DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 W OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

September 7, 2018

Regulatory Branch
SAS-1997-15260

JOINT PUBLIC NOTICE
Savannah District/State of Georgia

The Savannah District has received an application for a Department of the Army Permit, pursuant to Section 404 of the Clean Water Act (33 U.S.C. § l344), as follows:

Application Number: SAS-1997-15260

Applicant: Ms. Shari Higginbotham
Southbridge Berwick Properties, LLC
Post Office Box 1694
Callahan, Florida 32011

Agent: Mr. Alton Brown
Resource & Land Consultants
41 Park of Commerce Drive, Suite 303
Savannah, Georgia 31405

Location of Proposed Work: The project area consist of 110 residential lots within a 44.03 acre phase of the Southbridge subdivision. These lots are generally located along Trail Creek Lane, Oakcrest Drive, Oakcrest Court, Tanger Court and Rock Drive Lane, within the city of Savannah, Chatham County, Georgia (Latitude 32.0539, Longitude -81.2442).

Description of Work Subject to the Jurisdiction of the U.S. Army Corps of Engineers: The applicant is proposing to fill 4.3 acres of freshwater wetland for lot development. The applicant has avoided 10.4 acres of wetland within the project area. The applicant has proposed the purchase of 17.2 wetland mitigation credits from a Corps approved primary service area mitigation bank.

BACKGROUND

The project area and surrounding property were originally authorized by permit dated August 6, 2001, to the Branigar Organization under the name Berwick Tract. The permit authorized 20.86 acres of wetland fill associated with the development of a 1,911.35 acre master planned mixed use community. To date, the majority of the permitted

wetland impacts have been completed as a part of the master planned mixed use community and the permit has expired.

The original jurisdictional determination associated with the 2001 permit has also expired. An expanded preliminary JD (PJD) was completed and verified by letter dated May 15, 2015. The current PJD, includes 14.79 acres of wetland and 29.82 acres of upland distributed over the 110 platted lots. Based on the current PJD there are more wetlands located on the project site than the previous JD.

This Joint Public Notice announces a request for authorizations from both the U.S. Army Corps of Engineers and the State of Georgia. The applicant's proposed work may also require local governmental approval.

STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division, intends to certify this project at the end of 30 days in accordance with the provisions of Section 401 of the Clean Water Act, which is required for a Federal Permit to conduct activity in, on, or adjacent to the waters of the State of Georgia. Copies of the application and supporting documents relative to a specific application will be available for review and copying at the office of the Georgia Department of Natural Resources, Environmental Protection Division, Watershed Protection Branch, 2 MLK Jr. Drive, Suite 418, Atlanta, Georgia 30334, during regular office hours. A copier machine is available for public use at a charge of 10 cents per page. All coastal projects are filed at our Brunswick office and will need to be requested from Mr. Bradley Smith at Bradley.Smith@dnr.ga.gov. Any person who desires to comment, object, or request a public hearing relative to State Water Quality Certification must do so within 30 days of the State's receipt of application in writing and state the reasons or basis of objections or request for a hearing. The application can be reviewed in the Savannah District, U.S. Army Corps of Engineers, Regulatory Division, 100 W. Oglethorpe Avenue Savannah, Georgia 31401-3640.

State-owned Property and Resources: The applicant may also require assent from the State of Georgia, which may be in the form of a license, easement, lease, permit or other appropriate instrument.

U.S. ARMY CORPS OF ENGINEERS

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army Permit.

Cultural Resources Assessment: A known archeological site is located in the project vicinity. The project proposes to cover the site, which is generally already buried within

the upland and scarp areas, with beach compatible sand. Presently unknown archaeological, scientific, prehistorical or historical data may be located at the site and could be affected by the proposed work.

Endangered Species: A preliminary review the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service's Protected Resource Divisions (NMFS-PRD)'s list of Endangered and Threatened Species indicates the following listed species may occur in the project area: West Indian manatee (*Trichechus manatus*), Eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise (*Gopherus polyphemus*) green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), and Kemp's Ridley sea turtle (*Lepidochelys kempii*), frosted flatwoods salamander (*Ambystoma cingulatum*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), red-cockaded woodpecker (*Picoides borealis*), wood stork (*Mycteria americana*), and pondberry (*Lindera melissifolia*).

Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The U.S. Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental

Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Application of Section 404(b)(1) Guidelines: The proposed activity involves the discharge of dredged or fill material into the waters of the United States. The Savannah District's evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under the authority of Section 404(b) of the Clean Water Act.

Public Hearing: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to the Commander, U.S. Army Corps of Engineers, Savannah District, Attention: Skye H. Stockel, 100 W. Oglethorpe Avenue Savannah, Georgia 31401-3640, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Skye H. Stockel, Regulatory Specialist, Savannah District at (912) 652-5690.

Enclosures:
1. Southbridge at Berwick Plantation Project Description
2. Southbridge at Berwick Plantation Project Drawings

Stockel 8/23/18
SEN IP

RLC

13 August 2018

U.S. Army Corps of Engineers
Savannah District
Attn: Mr. Bill Rutlin
100 West Oglethorpe Ave
Savannah, GA 31402-0889

RE: **Southbridge at Berwick** **RLC#: 14-053.1**
Chatham County, Georgia
USACE Project No. SAS-970015260

Dear Mr. Rutlin:

On behalf of Southbridge Berwick Properties, LLC, please find attached a Section 404 Individual Permit Application requesting authorization to impact 4.30 acres of wetland to facilitate completion of a previously authorized residential development. The project consists of 110 residential lots located within Southbridge, Chatham County, Georgia (32.053999°, -81.244209°).

For your review and use, the attached information includes the following information:

- CESAS Form 19
- Project Description
- Figures/Site Maps
- Past USACE Authorization
- Site Photographs
- Permit Drawings
- Compensatory Mitigation Calculations
- Adjacent Land Owner Information

We greatly appreciate your assistance with this project. If you have any questions or require additional information, please do not hesitate to contact us at (912) 443-5896.

Sincerely,

Alton Brown, Jr.
Principal
Resource & Land Consultants

Enclosures

cc: Ms. Shari Higginbotham – Southbridge Berwick Properties, LLC.

RESOURCE+LAND CONSULTANTS
41 Park of Commerce Way, Ste. 303 / Savannah, Georgia 31405
T 912.443.5896 F 912.443.5898 www.rlandc.com

Southbridge At Berwick

Individual Permit Application
Section 401 of the Clean Water Act
August 2018

APPLICANT: SOUTHBRIDGE BERWICK PROPERTIES, LLC
AGENT: RESOURCE & LAND CONSULTANTS
ENGINEER: EMC ENGINEERING SERVICES

41 Park of Commerce Way, Suite 303 Savannah GA 31405 912.443.5896

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Southbridge At Berwick Plantation
Southbridge Berwick Properties, LLC
Chatham County, Georgia
Project Description
August 2018

1.0 INTRODUCTION:

Southbridge Berwick Properties, LLC is seeking authorization to impact 4.301 acres of wetland to facilitate completion of residential lot development within Southbridge subdivision. The project area consists of 110 residential lots generally located along Trail Creek Lane, Oakcrest Drive, Oakcrest Court, Tanger Court and Rock Dove Lane within Savannah, Chatham County, Georgia (32.053999°, -81.244209°).

2.1 BACKGROUND/PROJECTHISTORY:

In 2001, The Branigar Organization obtained a 404 Permit authorizing 20.86 acres of wetland impact to facilitate the development of a 1,911.35 acre master planned mixed use community known as Berwick Plantation. This permit included the subject project area and 110 residential lots. As documented within the permit, the subject lots consisted of upland area only and no wetland impacts were required for development. While development of these lots was initiated with lot survey, subdivision plat preparation, road installation, utility installation, etc., construction of homes on these lots halted with the collapse of the economy. In 2015 and after foreclosure, the Southbridge Berwick Properties, LLC purchased the remaining lot package from the lender. The following provides a general timeline of activities associated with the site:

- 2001: USACE Permit Issuance
- 2003: Southbridge Development Company purchases property
- 2003-2006: Southbridge Development Company completes all entitlement work for subdivision (subdivision design, surveying, platting, subdivision approval.). In addition, all infrastructure is installed (roads, drainage, utilities, etc.).
- 2008: SB Partners purchases the subdivided lots and begins planning for home construction.
- 2011: Due to downturn in economy and lack of home sales, lender foreclosure occurs.
- 2014: Southbridge Berwick Properties, LLC purchases lots from lender and begins planning for home construction.

After purchase of the property and because the U.S. Army of Corps of Engineers (USACE) permit had expired, the applicant determined a new jurisdictional area delineation would be required prior to construction of any additional homes. In response, the applicant retained the services of Environmental Solutions, Inc. to complete the new wetland delineation. Based on the new wetland delineation and field verification by the USACE, the applicant determined that areas which were historically upland were determined to contain jurisdictional wetland. The following provides a summary for the project area.

Table 1. Jurisdictional Area Comparison Table

	2001 Permit	2015 JD/2018 Permit
Project Area	44.03 acres	44.03 acres
Upland	44.03	29.23
Jurisdictional Waters of the U.S.	0.0 acres	14.80
Wetland Impact Required to Facilitate Home Construction	0.0 acres	4.301
Compensatory Mitigation	0.0 credits	17.60 credits

Since 2015 and based on the new USACE wetland delineation, 75 lots have been sold by the owner for construction of homes. Wetland impacts were not required for home construction on these lots (either no wetland present or home construction could occur without wetland impacts). The remaining 35 lots would require impacts to facilitate home construction.

3.0 PROJECT PURPOSE:

The purpose of the proposed project is to obtain a permit from the USACE to complete development of fully entitled residential lots within Southbridge at Berwick Plantation.

4.0 EXISTING SITE CONDITIONS:

The project site consists habitats typical for developed subdivisions within Chatham County and the Coastal Plain of Georgia. Based on the current/2015 wetland delineation, the 44.03 acre project area includes 110 subdivided residential lots containing 29.23 acres of upland and 14.80 acres of jurisdictional wetland. Roads, utilities and stormwater infrastructure as well as existing homes are present throughout the project area. Upland within the undeveloped lots consists of loblolly pine (*Pinus taeda*), southern magnolia (*Magnolia grandiflora*), southern red oak (*Quercus falcate*), sweet gum *(Liquidambar styraciflua*), water oak (*Quercus nigra*), live oak (*Quercus virginiana*), American holly (*Ilex opaca*), red bay (*Persea borbonia*), red maple (*Acer rubrum*), giant cane (*Arundinaria gigantea*), American beautyberry (*Callicarpa Americana*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), inkberry (*Ilex glabra*), greenbrier (*Smilax spp.*), blackberry (*Rubus spp.*), bracken fern (*Pteridium aquilinum*), cinnamon fern (*Osmunda cinnamomea*), etc. The wetland areas are dominated by loblolly pine, sweet gum, red maple, swamp tupelo (*Nyssa biflora*), swamp chestnut oak (*Quercus machauxii*), red bay, water oak, giant cane, greenbrier *(Smilax rotundifolia)*, Virginia chain-fern (*Woodwardia virginica*), netted chain-fern (*Woodwardia aerolata*), royal fern (*Osmunda regalis*), Chinese privet (*Ligustrum sinense*), Chinese tallow tree (*Triadica sebifera*) and blackberry.

5.0 PROPOSED PROJECT:

As depicted in the attached permit drawings, the project will include wetland impacts within existing lots to facilitate construction of residential homes. In total, 75 lots do/did not require wetland impacts, 25 lots require wetland impacts to facilitate construction of a home and 10 lots will be completely avoided because the entire lot which was previously upland now has been identified as wetland. In total, completion of home construction within this subdivision requires 4.30 acre of wetland impact and 10.40 acre of wetland (previously verified as upland) will be avoided.

6.1 ALTERNATIVE ANALYSIS/AVOIDANCE & MINIMIZATION:

As part of the overall project, the applicant completed a thorough alternatives analysis. A review of the 404(b)1 guidelines indicates that "(a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." The guidelines define practicable alternatives as "(q) The term *practicable* means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

The guidelines outline further consideration of practicable alternatives: "(1) For the purpose of this requirement, practicable alternatives include, but are not limited to: (i) Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters; (ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters; (2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered."

Because the project includes completion of an existing subdivision and construction of homes on existing fully entitled and subdivided residential lots, off-site alternatives were not considered. However, the application did complete a thorough review of each existing lot, impacts associated with development of each lot, and avoidance of wetlands where feasible. Factors evaluated during lot review generally included extent of wetland, elevation, lot configuration, front/side/rear lot setbacks, etc. The applicant and engineer overlaid a standard home and yard footprint within each lot to evaluate the total acreage of impact for that lot. In addition, location of each lot and surrounding conditions were also considered. For example, a lot completely surrounded by developed area (fronted by paved road, bordered by two existing homes on each side and bordered by stormwater lagoon in rear) were considered.

The following provides a summary of each alternative considered during the design review process.

6.2 Alternative 1: Alternative 1 requires impacts to 100 percent of the jurisdictional area within the property and development of all 35 remaining lots. This plan includes construction of homes on all lots previously approved by the USACE. Impacts to wetlands for this plan total 14.80 acres and would maximize building footprint and yard. Considering the history of the project and capital investment relying on past federal actions, this alternation would be the most economically beneficial and justified. If economics were the sole consideration, Alternative 1 would be the preferred alternative.

6.3 Alternative 2: Alternative 2 includes construction of homes on all lots previously approved by the USACE but minimizes the footprint of wetland impacts within several lots. This plan requires impact to 9.54 acres and avoids 5.26 acres of wetland. Like Alternative 1 and considering the project history, this alternative could be justified by allowing home construction on previously approved lots.

6.4 Alternative 3: Alternative 3 includes development of 25 lots and requires 5.64 acres of wetland impact. This lot plan omits 10 acres from the development plan and avoids 9.16 acres of wetland on numerous lots. As discussed above, this plan included a review of minimum structure footprint, elevation, lot configuration, front/side/rear lot setbacks, and adjoining land uses.

6.5 Alternative 4/Applicant's Preferred Alternative: Alternative 4 includes development of 25 lots and avoidance of 10 lots. This alternative requires 4.30 acres of wetland impact and avoids 10.50 acres of wetland. When compared to Alternative 2, the applicant reduced the acreage of impact on 9 lots including 1287, 1288, 1292, 1293, 1300, 1348, 1349, 1412 & 1413 resulting in a net reduction of wetland impacts by 1.344 acres. Of the 25 lots proposed for impact, the minimum acreage of impact for a single lot is 0.071 acre and the maximum acreage of impact is 0.338 acre. Based on this assessment, the application has proposed to impact 4.30 acres of wetland to facilitate development of 100 lots. Approximately 10 lots will not be developed, and 10.50 acres of wetland will be avoided.

Table 2. Summary of On-site Alternatives/Avoidance

Alternative	1	2	3	4/Preferred
Impact Acreage	14.8	9.54	5.64	4.30

6.6 No Action Alternative: The proposed project has been initiated to facilitate completion of a previously approved residential subdivision. While the "no-action alternative" avoids impacts to newly identified wetland resources, the result of the no-action alternative would be economically unacceptable. A lot plan was designed and approved by Southbridge and Chatham County based on the original delineation/permit. Utilities were installed by utility companies based on the approved subdivision plan and anticipated number of lots (based on all approved documentation). These actions were taken considering the overall benefit to

the community and per lot economic benefit. For example, utility agreements and capital investment by utility companies for installation of water lines, cable lines, electrical lines, etc. are based on the assumed utility consumption by the approved number of properties (in this example 110 homes). Municipal agreements and approvals are based on a particular number of lots and anticipated property tax per lot (in this example 110 residential properties). Southbridge Home Owners Association reviewed and approved design plans assuming a specific number of lot development and annual community income to accommodate for community maintenance. Without appropriate funding for common area maintenance, the property values within the subdivision will decline. In summary, prohibiting the development of these approved lots has a domino effect and impacts not just the application but also Chatham County, utility companies, and the overall community. For these reasons, the "no-action" alternative is not acceptable nor feasible.

In summary, the applicant and design team considered a variety of alternatives which would avoid and minimize impacts to wetlands to the greatest extent practicable while satisfying the overall project purpose. Through three lot plan reviews, the applicant was able to substantially reduce the overall wetland impact and has proposed to avoid 10.4 acres of wetland by avoiding impacting wetland within numerous lots proposed for development and completely omitting 10 lots from the development plan.

Considering the capital investment associated with the project in reliance of a previously issued jurisdictional determination, permit and compensatory mitigation plan, the proposed impacts are reasonable and justified. The applicant is simply proposing to complete development of an approved subdivision which was planned and designed to completely avoid impacts to wetlands. Only after subdivision of lots, municipal plan approval, installation of roads, installation of utilities, installation of stormwater infrastructure, initiation of lot development and a delay in home construction due to the recession was wetland identified within the project area.

7.1 THREATENED & ENDANGERED SPECIES:

An assessment was conducted to determine the potential occurrence of animal and plants species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)]. The U.S. Fish and Wildlife Service (USFWS) lists the following plant and animal species as endangered or threatened in Chatham County, Georgia:

Plants
- Pondberry *(Lindera melissifolia)*

Mammals
- Humpback Whale (*Megaptera novaeanglie*)
- Northern Atlantic Right Whale *(Eubalaena glacialis)*
- Manatee *(Trichechus manatus)*

Birds
- Bachman's Warbler (*Vermivora bachmanii*)
- Piping Plover *(Charadrius melodus)*
- Red-Cockaded Woodpecker *(Picoides borealis)*
- Wood Stork *(Mycteria americana)*

Reptiles
- Eastern Indigo Snake (*Drymarchon corais couperi*)
- Green Sea Turtle *(Chelonia mydas)*
- Hawksbill Sea Turtle (*Eretmochelys imbricate*)
- Kemp's Ridley Sea Turtle *(Lepidochelys kempii)*
- Leatherback Sea Turtle *(Dermochelys coriacea)*
- Loggerhead Sea Turtle *(Caretta caretta)*

Amphibians

- Flatwoods Salamander *(Ambystoma cingulatum)*

Fish

- Shortnose Sturgeon *(Acipenser brevirostrum)*

RLC conducted a threatened and endangered species survey to determine the potential occurrence of animal and plants species (or their preferred habitats) currently listed as threatened or endangered by state and federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543)]. Neither the listed species nor habitat typically associated with these species was observed during the survey. As a result of the condition and location of the project area, as well as the absence of habitat and listed species, the proposed project is not likely to adversely impact any threatened or endangered species.

7.0 CULTURAL RESOURCES:

A Phase I Cultural Resources Survey was completed by Brockington & Associates during the 2001 USACE permitting exercise. Based on this survey and concurrence from the SHPO and USACE, the proposed project will not impact cultural or archeological resources.

8.0 STORM WATER MANAGEMENT:

A storm water management plan has been designed and implemented as part of the overall Berwick Plantation Master Plan Development. This master storm water management plan accommodates for any development associated with the subject lots.

9.0 COMPENSATORY MITIGATION:

Using the current Savannah District Standard Operating Procedure for Compensatory Mitigation, SOP calculations indicate that 17.20 grandfathered wetland credits are required to compensate for the 4.30 acres of wetland impacts. The applicant is proposing to acquire a total of 17.20 credits from a USACE approved primary service area mitigation bank. Credits will be purchased from one of the following primary service area bank: Black Creek, Margin Bay, Yam Grandy, Old Thorn Pond, or Wilhelmina Morgan. Upon approval of the proposed project and prior to initiation of authorized wetland impacts, the applicant will provide documentation of credit conveyance to the USACE.

APPENDIX A:

CESAS Form 19

JOINT APPLICATION
FOR
A DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS PERMIT,
STATE OF GEORGIA MARSHLAND PROTECTION PERMIT,
REVOCABLE LICENSE AGREEMENT
AND REQUEST FOR
WATER QUALITY CERTIFICATION
AS APPLICABLE

INSTRUCTIONS FOR SUBMITTING APPLICATION:

Every Applicant is Responsible to Complete The Permit Application and Submit as Follows: One copy each of application, location map, drawings, copy of deed and any other supporting information to addresses 1, 2, and 3 below. If water quality certification is required, send only application, location map and drawing to address No. 4.

1. For Department of the Army Permit, mail to: Commander, U.S. Army Engineer District, Savannah ATTN: CESAS-OP-F, P.O. Box 889, Savannah, Georgia 31402-0889. Phone (912)652-5347 and/or toll free, Nationwide 1-800-448-2402.

2. For State Permit - State of Georgia (six coastal counties only) mail to: Habitat Management Program, Coastal Resources Division, Georgia Department of Natural Resources, 1 Conservation Way, Brunswick, Georgia 31523, Phone (912) 264-7218.

3. For Revocable License - State of Georgia (six coastal counties plus Effingham, Long, Wayne, Brantley and Charlton counties only) - Request must have State of Georgia's assent or a waiver authorizing the use of State owned lands. All applications for dock permits in the coastal counties, or for docks located in tidally influenced waters in the counties listed above need to be submitted to Real Estate Unit. In addition to instructions above, you must send two signed form letters regarding revocable license agreement to: Ecological Services Coastal Resources Division, Georgia Department of Natural Resources, 1 Conservation Way, Brunswick, Georgia 31523. Phone (912) 264-7218.

4. For Water Quality Certification State of Georgia, mail to: Water Protection Branch, Environmental Protection Division, Georgia Department of Natural Resources, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354 (404) 675-1631.

The application must be signed by the person authorized to undertake the proposed activity. The applicant must be the owner of the property or be the lessee or have the authority to perform the activity requested. Evidence of the above may be furnished by copy of the deed or other instrument as may be appropriate. The application may be signed by a duly authorized agent if accompanied by a statement from the applicant designating the agent. See item 6, page 2.

1. Application No. _____

2. Date

3. For Official Use Only_____

4. Name and address of applicant.
Southbridge Berwick Properties, LLC
Attn: Ms. Shari Higginbotham
PO Box 1694
Callahan, FL 32011
904.759.2782

5. Location where the proposed activity exists or will occur.

Lat. 32.053999° Long. -81.244209°

Chatham		Savannah
County	Military District	In City or Town
Near City or Town	Subdivision	Lot No.
		Georgia
Lot Size	Approximate Elevation of Lot	State
	Salt Creek	
Name of Waterway	Name of Nearest Creek, River, Sound, Bay or Hammock	

CESAS Form 19

6. Name, address, and title of applicant's authorized agent for permit application coordination.
Resource & Land Consultants Attn: Alton Brown, Jr.
41 Park of Commerce Drive, Suite 303 (912) 443-5896
Savannah, Georgia 31405

Statement of Authorization: I Hereby designate and authorize the above named person to act in my behalf as my agent in the processing of this permit application and to furnish, upon request, supplemental information in support of this application.

Signature of Applicant 8-16-18 Date

7. Describe the proposed activity, its purpose and intended use, including a description of the type of structures, if any to be erected on fills, piles, of float-supported platforms, and the type, composition and quantity of materials to be discharged or dumped and means of conveyance. If more space is needed, use remarks section on page 4 or add a supplemental sheet. (See Part III of the Guide for additional information required for certain activities.)

See Attached Project Description

8. Proposed use: Private __X__ Public_____ Commercial ___ Other ___

9. Names and addresses of adjoining property owners whose property also adjoins the waterway.
See attached

10. Date activity is proposed to commence. Upon receipt of authorization to proceed.

Date activity is expected to be completed. Within 5 years of authorization to proceed.

11. Is any portion of the activity for which authorization is sought now complete __Y __X__N

A. If answer is "Yes", give reasons in the remarks in the remarks section.
Indicate the existing work on the drawings.

B. If the fill or work is existing, indicate date of commencement and completion.

C. If not completed, indicate percentage completed.

12. List of approvals or certifications required by other Federal, State or local agencies for any structures, construction discharges, deposits or other activities described in this application. Please show zoning approval or status of zoning for this project.

Issuing Agency	Type Approval	Identification No.	Date/Application	Date/Approval
GADNR-EPD	401 Certification		Concurrent	Under Review

13. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? ___Yes __X__NO (If "yes", explain).

Note: Items 14 and 15 are to be completed if you want to bulkhead, dredge or fill.

14. Description of operation: (If feasible, this information should be shown on the drawing).

A. Purpose of excavation or fill To facilitate completion of previously permitted residential lot development.

1. Access channel : length_____ depth_____ width_____

2. Boat basin : length_____ depth_____ width_____

3. Fill area : see attached length_____ depth_____ width_____

4. Other:Excavation Area: length_____ depth_____ width_____

B. 1.If bulkhead, give dimensions N/A

2.Type of bulkhead construction (material) N/A

Backfill required: Yes _____ No _____ Cubic yards _____

Where obtained _____

C. Excavated material :

1.Cubic yards _____

2.Type of material _____

15.Type of construction equipment to be used Mechanized earth-moving/construction equipment

A. Does the area to be excavated include any wetland? Yes_____ No X

B. Does the disposal area contain any wetland? Yes _____ No X

C. Location of disposal area N/A

C. Maintenance dredging, estimated amounts, frequency, and disposal sites to be utilized: N/A

E. Will dredged material be entrapped or encased? N/A

F. Will wetlands be crossed in transporting equipment to project site? N/A

G. Present rate of shoreline erosion (if known) N/A

16. WATER QUALITY CERTIFICATION: In some cases, Federal law requires that a Water Quality Certification from the State of Georgia be obtained prior to issuance of a Federal license or permit. Applicability of this requirement to any specific project is determined by the permitting Federal agency. The information requested below is generally sufficient for the Georgia Environmental Protection Division to issue such a certification if required. Any item which is not applicable to a specific project should be so marked. Additional information will be requested if needed.

A. Please submit the following:

1. A plan showing the location and size of any facility, existing or proposed, for handling any sanitary or industrial waste waters generally on your property.

2. A plan of the existing or proposed project and your adjacent property for which permits are being requested.

3. A plan showing the location of all points where petro-chemical products (gasoline, oils,cleaners) used and stored. Any above-ground storage areas must be diked, and there should be no storm drain catch basins within the diked areas. All valving arrangements on any petro-chemical transfer lines should be shown.

4. A contingency plan delineating action to be taken by you in the event of spillage of petro-chemical products or other materials from your operation.

5. Plan and profile drawings showing limits of areas to be dredged, areas to be used for placement of spoil, locations of any dikes to be constructed showing locations of any weir(s), and typical cross sections of the dikes.

B. Please provide the following statements:

1. A statement that all activities will be performed in a manner to minimize turbidity in the stream.

2. A statement that there will be no oils or other pollutants released from the proposed activities which will reach the stream.

3. A statement that all work performed during construction will be done in a manner to prevent interference with any legitimate water uses.

17. Application is hereby made for a permit or permits to authorize the activities described herein, Water Quality Certification from the Georgia Environmental Protection Division is also requested if needed. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I posses the authority to under take the proposed activities.

Signature of Applicant

18. U.S.C. Section 1001 provides that: Whoever, in any matter within the jurisdiction of any department or agency of the United States, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations, or makes or uses false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined no more than $10,000 or imprisoned not more than 5 years or both.

PRIVACY ACT NOTICE

The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972. These laws require permits authorizing structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Information provided will be used in evaluating the application for a permit. Information in the application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

SUPPORTING REMARKS:

See Attached.

APPENDIX B:
2001 USACE 404 Permit

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

MAY 2001

A permit to discharge fill material into 20.86 acres of wetland to facilitate development of a master-planned community

at the 1,911.35 acre Berwick Tract, Chatham County, Georgia

has been issued to The Branigar Organization on August 6, 2001

Address of Permittee Okatie Commerce Park, Suite 102
108 Traders Cross, Bluffton, SC. 29910

Permit Number

970015260

District Commander
for Roger A. Gerber
Colonel, U.S. Army

NG FORM 4336, Jul 81 (33 CFR 320-330) EDITION OF JUL 70 MAY BE USED
U.S. GPO: 1998-842-745

(Proponent: CECW-O)

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 889
SAVANNAH, GEORGIA 31402

JUL 3 0 2001

REPLY TO
ATTENTION OF:

Regulatory Branch
970015260

The Branigar Organization, Inc.
Attention: Mr. William Burgstiner
Okatie Commerce Park, Suite 102
108 Traders Cross
Bluffton, South Carolina 29910

Dear Mr. Burgstiner:

PLEASE READ THIS LETTER CAREFULLY AND COMPLY WITH ITS PROVISIONS.

