south and the adjoining residential community to the north.

As part of the application process the applicant is required to provide a statement that an inquiry to the appropriate authorities for the proposed project area is not located over **landfill or hazardous waste site(s)** and that the site is otherwise suitable for the proposed project.

At your earliest convenience, please provide written verification that to your knowledge, the proposed project site does not include areas used in waste disposal operations. If you should have any questions or require additional information, please do not hesitate to call. In advance, we thank you for your timely review of this request.

Sincerely yours,  
ENVIRONMENTAL SERVICES, INC.



Kristen Stauff  
Senior Scientist

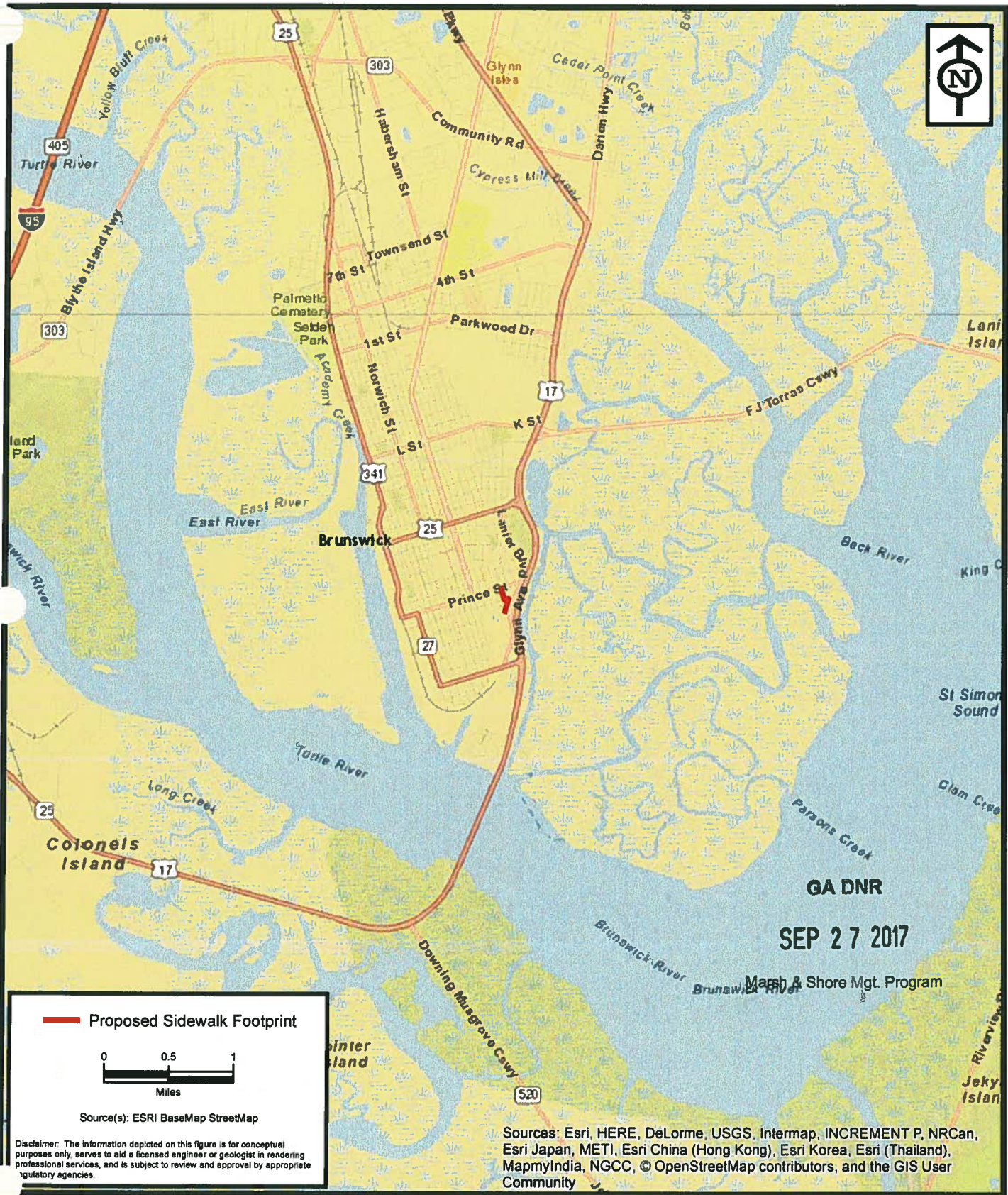
KS/al  
ES16007\_00 COB\_Glynn County Middle School - Landfill-Haz Waste Let.docx  
(March 2017)

xc: Kip Goodbread, EMC Engineering Services, Inc.  
Garrow Alberson, P.E., City of Brunswick Engineer

**GA DNR**

**SEP 27 2017**

Marsh & Shore Mgt. Program



Proposed Sidewalk Footprint



Source(s): ESRI BaseMap StreetMap

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program



**ENVIRONMENTAL SERVICES, INC.**  
 101 B Estus Drive  
 Savannah, GA 31404  
 (912) 236-4711  
 (912) 236-3688 Fax  
 www.environmentalservicesinc.com

Project Vicinity  
**City of Brunswick - Glynn Middle Sidewalk**  
 Glynn County, Georgia

Project:	ES16007.00
Date:	Jan. 2017
Drwn/Chkd:	KHS/MJD
Figure:	1



**—** Proposed Sidewalk Footprint  
**- - -** Pedestrian Bridge over Tidal Ditch

0 75 150  
Feet

Source(s): ESRI BaseMap Aerial Imagery, Glynn County (2015)

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Aerial (2015)  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project:	ES16007.00
Date:	Jan. 2017
Drwn/Chkd:	KHS/MJD
Figure:	2



# CITY OF BRUNSWICK

601 Gloucester Street \* Post Office Box 550 \* Brunswick \* Georgia \* 31520-0550 \* (912) 267-5500 \* Fax (912) 267-5549

Cornell L. Harvey, Mayor  
Julie T. Martin, Mayor Pro Tem  
John A. Cason, III, Commissioner  
Felicia M. Harris, Commissioner  
Vincent T. Williams, Commissioner

City Attorney  
Brian Corry

City Manager  
James D. Drumm

March 29, 2017

Georgia Department of Natural Resources  
Coastal Resources Division  
Coastal Marshland Protection Committee  
One Conservation Way  
Brunswick, GA 31520

**RE: City of Brunswick  
Glynn Middle School Sidewalk and Pedestrian Bridge Crossing  
Landfill or Hazardous Waste Statement**

Dear Coastal Marshland Protection Committee Members,

This letter is to certify that, according to the records of the City of Brunswick, the proposed project site does not include any areas currently or previously used as landfill areas or any hazardous waste sites.