We are enclosing a draft of your Department of the Army Permit in duplicate. If you agree with the terms and conditions, please sign and date both copies of the Draft permit and return them to this office. Upon receipt, the District Engineer will validate your permit and return the original to you for your records. We will also send a Notice of Authorization, which you should display at the project site. Your permit is not valid until signed by the District Engineer.

We require a $100.00 fee for issuance of a permit for commercial activities. Please make your check payable to the Finance and Accounting Officer, Savannah District.

IT SHALL BE UNLAWFUL TO DEVIATE FROM THE PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK, unless a plan reflecting the modification has previously been submitted to and approved by this office.

In addition, please note that the permit not only authorizes the work, but also its intended use. No use other than that specified in this permit can be made of permitted work or structures.

Please direct your attention to the General Conditions on pages 1 and 2 of the permit. Special Conditions relating to the project are listed on pages 2 to 4.

This office must be notified ten days in advance of your intent to start work on this project. You must also notify this office when the project is completed.

Check # 18676 For $ 100—
W/D & FWD F & A on

We have enclosed a form titled, "Notification of Applicant Options" that explains your right to appeal this decision in accordance with Title 33, Code of Federal Regulations, Part 331, published in the March 28, 2000, Federal Register, Vol. 65, No. 60. If you have any further questions concerning this matter, please call Richard Legere, Project Manager, at (912) 652-5079.

Sincerely,

Necholus Ogden
Chief, Regulatory Branch

Enclosures

Copies Furnished:

U.S. Environmental Protection Agency
Water Management Division
Wetlands Section, Region IV
Attention: Mr. William L. Cox, Chief
Atlanta Federal Center
61 Forsyth Street, SW.
Atlanta, Georgia 30303-3104

U.S. Department of the Interior
Fish and Wildlife Service
Attention: Ms. Sandra S. Tucker, Field Supervisor
247 South Milledge Avenue
Athens, Georgia 30605

Mr. Keith Parsons
Georgia Department of Natural Resources
Water Protection Branch
4220 International Parkway, Suite 101
Atlanta, Georgia 30354

Copies Furnished (continued):

Mrs. Kelie M. Matrangos
Federal Consistency Coordinator
Georgia Department of Natural Resources
Coastal Resources Division
One Conservation Way, Suite 300
Brunswick, Georgia 31523-8602

Mr. Al Bungard, County Engineer
Chatham County Engineering Department
Post Office Box 8161
Savannah, Georgia 31412

Newkirk Environmental, Inc.
Attention: Mr. Stuart Sligh
340 Eisenhower Drive
Building 200, Suite 201
Savannah, Georgia 31406

JUL 3 0 2001
970015260
File No.

NOTIFICATION OF APPLICANT OPTIONS (NAO) FOR PARTIES ISSUED A DEPARTMENT OF THE ARMY INDIVIDUAL PERMIT

You are hereby advised that the following options are available to you in your evaluation of the enclosed permit:

1) You may sign the permit, and return it to the District Engineer for final authorization. Your signature on the permit means that you accept the permit in its entirety, and waive all rights to appeal the permit, or its terms and conditions.

2) You may decline to sign the permit because you object to certain terms and conditions therein, and you may request that the permit be modified accordingly. You must outline your objections to the terms and conditions of the permit in a letter to the District Engineer. Your objections must be received by the District Engineer within 60 days of the date of this NAO, or you will forfeit your right to request changes to the terms and conditions of the permit. Upon receipt of your letter, the District Engineer will evaluate your objections, and may: (a) modify the permit to address all of your concerns, or (b) modify the permit to address some of your objections, or (c) not modify the permit, having determined that the permit should be issued as previously written. In any of these three cases, the District Engineer will send you a final permit for your reconsideration, as well a Notification of Appeal (NAP) Form and a Request For Appeal (RFA) Form. Should you decline the Final Proffered Permit, you can appeal the Declined Permit under the U.S. Army Corps of Engineers Administrative Appeal Process by submitting the completed RFA Form to the Division Engineer. The RFA must be received by the Division Engineer within 60 days of the date of the NAP that was transmitted with the Second Proffered Permit.

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: The Branigar Organization, Inc.

PERMIT NUMBER: 970015260

ISSUING OFFICE:

Savannah District
U.S. Army Corps of Engineers
Post Office Box 889
Savannah, Georgia 31402-0889

NOTE: The term "you" and its derivatives used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the U.S. Army Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: To discharge fill material into 20.86 acres of wetland to facilitate development of a master-planned, mixed use community on the 1,911.35 acre Berwick Tract. Site development will require 17.89 acres of wetland fill. The remaining 2.97 acres of fill is needed for road crossings. As compensatory mitigation for these impacts, the permittee will preserve 396.52 acres of wetland, restore 13.67 acres of wetland and enhance 11.58 acres of wetland on the project site. The preserved, restored and enhanced wetland areas will be surrounded by at least 81.98 acres of upland buffer and wildlife corridors having a minimum width of 30 feet.

PROJECT LOCATION: The project site is located on the northwest side of U.S. Highway 17, approximately 2.1 miles northeast of State Highway 204, near Savannah, Chatham County, Georgia.

PERMIT CONDITIONS:

General Conditions.

1. The time limit for completing the work authorized by this Individual Permit ends on October 31, 2011. If you find that you need more time to complete the authorized activity, you must submit a request for your permit extension at least one month prior to the above date.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer

Check # 18676 For $ 100 —
W/D & FWD F & A on

maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions.

1. The permittee shall comply with all conditions included in the attached Section 401 Water Quality Certification.

2. The permittee shall obtain fill material from a high ground borrow area that is free of contaminants and pollutants.

3. The permittee shall fully implement the attached compensatory wetland mitigation plan titled "Mitigation Plan, 1,911.35 Acre Berwick Plantation" and dated July 18, 2001. In addition to a requirement to record a "Declaration of Covenants and Restrictions" on the mitigation areas, this mitigation plan includes specific requirements and time periods within which the restoration and enhancement activities included in the mitigation plan are to be completed.

4. Within one year of issuance of the permit, the permittee shall submit for review and final approval, a draft "Declaration of Covenants and Restrictions" necessary to perpetually protect and preserve all wetlands and uplands that are identified as compensatory mitigation lands in the mitigation plan. This draft document will contain stipulations necessary to allow the permittee flexibility with regard to the exact location of the right-of-way for the phased construction of authorized wetland crossings. It is understood that the permittee may commence work while the draft "Declaration of Covenants and Restrictions" is being prepared, provided that the upland buffer boundary on the affected development parcel is clearly identified in the field before work begins.

5. Within six months of the USACE's final approval of the draft "Declaration of Covenants and Restrictions", the permittee shall submit a copy of the final document that has been notarized and recorded in the Office of the Clerk of the Superior Court of Chatham County, Georgia.

6. Within six months of the USACE's final approval of the above draft "Declaration of Covenants and Restrictions", the permittee shall post appropriate signs at 300' intervals along all property boundaries of the compensatory mitigation lands to reduce the possibility of unauthorized disturbance to these areas.

7. In the event that a modification is proposed to a phase of the project's master development plan, the permittee shall submit the revised plan to this office prior to initiating any work within that phase. Modifications requiring submission of a revised plan would include, but are not limited to, the following: changes in the type of activity proposed for a phase (i.e., residential to commercial, recreational to retail, etc.); changes in the size or configuration of a phase; and/or changes in the primary access road plan. These types of modifications to the master development plan will not normally require formal modification of the permit unless they result in a change in the location and/or extent of jurisdictional impacts.

8. Prior to initiating authorized work within any phase of the project, the permittee shall provide this office with a copy of the proposed site specific development plan. This office will review the proposed plan for permit compliance purposes only.

9. Prior to initiating any work authorized under this permit, the permittee shall insure that the authorized project is in compliance with all applicable regulations/requirements of the Federal Emergency Management Agency pertaining to construction activities in designated flood plains and/or flood ways, and mapping and/or designating changes to any flood plain and/or floodway that may be affected by the permitted activity.

10. The permittee shall insure that the project's master drainage plan is designed and implemented to avoid inadvertent drainage of wetlands and inadvertent water diversion resulting in a reduction of hydrology in wetlands. The permittee shall also insure that secondary road ditches and/or small after-project drainage ditches do not inadvertently impact wetlands.

11. All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the minimal requirements as contained in the Georgia Erosion and Sedimentation Control Act of 1975, as amended. Utilization of plans and specifications as contained in "Manual for Erosion and Sediment Control, Third Edition, 1992" published by the Georgia Soil and Water Conservation Commission or their equivalent will aid in achieving compliance with the aforementioned minimal requirements.

12. A complete copy of this permit, including its drawings, special conditions and any amendments, shall be maintained at the work site whenever work is being performed. The permittee shall assure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

13. Until expiration of the permit, the permittee shall remain solely responsible for insuring permit compliance within the entire 1,911.35 acre project area. Furthermore, the permittee shall remain solely responsible for any unauthorized impacts to any of the natural and/or restored wetlands located within the entire 1,911.35 acre project area. In other words, as long as the permit is valid, the permittee shall be solely responsible for all permit compliance and for any unauthorized wetland impacts, regardless of property ownership.

14. This office will favorably consider the permittee's requests for extensions of time to the expiration date of the permit. Factors that this office may consider include, but are not limited to, the following: whether or not the permittee has met all time requirements, as stipulated in the above special permit conditions; whether or not the permittee has violated any permit conditions; whether or not the permittee has completed required compensatory wetland mitigation, and; whether or not unauthorized work in wetlands has occurred within the permit area. Provided that the permittee adequately documents that no serious problems have occurred with regard to the above factors, this office will grant five-year extensions to the expiration date of the permit, not to exceed a total of 20 years.

15. The permittee shall accomplish all work in accordance with the plans and drawings enclosed hereto which are incorporated in and made a part of this permit:

a. Location Map

b. Vicinity Map (Sheet 1 of 26)

c. Project Map and Enlargements (Sheets 2 to 23 of 26)

d. Typical Road Crossing Sections (Sheet 24 of 26)

e. Typical Wetland Fill Section (Sheet 25 of 26)

f. Typical Box Culvert Section (Sheet 26 of 26)

It is understood that the final layout of buildings and infrastructure may vary slightly from the conceptual site development plan submitted for approval. However, there shall be no wetland impacts other than those authorized by this permit.

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this Authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7, or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order which requires you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate.

d. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the U.S. Army Corps of Engineers will normally give favorable consideration to a request for an extension of time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

William C. Bumgartner
(PERMITTEE)

8/02/01
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Nicholas Ogden

8/06/01
(DATE)

Issued for and in behalf of:
Roger A. Gerber
Colonel, U.S. Army
District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities with compliance with its terms and conditions, have the transferee sign and date below.

Nand Gupta
International Paper Realty Corp.
(TRANSFEREE)

1/6/03
(DATE)

MITIGATION PLAN
1,911.35 ACRE BERWICK PLANTATION
18 JULY 2001

The following mitigation plan is expected to compensate for the loss of 20.86 acres of wetlands associated with the development of the 1,911.35 Acre Berwick Plantation.

1.0 Wetland and Upland Buffer Preservation:

The Branigar Organization, Inc. (Branigar), will preserve approximately 396.52 acres of freshwater wetland on the project site. These wetland areas include all of the larger, contiguous wetland systems and several of the larger, more mature isolated wetland areas. Branigar will provide perpetual preservation of these forested hardwood wetland areas which could, under silvicultural guidelines, be significantly impacted.

In addition to preserving 396.52 acres of wetland, Branigar will preserve at least 81.98 acres of upland buffer having a minimum width of 30 feet. This buffer will surround the preserved wetlands, as well as wetlands being restored and enhanced. During completion of the upland buffer boundary survey, it is likely that some additional upland areas will be included in the buffer to straighten the buffer boundary line. This practice is expected to slightly increase the average buffer width.

2.0 Wetland Restoration And Enhancement:

In addition to the large acreage of high quality wetland and upland buffer preservation, Branigar will restore/enhance 25.25 acres of wetland located within and adjacent to the large hardwood bottomland wetland system associated with Culvert Swamp. The hydrology in this area has been affected by the relic ditching associated with historic rice production. This area contains a large primary ditch which extends through the center of the large bottomland system (i.e. north/south), as well as several smaller lateral ditches extending east and west. Based on the wetland delineation and review of preliminary topographic and soils information, it appears that approximately 13.67 acres of former hardwood bottomland wetland has been completely drained and is no longer jurisdictional. In addition to completely draining a large acreage of wetland, the existing ditch system continues to significantly affect the normal hydrology within approximately 11.58 acres of jurisdictional wetland.

The goal of this portion of the mitigation plan is to restore/enhance surface and ground water hydrology within the 25.25 acre area to that of a nearby reference wetland. Branigar will restore reference hydrology in this area by installing one or more engineer-designed permanent water control structures within the lateral ditches. The permanent structures should allow surface and ground water elevations to rise in this area, increasing the frequency and duration of hydric conditions. The design of the water control structures is not known at this time, as additional investigation of the site and watershed will need to be completed prior to sizing the structures. It is anticipated that the structures will be fixed riser structures with outfall pipes or earthen plugs installed in the existing ditches. Final outfall elevations will be set according to site topography

and overall predicted watershed flows during certain storm events. The set elevation will allow the restoration/enhancement area to have saturated soils at a frequency and duration resembling that of the reference wetland, but will not allow the flooding of adjacent upland areas. This restoration/enhancement activity will result in an overall improvement in wetland quality and fish and wildlife habitat.

Branigar will initiate the restoration and enhancement plan by conducting a detailed topographic survey of the restoration and enhancement site. After the topographic survey is completed, Branigar will complete an engineer-designed plan which will depict the proposed water control structure(s) and predicted ground and surface water elevations. Branigar will implement the restoration/enhancement work concurrent with project construction, and all restoration work will be completed within two years of permit authorization.

Branigar will install monitoring wells within the 25.25 acre restoration/enhancement area, and in the reference wetland to establish baseline hydrology data to document the functional lift of the mitigation area. Branigar will monitor these wells for five years post-construction to determine the success of the hydrology restoration project. If at the end of the five year monitoring period the project is determined to be a success, the restoration/ enhancement project may, after review by the appropriate regulatory agency personnel, be considered complete. If the wetland restoration/enhancement project is unsuccessful, Branigar will consult with the appropriate regulatory review agencies to determine what remedial action should be taken.

3.0 Declaration of Covenants and Restrictions:

Branigar will establish an irrevocable Declaration of Covenants and Restrictions (Covenant) on all upland buffers and wetlands to be preserved, restored and enhanced within the project boundaries. The Covenant will be attached to the deed and run with the land. This Covenant will be recorded with the RMC Office of Chatham County after a permit has been issued by the U.S. Army Corps of Engineers (USACE) . All preservation areas will be eventually deeded to the Property Owners Association or transferred to a preservation organization.

The Covenant will generally allow access for activities such as hiking, bird watching, fishing, or other suitable recreational activities. It will also allow nature trails, elevated boardwalks and/or bridges, passive management activities beneficial to wildlife, removal of diseased and unsafe trees, limited underbrushing to create pathways, the discharge of storm water run-off and salvage timber harvesting operations in response to acts of nature (i.e., hurricanes). The Covenant will specifically prohibit development activities or other disturbances such as commercial timber harvesting, clearing, grading, excavation or formal landscaping, except for the limited trail construction and passive habitat management activities.

Preserved mitigation areas will be indicated on a plat signed and sealed by a registered surveyor. Appropriate signage will be placed around the perimeter of all mitigation areas, at approximately 300' intervals, advising that the conservation/preservation areas are protected and restricted to certain activities.

4.0 Mitigation Implementation Schedule:
The following is a time schedule for implementing the above described mitigation plan for the 1911.35 acre Berwick Plantation.

4.1 Wetland and Upland Buffer Preservation:
Within one year of permit issuance, and concurrent with development activities, Branigar will submit for review and final approval, a draft "Declaration of Covenants and Restrictions" necessary to perpetually protect and preserve all wetlands and uplands that are identified as compensatory mitigation lands in the above mitigation plan. This draft document will contain stipulations necessary to allow the developers flexibility with regard to the exact location of the right-of-way for the phased construction of authorized wetland crossings.

Within six months of the USACE's final approval of the draft "Declaration of Covenants and Restrictions", Branigar will submit a copy of the final document that has been notarized and recorded in the Office of the Clerk of the Superior Court of Chatham County, Georgia.

Within six months of the USACE's final approval of the above draft "Declaration of Covenants and Restrictions", Branigar will post appropriate signs at 300' intervals along all property boundaries of the compensatory mitigation lands to reduce the possibility of unauthorized disturbance to these areas.

4.2 Wetland Restoration and Enhancement:
Within one year of permit authorization, Branigar will submit a final mitigation plan for the wetland restoration and enhancement area. The final mitigation plan will include the following:

a. A detailed topographic survey of the entire 25.25 acre enhancement area with a contour interval of six inches or less (0.1 foot intervals would be preferred).

b. An engineer-designed site plan detailing the steps that will be taken to restore and enhance wetland hydrology in the mitigation area. This plan will include the number and location of water control structures, plans for their construction, and predicted ground and surface water elevations. The water control structures will be constructed/armored in a manner to insure that they are permanent. Any existing drainage ditches should be blocked at several locations upstream of the water control structures using available sidecast material.

c. A proposed methodology for monitoring hydrology in the restoration/enhancement area and the reference wetland. This plan will include the type, number and location of monitoring wells, as well as the proposed frequency and duration of monitoring. At least one year of baseline hydrologic monitoring and five years of post-construction monitoring will be required. The monitoring plan should include a contingency plan for up to an additional year of baseline monitoring to obtain more accurate data as required. This plan should indicate that baseline hydrologic monitoring will begin within 18 months of permit authorization, and that the water control structures will be installed six months or less after the baseline monitoring is concluded. The condition of the water control structures themselves should also be monitored.

The mitigation plan for the wetland restoration/enhancement area will be submitted to the USACE for review and approval. Branigar will make minor revisions to the plan if considered necessary.

Annual mitigation monitoring reports will be submitted to the USACE for review and acceptance. If significant problems are identified during the five year post-construction monitoring period, regulatory personnel will be consulted regarding possible corrective action that may need to be taken. This may include modification or replacement of the water control structures, extension of the monitoring period, or the location of an alternate mitigation site. If at the end of the five year post-construction monitoring period the project is determined to be a success, the enhancement project may, after review by the appropriate regulatory agency personnel, be considered complete.

5.0 Summary:

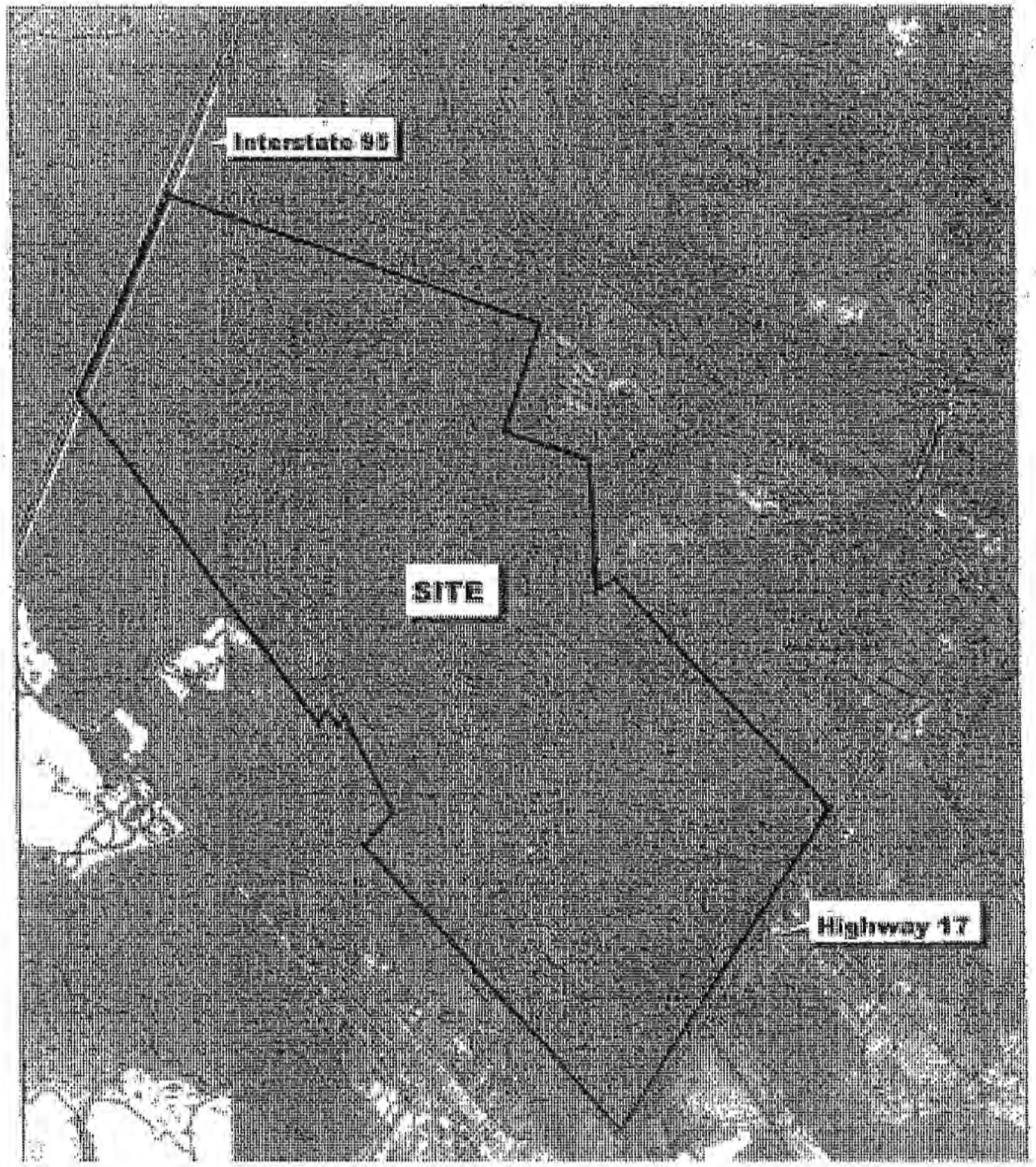
As mitigation for impacting 20.26 acres of wetland, Branigar will preserve 396.52 acres of wetland, restore 13.67 acres of wetland and enhance 11.58 acres of wetland on the 1,911.35 acre Berwick Plantation. The preserved, restored and enhanced wetland areas will be surrounded by at least 81.98 acres of upland buffer having a minimum width of 30 feet. Branigar will attach a Declaration of Covenants and Restrictions to these mitigation areas to insure their preservation in perpetuity. This mitigation plan should fully compensate for project-related impacts. All development activities will be performed using best management practices,(silt fencing, grassed slopes, etc.) to further minimize and avoid impacts to wetland areas located on the property.

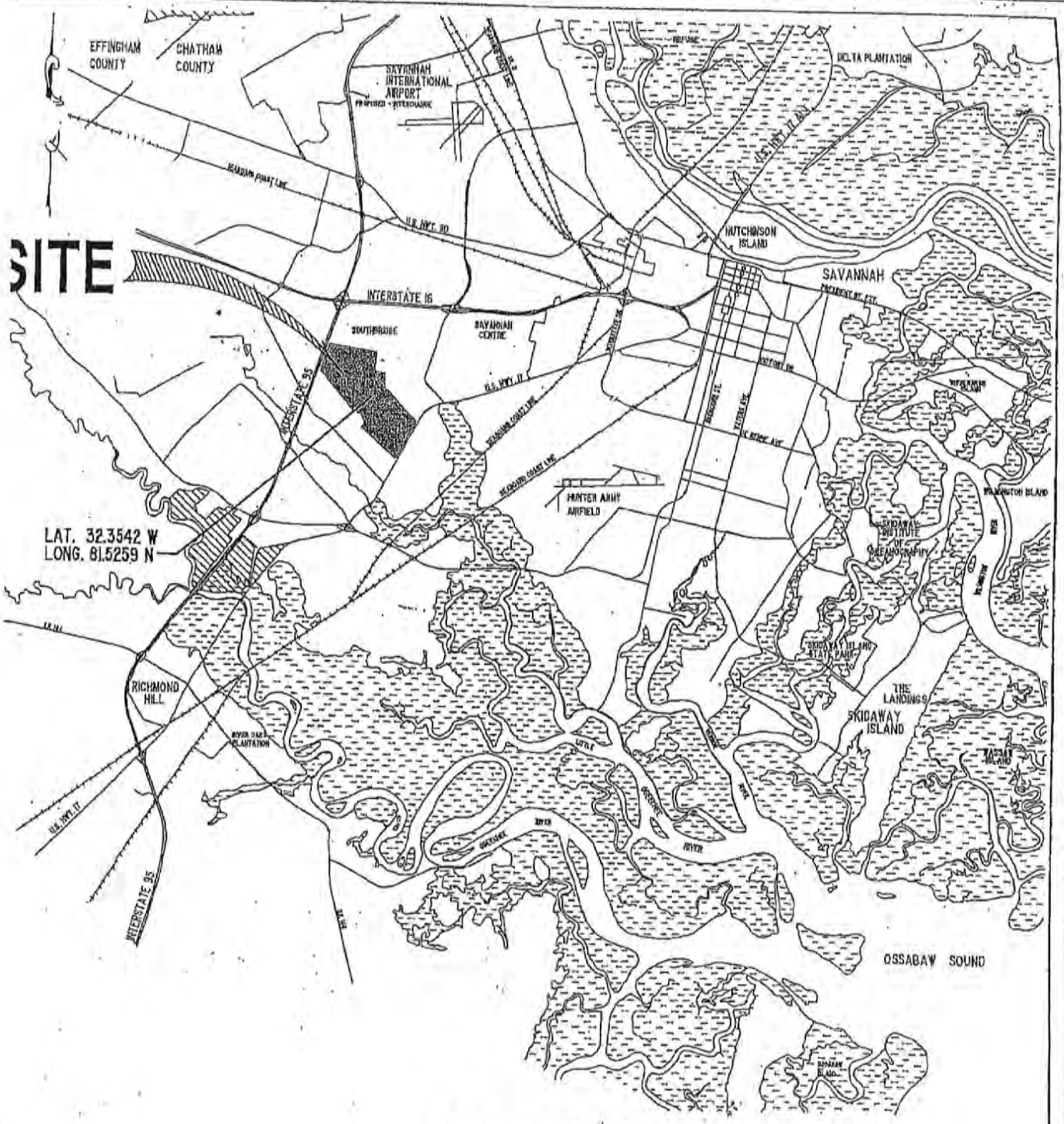
Location Map

1911.35 Acre Berwick Plantation
Chatham County, Georgia

NEWKIRK
ENVIRONMENTAL, INC

Project Limits





VICINITY MAP

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 1 OF 26

SCALE: NOT TO SCALE

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT

COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

LEGEND

	TOTAL WETLANDS	442.634 AC.
	TOTAL WETLAND FILL (44,432 C.Y.)	20.86 AC.
	WETLANDS ENHANCEMENT	11.58 AC.
	WETLANDS RESTORATION	13.67 AC.
	UPLAND BUFFERS / WILDLIFE CORRIDORS	81.98 AC.
	WETLAND PRESERVATION	396.52 AC.
	TOTAL TRACT	1911.35 AC.

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SCALE: 1"=2000'

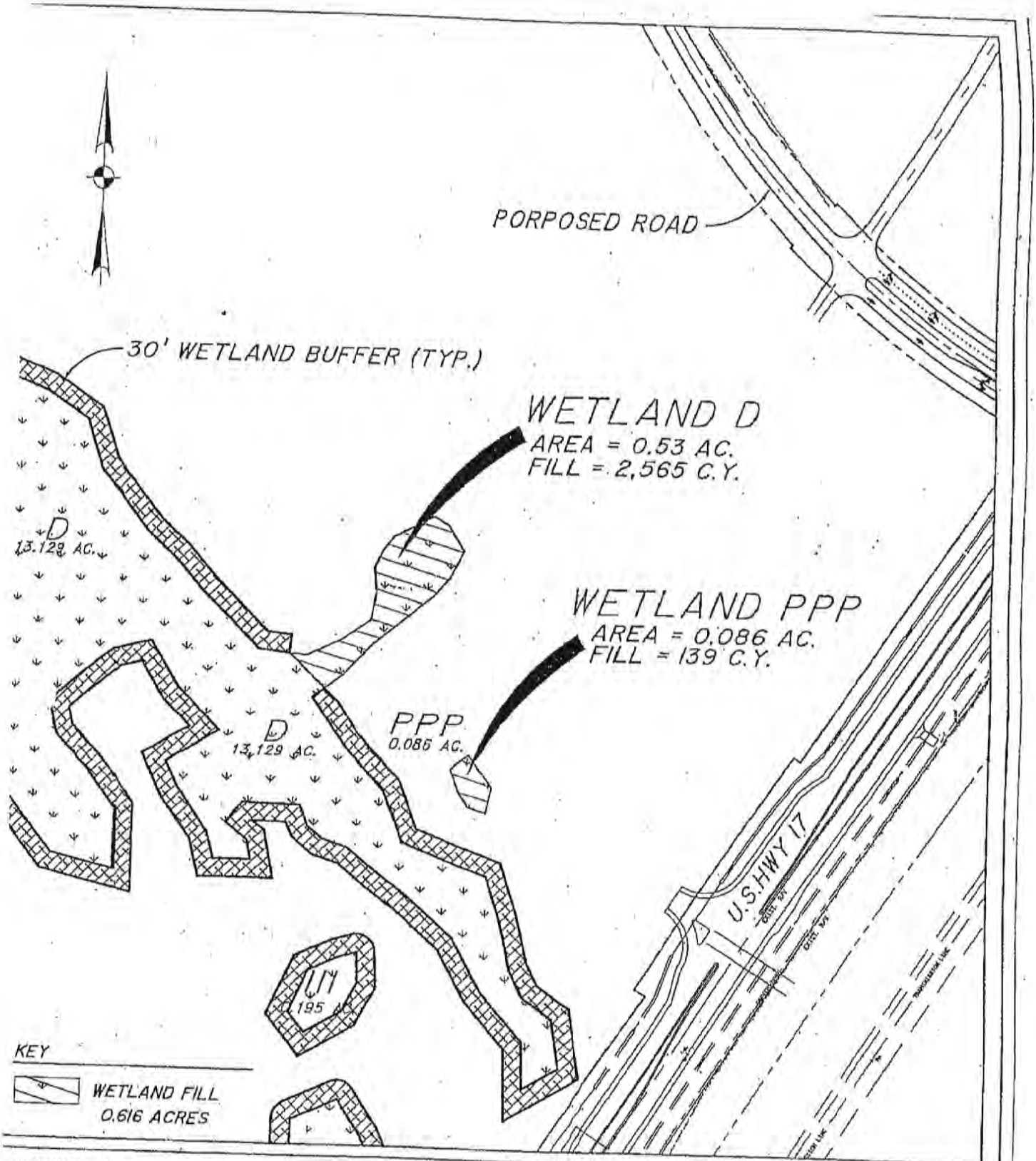
DATUM:
MEAN SEA LEVEL

SHEET 3 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 4 OF 26

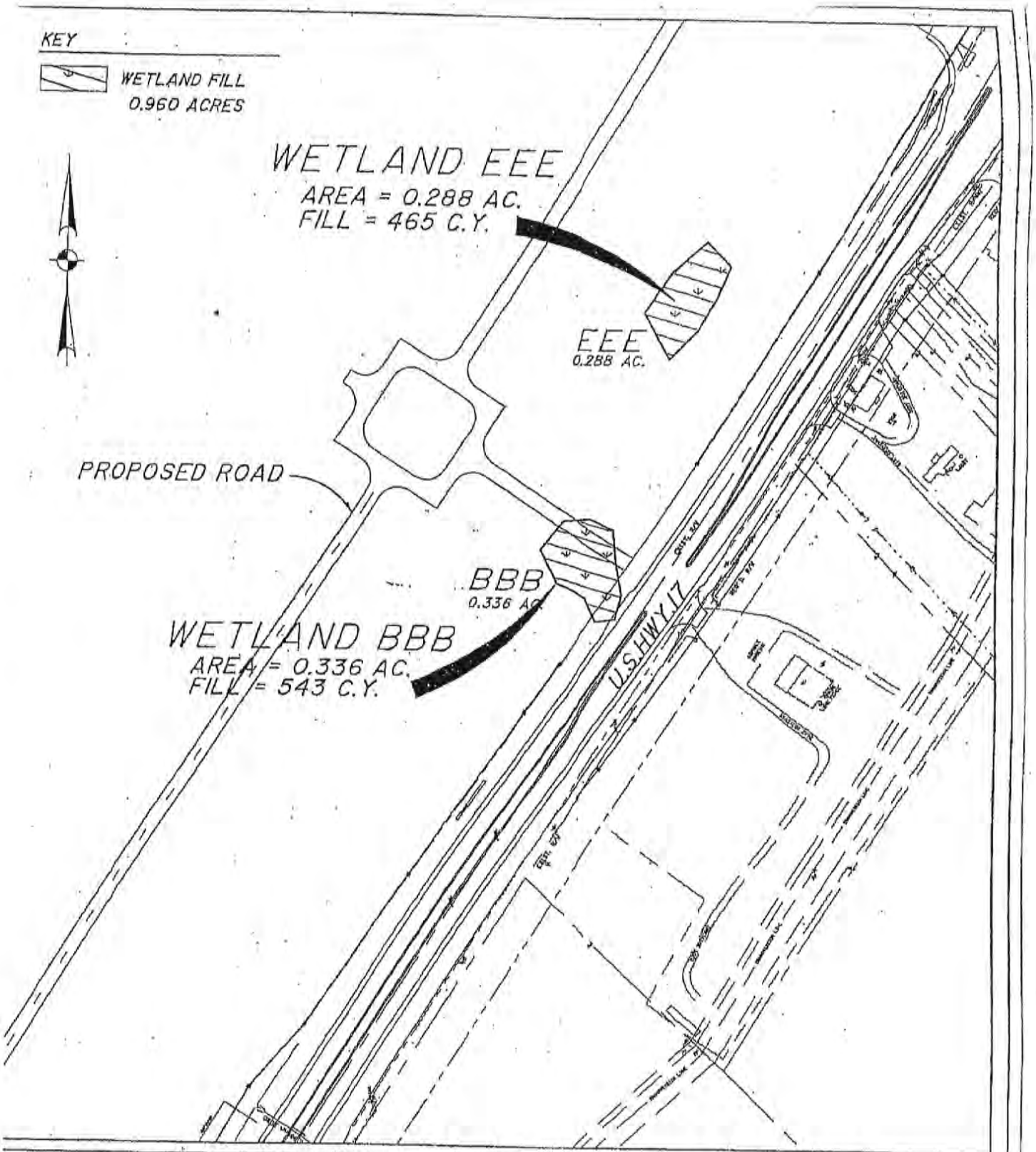
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

HEET 5 OF 26

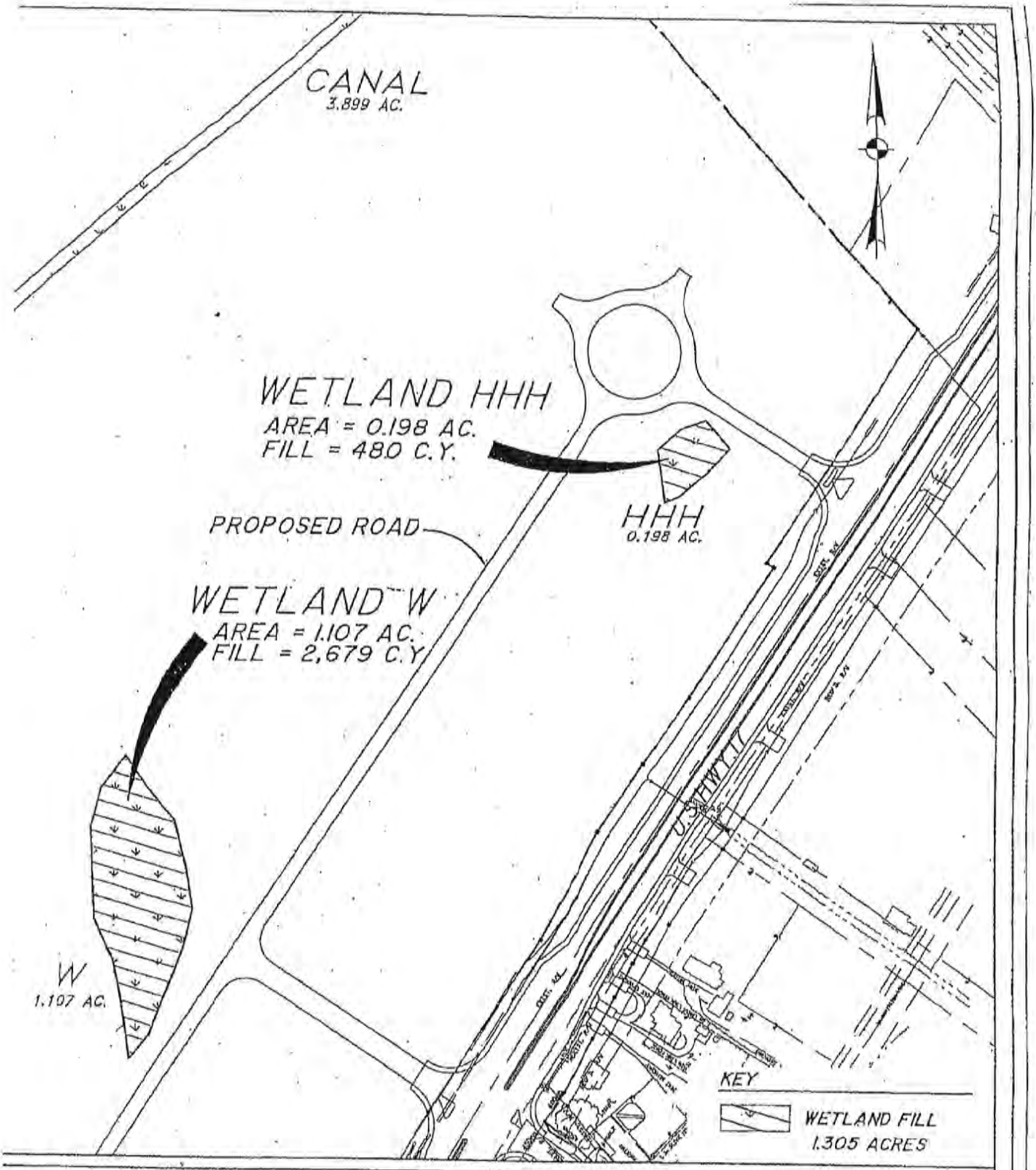
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 6 OF 26

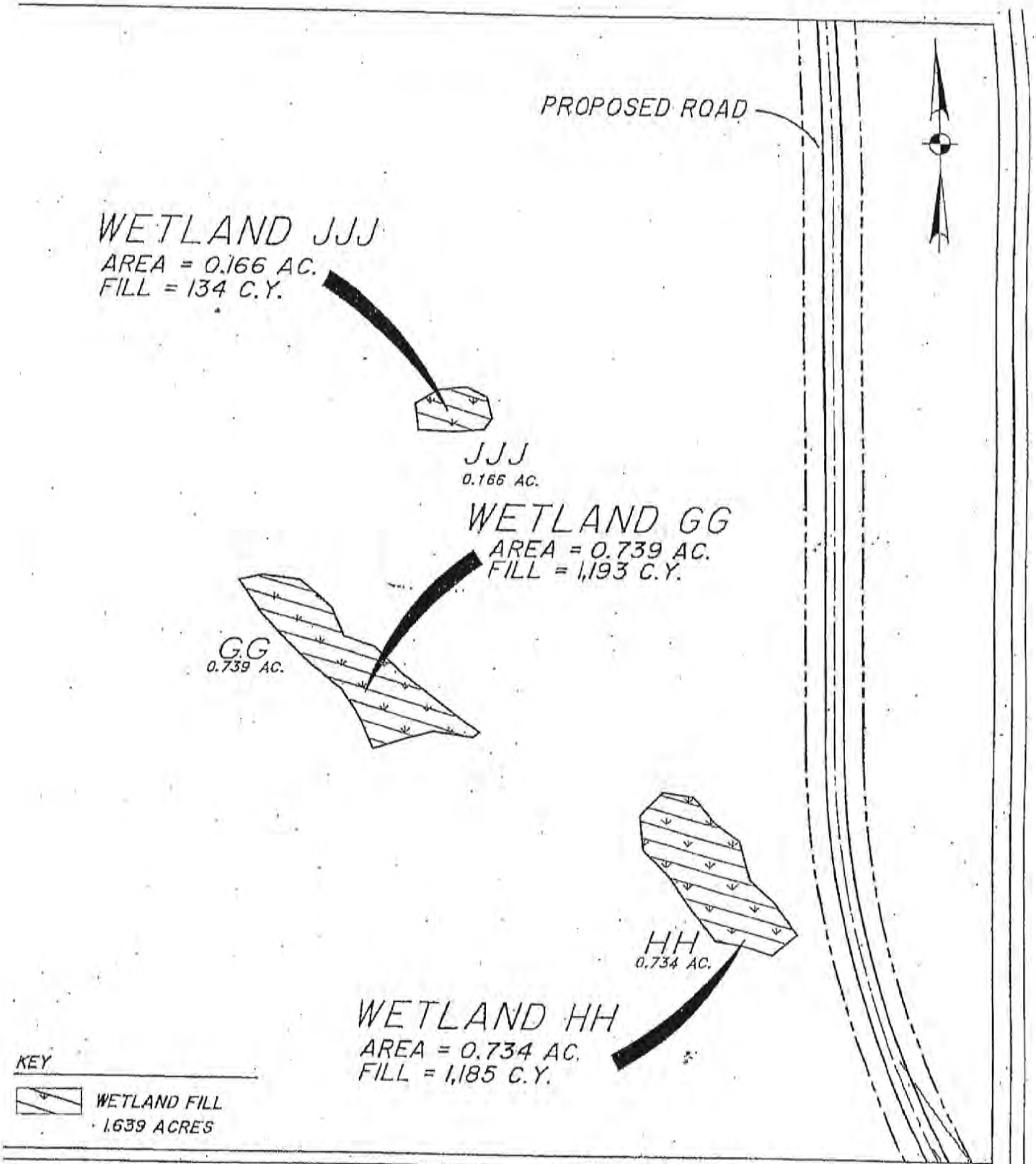
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

EET 7 OF 26

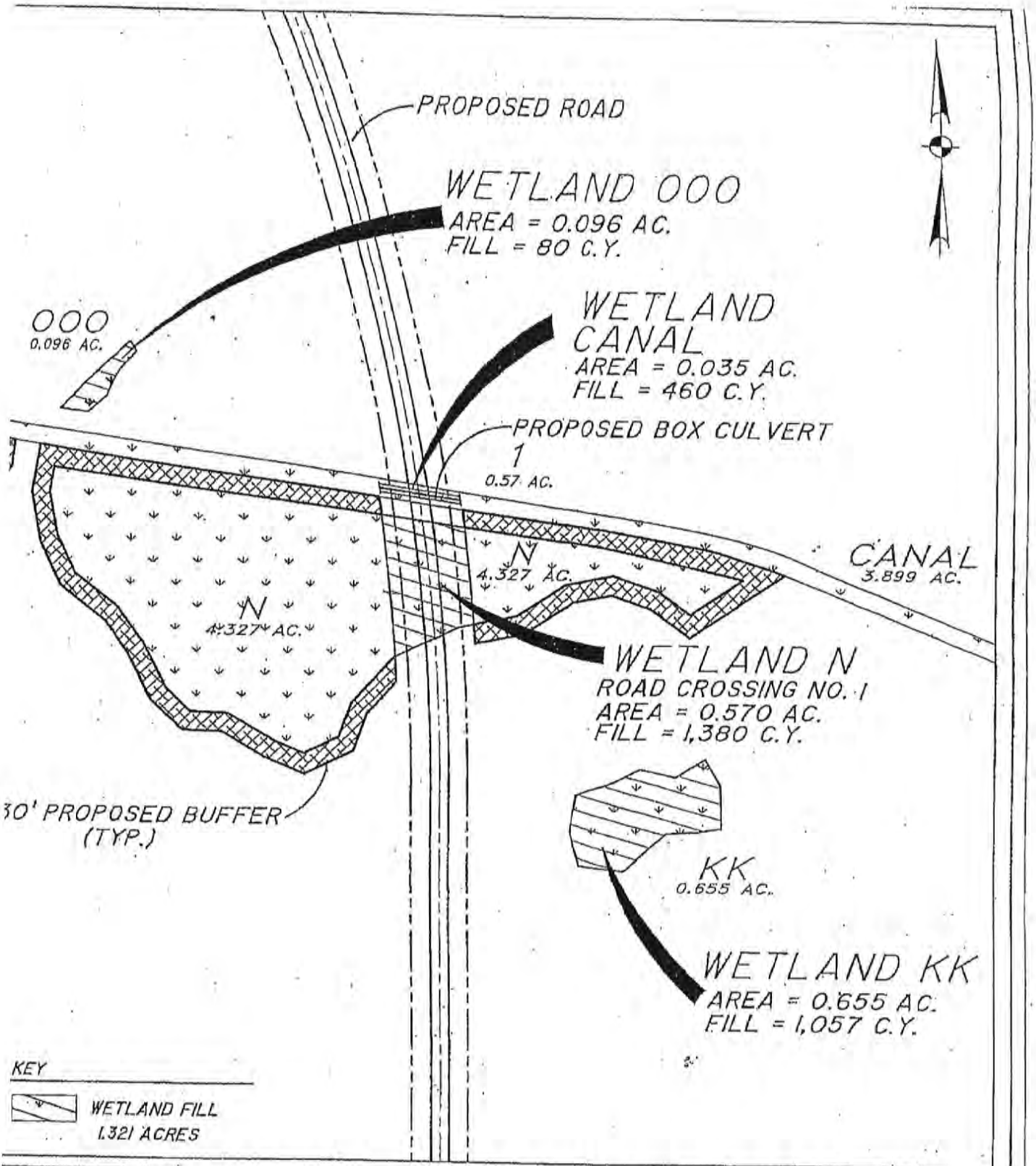
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 8 OF 26

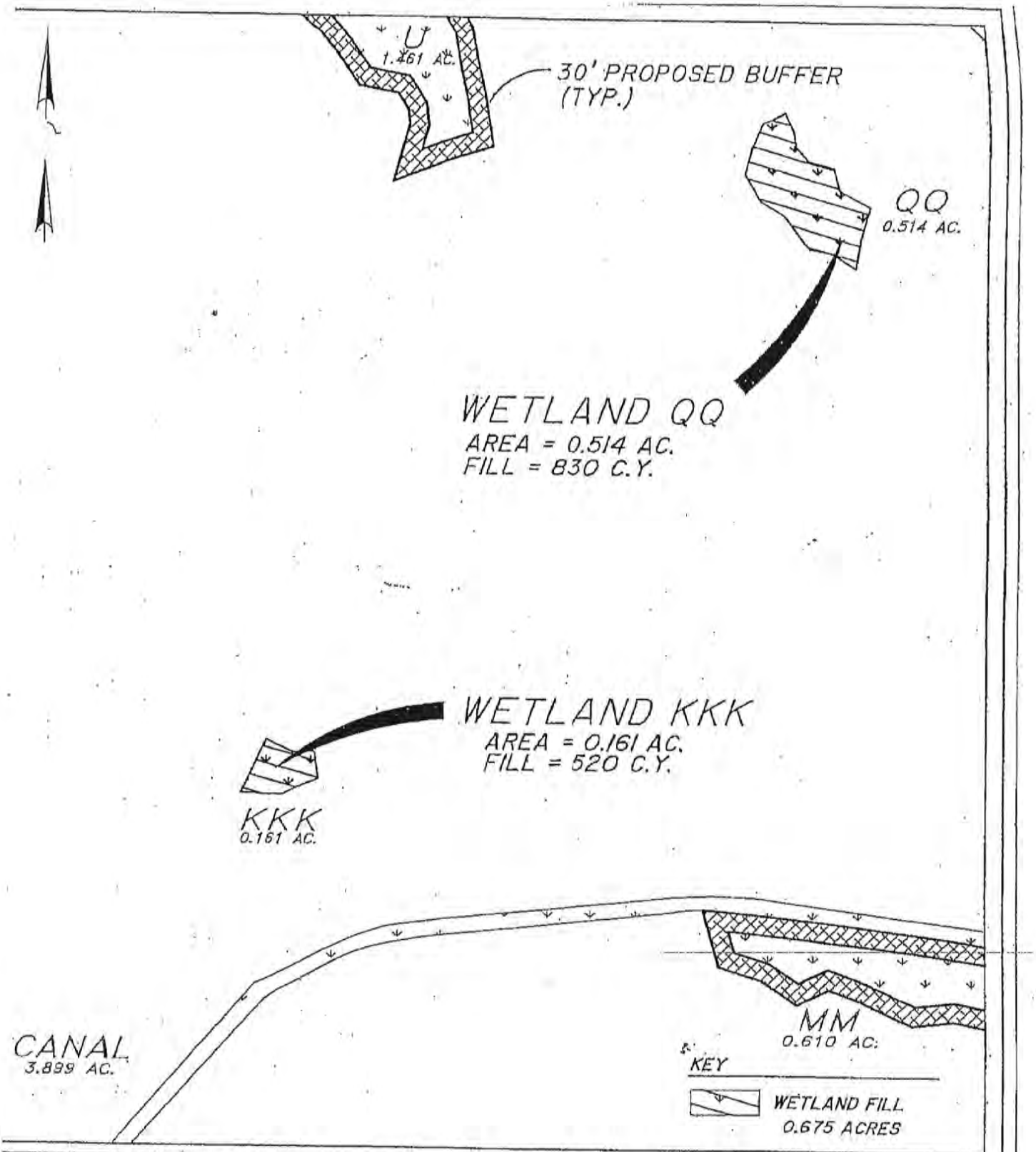
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 9 OF 26

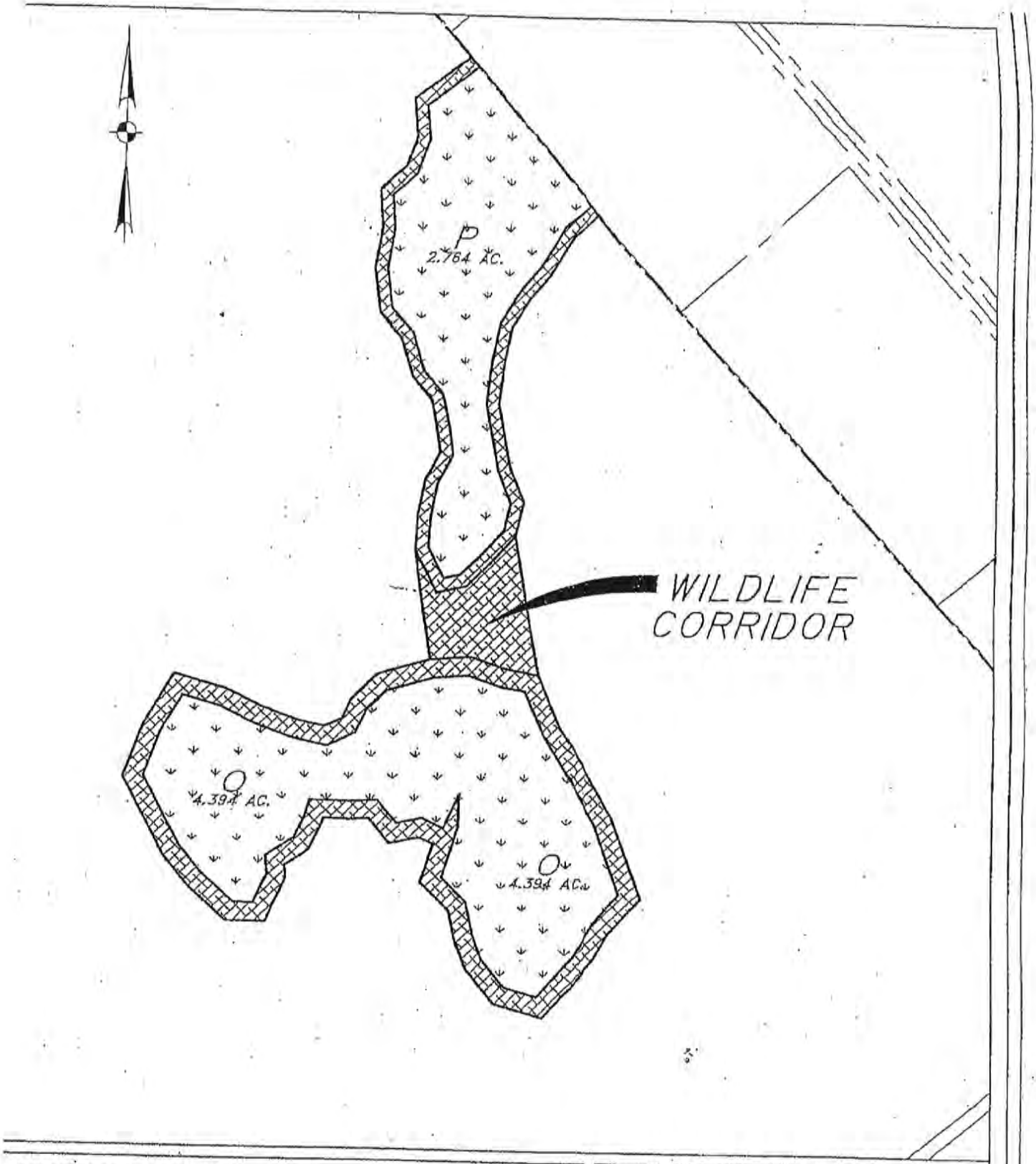
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 10 OF 26