Sincerely,



Garrow Alberson, P.E.  
City Engineer

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program

NO	REVISION DESCRIPTION	BY	DATE

GA-PNR

SEP 27 2017

Marsh & Shore Mgt. Program



**EMC ENGINEERING**  
 CIVIL MARINE ENVIRONMENTAL  
 504 Gloucester Street  
 Brunswick, GA 31520  
 Pn: (912) 265-4560  
 Brunswick@emc-eng.com  
 www.emc-eng.com

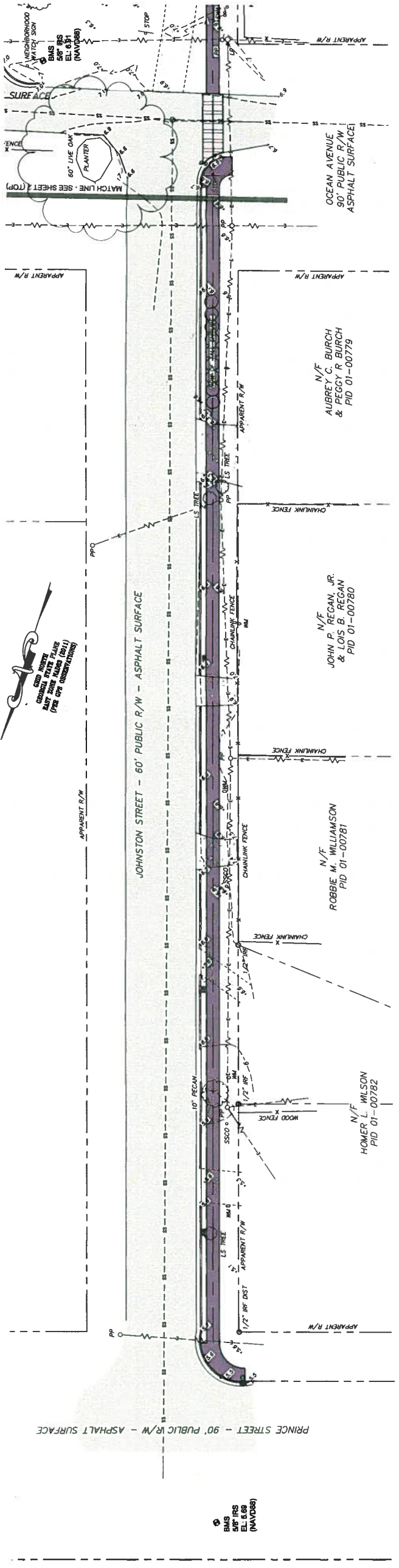
OFFICE LOCATIONS: ALBANY, ATLANTA, AUGUSTA, AND VALDOSTA, GEORGIA

**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**  
 26TH GA MILITIA DISTRICT  
 BRUNSWICK, GLYNN COUNTY, GEORGIA  
 Prepared for:  
 CITY OF BRUNSWICK

**CONCEPTUAL SIDEWALK ROUTE**

PROJECT NO.:	17-5001
DRAWN BY:	CMY
DESIGNED BY:	KFG
SURVEYED BY:	JNH
CHECKED BY:	TWH
DATE:	02/26/2017
SCALE:	1" = 20'

SHEET 1 OF 2



**LEGEND**

BMS	BENCHMARK SET	O SSCD	SANITARY SEWER CLEAROUT	---	OVERHEAD POWER LINE
OTF	OPEN TOP PIPE FOUND	SSM	SANITARY SEWER MANHOLE	---	UNDERGROUND WATER LINE
RF	IRON REBAR FOUND	SM	STORM SEWER MANHOLE	---	STORM SEWER LINE
RS	5/8" IRON REBAR SET W/CP	AB	WATER METER	---	SANITARY SEWER LINE
PP	POWER POLE	WM	WATER VALVE	---	ASPHALT SURFACE
GM	UTILITY WIRE ANCHOR	WV	FIRE HYDRANT	---	GRAVEL SURFACE
LP	LIGHT POLE	N/F	ROW OR FORMERLY ROW	---	DIRT SURFACE
+ 20.0	SPOT ELEVATION	R/W	RIGHT OF WAY		
	SINGLE POLE SIGN				

**GENERAL NOTES**

1. ALL DEED BOOK REFERENCES SHOWN HEREON ARE RECORDED IN THE CLERK OF SUPERIOR COURT'S OFFICE OF GLYNN COUNTY, GEORGIA.
2. THIS SURVEY WAS CONDUCTED WITHIN THE RIGHT-OF-WAY OF THE CITY OF BRUNSWICK, GEORGIA. THE SURVEYOR HAS REVIEWED THE RECORD DEEDS AND REFERENCES THEREIN TO VERIFY THE ACCURACY OF THE PROPERTY LINES. THE SURVEYOR MAKES NO GUARANTEE AS TO THE ACCURACY OF THE DEEDS OR REFERENCES THEREIN.
3. GPS (GLOBAL POSITIONING SYSTEMS) DATA WAS OBTAINED UTILIZING A CHAMBERLAIN RECEIVER WITH A SCEPTER II DATA COLLECTOR. THE SURVEYOR HAS VERIFIED THE ACCURACY OF THE GPS DATA BY CORRECTING MEASUREMENTS FROM A TRIMBLE REAL TIME KINEMATIC (RTK) STATION. THE SURVEYOR HAS VERIFIED THE ACCURACY OF THE GPS DATA BY CORRECTING MEASUREMENTS FROM A TRIMBLE REAL TIME KINEMATIC (RTK) STATION. THE SURVEYOR HAS VERIFIED THE ACCURACY OF THE GPS DATA BY CORRECTING MEASUREMENTS FROM A TRIMBLE REAL TIME KINEMATIC (RTK) STATION.
4. THIS PROJECT IS LOCATED IN ZONE AET3.0, A SPECIAL FLOOD HAZARD AREA PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE STUDY (FIRM) NO. 13127C, PANEL 0208, EFFECTIVE DATE SEPTEMBER 04, 2006.
5. STRUCTURES VISIBLE ON THE DATE OF SURVEY ARE SHOWN HEREON.
6. LOCATIONS ARE ACCURATE ONLY WHERE DIMENSIONED. POLES, MANHOLES, VALVES, PRESSURE, ETC. AND INFORMATION PROVIDED BY UTILITY PERSONNEL. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE HAS CONDUCTED VISUAL INSPECTIONS OF THE UTILITIES AS FAR AS POSSIBLE FROM THE INFORMATION AVAILABLE.
7. NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF EMC ENGINEERING SERVICES, INC.
8. THE TERM "CERTIFICATION" AS USED IN BOARD RULE 180-6-08(C) AND (3) AND RELATING TO PROFESSIONAL SURVEYING SERVICES AS DEFINED IN O.C.G.A. § 43-5-15(6) AND (17) SHALL APPLY TO THE RECORDS OF THIS SURVEY. THE SURVEYOR MAKES NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THIS SURVEY IS VALID ONLY IF PRINT HAS THE ORIGINAL SIGNATURE OF THE SURVEYOR.