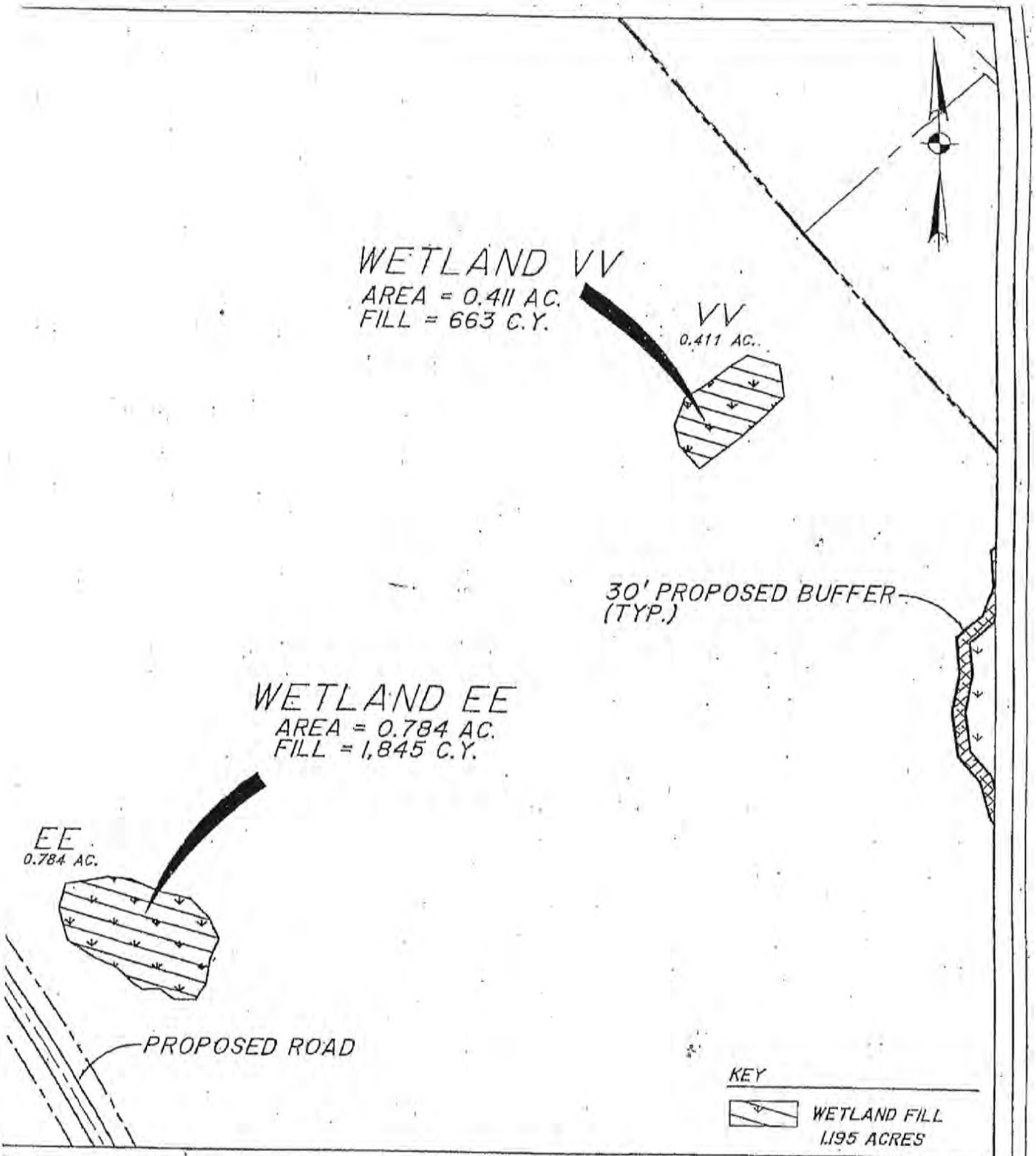
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 11 OF 26

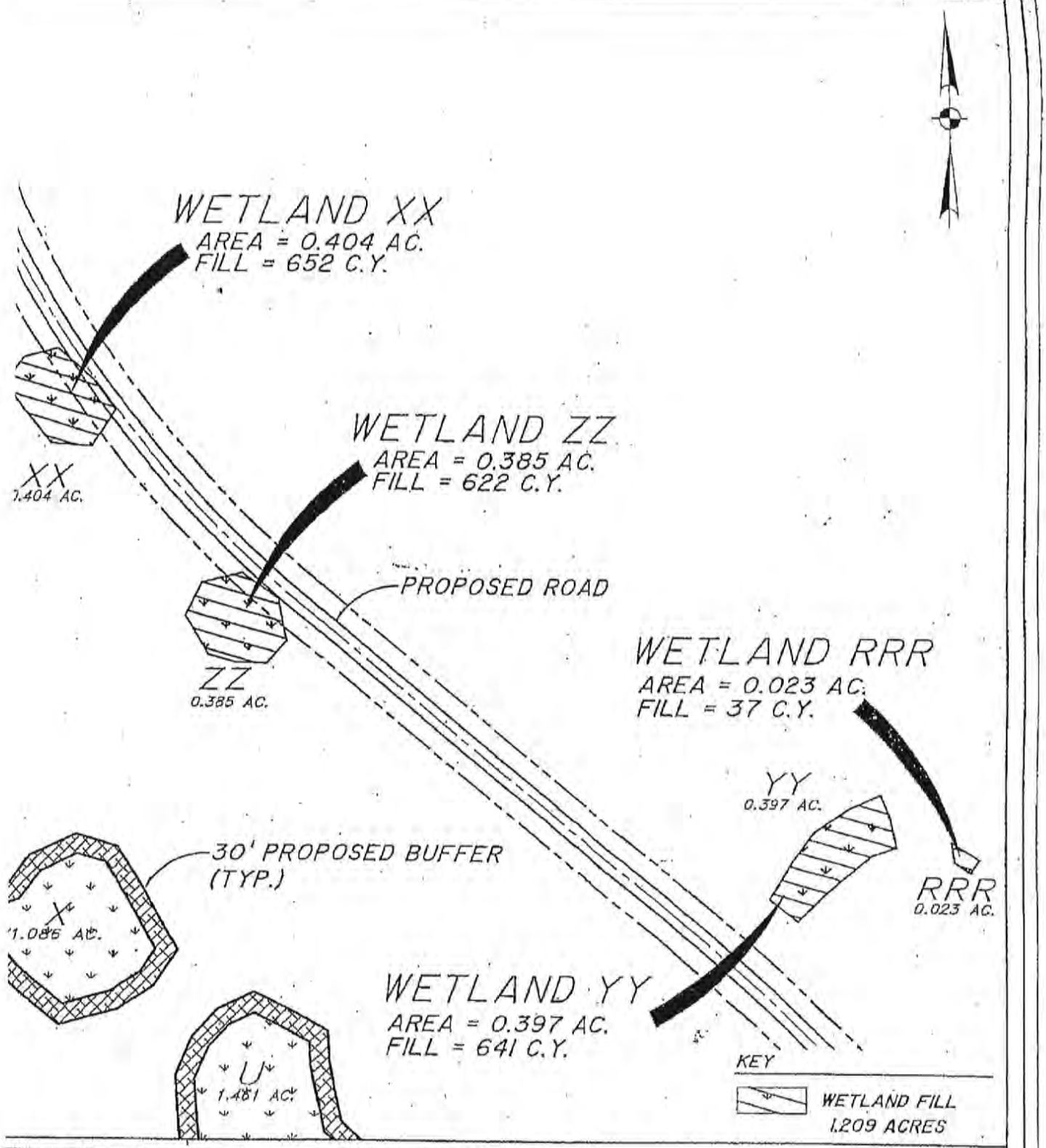
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 12 OF 26

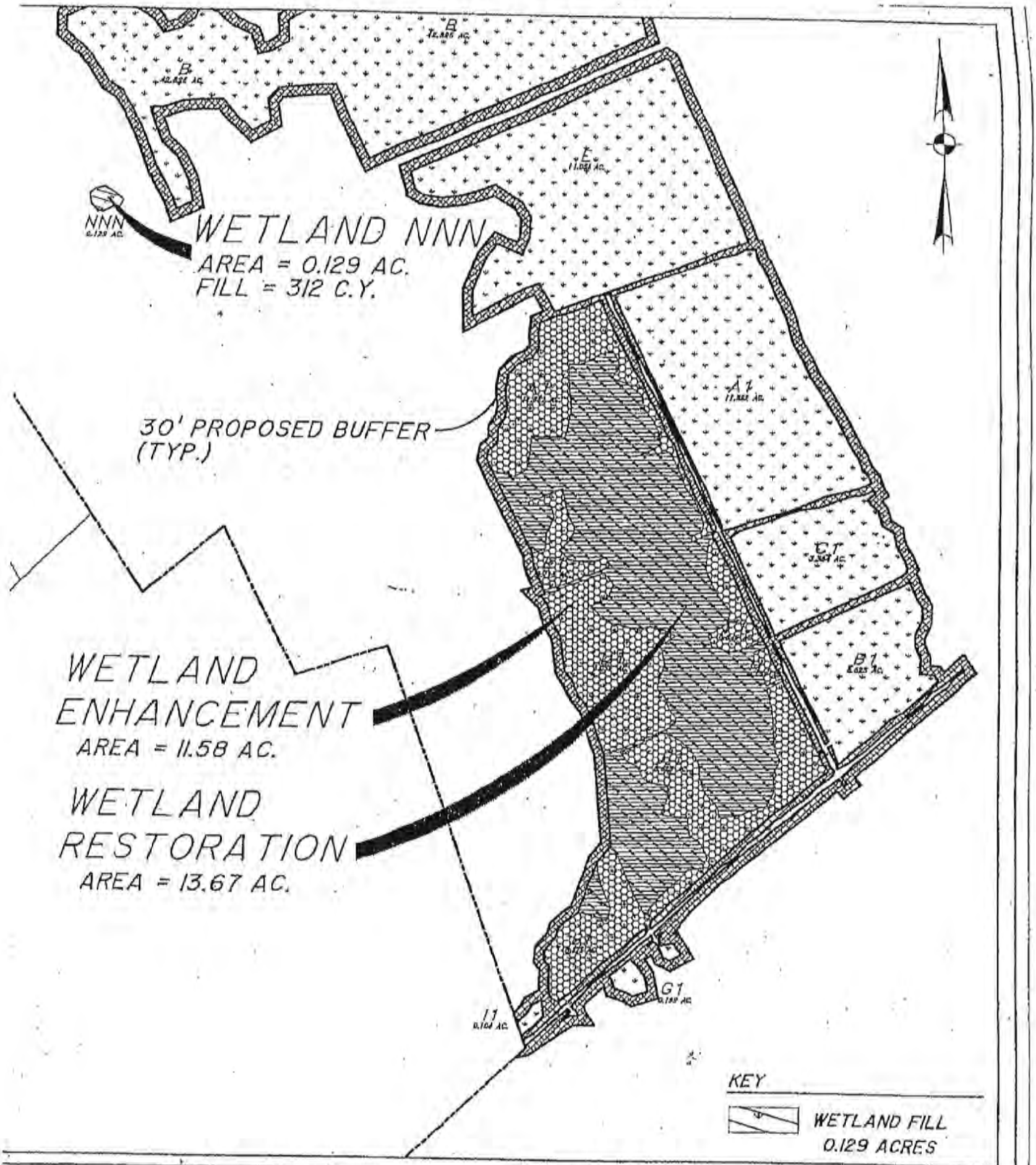
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 13 OF 26

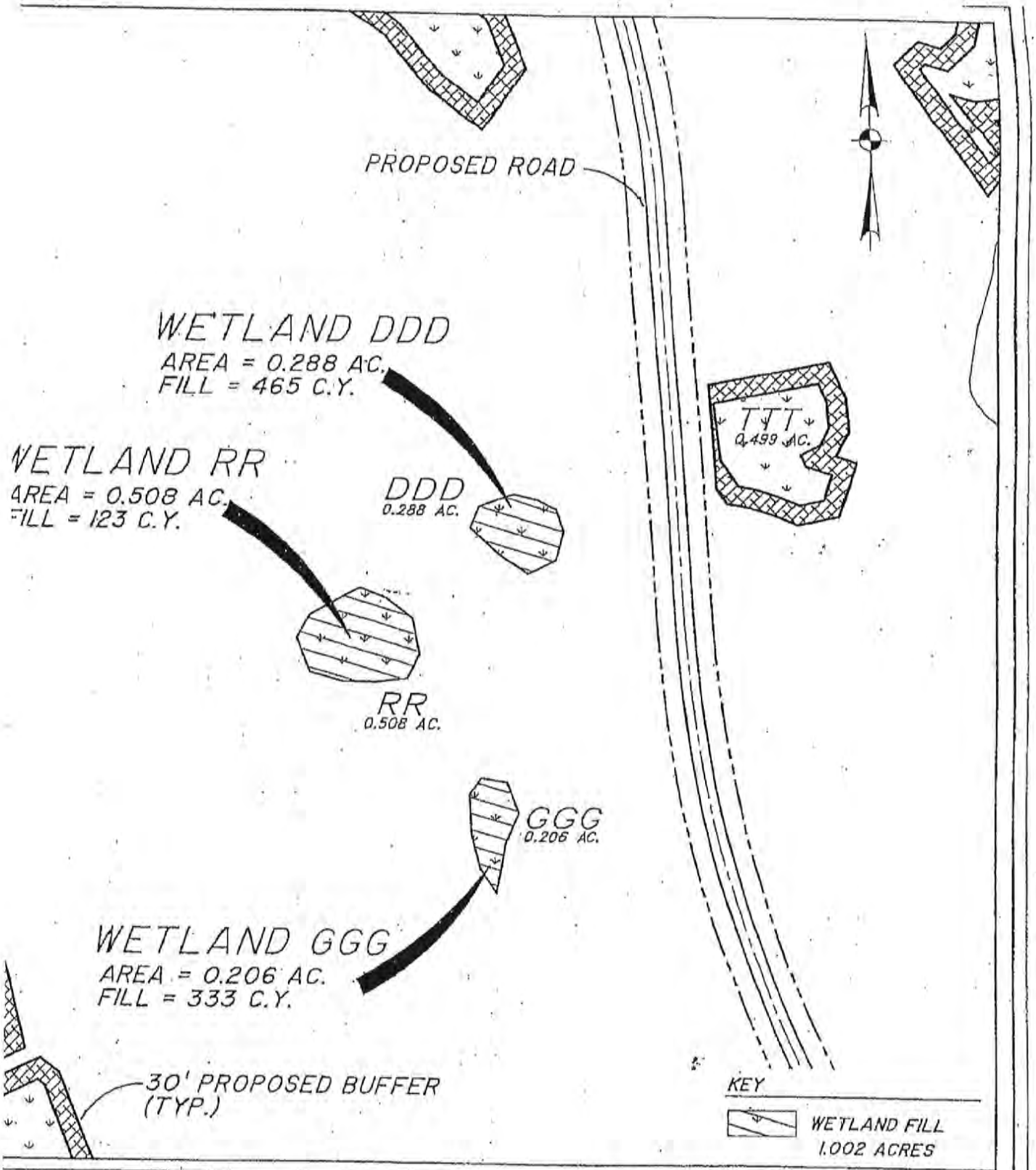
SCALE: 1"=400'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

E: DECEMBER 11, 2000

SHEET 14 OF 26

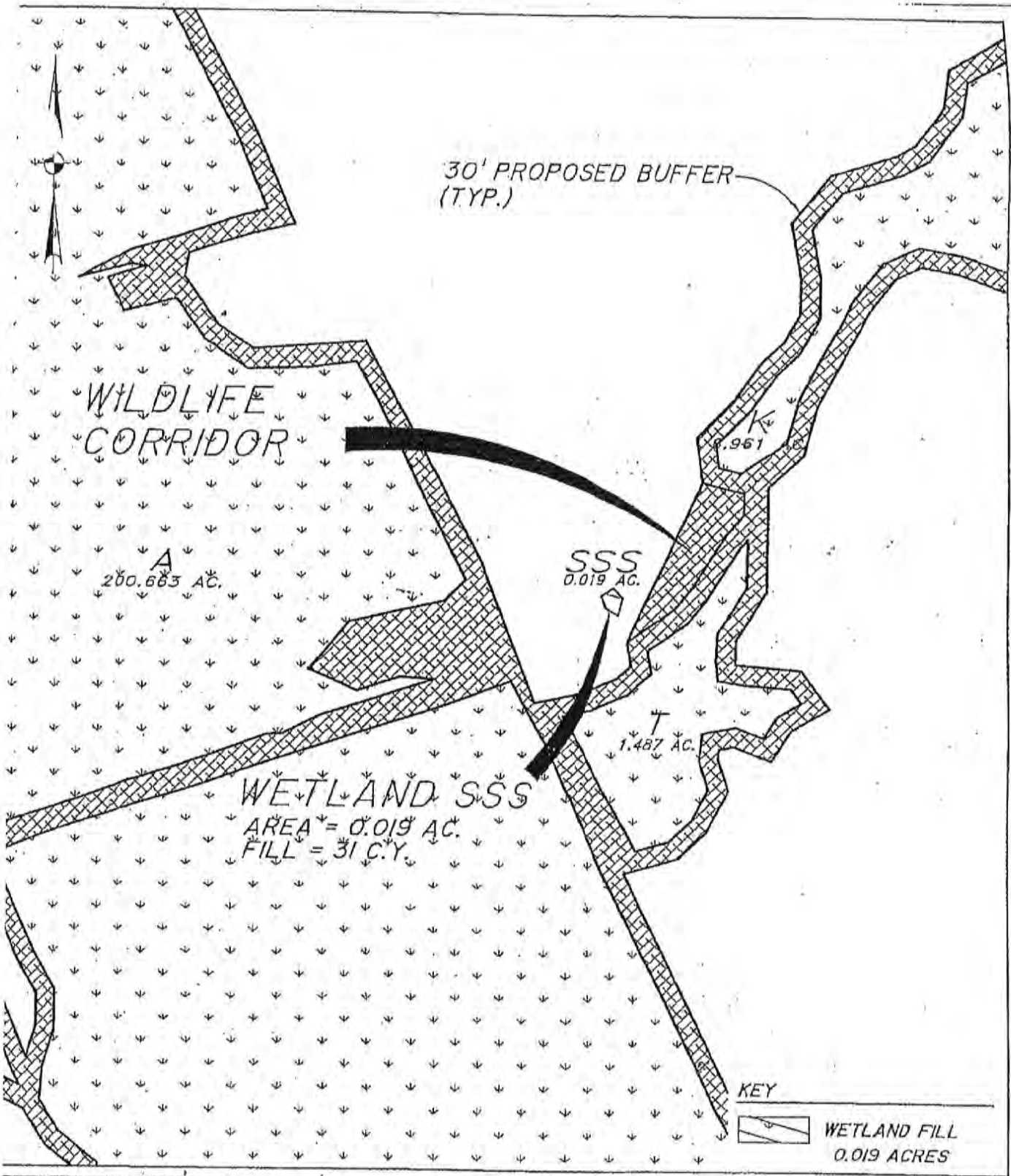
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 15 OF 26

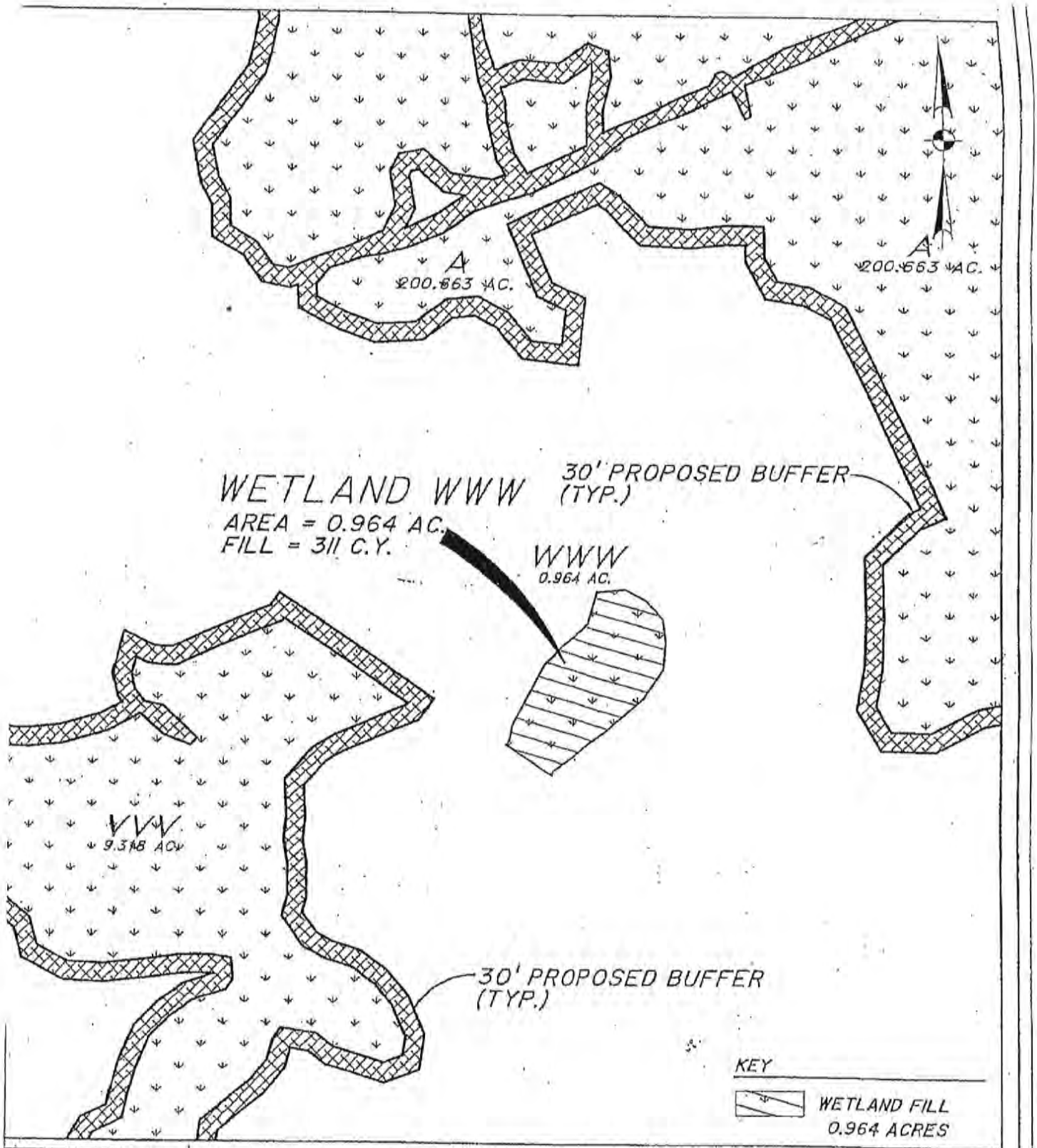
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 16 OF 26

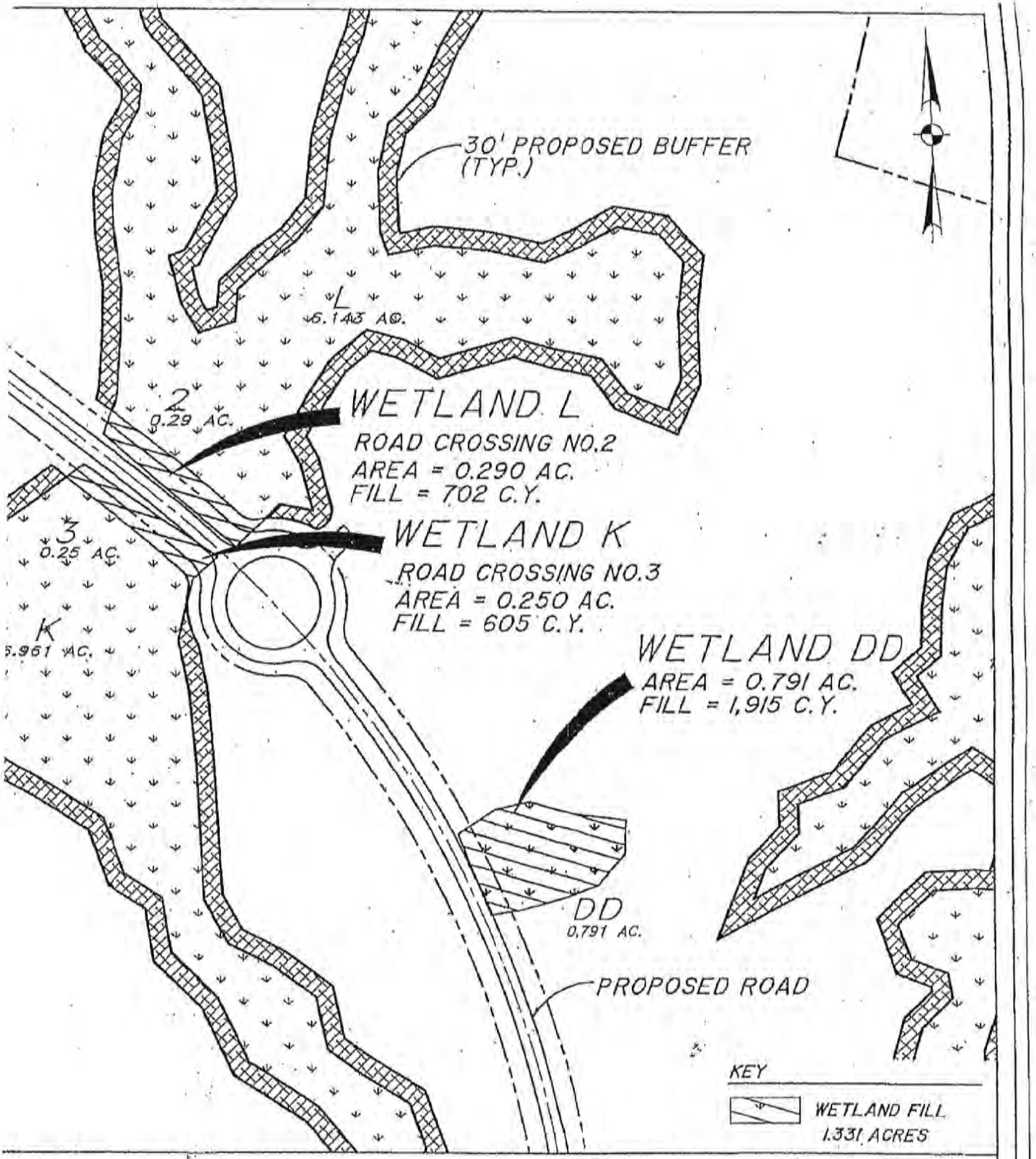
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 17 OF 26

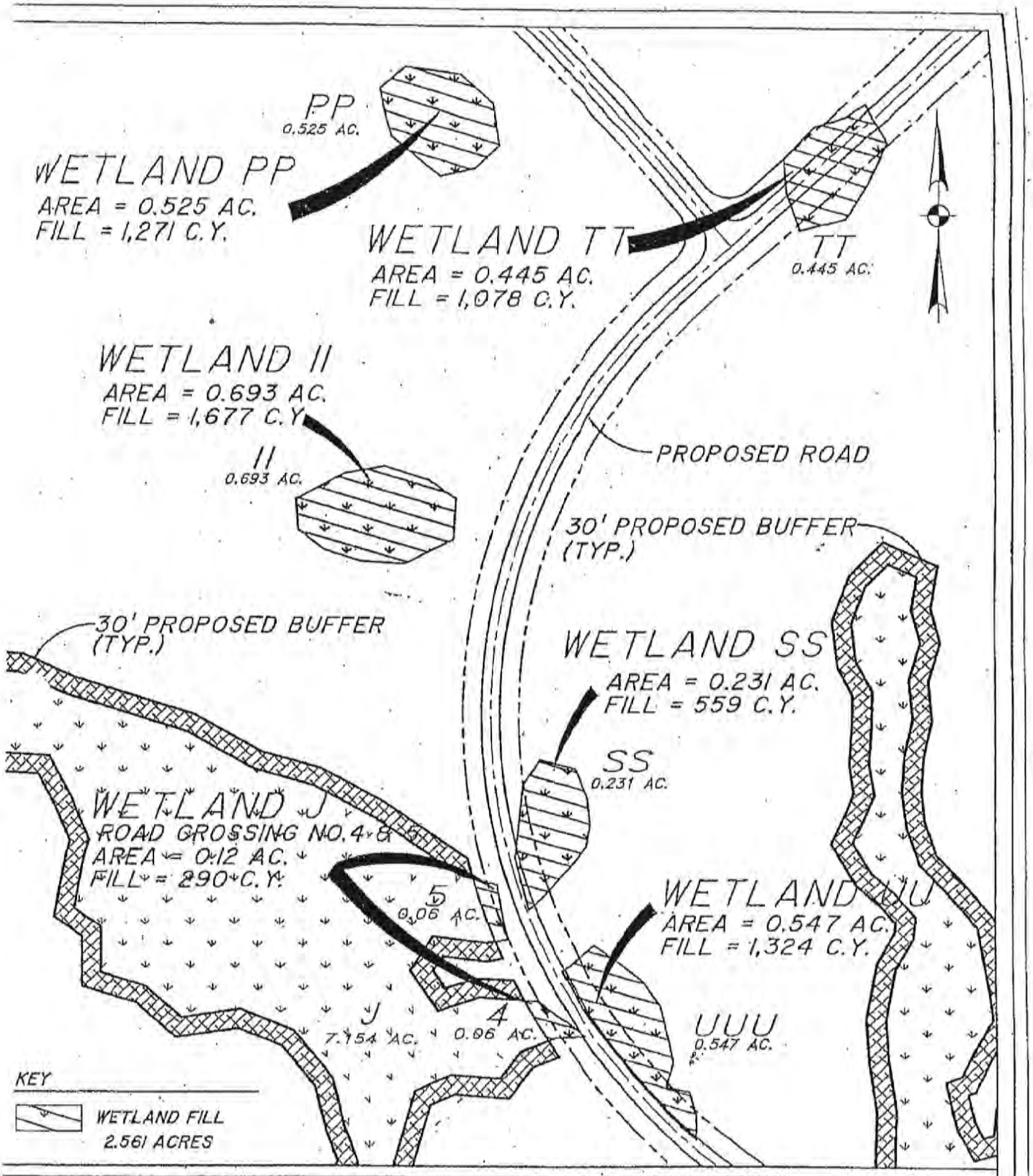
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 18 OF 26