**SURVEY DATA**  
 1" IN 25.176'  
 4" PER ANGLE  
 SPECTRUM 2010  
 TOPCON PT13005  
 TOPCON PS103A  
 SPECTRUM 2010  
 GPS NETWORK  
 FIELD WORK COMPLETED ON: JANUARY 30, 2017

PRINCE STREET -- 90' PUBLIC R/W -- ASPHALT SURFACE

BMS  
 507 BMS  
 EL. 6.80  
 (NAVDS83)

NO.	REVISION DESCRIPTION	BY	DATE

GA  
DNR

SEP 27 2017

Marsh & Shore Mgt. Program



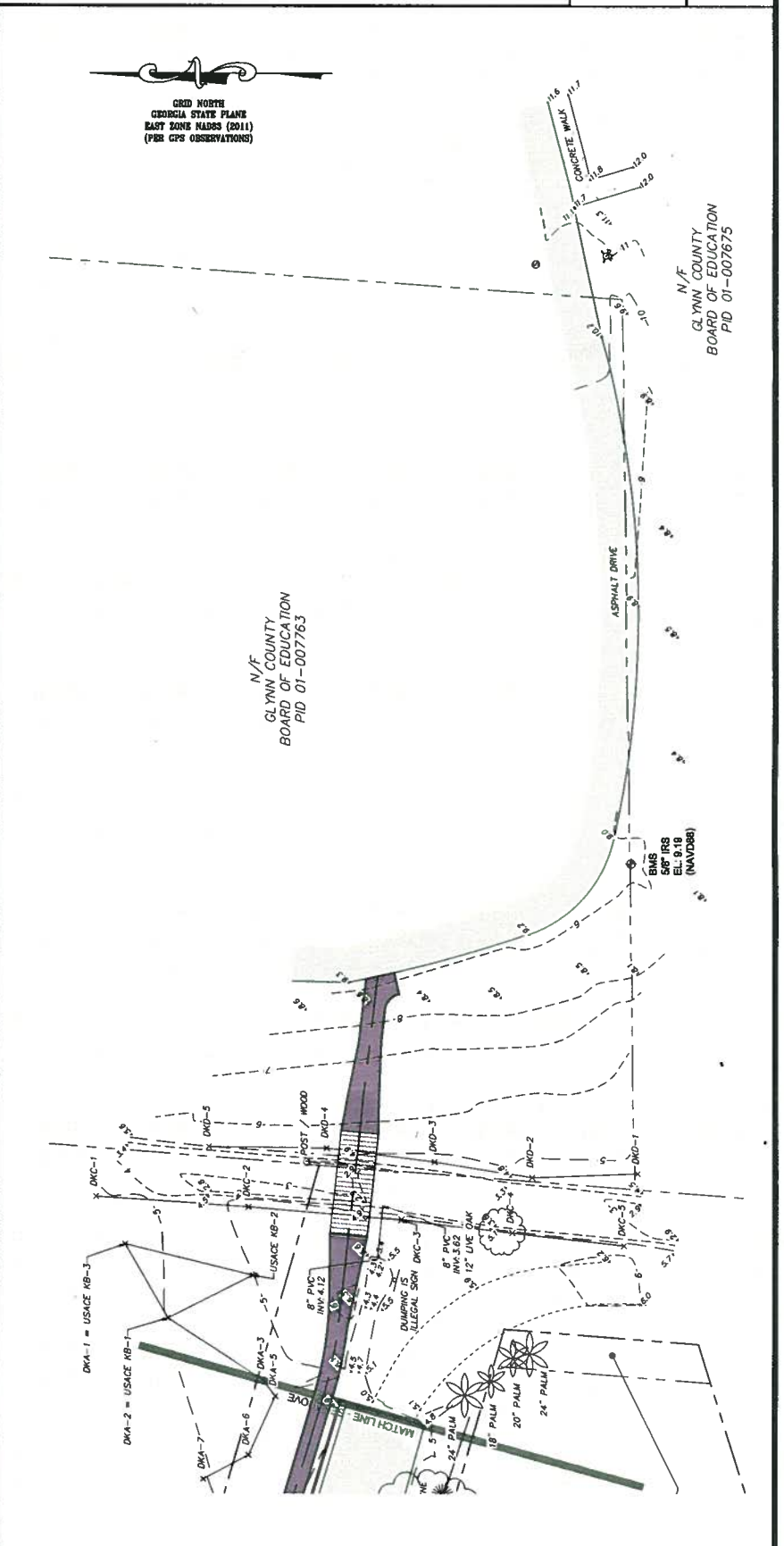
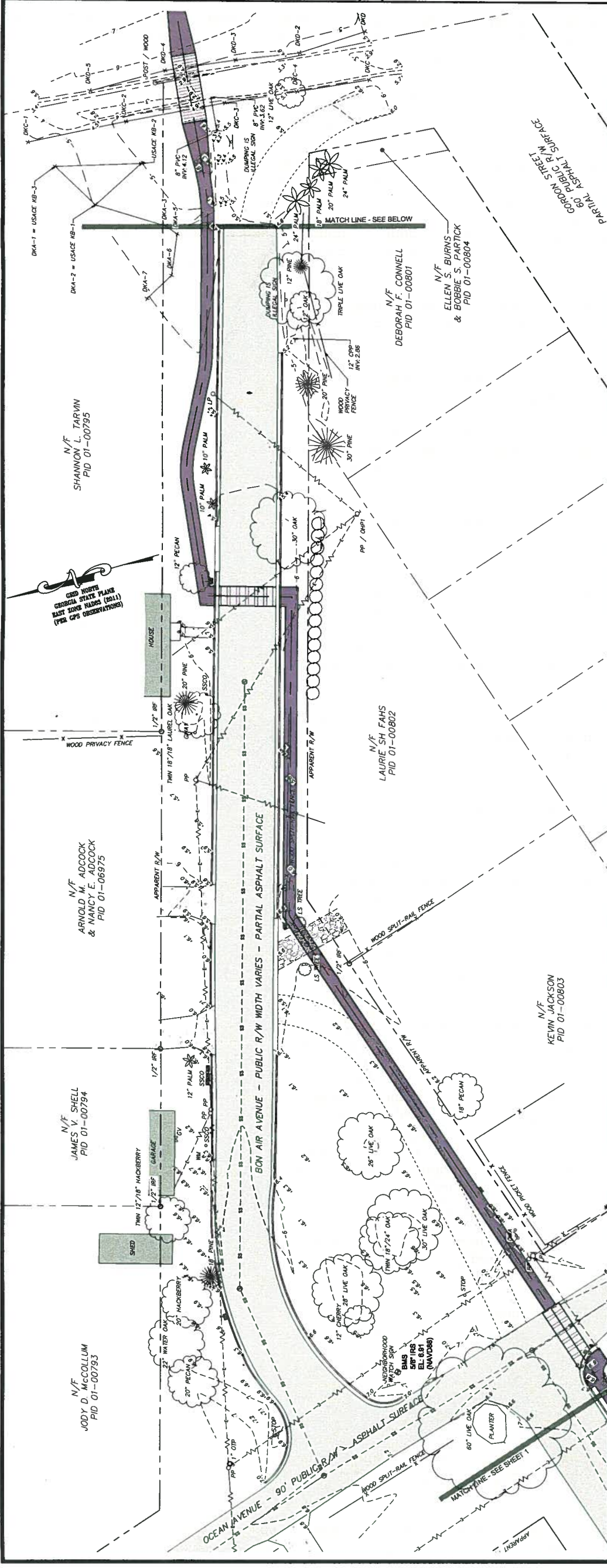
**EMC ENGINEERING**  
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 MARINE  
 CIVIL  
 504 Gloucester Street  
 Brunswick, GA 31520  
 Ph: (912) 265-7839  
 Fax: (912) 233-4580  
 brunswick@emc-eng.com  
 www.emc-eng.com