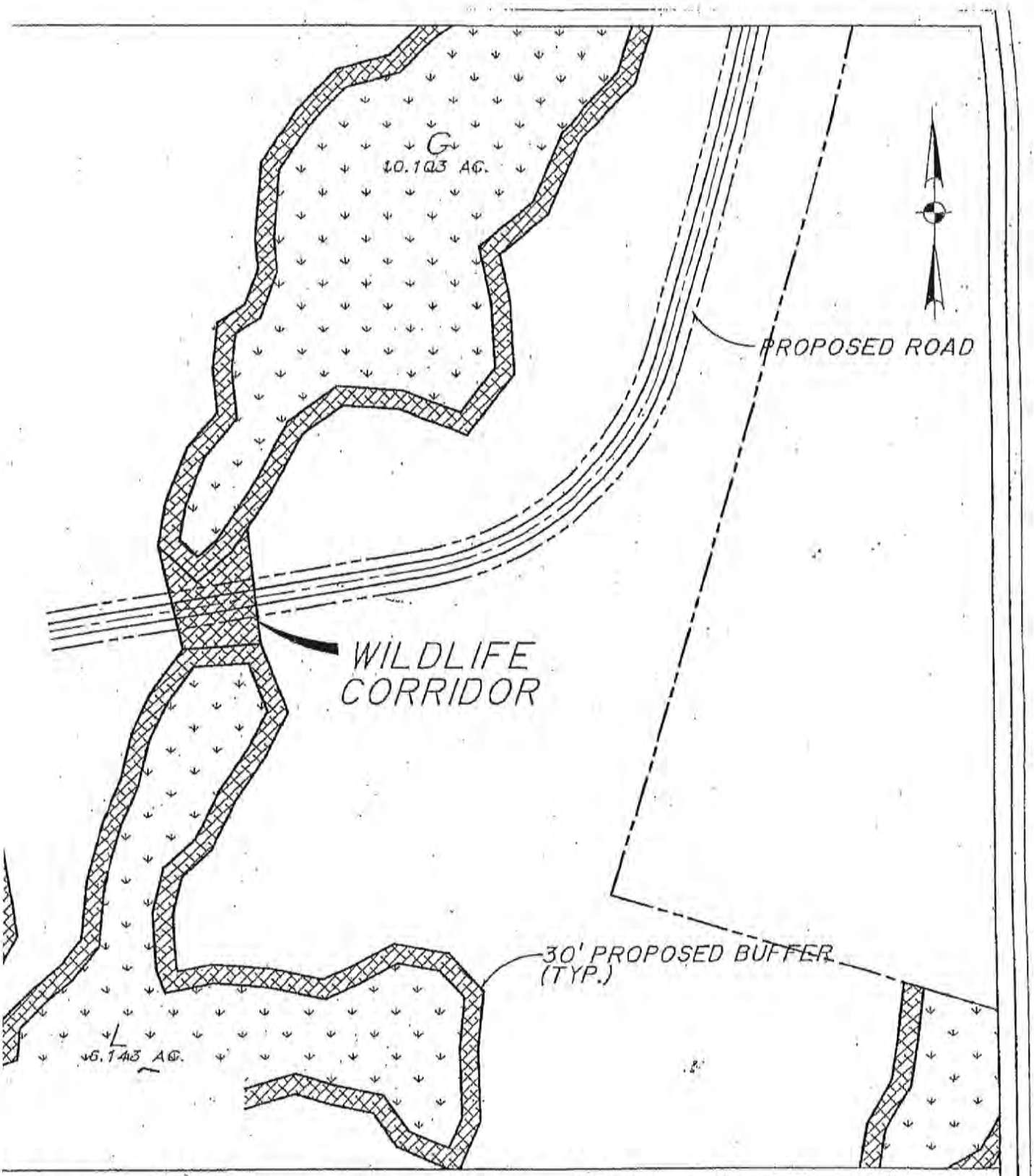
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 19 OF 26

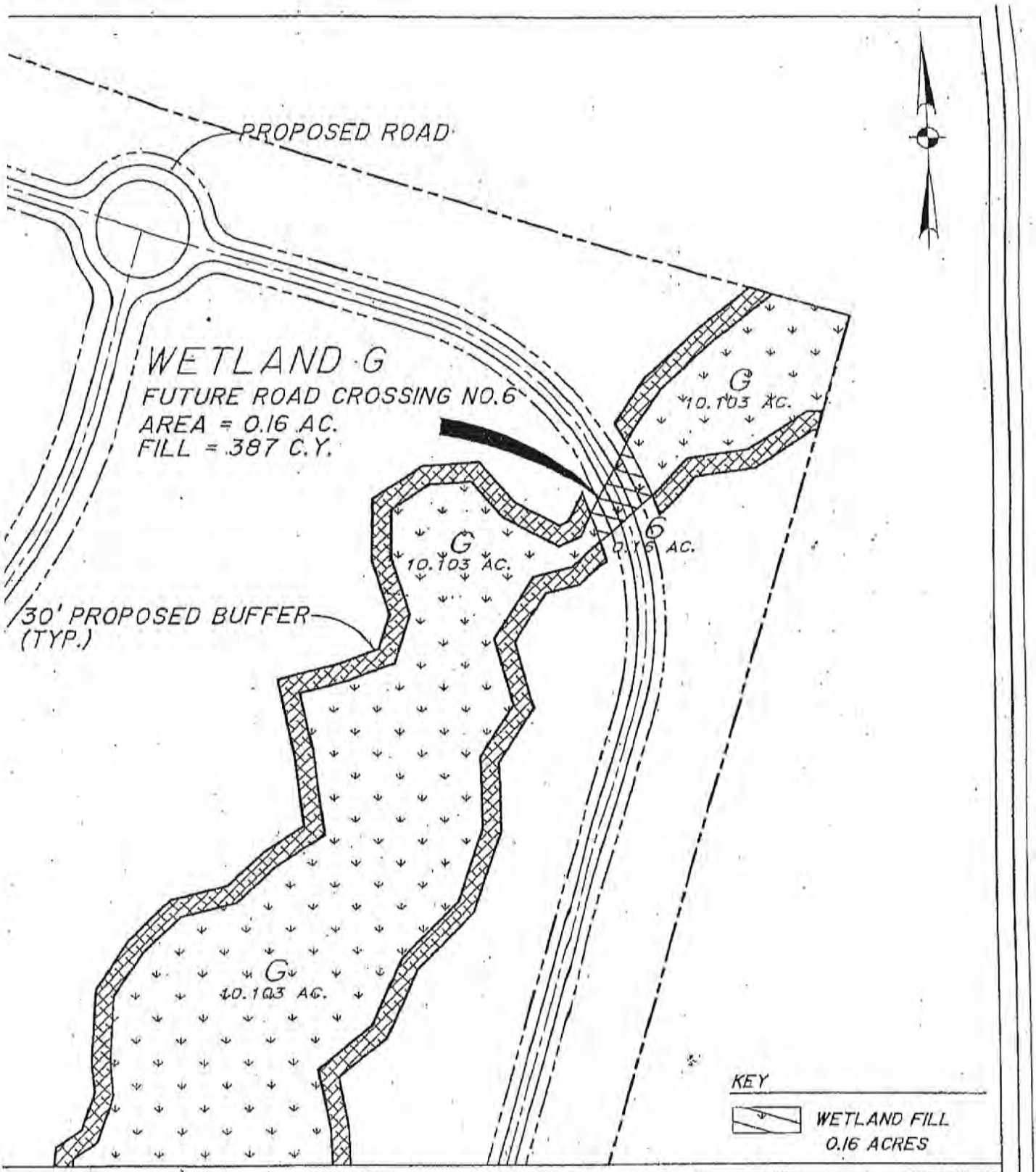
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 20 OF 26

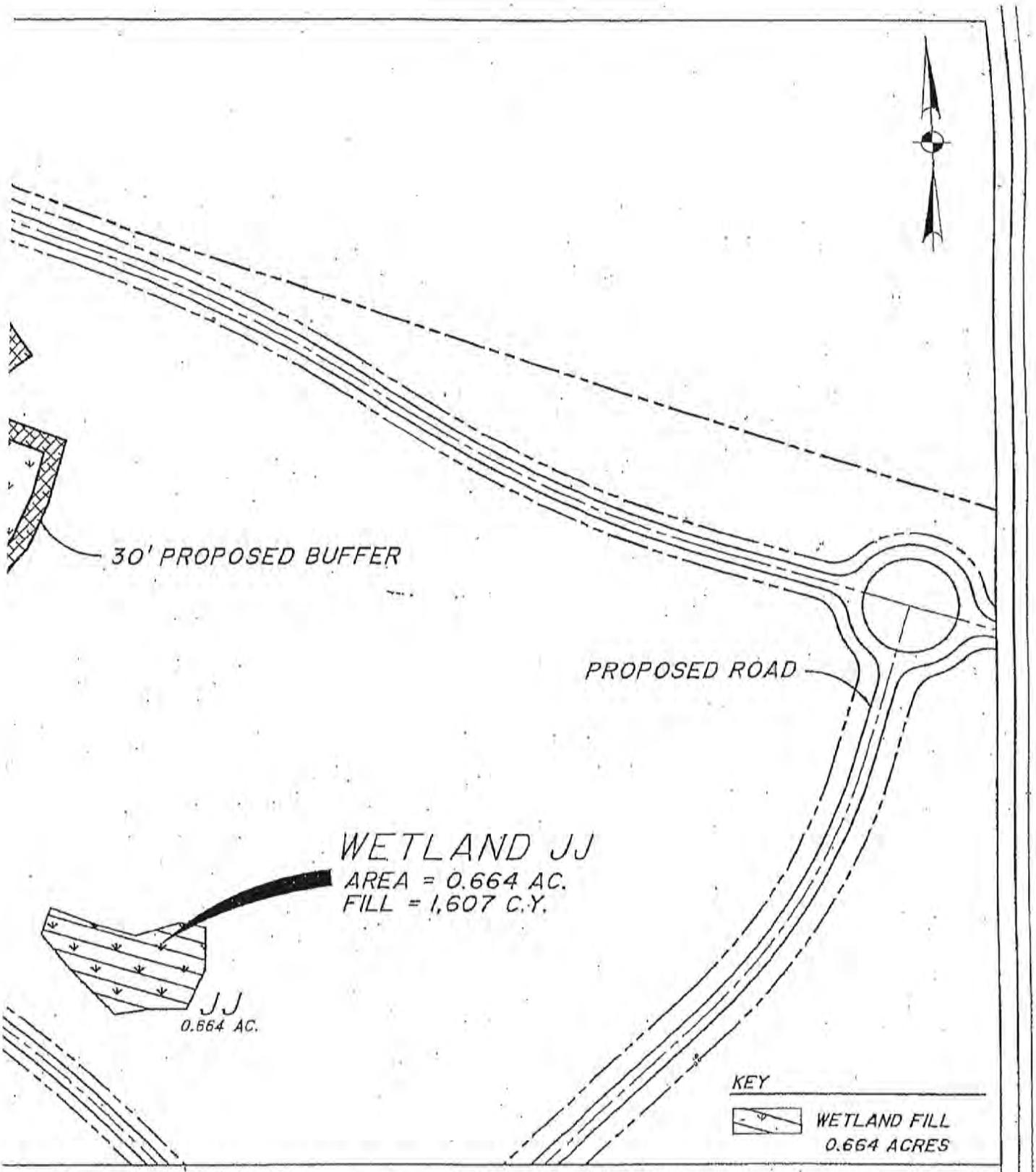
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 21 OF 26

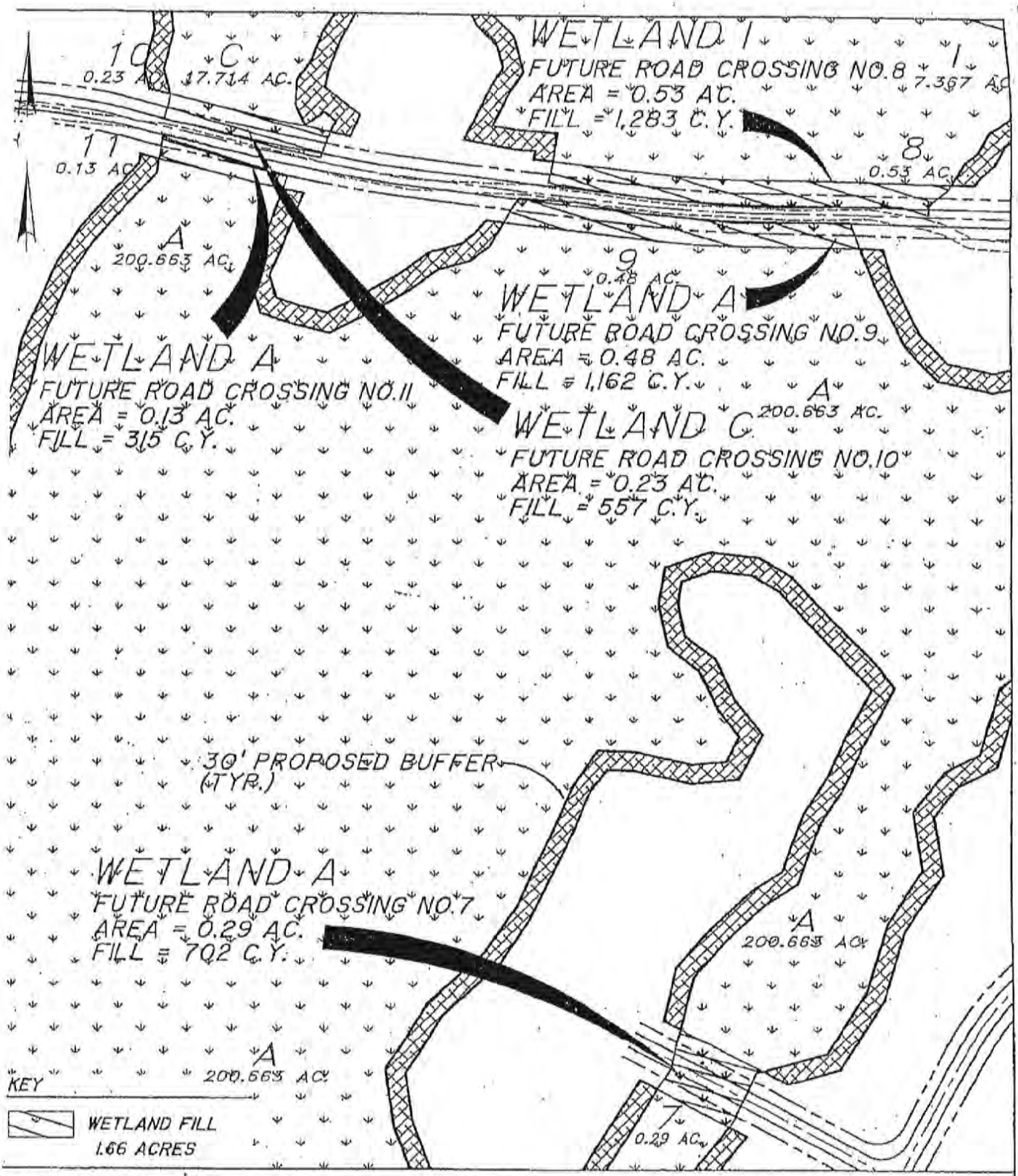
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

TE: DECEMBER 11, 2000

SHEET 22 OF 26

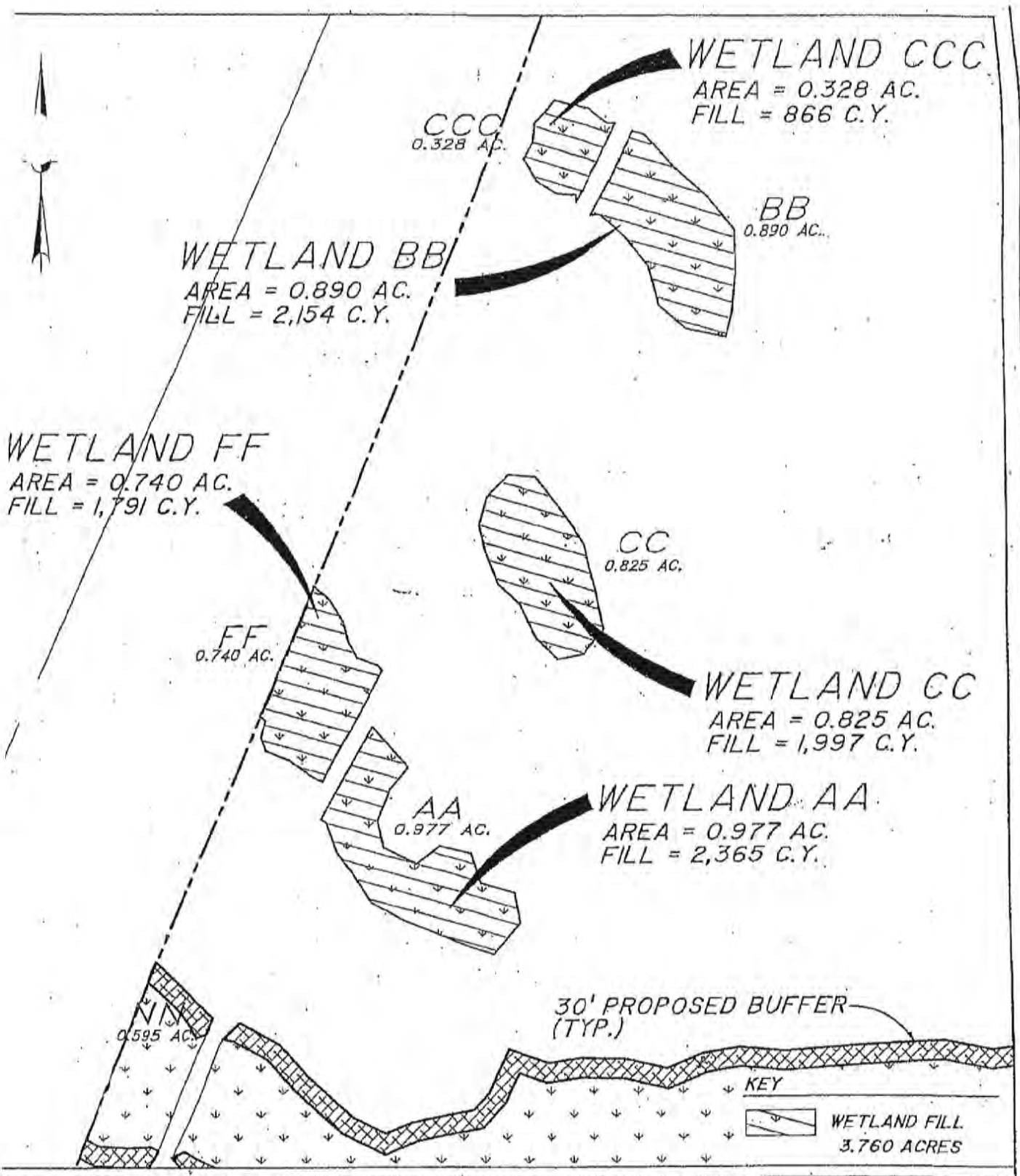
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

ATE: DECEMBER 11, 2000

SHEET 23 OF 26

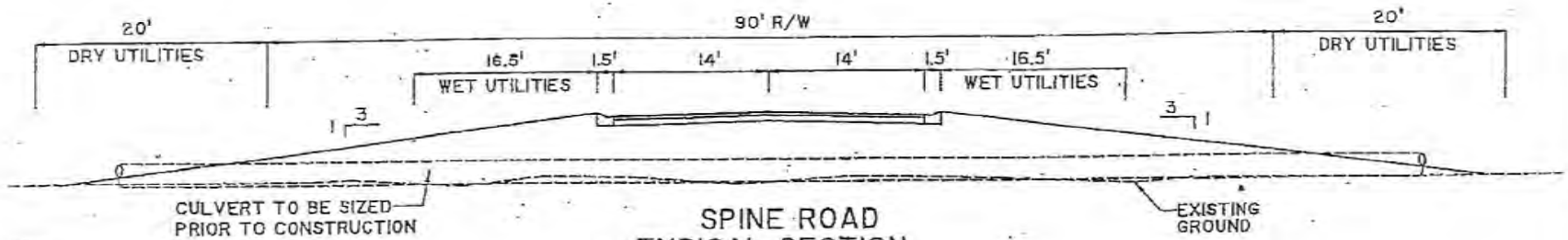
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

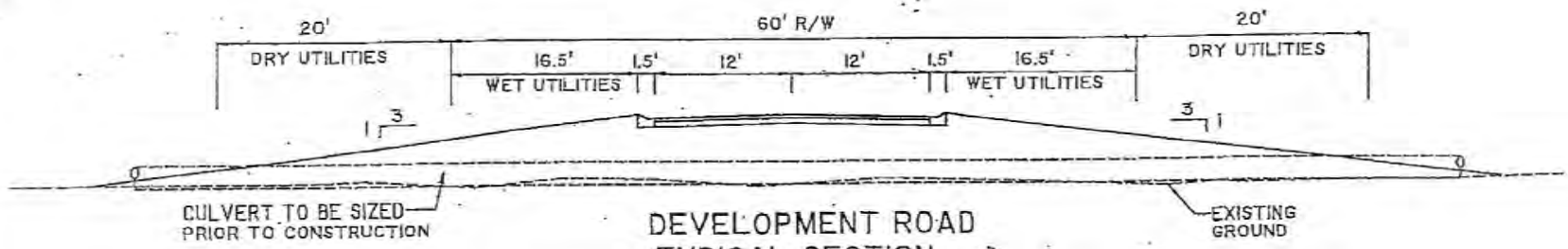
PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



SPINE ROAD
TYPICAL SECTION
ROAD CROSSING NO. 1,2,3,4 & 5

NTS



DEVELOPMENT ROAD
TYPICAL SECTION
ROAD CROSSING NO. 6.7.8.9 & 10

NTS

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 24 OF 26

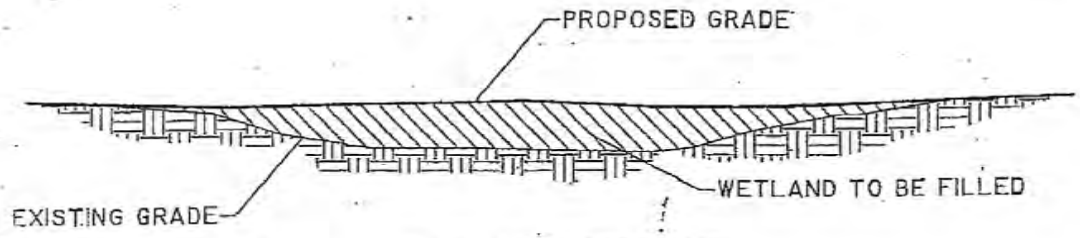
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE:
NOT TO SCALE

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



TYPICAL WETLAND
FILL SECTION

NTS

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 25 OF 26

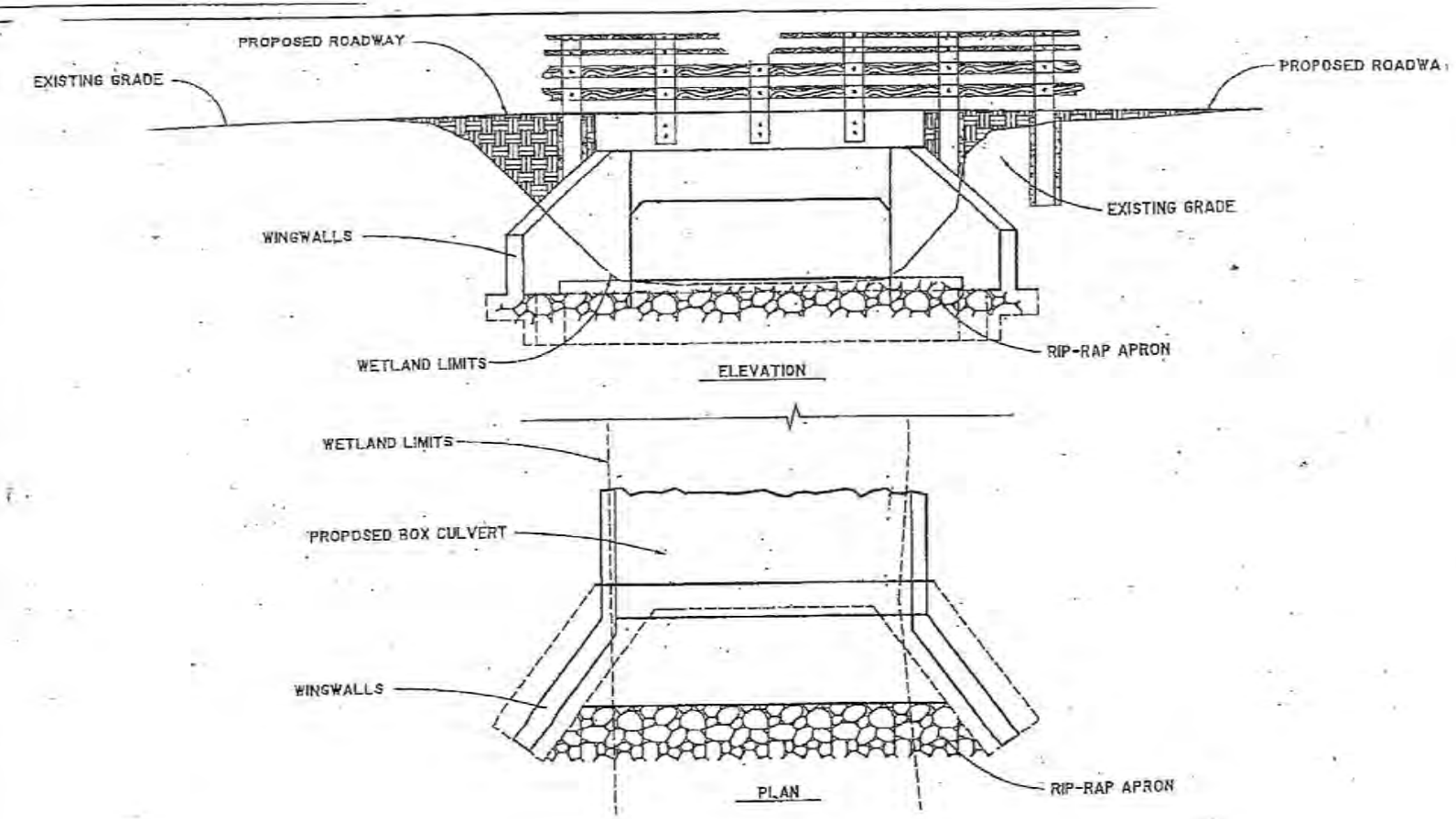
SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE:
NOT TO SCALE

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



TYPICAL BOX CULVERT

NTS

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 26 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE:
NOT TO SCALE

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

205 Butler Street, S.E., East Floyd Tower, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
David Word, Assistant Director
Environmental Protection Division
404/656-4713

RL

June 7, 2001

Mr. William Burgstiner
The Branigar Organization, Inc.
Okatie Commerce Park, Suite 102
108 Traders Cross
Bluffton, South Carolina 29910

Re: Water Quality Certification
Public Notice No. 970015260
Mixed Use/Residential Development
Coastal Zone/Ogeechee River Basin
Chatham County

Dear Mr. Burgstiner:

Pursuant to Section 401 of the Federal Clean Water Act, the State of Georgia issues this certification to The Branigar Organization, Inc., an applicant for a federal permit or license to conduct an activity in, on or adjacent to the waters of the State of Georgia.