OFFICE LOCATIONS: ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH, STATESBORO, AND WALDSTON

Prepared for:  
**GLYNN MIDDLE SCHOOL SIDEWALK CONNECTOR**  
 26TH GA MILITIA DISTRICT  
 BRUNSWICK, GLYNN COUNTY, GEORGIA  
 CITY OF BRUNSWICK

PROJECT NO.:	17-5001
DRAWN BY:	CMY
DESIGNED BY:	KFS
SURVEYED BY:	JNH/J
SURVEY DATE:	01/30/2017
CHECKED BY:	TWH
SCALE:	1" = 20'
DATE:	02/28/2017

SHEET  
**2**  
 OF 2



**LEGEND**

◊ BMS	BENCHMARK SET
○ O/P	OPEN TOP PIPE FOUND
▬ IR	IRON REBAR FOUND
▬ IRS	5/8" IRON REBAR SET W/CAP
▬ PP	POWER POLE
▬ GWA	GUY WIRE ANCHOR
▬ LP	LIGHT POLE
+ 20.0	SPOT ELEVATION
▬ R/W	RIGHT OF WAY
○ SSSO	SANITARY SENER CLEANOUT
○ SSMH	SANITARY SENER MANHOLE
○ MB	MAILBOX
▬ WM	WATER METER
▬ WY	WATER VALVE
▬ FV	FIRE HYDRANT
▬ N/F	NOTED OR FORMERLY
▬ O/P	OVERHEAD POWER LINE
▬ U/W	UNDERGROUND WATER LINE
▬ S	STORM SENER LINE
▬ SS	SANITARY SENER LINE
▬ AS	ASPHALT SURFACE
▬ CS	CONCRETE SURFACE
▬ GS	GRAVEL SURFACE
▬ DS	DIRT SURFACE

**GENERAL NOTES**

1. ALL DEED BOOK REFERENCES SHOWN HEREON ARE RECORDED IN THE CLERK OF SUPERIOR COURT, BRUNSWICK COUNTY, GEORGIA ABSTRACT OF TITLE SUBJECT AND ADJACENT PROPERTY OWNERS DEED REFERENCES WERE PROVIDED BY EMC ENGINEERING SERVICES, INC. ARE NOT GUARANTEED.
2. THIS SURVEY WAS PREPARED FOR THE CLIENT'S DEED REFERENCES WERE PROVIDED BY EMC ENGINEERING SERVICES, INC. ARE NOT GUARANTEED.
3. BASIS OF BEARINGS AND HORIZONTAL CONTROL WAS OBTAINED UTILIZING GPS (GLOBAL POSITIONING SYSTEMS). THE EQUIPMENT USED TO OBTAIN THIS DATA (TRIMBLE R7X) WAS CALIBRATED AND VERIFIED BY A VERICON, STATESBORO, GA GPS SOLUTIONS REAL TIME NETWORK. THE TECHNOLOGY USED WAS RTK (REAL TIME KINEMATIC) CORRECTIONS VIA A VERICON, STATESBORO, GA NETWORK OPERATED BY GPS SOLUTIONS, INC. TRIMBLE WAS REAL TIME NETWORK.
4. THIS PROJECT IS LOCATED IN ZONE AE13.0, A SPECIAL FLOOD HAZARD AREA PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP NO. 13127C, PANEL 0287, EFFECTIVE DATE, SEPTEMBER 08, 2008.
5. STRUCTURES VISIBLE ON THE DATE OF SURVEY ARE SHOWN HEREON.
6. UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON RECORD DRAWINGS, FIELD SURVEY, AND INFORMATION PROVIDED BY UTILITY COMPANIES. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES OR ABANDONED.
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8. THE TERM "CERTIFICATION" AS USED IN BOARD RULE 180-6-6-(2) AND (3) HELD BY THE SURVEYOR IS LIMITED TO THE SURVEYING SERVICES AS DEFINED BASED UPON FACTS AND KNOWLEDGE KNOWN TO THE REGISTRAR AND IS NOT A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED.
9. THIS SURVEY IS VALID ONLY IF PRINTED WITH THE ORIGINAL SIGNATURE OF THE SURVEYOR.

N/F  
 GLYNN COUNTY  
 BOARD OF EDUCATION  
 PID 01-007675

## **Appendix 4**

*U.S. Army Corps of Engineers Delineation Review of Aquatic Resources*

**GA DNR**  
**SEP 27 2017**  
Marsh & Shore Mgt. Program

ENVIRONMENTAL SERVICES, INC.

101 B Estus Drive  
Savannah, GA 31404

Phone 912-236-4711 \* Fax 912-236-3668

www.environmentalservicesinc.com

14 September 2017

US Army Corps of Engineers  
Attn: CESAS-RD Ms. Sherelle Reinhardt  
100 West Oglethorpe Avenue  
Savannah, Georgia 31401-3640

**Subject: EMC / City of Brunswick - Glynn Middle School Sidewalk & Pedestrian Bridge  
Glynn County, Georgia  
Request for Delineation Review of Aquatic Resources**

**ES16007.00**

Dear Ms. Reinhardt:

On behalf of EMC Engineering and the City of Brunswick, Environmental Services, Inc., (ESI) is submitting the attached Request for a Delineation Review of Aquatic Resources to verify the wetland delineation associated with this ±2.241-acre project study area, located adjacent to Johnson Street, Ocean Avenue, and Gordon Street within the City of Brunswick in Liberty County, Georgia (Figure 1).

ESI visited the above-referenced site in January 2017 and conducted an investigation to assess the limits and conditions of freshwater wetlands within the site. This investigation was conducted in accordance with the criteria contained in the 1987 *Corps of Engineers Wetland Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*. Attached please find Figures 1-6 depicting the: site vicinity/location map; USGS topographic site map; NRCS soils map; National Wetland Inventory map; FEMA Flood Zone map; and Approximate Wetland Sketch. A survey of the wetland boundaries is also attached, and titled Saltwater Wetland Exhibit: Glynn Middle School Sidewalk Connector, and dated August 26, 2017. Also attached is Appendix 1 (Request for Delineation Review of Aquatic Resources Form), Dataset Forms, and Photo Sheets 1.

At your earliest convenience, we respectfully request a delineation review of the subject property. Please contact us to schedule a field visit if deemed necessary. In advance, we thank you for your timely review of this project. If you have any questions or require additional information, please do not hesitate to call.

Sincerely yours,

ENVIRONMENTAL SERVICES, INC.



Michael DeMell  
Sr. Vice President II & Technical Director



Kristen Deason  
Senior Scientist

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program

MD/kd  
ES16007.00/GlynnMiddle\_Del Rev. Cvr. Ltr.doc  
Xc: Kip Goodbread, EMC  
Garrow Alberson, City of Brunswick

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program





U.S. Army Corps  
of Engineers  
Savannah District

## SAS APPENDIX 1: Request for Corps of Engineers Jurisdictional Determination (JD) and/or Delineation Review

### I. Reason for request: (check as many as applicable)

- I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
- I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- A Corps JD is required in order to obtain my local/state authorization.
- I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- I believe that the site may be comprised entirely of dry land.
- Other: \_\_\_\_\_

GA DNR

SEP 27 2017

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### II. I am requesting that the U.S. Army Corps of Engineers, Savannah District, provide me with the following:

- Delineation Review of Aquatic Resources** - Concurrence with an aquatic resource delineation is a written notification from the Corps concurring, not concurring, or commenting on the aquatic resource boundaries, or limits, delineated on a property.
- Preliminary Jurisdictional Determination** - (PJD). A PJD is defined in Corps regulations at 33 CFR 331.2, as "written indications that there may be waters of the United States on a parcel". When the Corps provides a PJD, the Corps is making no legally binding determination of any type regarding whether jurisdiction exists over the particular aquatic resource in question.
- Approved Jurisdictional Determination** - (AJD) An AJD is defined in Corps regulations at 33 CFR 331.2. A definitive, official determination that there are, or that there are not, jurisdictional aquatic resources on a parcel.
- I am unclear as to what I would like to request and require additional information to inform my decision.

**III. Property/Owner Information.** Please complete ALL the following property under review:

**SECTION 1**

Parcel Number of Property:		
Lat. 31.141046	Long. - 81.480971	(in decimal degrees)
Parcel Address: Bon Air Avenue		
Parcel City : Brunswick	Parcel County: Glynn	Zip: 31520
Size of Review Area: 2.241	Acre(s)	Linear feet


**SECTION 2**

LANDOWNER NAME		AUTHORIZED AGENT'S NAME	
First: Garrow		First: Kristen	
Last: Alberson		Last: Deason	
Company: City of Brunswick		Company: Environmental Services, Inc.	
Email Address: galberson@cityofbrunswick-ga.ga		Email Address: kdeason@esinc.cc	GA DNR
Address: 601 Gloucester Street		Address: 101 B Estus Drive	SEP 27 2017
City: Brunswick		City: Savanna	Marsh & Shore Mgt. Program
State: GA	Zip: 31520	State: GA	Zip: 31404
Phone: 912-267-5540		Phone: 912-236-4711	

**PROPERTY ACCESS PERMISSION, ACKNOWLEDGEMENT OF 18 U.S.C. SECTION 1001 AND STATEMENT OF AGENT AUTHORIZATION**

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the delineation and/or JD. Your signature shall be an affirmation that you possess the requisite property rights to request a delineation and/or JD on the subject property.

Further, I, the undersigned, do authorize the agency/consultant listed above to act in my behalf in the processing of this request and to furnish supplemental information in support of this request.

  
\*Signature of Landowner

7/20/17  
Date

\*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.  
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.  
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.  
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Glynn Middle Sidewalk & Pedestrian Bridge City/County: Glynn Sampling Date: \_\_\_\_\_

Applicant/Owner: City of Brunswick State: GA Sampling Point: Upland

Investigator(s): Environmental Services, Inc. (KS) Section, Township, Range: Brunswick

Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 0-1

Subregion (LRR or MLRA): LRR T Lat: 31.141049 Long: -81.480957 Datum: \_\_\_\_\_

Soil Map Unit Name: Mandarin-Urban Land Complex (somewhat poorly drained) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		

Remarks:  
The 30' radius mostly consisted of pavement and mowed/maintained roadside, with a small percentage of the upland woods within the project boundary.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<input type="checkbox"/> Marl Deposits (B15) (LRR U)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**GA DNR**  
**SEP 27 2017**  
 Marsh & Shore Mgt. Program

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: Upland

Tree Stratum (Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus virginiana</u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>8</u> = Total Cover			
50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>			

Sapling Stratum (Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus virginiana</u>	<u>4</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>4</u> = Total Cover			
50% of total cover: <u>2</u> 20% of total cover: <u>0.8</u>			

Shrub Stratum (Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus virginiana</u>	<u>6</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Baccharis halimifolia</u>	<u>4</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>10</u> = Total Cover			
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>			

Herb Stratum (Plot size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Cyndon dactylon</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Serenoa repens</u>	<u>6</u>	<u>Yes</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>26</u> = Total Cover			
50% of total cover: <u>13</u> 20% of total cover: <u>5.2</u>			

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
<u>0</u> = Total Cover			
50% of total cover: _____      20% of total cover: _____			

Remarks: (If observed, list morphological adaptations below).

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: 0 (A)      0 (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

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Hydrophytic Vegetation Present?      Yes       No

**SOIL**

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 3/1	60					LS	40% uncoated sand grains
4-14+	10 YR 4/1	100					LS	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks: Soil sample taken from within the forested portion of the uplands. Unable to pull a soil sample outside of the forested portion due to the highly disturbed and compacted soil within the Right of Way.

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**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Glynn Middle Sidewalk & Pedestrian Bridge City/County: Glynn Sampling Date: \_\_\_\_\_

Applicant/Owner: City of Brunswick State: GA Sampling Point: Salt Marsh

Investigator(s): Environmental Services, Inc. (KS) Section, Township, Range: Brunswick

Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR T Lat: 31.141104 Long: -81.480921 Datum: \_\_\_\_\_

Soil Map Unit Name: Mandarin-Urban Land Complex (somewhat poorly drained) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required: check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2)                      ___ Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) ___ Water Marks (B1)                            ___ Oxidized Rhizospheres along Living Roots (C3) ___ Sediment Deposits (B2)                   ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3)                         ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) <input checked="" type="checkbox"/> Thin Muck Surface (C7) ___ Iron Deposits (B5)                         ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) (LRR T, U)
--	--

<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: Salt Marsh

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus virginiana</u>	<u>2</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>2</u> = Total Cover			
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>			

Sapling Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>0</u> = Total Cover			
50% of total cover: _____      20% of total cover: _____			

Shrub Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Baccharis halimifolia</u>	<u>4</u>	<u>Yes</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>4</u> = Total Cover			
50% of total cover: <u>2</u> 20% of total cover: <u>0.8</u>			