The State of Georgia certifies that there is no applicable provision of Section 301; no limitation under Section 302; no standard under Section 306; and no standard under Section 307, for the applicant's activity. The State of Georgia certifies that the applicant's activity will comply with all applicable provisions of Section 303.

This certification is contingent upon the following conditions:

1. All work performed during construction will be done in a manner so as not to violate applicable water quality standards.

2. No oils, grease, materials or other pollutants will be discharged from the construction activities which reach public waters.

RECEIVED BY OP-F
ON JUN 20 2001 cds

Regulatory Branch

CERTIFICATION OF COMPLIANCE

WITH

DEPARTMENT OF THE ARMY PERMIT

PERMIT NUMBER: 970015260

PERMITTEE: The Branigar Organization, Inc.

Within 30 days of completion of the activity authorized by this permit, sign this certification and return it to the following address:

Commander
U.S. Army Engineer District, Savannah
Attention: Regulatory Branch
P.O. Box 889
Savannah, Georgia 31402-0889

Please note that your permitted activity is subject to compliance inspection by an U.S. Army Corps of Engineers' representative. If you fail to comply with the permit conditions it may be subject to suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit.

_____

Signature of Permittee/Date

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 889
SAVANNAH, GEORGIA 31402

REPLY TO
ATTENTION OF:

November 12, 2002

Regulatory Branch
970015260

SUBJECT: Modification

The Branigar Organization, Inc.
Attention: Mr. William Burgstiner
Okatie Commerce Park, Suite 102
108 Traders Cross
Bluffton, South Carolina 29910

Dear Mr. Burgstiner:

I refer to the submittal of September 27, 2002, provided on your behalf by Newkirk Environmental, Inc., requesting modification to Department of the Army Permit 970015260. This permit was issued on August 6, 2001, and authorized you to discharge fill material into 20.86 acres of wetland to facilitate development of a master-planned, mixed use community on the 1,911.35 acre Berwick Tract. The project site is located on the northwest side of US Highway 17, approximately 2.1 miles northeast of State Highway 204, near Savannah, Chatham County, Georgia.

Mitigation for the loss of wetlands was to consist of 396.52 acres of wetland preservation, 13.67 acres of wetland restoration, and 11.58 acres of wetland enhancement on the project site. The preserved, restored and enhanced wetland areas will be surrounded by at least 81.98 acres of upland buffer and wildlife corridors having a minimum width of 30 feet.

AUTHORIZED MODIFICATIONS: You are hereby authorized to modify your project as follows:

a. To fill/impact an additional 1.51 acres of wetland to increase the road foot print width of wetland crossing in the proposed mitigation preservation area.

b. To remove 1.04 acres of preserved upland buffer from the mitigation areas to allow construction of a road within the buffer area.

c. Prior to initiating any work authorized under this modification, the permittee, shall complete all work in accordance with the compensatory wetland mitigation plan titled "Mitigation Plan, 1,911.35 Acre Berwick Plantation" and dated July 18, 2001. In addition, the permittee will complete all necessary requirements to record the "Declaration of Covenants and Restrictions" on the mitigation areas.

d. A complete copy of this permit, including its drawings, shall be maintained at the work site whenever work is being performed. The permittee shall assure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

e. The permittee shall accomplish all work in accordance with the plans and drawings enclosed hereto which are incorporated in and made a part of this permit:

1. Location Map

2. Plan View Sheets (4)

The revised Plan Sheet Numbers 3, 10, 13, and 24, included with this permit modification hereby supersede the original Plan Sheet Numbers 3, 10, 13, and 24, attached to the permit.

This Permit Modification is subject to the terms and conditions of the original permit. You will not deviate from the approved location or plans without obtaining prior approval from the Department of the Army.

This authorization does not convey any property rights, either in real estate or material, or any exclusive privileges. It does not authorize any injury to property, invasion of rights, or any infringement of federal, state, local laws, or regulations; nor does it obviate the requirement to obtain State or local assent required by law for the activity described herein. It does not affect your liability for any damages that may be caused by the work.

If this modification is agreeable, sign both the original and duplicate copy. Please retain the original for your records and return the signed duplicate to this office.

This permit modification may be appealed in accordance with Title 33, Code of Federal Regulations, Part 331, published in the March 28, 2000, Federal Register, Vol. 65, No. 60, Pages 16486-16503. I have enclosed a form that explains your right to file an appeal, should you decide to do so.

If you have any further questions concerning this matter, please call Stanley J. Knight, Project Manager, at (912) 652-5348.

for Roger A. Gerber
Colonel, US Army
District Engineer

Enclosures

Permittee hereby accepts the terms and conditions of this instrument.

(Permittee) 12/11/02 (Date)

Copies Furnished:

Wetlands Regulatory Section
US Environmental Protection Agency, Region 4
Attention: Mr. Robert Lord
Atlanta Federal Center
61 Forsyth Street, SW.
Atlanta, Georgia 30303-8960

Mr. Greg R. Masson, PH.D.
Coastal Section Supervisor
U S Fish and Wildlife Service
4270 Norwich Street
Brunswick, Georgia 31520

Copies Furnished (Cont'd):

Georgia Department of Natural Resources
Attention: Ms. Jeannie Butler, Permit Coordinator
One Conservation Way, Suite 300
Brunswick, Georgia 31520-8687

Newkirk Environmental, Inc.
Attention: Mr. Alton Brown, Jr.
340 Eisenhower Drive
Building 200, Suite 201
Savannah, Georgia 31406

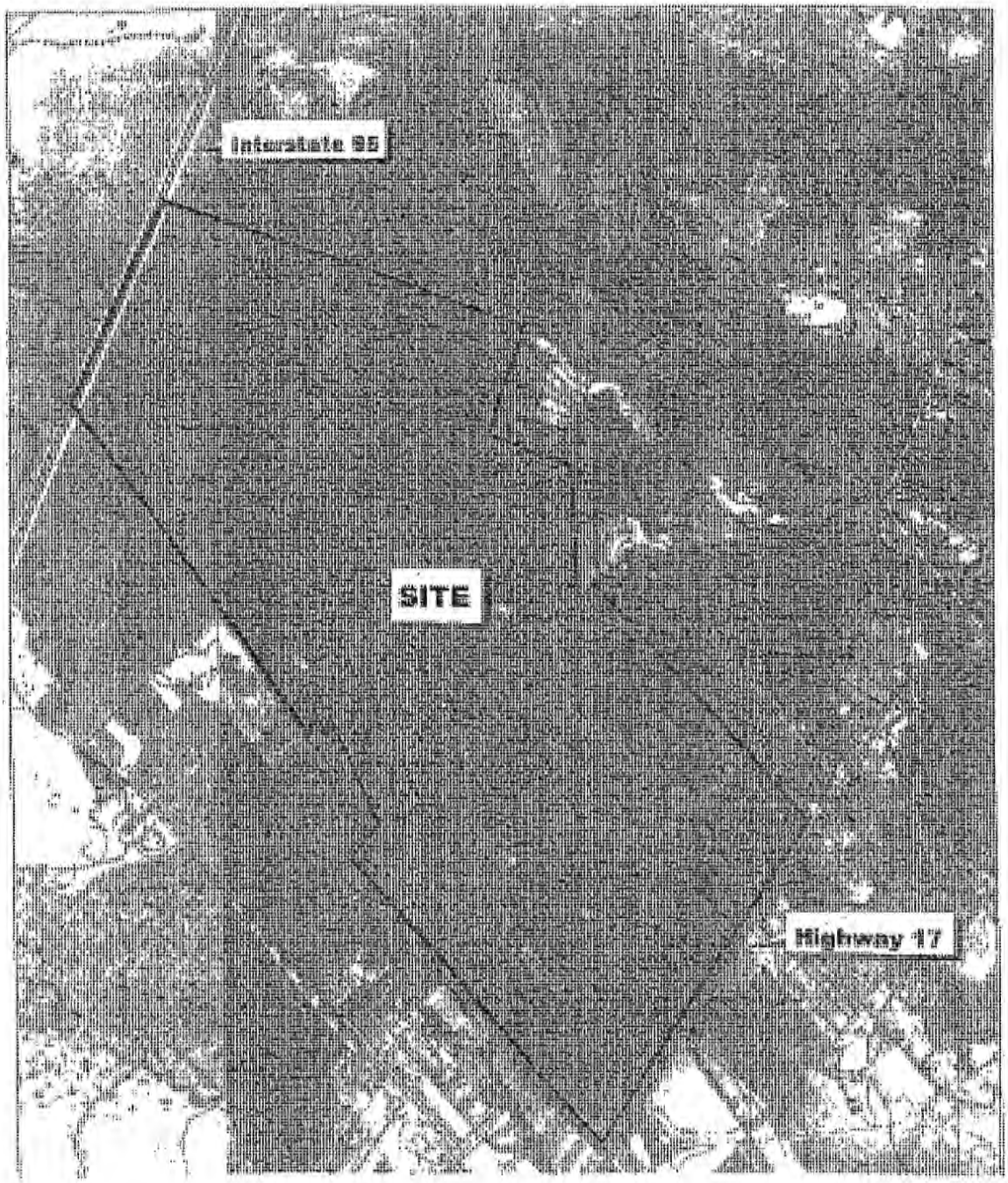
OP-FS
Knight

Location Map

1911.35 Acre Berwick Plantation
Chatham County, Georgia

NEWKIRK
ENVIRONMENTAL INC

Project Limits



LEGEND

	TOTAL WETLANDS	442.634 AC.
	TOTAL WETLAND FILL (51,674 C.Y.)	22.37 AC.
	WETLANDS ENHANCEMENT	11.58 AC.
	WETLANDS RESTORATION	13.67 AC.
	UPLAND BUFFERS / WILDLIFE CORRIDORS	80.94 AC.
	WETLAND PRESERVATION	395.05 AC.
	TOTAL TRACT	1911.35 AC.

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000
REVISED: JULY 26, 2002

SCALE: 1"=2000'

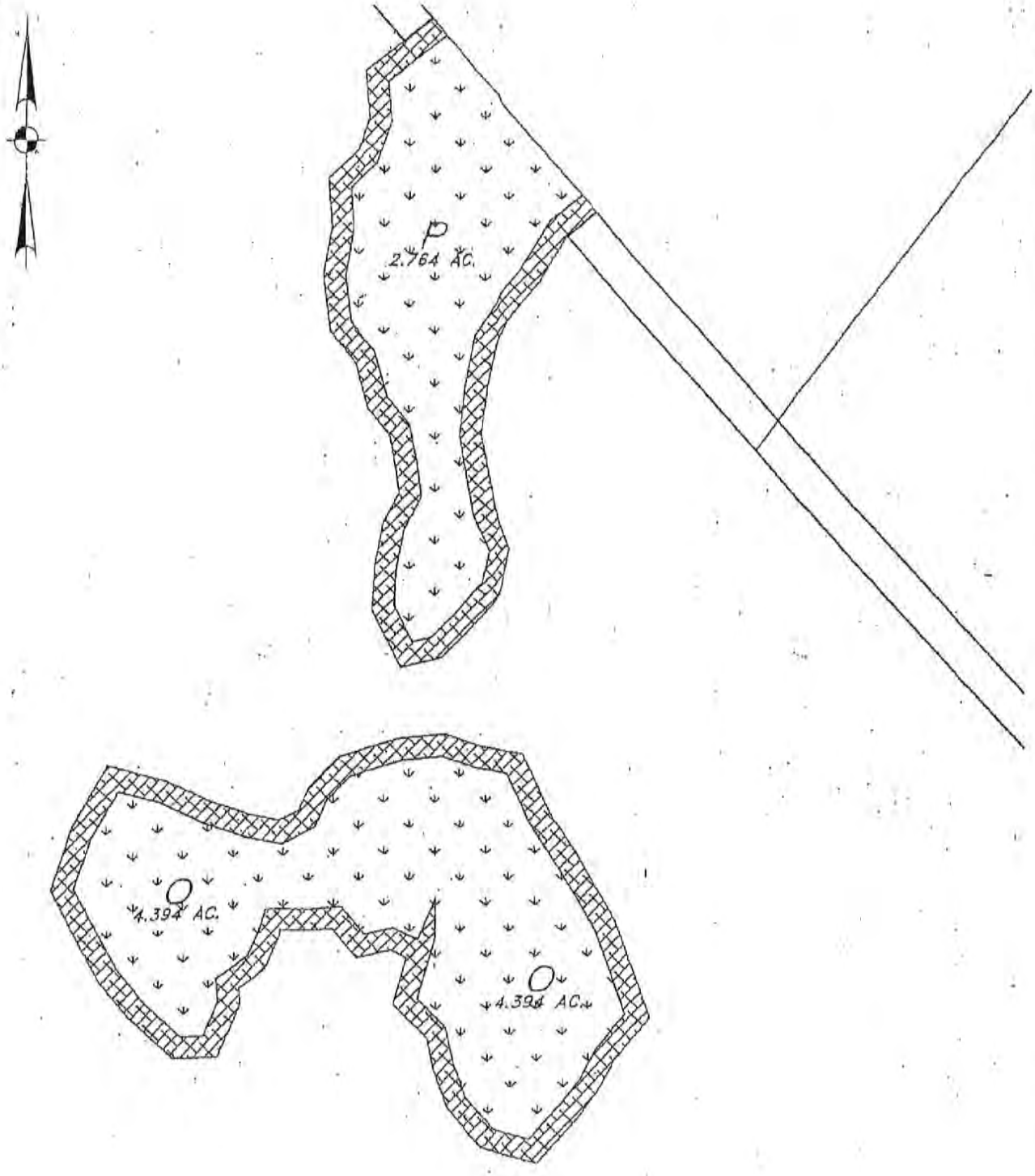
DATUM:
MEAN SEA LEVEL

SHEET 3 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

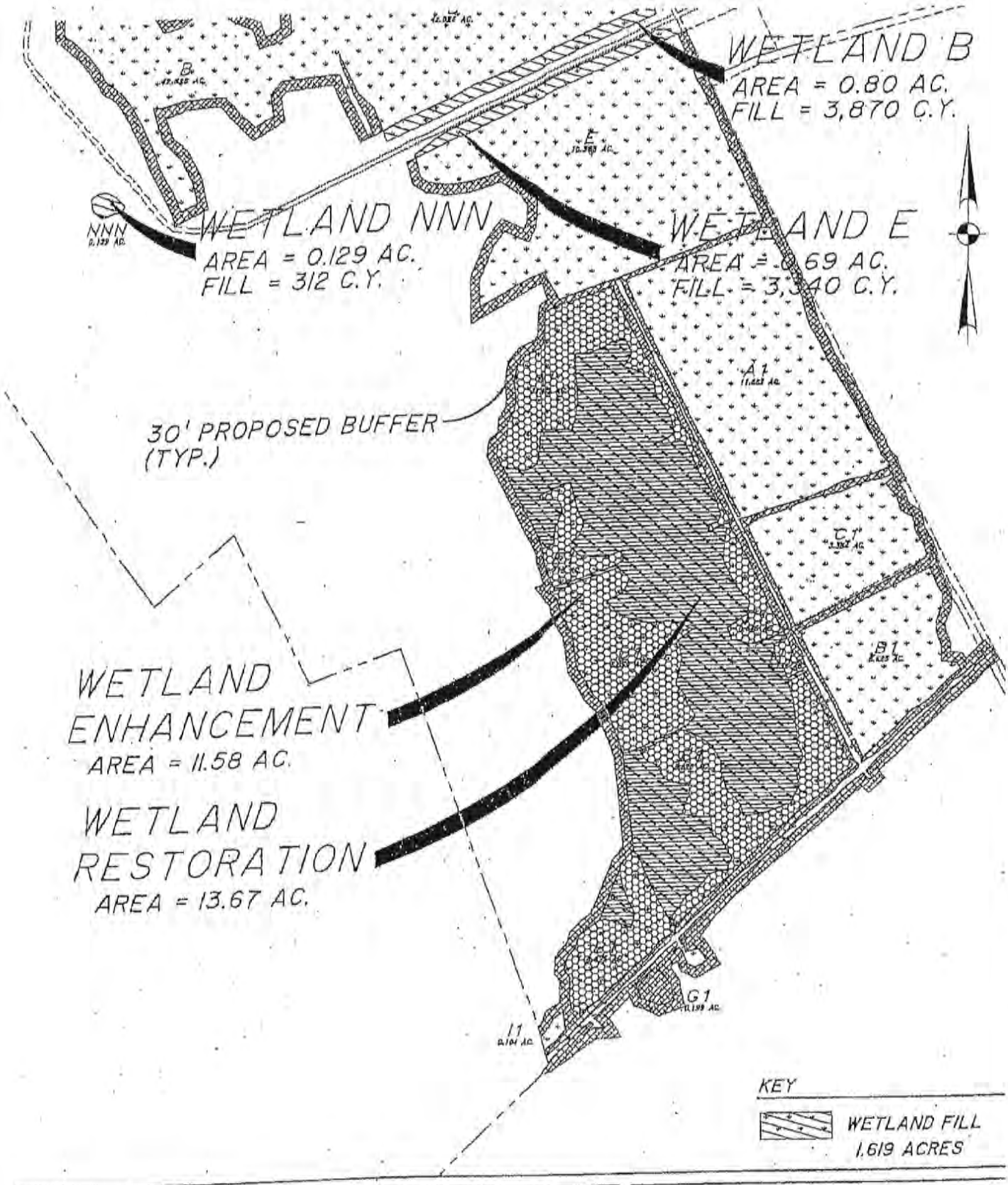
DATE: DECEMBER 11, 2000
REVISED: JULY 26, 2002
SHEET 10 OF 26

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

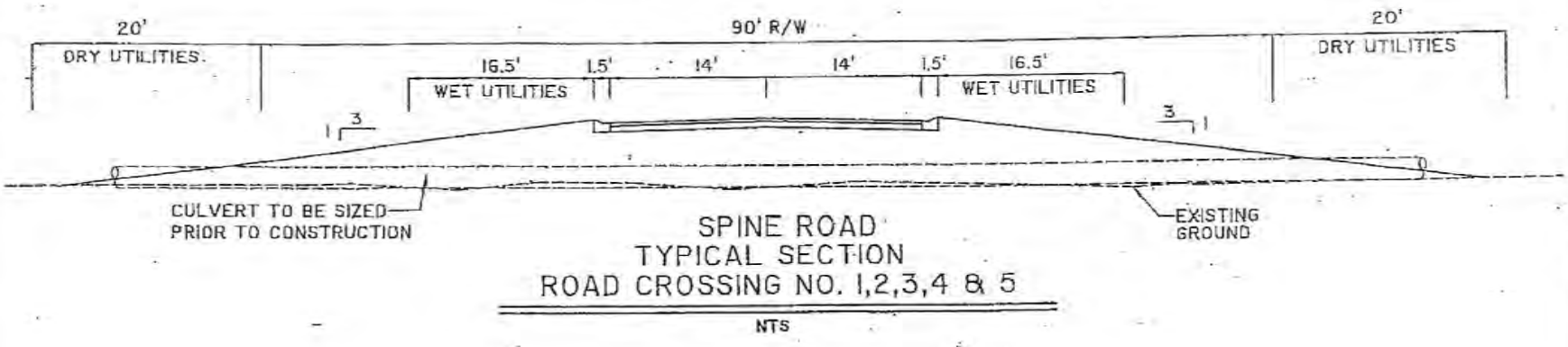
DATE: DECEMBER 11, 2000
REVISED: JULY 26, 2002
SHEET 13 OF 26

SCALE: 1"=400'

DATUM:
MEAN SEA LEVEL

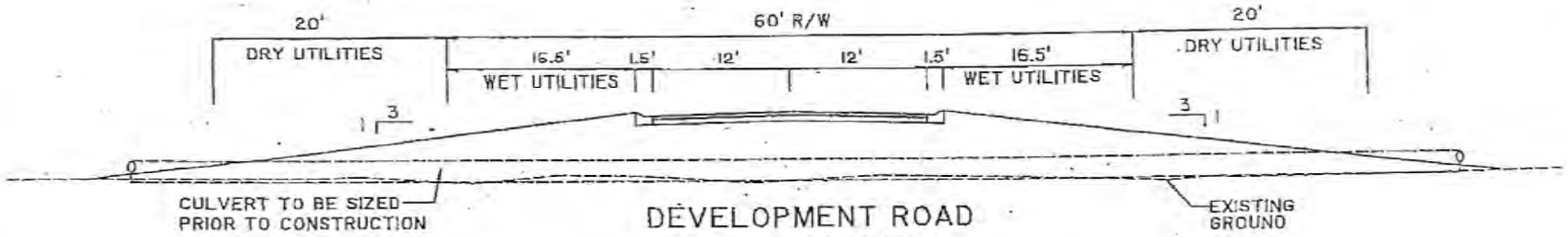
PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



SPINE ROAD
TYPICAL SECTION
ROAD CROSSING NO. 1,2,3,4 & 5

NTS



DEVELOPMENT ROAD
TYPICAL SECTION
ROAD CROSSING NO. 6.7.8.9.10 & 11

NTS

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000
REVISED: JULY 26, 2002

SHEET 24 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE:
NOT TO SCALE

DATUM:
MEAN SEA LEVEL

PROPOSED ACTIVITY
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

c. Prior to initiating any work authorized under this modification, the permittee, shall complete all work in accordance with the compensatory wetland mitigation plan titled "Mitigation Plan, 1,911.35 Acre Berwick Plantation" and dated July 18, 2001. In addition, the permittee will complete all necessary requirements to record the "Declaration of Covenants and Restrictions" on the mitigation areas.

d. A complete copy of this permit, including its drawings, shall be maintained at the work site whenever work is being performed. The permittee shall assure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

e. The permittee shall accomplish all work in accordance with the plans and drawings enclosed hereto which are incorporated in and made a part of this permit:

1. Location Map

2. Plan View Sheets (4)

The revised Plan Sheet Numbers 3, 10, 13, and 24, included with this permit modification hereby supersede the original Plan Sheet Numbers 3, 10, 13, and 24, attached to the permit.

This Permit Modification is subject to the terms and conditions of the original permit. You will not deviate from the approved location or plans without obtaining prior approval from the Department of the Army.

This authorization does not convey any property rights, either in real estate or material, or any exclusive privileges. It does not authorize any injury to property, invasion of rights, or any infringement of federal, state, local laws, or regulations; nor does it obviate the requirement to obtain State or local assent required by law for the activity described herein. It does not affect your liability for any damages that may be caused by the work.

If this modification is agreeable, sign both the original and duplicate copy. Please retain the original for your records and return the signed duplicate to this office.

This permit modification may be appealed in accordance with Title 33, Code of Federal Regulations, Part 331, published in the March 28, 2000, Federal Register, Vol. 65, No. 60, Pages 16486-16503. I have enclosed a form that explains your right to file an appeal, should you decide to do so.

If you have any further questions concerning this matter, please call Stanley J. Knight, Project Manager, at (912) 652-5348.

for Roger A. Gerber
Colonel, US Army
District Engineer

Enclosures

Permittee hereby accepts the terms and conditions of this instrument.

William C. Bugglin
(Permittee)

12/11/02
(Date)

Copies Furnished:

Wetlands Regulatory Section
US Environmental Protection Agency, Region 4
Attention: Mr. Robert Lord
Atlanta Federal Center
61 Forsyth Street, SW.
Atlanta, Georgia 30303-8960

Mr. Greg R. Masson, PH.D.
Coastal Section Supervisor
U S Fish and Wildlife Service
4270 Norwich Street
Brunswick, Georgia 31520

Copies Furnished (Cont'd):

Georgia Department of Natural Resources
Attention: Ms. Jeannie Butler, Permit Coordinator
One Conservation Way, Suite 300
Brunswick, Georgia 31520-8687

Newkirk Environmental, Inc.
Attention: Mr. Alton Brown, Jr.
340 Eisenhower Drive
Building 200, Suite 201
Savannah, Georgia 31406

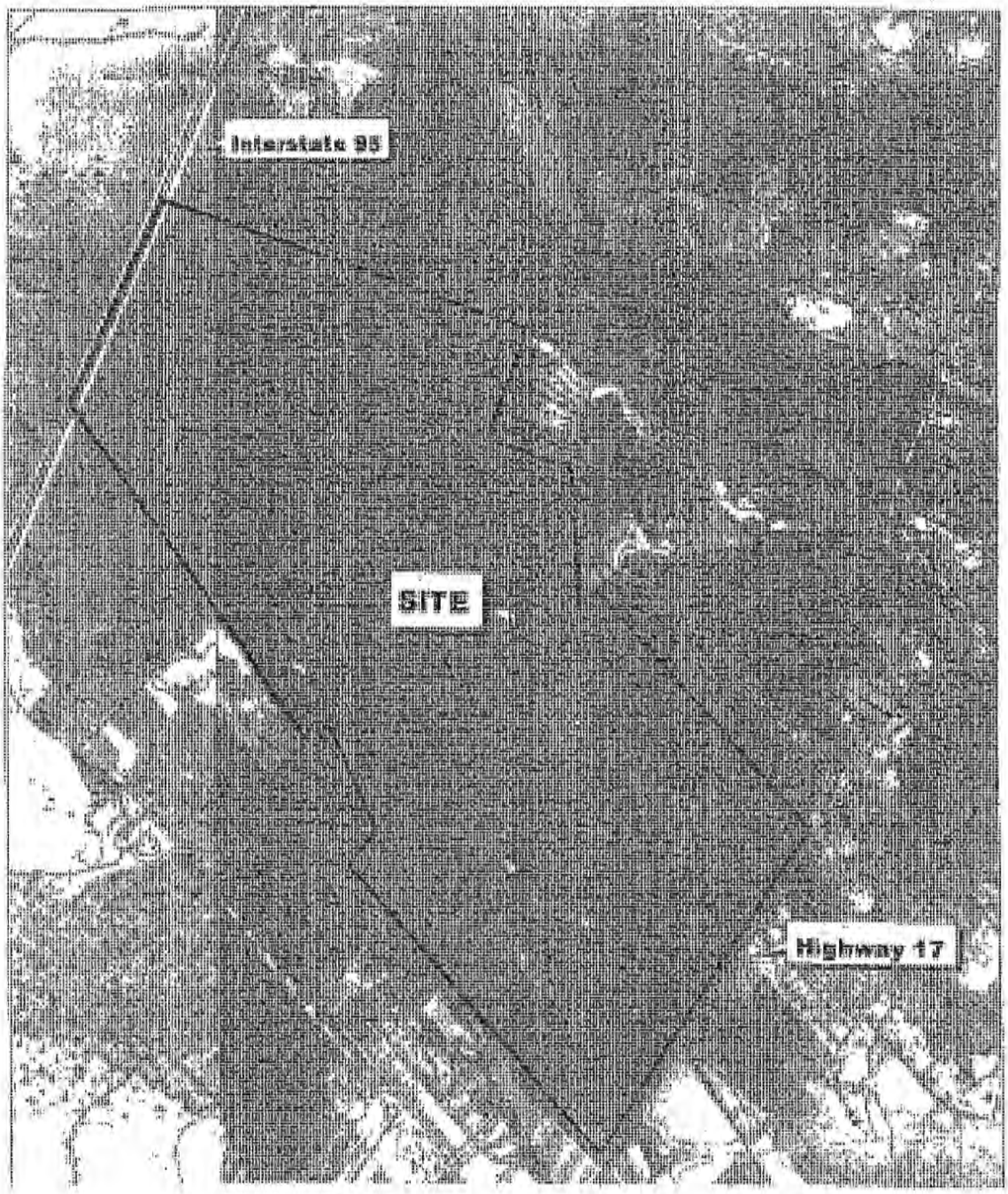
OP-FS
Knight

Location Map

1911.35 Acre Berwick Plantation
Chatham County, Georgia

NEWKIRK
ENVIRONMENTAL INC

Project Limits



RECEIVED BY OP-F

LEGEND

	TOTAL WETLANDS	442.634 AC.
	TOTAL WETLAND FILL (51,674 C.Y.)	22.37 AC.
	WETLANDS ENHANCEMENT	11.58 AC.
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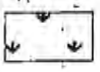	WETLAND PRESERVATION	395.05 AC.
	TOTAL TRACT	1911.35 AC.