Herb Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Borrichia frutescens</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>40</u> = Total Cover			
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>			

Woody Vine Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
<u>0</u> = Total Cover			
50% of total cover: _____      20% of total cover: _____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

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Hydrophytic Vegetation Present?      Yes       No

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: Salt Marsh

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12+	10 YR 2/1	100					muck	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 | <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                         |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       | <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                        |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           | <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)     |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)      | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)  |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    | <input type="checkbox"/> Red Parent Material (TF2)                      |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)               |
| <input checked="" type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8)                                     | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <input checked="" type="checkbox"/> 1 cm Muck (A9) (LRR P, T)  | <input type="checkbox"/> Marl (F10) (LRR U)   |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12)   | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |   |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |   |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |   |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |   |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

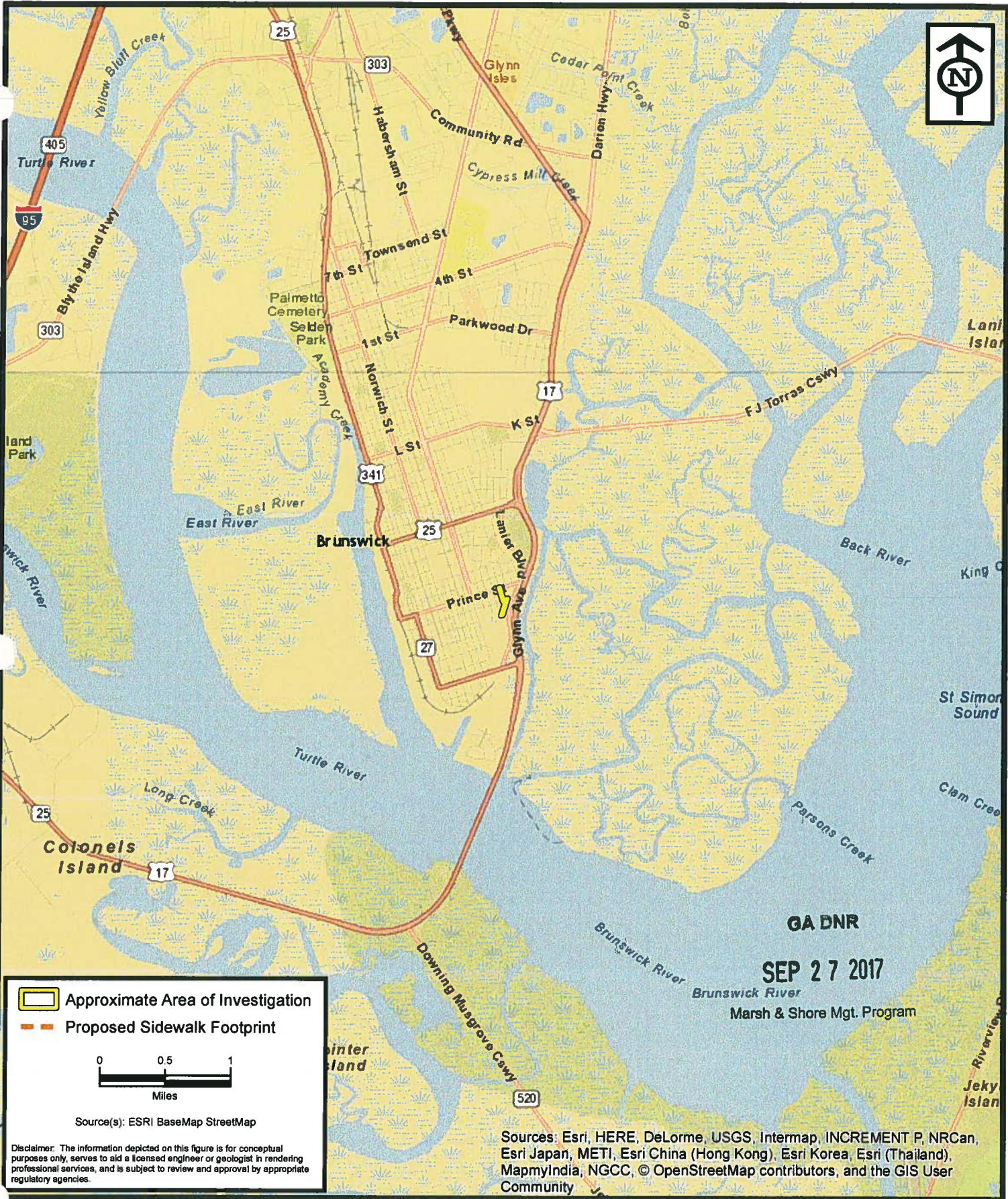
**Remarks:**


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 Approximate Area of Investigation

 Proposed Sidewalk Footprint

0 0.5 1  
Miles

Source(s): ESRI BaseMap StreetMap

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

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**SEP 27 2017**  
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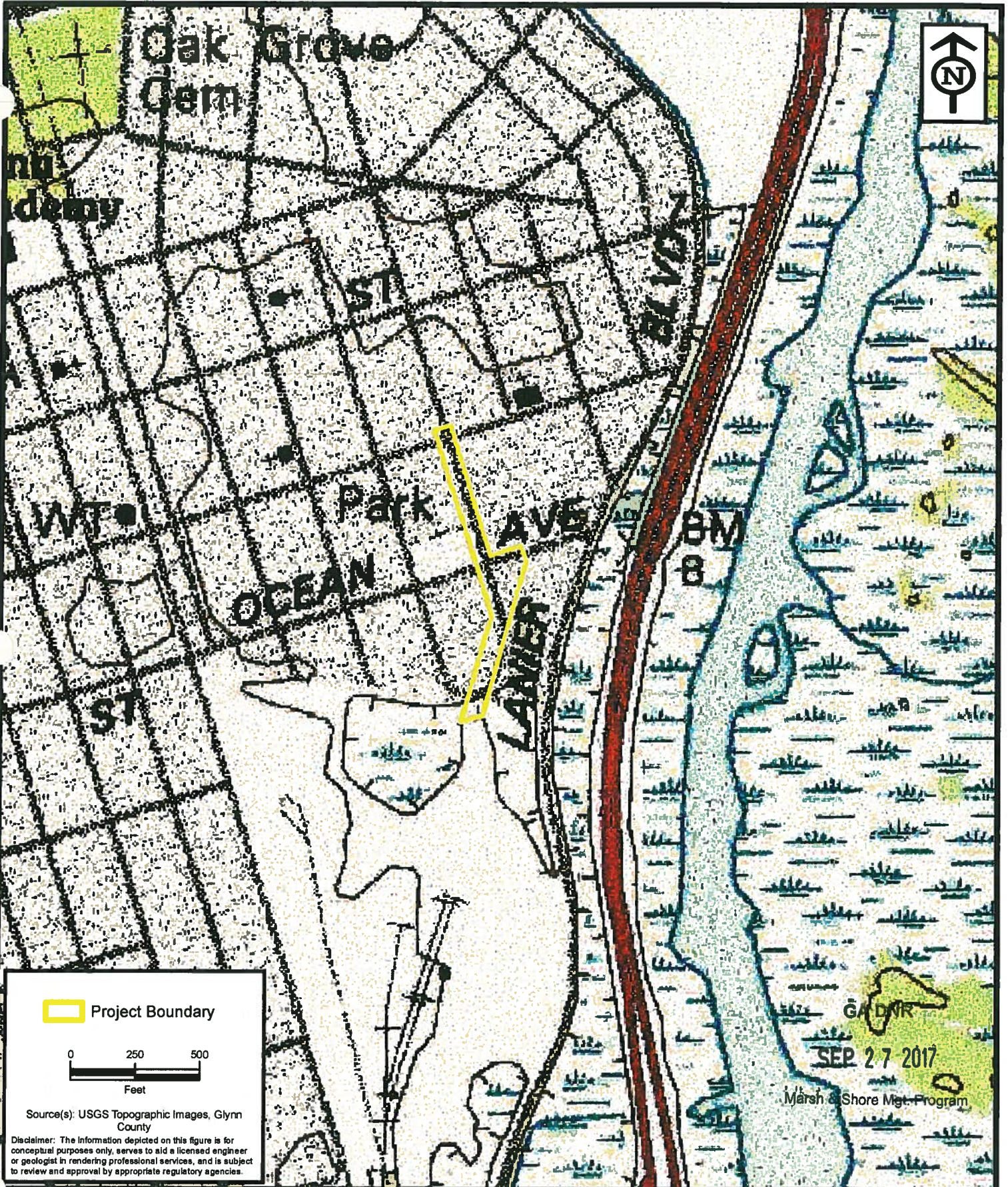
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



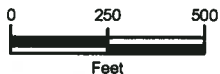
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 (912) 238-3888 Fax  
 www.environmentalservicesinc.com

Project Vicinity  
**City of Brunswick - Glynn Middle Sidewalk**  
 Glynn County, Georgia

Project:	ES16007.00
Date:	Jan. 2017
Drwn/Chkd:	KHS/MJD
Figure:	1



 Project Boundary



Source(s): USGS Topographic Images, Glynn County

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USGS Topographic Images  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project: ES16007.00

Date: July 2017

Drwn/Chkd: KHS/MJD

Figure: 2



Mb





BO

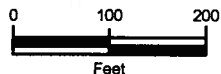
Pe

GA DNR

SEP 27 2017

Marsh & Shore Mgt. Program

-  Project Boundary
-  BO: Bohicket-Capers association (VPD)
-  Mb: Mandarin-Urban land complex (SPD)
-  Pe: Pelham loamy sand (PD)



Source(s): NRCS Soil Survey, Glynn County; NAIP Aerial Imagery, Glynn County (2015)

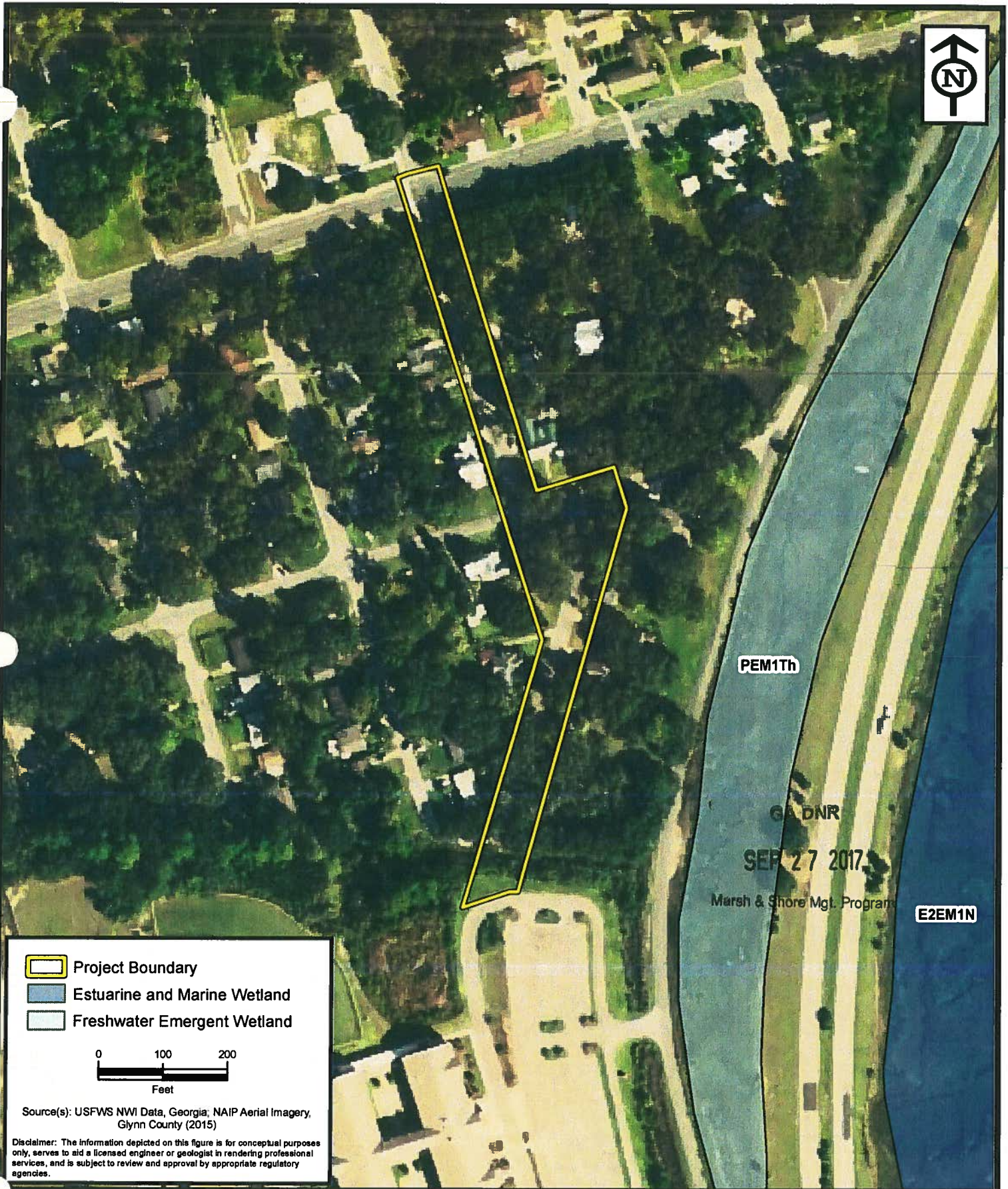
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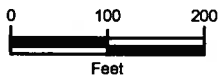
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NRCS Soil Survey  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project:	ES16007.00
Date:	July 2017
Drwn/Chkd:	KHS/MJD
Figure:	3