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000
REVISED: JULY 26, 2002

SHEET 3 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

SCALE: 1"=2000'

DATUM:
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APPLICANT:
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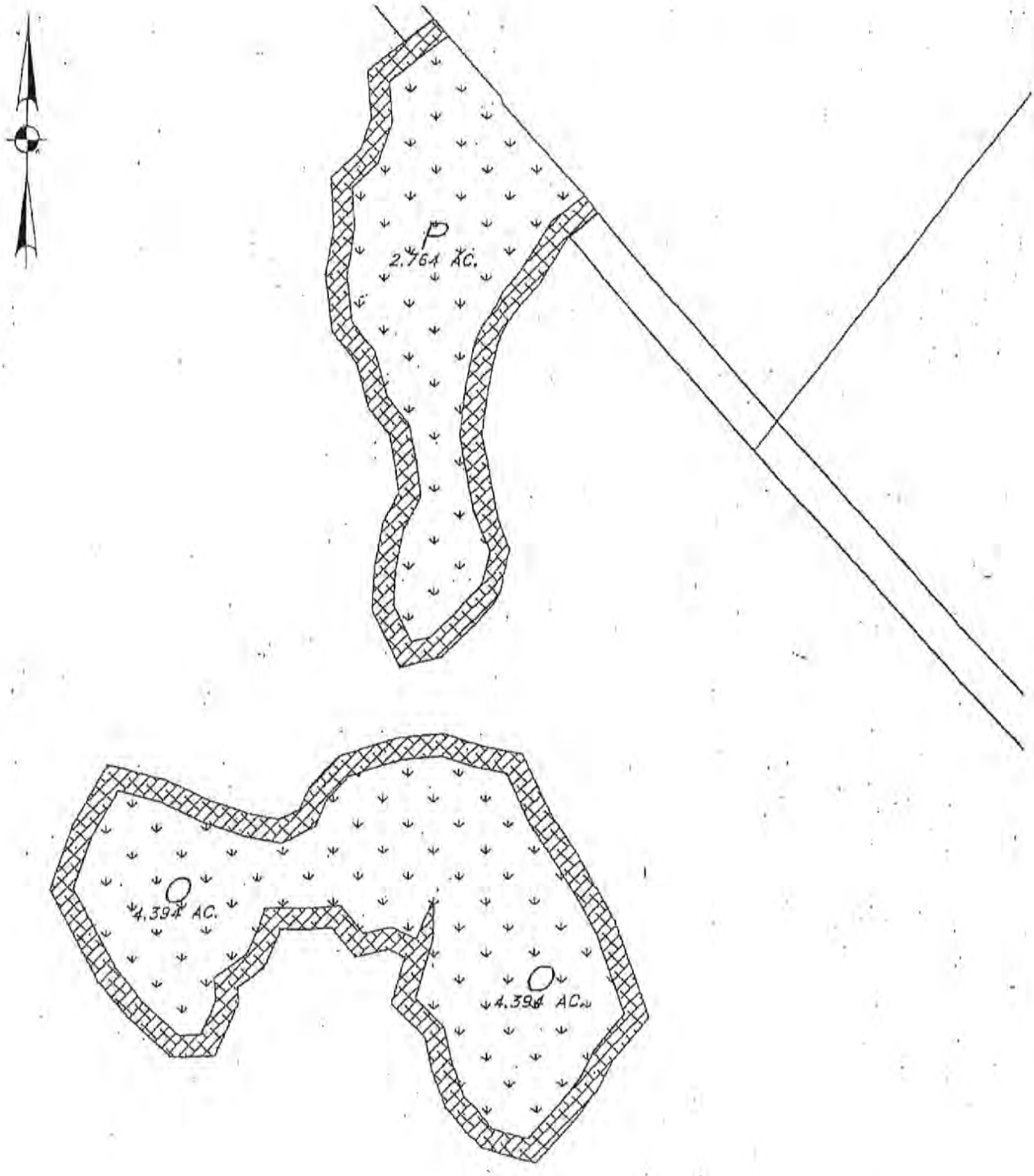

BERWICK PLANTATION
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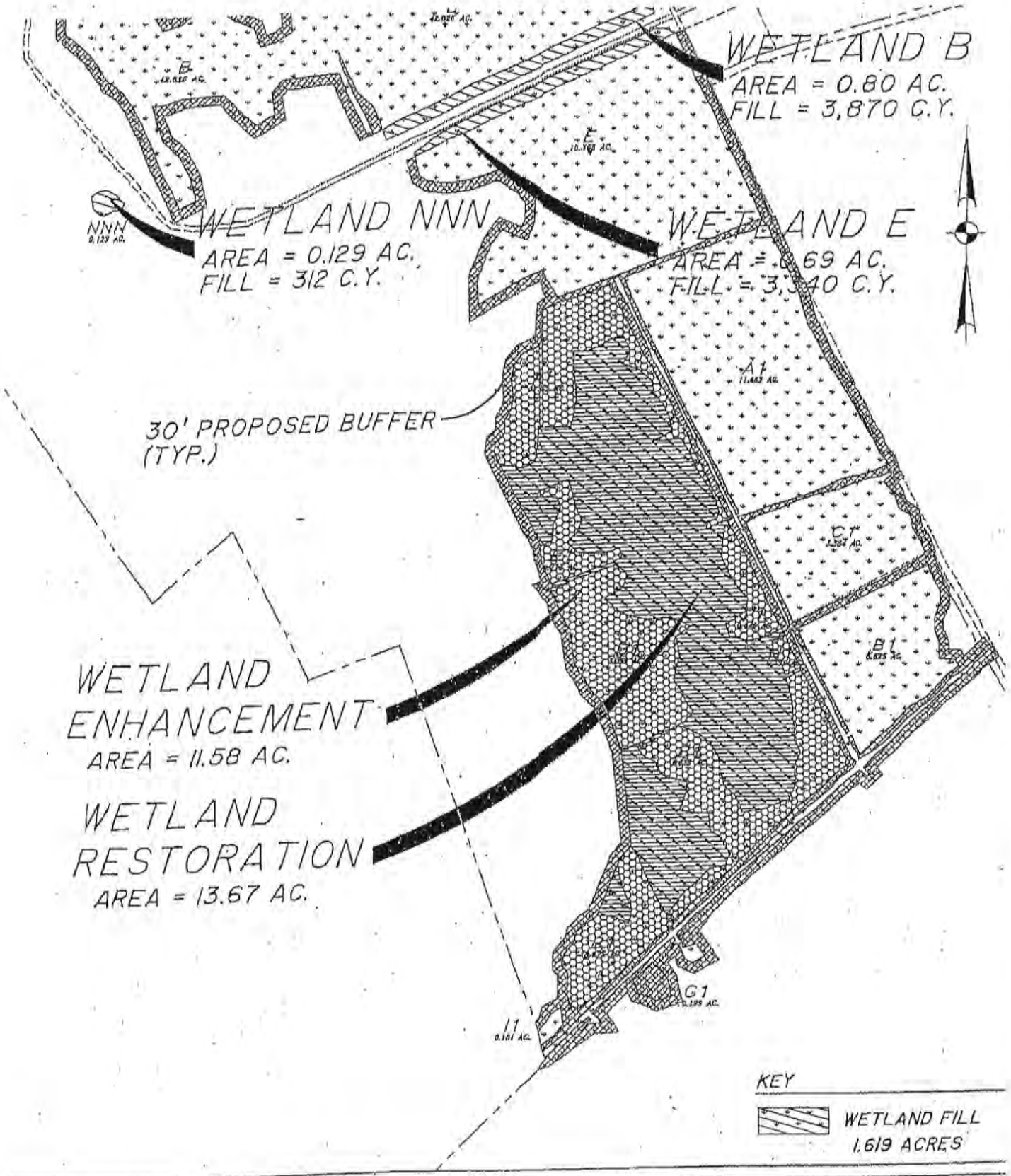

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000
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SHEET 13 OF 26

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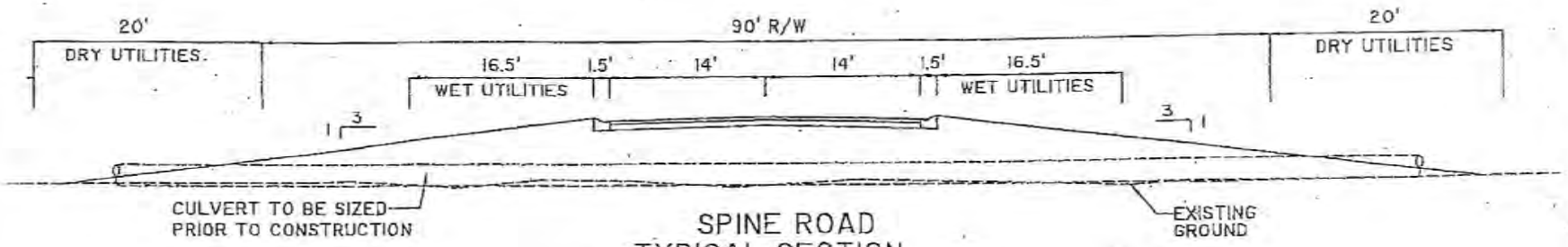
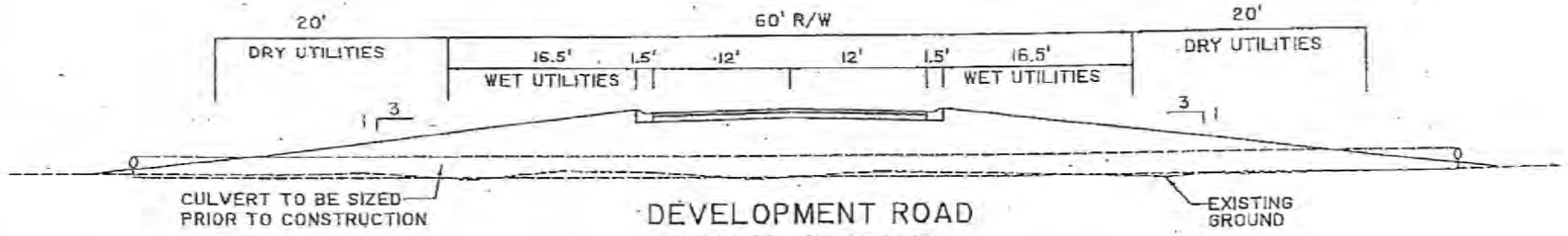


SPINE ROAD
TYPICAL SECTION
ROAD CROSSING NO. 1,2,3,4 & 5

NTS



DEVELOPMENT ROAD
TYPICAL SECTION
ROAD CROSSING NO. 6.7.8.9.10 & 11

NTS

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

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COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

THOMAS & HUTTON ENGINEERING CO.

FACSIMILE COVER SHEET

To: Martin Reddy

From: Steve Bo

Date:

No. of Pages IncludingThis:

Company: Raceti Corp

Fax No.: 1-864-421-0740

Re: Bermuda Permit

cc:

This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

XXX 2001

A permit to discharge fill material into 20.86 acres of wetland to facilitate development of a master-planned community

at the 1,911.35 acre Berwick Tract, Chatham County, Georgia

has been issued to The Branigar Organization on August 6, 2001

Address of Permittee Okatie Commerce Park, Suite 102
108 Traders Cross, Bluffton, SC. 29910

Permit Number

970015260

District Commander
for Roger A. Gerber
Colonel, U.S. Army

ENG FORM 4336, Jul 81, (33 CFR 329-330) EDITION OF JUL 70 MAY BE USED (Proponent: CECW-O)
☆U.S. GPO: 1998-642-745

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 889
SAVANNAH, GEORGIA 31402

JUL 3 0 2001

REPLY TO
ATTENTION OF:

Regulatory Branch
970015260

The Branigar Organization, Inc.
Attention: Mr. William Burgstiner
Okatie Commerce Park, Suite 102
108 Traders Cross
Bluffton, South Carolina 29910

Dear Mr. Burgstiner:

PLEASE READ THIS LETTER CAREFULLY AND COMPLY WITH ITS PROVISIONS.

We are enclosing a draft of your Department of the Army Permit in duplicate. If you agree with the terms and conditions, please sign and date both copies of the Draft permit and return them to this office. Upon receipt, the District Engineer will validate your permit and return the original to you for your records. We will also send a Notice of Authorization, which you should display at the project site. Your permit is not valid until signed by the District Engineer.

We require a $100.00 fee for issuance of a permit for commercial activities. Please make your check payable to the Finance and Accounting Officer, Savannah District.

IT SHALL BE UNLAWFUL TO DEVIATE FROM THE PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK, unless a plan reflecting the modification has previously been submitted to and approved by this office.

In addition, please note that the permit not only authorizes the work, but also its intended use. No use other than that specified in this permit can be made of permitted work or structures.

Please direct your attention to the General Conditions on pages 1 and 2 of the permit. Special Conditions relating to the project are listed on pages 2 to 4.

This office must be notified ten days in advance of your intent to start work on this project. You must also notify this office when the project is completed.

Check # 18676 For $ 100 —
W/D & FWD F & A on

We have enclosed a form titled, "Notification of Applicant Options" that explains your right to appeal this decision in accordance with Title 33, Code of Federal Regulations, Part 331, published in the March 28, 2000, Federal Register, Vol. 65, No. 60. If you have any further questions concerning this matter, please call Richard Legere, Project Manager, at (912) 652-5079.

Sincerely,

Necholus Ogden
Chief, Regulatory Branch

Enclosures

Copies Furnished:

U.S. Environmental Protection Agency
Water Management Division
Wetlands Section, Region IV
Attention: Mr. William L. Cox, Chief
Atlanta Federal Center
61 Forsyth Street, SW.
Atlanta, Georgia 30303-3104

U.S. Department of the Interior
Fish and Wildlife Service
Attention: Ms. Sandra S. Tucker, Field Supervisor
247 South Milledge Avenue
Athens, Georgia 30605

Mr. Keith Parsons
Georgia Department of Natural Resources
Water Protection Branch
4220 International Parkway, Suite 101
Atlanta, Georgia 30354

Copies Furnished (continued):

Mrs. Kelie M. Matrangos
Federal Consistency Coordinator
Georgia Department of Natural Resources
Coastal Resources Division
One Conservation Way, Suite 300
Brunswick, Georgia 31523-8602

Mr. Al Bungard, County Engineer
Chatham County Engineering Department
Post Office Box 8161
Savannah, Georgia 31412

Newkirk Environmental, Inc.
Attention: Mr. Stuart Sligh
340 Eisenhower Drive
Building 200, Suite 201
Savannah, Georgia 31406

JUL 3 0 2001
970015260
File No.

NOTIFICATION OF APPLICANT OPTIONS (NAO)
FOR PARTIES ISSUED A DEPARTMENT OF THE ARMY INDIVIDUAL PERMIT

You are hereby advised that the following options are available to you in your evaluation of the enclosed permit:

1) You may sign the permit, and return it to the District Engineer for final authorization. Your signature on the permit means that you accept the permit in its entirety, and waive all rights to appeal the permit, or its terms and conditions.

2) You may decline to sign the permit because you object to certain terms and conditions therein, and you may request that the permit be modified accordingly. You must outline your objections to the terms and conditions of the permit in a letter to the District Engineer. Your objections must be received by the District Engineer within 60 days of the date of this NAO, or you will forfeit your right to request changes to the terms and conditions of the permit. Upon receipt of your letter, the District Engineer will evaluate your objections, and may: (a) modify the permit to address all of your concerns, or (b) modify the permit to address some of your objections, or (c) not modify the permit, having determined that the permit should be issued as previously written. In any of these three cases, the District Engineer will send you a final permit for your reconsideration, as well a Notification of Appeal (NAP) Form and a Request For Appeal (RFA) Form. Should you decline the Final Proffered Permit, you can appeal the Declined Permit under the U.S. Army Corps of Engineers Administrative Appeal Process by submitting the completed RFA Form to the Division Engineer. The RFA must be received by the Division Engineer within 60 days of the date of the NAP that was transmitted with the Second Proffered Permit.

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: The Branigar Organization, Inc.

PERMIT NUMBER: 970015260

ISSUING OFFICE:

Savannah District
U.S. Army Corps of Engineers
Post Office Box 889
Savannah, Georgia 31402-0889

NOTE: The term "you" and its derivatives used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the U.S. Army Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: To discharge fill material into 20.86 acres of wetland to facilitate development of a master-planned, mixed use community on the 1,911.35 acre Berwick Tract. Site development will require 17.89 acres of wetland fill. The remaining 2.97 acres of fill is needed for road crossings. As compensatory mitigation for these impacts, the permittee will preserve 396.52 acres of wetland, restore 13.67 acres of wetland and enhance 11.58 acres of wetland on the project site. The preserved, restored and enhanced wetland areas will be surrounded by at least 81.98 acres of upland buffer and wildlife corridors having a minimum width of 30 feet.

PROJECT LOCATION: The project site is located on the northwest side of U.S. Highway 17, approximately 2.1 miles northeast of State Highway 204, near Savannah, Chatham County, Georgia.

PERMIT CONDITIONS:

General Conditions.

1. The time limit for completing the work authorized by this Individual Permit ends on October 31, 2011. If you find that you need more time to complete the authorized activity, you must submit a request for your permit extension at least one month prior to the above date.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer

Check # 18676 For $ 100 —
W/D & FWD F & A on

maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions.

1. The permittee shall comply with all conditions included in the attached Section 401 Water Quality Certification.

2. The permittee shall obtain fill material from a high ground borrow area that is free of contaminants and pollutants.

3. The permittee shall fully implement the attached compensatory wetland mitigation plan titled "Mitigation Plan, 1,911.35 Acre Berwick Plantation" and dated July 18, 2001. In addition to a requirement to record a "Declaration of Covenants and Restrictions" on the mitigation areas, this mitigation plan includes specific requirements and time periods within which the restoration and enhancement activities included in the mitigation plan are to be completed.

4. Within one year of issuance of the permit, the permittee shall submit for review and final approval, a draft "Declaration of Covenants and Restrictions" necessary to perpetually protect and preserve all wetlands and uplands that are identified as compensatory mitigation lands in the mitigation plan. This draft document will contain stipulations necessary to allow the permittee flexibility with regard to the exact location of the right-of-way for the phased construction of authorized wetland crossings. It is understood that the permittee may commence work while the draft "Declaration of Covenants and Restrictions" is being prepared, provided that the upland buffer boundary on the affected development parcel is clearly identified in the field before work begins.

5. Within six months of the USACE's final approval of the draft "Declaration of Covenants and Restrictions", the permittee shall submit a copy of the final document that has been notarized and recorded in the Office of the Clerk of the Superior Court of Chatham County, Georgia.

6. Within six months of the USACE's final approval of the above draft "Declaration of Covenants and Restrictions", the permittee shall post appropriate signs at 300' intervals along all property boundaries of the compensatory mitigation lands to reduce the possibility of unauthorized disturbance to these areas.

7. In the event that a modification is proposed to a phase of the project's master development plan, the permittee shall submit the revised plan to this office prior to initiating any work within that phase. Modifications requiring submission of a revised plan would include, but are not limited to, the following: changes in the type of activity proposed for a phase (i.e., residential to commercial, recreational to retail, etc.); changes in the size or configuration of a phase; and/or changes in the primary access road plan. These types of modifications to the master development plan will not normally require formal modification of the permit unless they result in a change in the location and/or extent of jurisdictional impacts.

8. Prior to initiating authorized work within any phase of the project, the permittee shall provide this office with a copy of the proposed site specific development plan. This office will review the proposed plan for permit compliance purposes only.

9. Prior to initiating any work authorized under this permit, the permittee shall insure that the authorized project is in compliance with all applicable regulations/requirements of the Federal Emergency Management Agency pertaining to construction activities in designated flood plains and/or flood ways, and mapping and/or designating changes to any flood plain and/or floodway that may be affected by the permitted activity.

10. The permittee shall insure that the project's master drainage plan is designed and implemented to avoid inadvertent drainage of wetlands and inadvertent water diversion resulting in a reduction of hydrology in wetlands. The permittee shall also insure that secondary road ditches and/or small after-project drainage ditches do not inadvertently impact wetlands.

11. All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the minimal requirements as contained in the Georgia Erosion and Sedimentation Control Act of 1975, as amended. Utilization of plans and specifications as contained in "Manual for Erosion and Sediment Control, Third Edition, 1992" published by the Georgia Soil and Water Conservation Commission or their equivalent will aid in achieving compliance with the aforementioned minimal requirements.

12. A complete copy of this permit, including its drawings, special conditions and any amendments, shall be maintained at the work site whenever work is being performed. The permittee shall assure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit's terms and conditions.

13. Until expiration of the permit, the permittee shall remain solely responsible for insuring permit compliance within the entire 1,911.35 acre project area. Furthermore, the permittee shall remain solely responsible for any unauthorized impacts to any of the natural and/or restored wetlands located within the entire 1,911.35 acre project area. In other words, as long as the permit is valid, the permittee shall be solely responsible for all permit compliance and for any unauthorized wetland impacts, regardless of property ownership.

14. This office will favorably consider the permittee's requests for extensions of time to the expiration date of the permit. Factors that this office may consider include, but are not limited to, the following: whether or not the permittee has met all time requirements, as stipulated in the above special permit conditions; whether or not the permittee has violated any permit conditions; whether or not the permittee has completed required compensatory wetland mitigation, and; whether or not unauthorized work in wetlands has occurred within the permit area. Provided that the permittee adequately documents that no serious problems have occurred with regard to the above factors, this office will grant five-year extensions to the expiration date of the permit, not to exceed a total of 20 years.

15. The permittee shall accomplish all work in accordance with the plans and drawings enclosed hereto which are incorporated in and made a part of this permit:

a. Location Map

b. Vicinity Map (Sheet 1 of 26)

c. Project Map and Enlargements (Sheets 2 to 23 of 26)

d. Typical Road Crossing Sections (Sheet 24 of 26)

e. Typical Wetland Fill Section (Sheet 25 of 26)

f. Typical Box Culvert Section (Sheet 26 of 26)

It is understood that the final layout of buildings and infrastructure may vary slightly from the conceptual site development plan submitted for approval. However, there shall be no wetland impacts other than those authorized by this permit.

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this Authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7, or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order which requires you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate.

d. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the U.S. Army Corps of Engineers will normally give favorable consideration to a request for an extension of time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

William C. Bungtner
(PERMITTEE)

8/02/01
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Nicholas Ogden

8/06/01
(DATE)

Issued for and in behalf of:
Roger A. Gerber
Colonel, U.S. Army
District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

MITIGATION PLAN
1,911.35 ACRE BERWICK PLANTATION
18 JULY 2001

The following mitigation plan is expected to compensate for the loss of 20.86 acres of wetlands associated with the development of the 1,911.35 Acre Berwick Plantation.

1.0 Wetland and Upland Buffer Preservation:

The Branigar Organization, Inc. (Branigar), will preserve approximately 396.52 acres of freshwater wetland on the project site. These wetland areas include all of the larger, contiguous wetland systems and several of the larger, more mature isolated wetland areas. Branigar will provide perpetual preservation of these forested hardwood wetland areas which could, under silvicultural guidelines, be significantly impacted.

In addition to preserving 396.52 acres of wetland, Branigar will preserve at least 81.98 acres of upland buffer having a minimum width of 30 feet. This buffer will surround the preserved wetlands, as well as wetlands being restored and enhanced. During completion of the upland buffer boundary survey, it is likely that some additional upland areas will be included in the buffer to straighten the buffer boundary line. This practice is expected to slightly increase the average buffer width.

2.0 Wetland Restoration And Enhancement:

In addition to the large acreage of high quality wetland and upland buffer preservation, Branigar will restore/enhance 25.25 acres of wetland located within and adjacent to the large hardwood bottomland wetland system associated with Culvert Swamp. The hydrology in this area has been affected by the relic ditching associated with historic rice production. This area contains a large primary ditch which extends through the center of the large bottomland system (i.e. north/south), as well as several smaller lateral ditches extending east and west. Based on the wetland delineation and review of preliminary topographic and soils information, it appears that approximately 13.67 acres of former hardwood bottomland wetland has been completely drained and is no longer jurisdictional. In addition to completely draining a large acreage of wetland, the existing ditch system continues to significantly affect the normal hydrology within approximately 11.58 acres of jurisdictional wetland.

The goal of this portion of the mitigation plan is to restore/enhance surface and ground water hydrology within the 25.25 acre area to that of a nearby reference wetland. Branigar will restore reference hydrology in this area by installing one or more engineer-designed permanent water control structures within the lateral ditches. The permanent structures should allow surface and ground water elevations to rise in this area, increasing the frequency and duration of hydric conditions. The design of the water control structures is not known at this time, as additional investigation of the site and watershed will need to be completed prior to sizing the structures. It is anticipated that the structures will be fixed riser structures with outfall pipes or earthen plugs installed in the existing ditches. Final outfall elevations will be set according to site topography

and overall predicted watershed flows during certain storm events. The set elevation will allow the restoration/enhancement area to have saturated soils at a frequency and duration resembling that of the reference wetland, but will not allow the flooding of adjacent upland areas. This restoration/enhancement activity will result in an overall improvement in wetland quality and fish and wildlife habitat.

Branigar will initiate the restoration and enhancement plan by conducting a detailed topographic survey of the restoration and enhancement site. After the topographic survey is completed, Branigar will complete an engineer-designed plan which will depict the proposed water control structure(s) and predicted ground and surface water elevations. Branigar will implement the restoration/enhancement work concurrent with project construction, and all restoration work will be completed within two years of permit authorization.

Branigar will install monitoring wells within the 25.25 acre restoration/enhancement area, and in the reference wetland to establish baseline hydrology data to document the functional lift of the mitigation area. Branigar will monitor these wells for five years post-construction to determine the success of the hydrology restoration project. If at the end of the five year monitoring period the project is determined to be a success, the restoration/ enhancement project may, after review by the appropriate regulatory agency personnel, be considered complete. If the wetland restoration/enhancement project is unsuccessful, Branigar will consult with the appropriate regulatory review agencies to determine what remedial action should be taken.

3.0 Declaration of Covenants and Restrictions:

Branigar will establish an irrevocable Declaration of Covenants and Restrictions (Covenant) on all upland buffers and wetlands to be preserved, restored and enhanced within the project boundaries. The Covenant will be attached to the deed and run with the land. This Covenant will be recorded with the RMC Office of Chatham County after a permit has been issued by the U.S. Army Corps of Engineers (USACE) . All preservation areas will be eventually deeded to the Property Owners Association or transferred to a preservation organization.

The Covenant will generally allow access for activities such as hiking, bird watching, fishing, or other suitable recreational activities. It will also allow nature trails, elevated boardwalks and/or bridges, passive management activities beneficial to wildlife, removal of diseased and unsafe trees, limited underbrushing to create pathways, the discharge of storm water run-off and salvage timber harvesting operations in response to acts of nature (i.e., hurricanes). The Covenant will specifically prohibit development activities or other disturbances such as commercial timber harvesting, clearing, grading, excavation or formal landscaping, except for the limited trail construction and passive habitat management activities.

Preserved mitigation areas will be indicated on a plat signed and sealed by a registered surveyor. Appropriate signage will be placed around the perimeter of all mitigation areas, at approximately 300' intervals, advising that the conservation/preservation areas are protected and restricted to certain activities.

4.0 Mitigation Implementation Schedule:
The following is a time schedule for implementing the above described mitigation plan for the 1911.35 acre Berwick Plantation.