-  Project Boundary
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland



Source(s): USFWS NWI Data, Georgia; NAIP Aerial Imagery, Glynn County (2015)

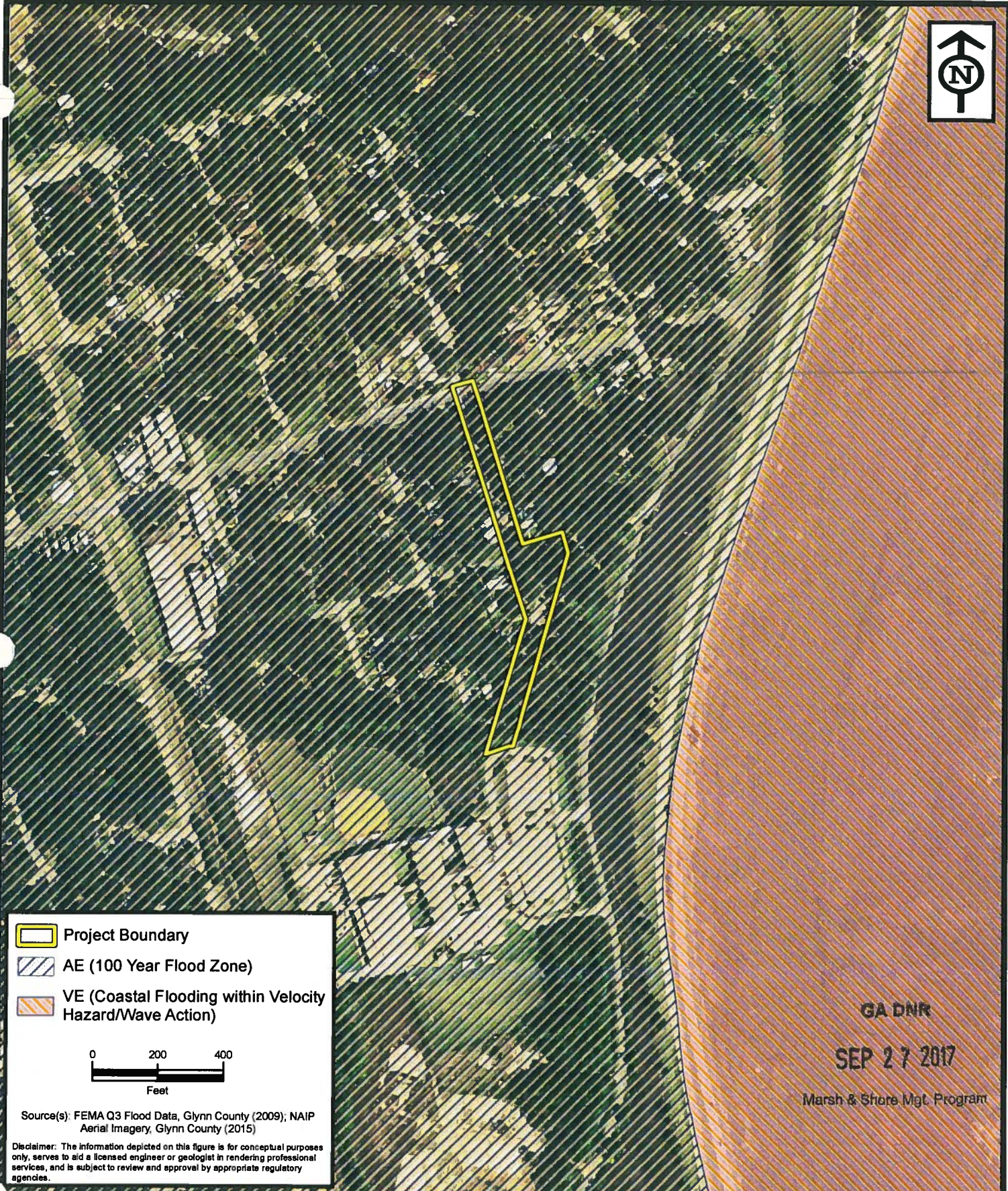
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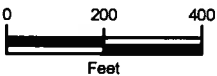
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National Wetland Inventory (NWI) Data  
**City of Brunswick - Glynn Middle Sidewalk**  
 Glynn County, Georgia

Project:	ES16007.00
Date:	July 2017
Drwn/Chkd:	KHS/MJD
Figure:	4



-  Project Boundary
-  AE (100 Year Flood Zone)
-  VE (Coastal Flooding within Velocity Hazard/Wave Action)



Source(s): FEMA Q3 Flood Data, Glynn County (2009); NAIP Aerial Imagery, Glynn County (2015)

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

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SEP 27 2017

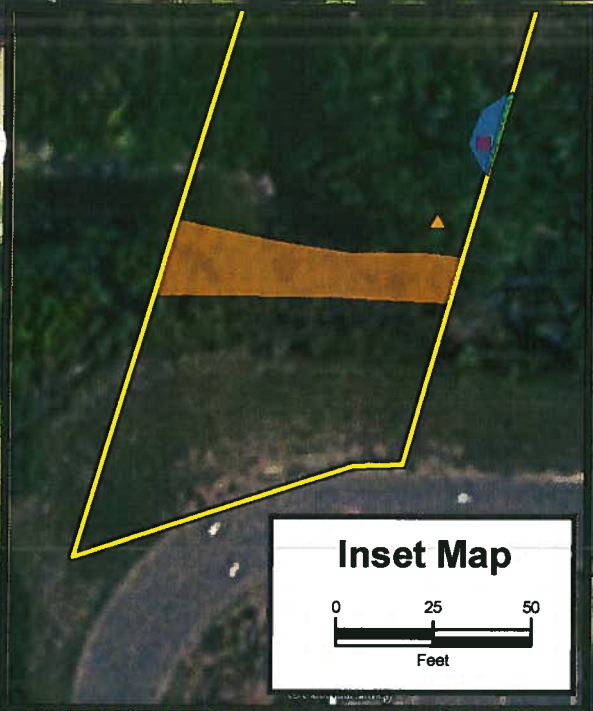
Marsh & Shore Mgt. Program








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FEMA Flood Zone Data  
**City of Brunswick - Glynn Middle Sidewalk**  
 Glynn County, Georgia

Project:	ES16007.00
Date:	July 2017
Drwn/Chkd:	KHS/MJD
Figure:	5



 Project Boundary  
 Saltwater Marsh  
 Tidal Ditch  
 Salt Marsh Data Form  
 Upland Data Form

0 75 150  
Feet

Source(s): ESRI BaseMap Aerial Imagery, Glynn County (2015)

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

GA DNR  
See Inset Map  
SEP 27 2017



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Approximate Wetland Sketch  
**City of Brunswick - Glynn Middle Sidewalk**  
Glynn County, Georgia

Project:	ES16007.00
Date:	July 2017
Drwn/Chkd:	KHS/MJD
Figure:	6