4.1 Wetland and Upland Buffer Preservation:
Within one year of permit issuance, and concurrent with development activities, Branigar will submit for review and final approval, a draft "Declaration of Covenants and Restrictions" necessary to perpetually protect and preserve all wetlands and uplands that are identified as compensatory mitigation lands in the above mitigation plan. This draft document will contain stipulations necessary to allow the developers flexibility with regard to the exact location of the right-of-way for the phased construction of authorized wetland crossings.

Within six months of the USACE's final approval of the draft "Declaration of Covenants and Restrictions", Branigar will submit a copy of the final document that has been notarized and recorded in the Office of the Clerk of the Superior Court of Chatham County, Georgia.

Within six months of the USACE's final approval of the above draft "Declaration of Covenants and Restrictions", Branigar will post appropriate signs at 300' intervals along all property boundaries of the compensatory mitigation lands to reduce the possibility of unauthorized disturbance to these areas.

4.2 Wetland Restoration and Enhancement:
Within one year of permit authorization, Branigar will submit a final mitigation plan for the wetland restoration and enhancement area. The final mitigation plan will include the following:

a. A detailed topographic survey of the entire 25.25 acre enhancement area with a contour interval of six inches or less (0.1 foot intervals would be preferred).

b. An engineer-designed site plan detailing the steps that will be taken to restore and enhance wetland hydrology in the mitigation area. This plan will include the number and location of water control structures, plans for their construction, and predicted ground and surface water elevations. The water control structures will be constructed/armored in a manner to insure that they are permanent. Any existing drainage ditches should be blocked at several locations upstream of the water control structures using available sidecast material.

c. A proposed methodology for monitoring hydrology in the restoration/enhancement area and the reference wetland. This plan will include the type, number and location of monitoring wells, as well as the proposed frequency and duration of monitoring. At least one year of baseline hydrologic monitoring and five years of post-construction monitoring will be required. The monitoring plan should include a contingency plan for up to an additional year of baseline monitoring to obtain more accurate data as required. This plan should indicate that baseline hydrologic monitoring will begin within 18 months of permit authorization, and that the water control structures will be installed six months or less after the baseline monitoring is concluded. The condition of the water control structures themselves should also be monitored.

The mitigation plan for the wetland restoration/enhancement area will be submitted to the USACE for review and approval. Branigar will make minor revisions to the plan if considered necessary.

Annual mitigation monitoring reports will be submitted to the USACE for review and acceptance. If significant problems are identified during the five year post-construction monitoring period, regulatory personnel will be consulted regarding possible corrective action that may need to be taken. This may include modification or replacement of the water control structures, extension of the monitoring period, or the location of an alternate mitigation site. If at the end of the five year post-construction monitoring period the project is determined to be a success, the enhancement project may, after review by the appropriate regulatory agency personnel, be considered complete.

5.0 Summary:

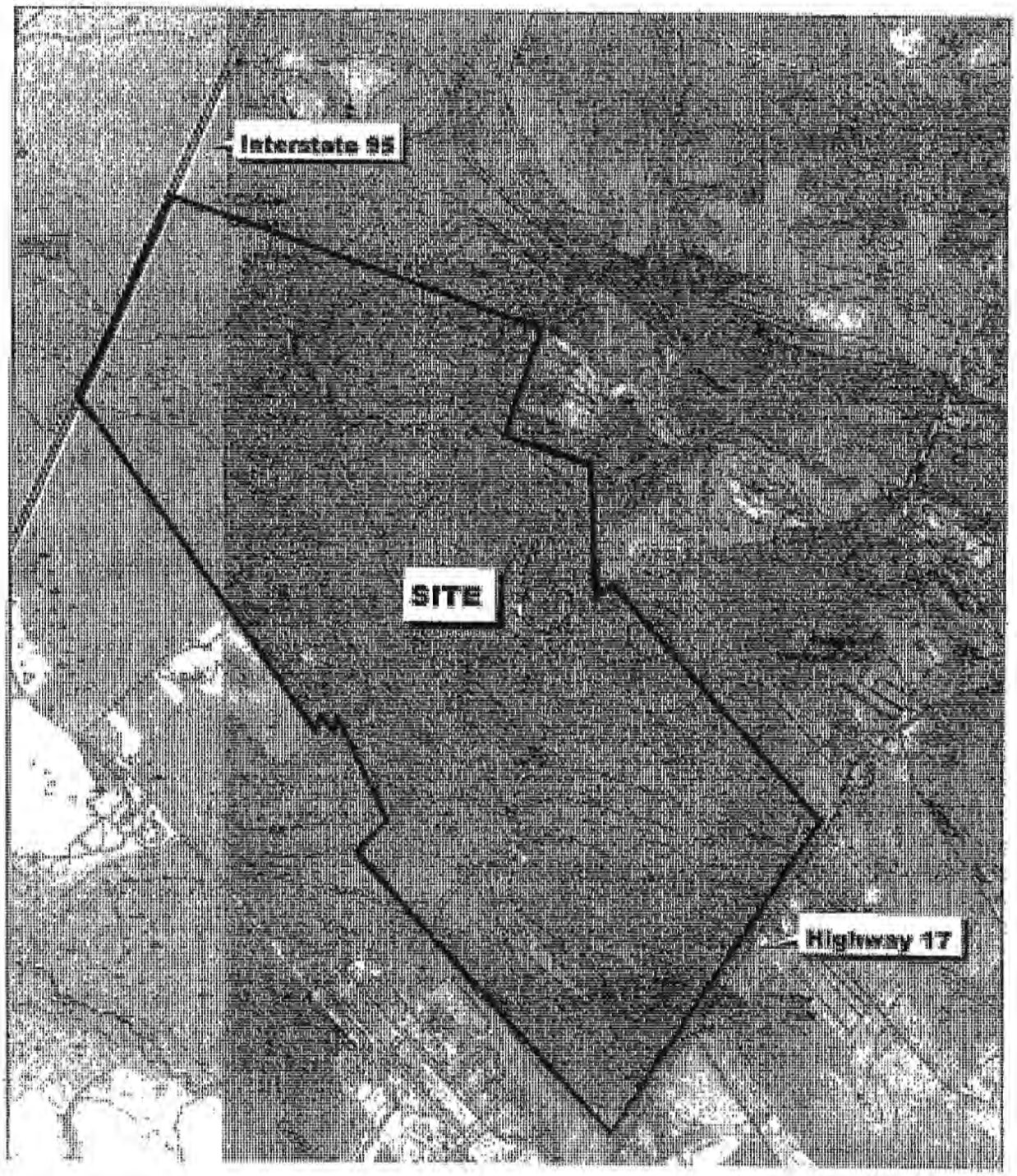
As mitigation for impacting 20.26 acres of wetland, Branigar will preserve 396.52 acres of wetland, restore 13.67 acres of wetland and enhance 11.58 acres of wetland on the 1,911.35 acre Berwick Plantation. The preserved, restored and enhanced wetland areas will be surrounded by at least 81.98 acres of upland buffer having a minimum width of 30 feet. Branigar will attach a Declaration of Covenants and Restrictions to these mitigation areas to insure their preservation in perpetuity. This mitigation plan should fully compensate for project-related impacts. All development activities will be performed using best management practices,(silt fencing, grassed slopes, etc.) to further minimize and avoid impacts to wetland areas located on the property.

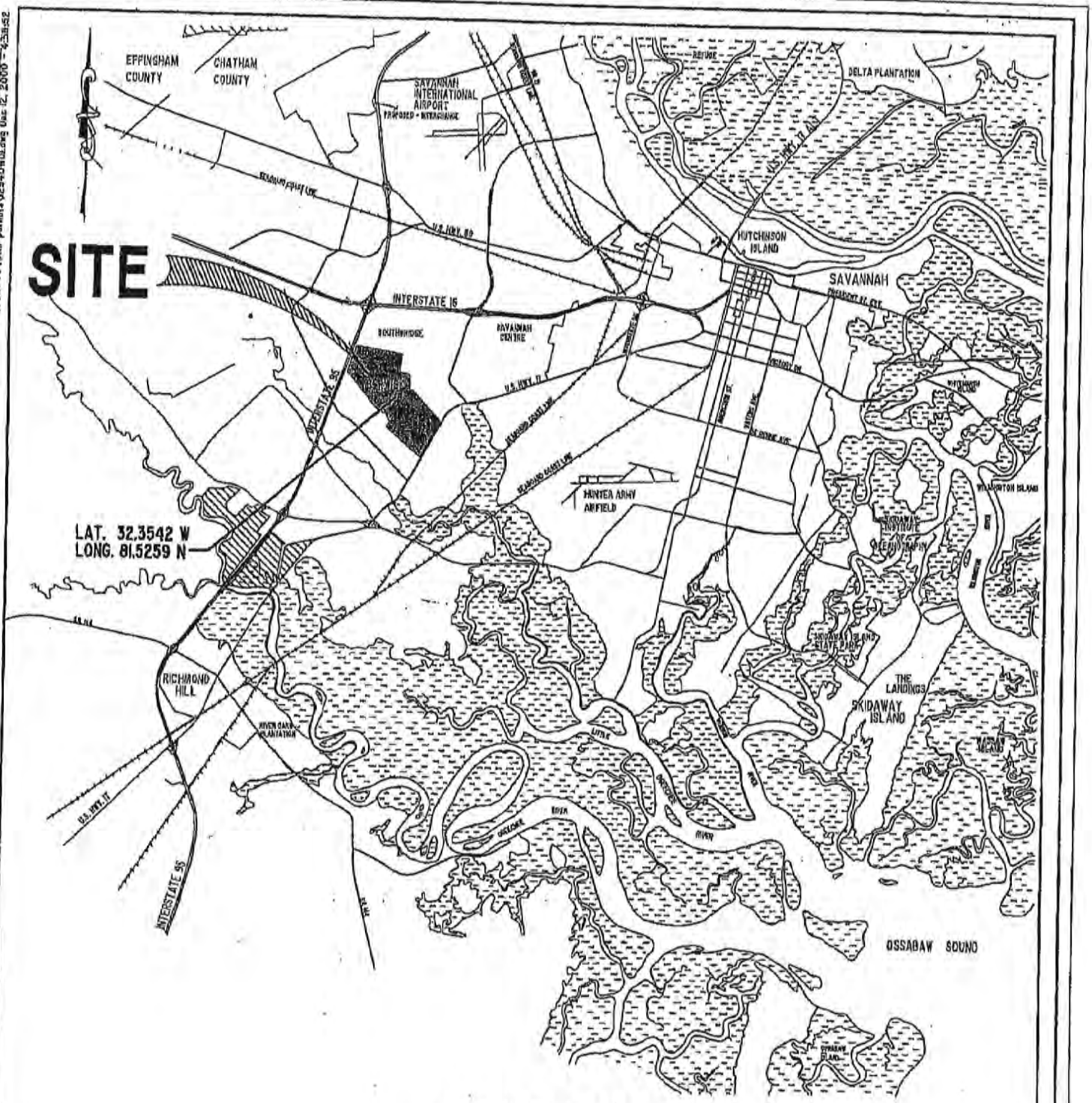
Location Map

1911.35 Acre Berwick Plantation
Chatham County, Georgia

NEWKIRK ENVIRONMENTAL, INC

Project Limits





VICINITY MAP

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 1 OF 26

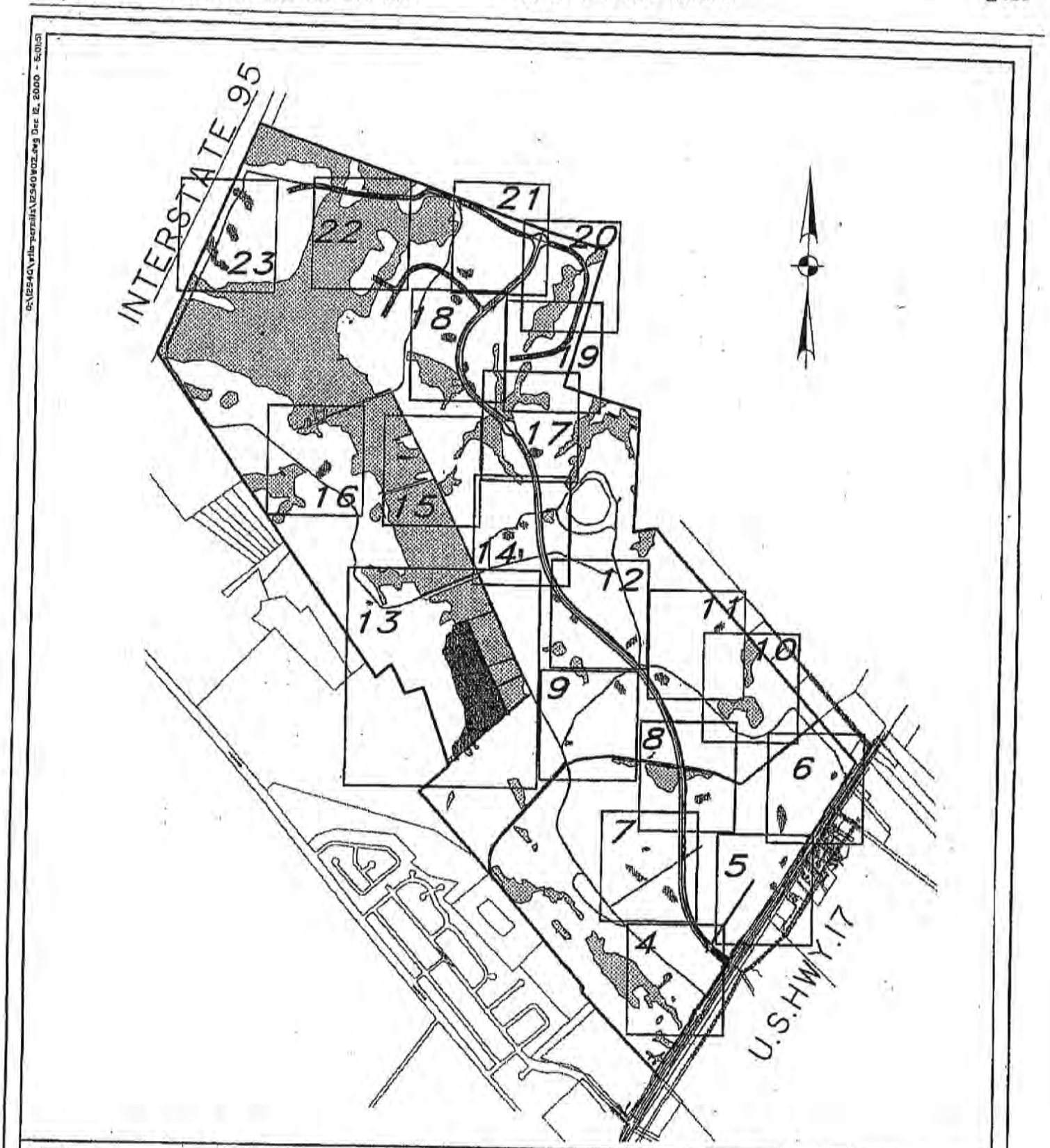
SCALE: NOT TO SCALE

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SCALE: 1"=2000'

DATUM:
MEAN SEA LEVEL

SHEET 2 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

LEGEND

TOTAL WETLANDS	442.634 AC.
TOTAL WETLAND FILL (44,432 C.Y.)	20.86 AC.
WETLANDS ENHANCEMENT	11.58 AC.
WETLANDS RESTORATION	13.67 AC.
UPLAND BUFFERS / WILDLIFE CORRIDORS	81.98 AC.
WETLAND PRESERVATION	396.52 AC.
TOTAL TRACT	1911.35 AC.

BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SCALE: 1"=2000'

DATUM:
MEAN SEA LEVEL

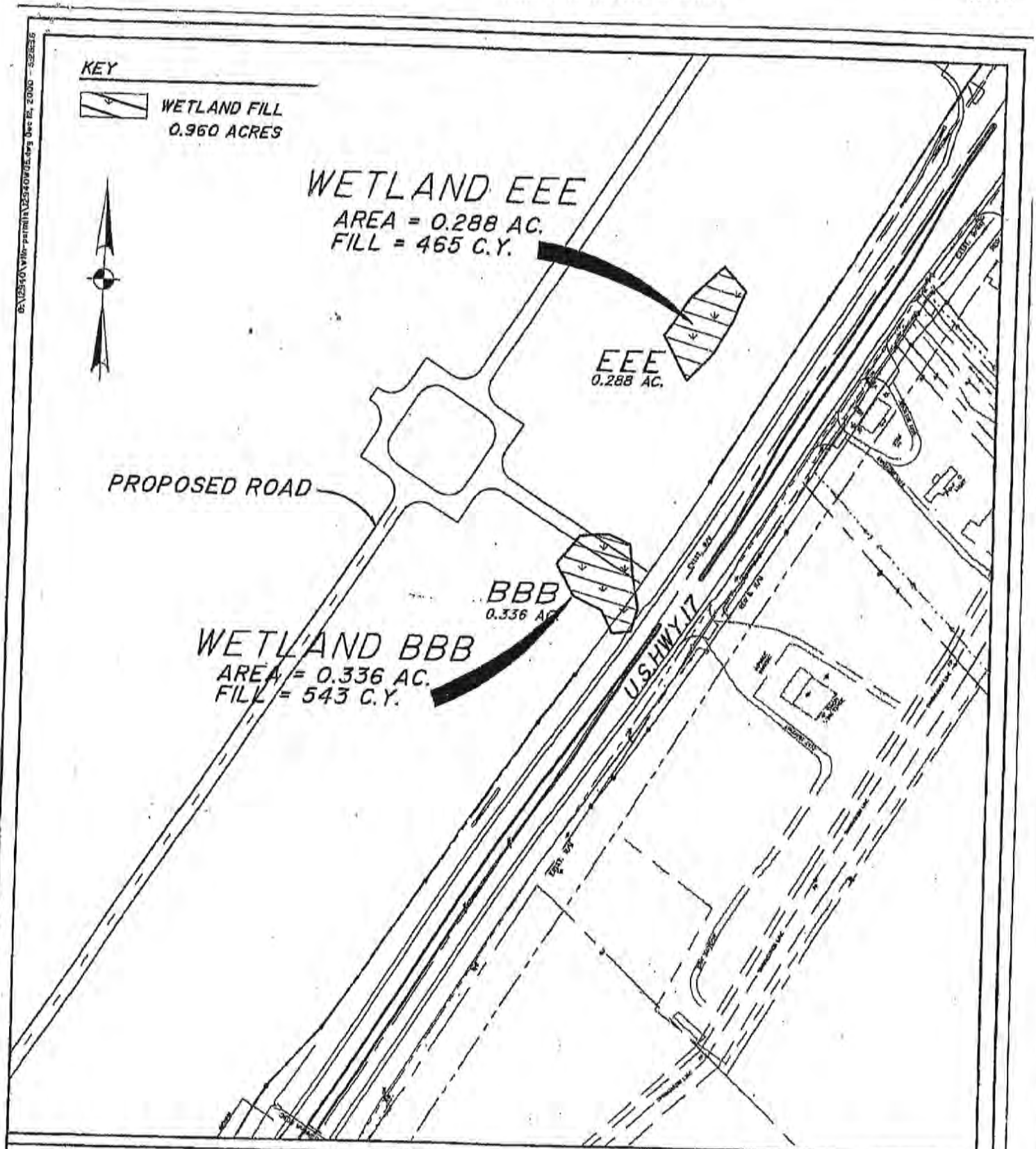
SHEET 3 OF 26

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT

COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 5 OF 26

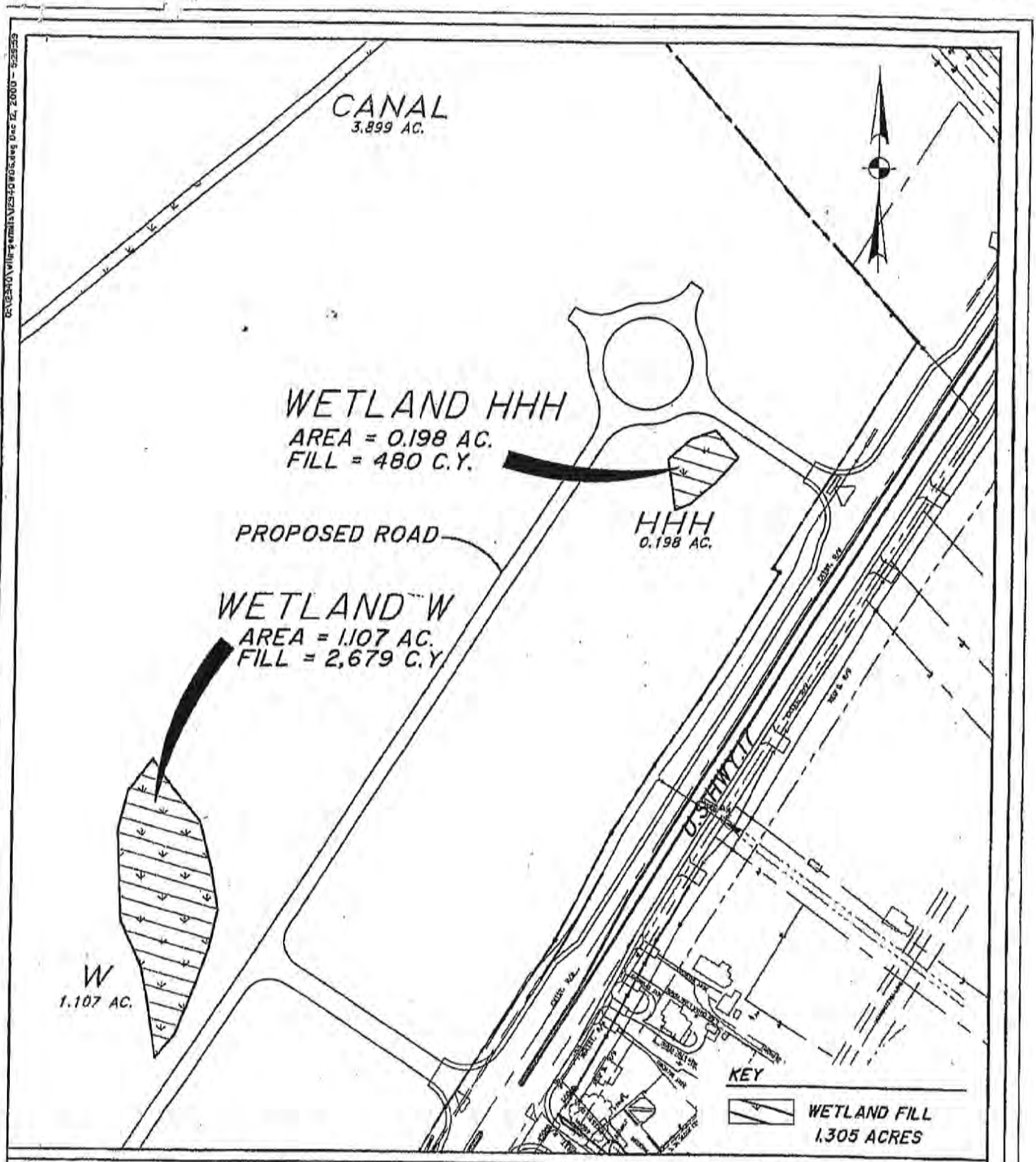
SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL
DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.



BERWICK PLANTATION
CHATHAM COUNTY, GEORGIA

DATE: DECEMBER 11, 2000

SHEET 6 OF 26

SCALE: 1"=200'

DATUM:
MEAN SEA LEVEL

SOURCE: THOMAS & HUTTON ENGINEERING CO.

PROPOSED ACTIVITY:
RESIDENTIAL / COMMERCIAL DEVELOPMENT
COUNTY:
CHATHAM COUNTY, GA.

APPLICANT:
THE BRANIGAR ORGANIZATION, INC.

ATTACHMENT F:
Threatened & Endangered Species Information

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Chatham County, Georgia

Local office

Georgia Ecological Services Field Office

(706) 613-9493
(706) 613-6059

355 East Hancock Avenue
Room 320
Athens, GA 30601

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
West Indian Manatee Trichechus manatus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Birds

NAME	STATUS
Piping Plover Charadrius melodus [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Endangered
Piping Plover Charadrius melodus [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot Calidris canutus rufa No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker Picoides borealis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7614	Endangered
Wood Stork Mycteria americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
Eastern Indigo Snake Drymarchon corais couperi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/646	Threatened
Gopher Tortoise Gopherus polyphemus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6994	Candidate

Green Sea Turtle Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened
Kemp's Ridley Sea Turtle Lepidochelys kempii There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle Dermochelys coriacea There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle Caretta caretta There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1110	Threatened

Amphibians

NAME	STATUS
Frosted Flatwoods Salamander Ambystoma cingulatum There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4981	Threatened

Flowering Plants

NAME	STATUS
Pondberry Lindera melissifolia No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1279	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Red-throated Loon Gavia stellata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Marine mammals

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act

[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries

[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
https://ecos.fws.gov/ecp/species/4469

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C
- PFO1Bd
- PFO1B

FRESHWATER POND

- PUBHx

RIVERINE

- R2UBHx
- R5UBFx
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT G:
Cultural Resources Information

Berwick
1052

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 889
SAVANNAH, GEORGIA 31402

FEB 2 8 2001

REPLY TO ATTENTION OF

Regulatory Branch
970015260

Mr. Ray Luce, Director and SHPO
Historic Preservation Division
Georgia Department of Natural Resources
Suite 101
156 Trinity Avenue, SW.
Atlanta, Georgia 30303-3600

Dear Mr. Luce:

I refer to Department of the Army Permit Application No. 970015260, concerning a request by The Branigar Organization, Inc., to discharge fill material into approximately 20.86 acres of wetland to facilitate development of a master-planned mixed use community on the 1,911.35 acre Berwick Tract. The project site is located on the northwest side of U.S. Highway 17, approximately 2.1 miles northeast of State Highway 204, near Savannah, Chatham County, Georgia.

In an effort to insure compliance with Section 106 of the National Historic Preservation Act, the applicant has conducted a cultural resources survey of the project site. The results of this survey are contained in a report titled "Intensive Cultural Resources Survey of the 1,900 Acre Berwick Tract, Chatham County, Georgia." The report, dated May, 1999, was prepared by Brockington and Associates, Inc.

Our staff archaeologist has reviewed this report, and his comments are enclosed for your information and use. In accordance with 36 CFR 800.4, and 33 CFR 325, Appendix C, we are requesting that you review and provide any comments you may have on the above referenced historic resources survey. I have enclosed a copy of the report for your use.

We agree with the report's recommendation that none of the five prehistoric/historic archaeological sites and four isolated finds identified in the report should be considered eligible for inclusion in the National Register of Historic Places. However, we do have some concerns with the report as indicated in the attached comments.

If you have any comments or questions regarding this matter, please contact Mr. Richard Legere, Project Manager, at 912-652-5079, or Mr. Dave Crampton, Archaeologist, at 912-652-5840.

Sincerely,

David E. Crosby
Chief, Southern Section

Enclosures

Copies Furnished:

Mr. Paul Brockington
Brockington and Associates, Inc.
6611 Bay Circle, Suite 220
Norcross, Georgia 30071

Mr. Richard Cloues, Deputy SHPO
Historic Preservation Division
Georgia Department of Natural Resources
Suite 101
156 Trinity Avenue, SW.
Atlanta, Georgia 30303-3600

Newkirk Environmental, Inc.
Attention: Mr. Alton Brown, Jr.
340 Eisenhower Drive
Building 200, Suite 201
Savannah, Georgia 31406

Lonice C. Barrett, Commissioner

Georgia Department of Natural Resources

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
156 Trinity Avenue, S.W., Suite 101, Atlanta, Georgia 30303-3600
Telephone (404) 656-2840 Fax (404) 657-1040 http://www.gashpo.org

March 27, 2001

1052

David E. Crosby
Chief, South Section
Department of the Army
Savannah District, Corps of Engineers
P.O. Box 889
Savannah, Georgia 31402

RE: COE Project 970015260; Development Of Mixed Use Community; Berwick Plantation/Hwy 17
Chatham County, Georgia
HP010205-013

Dear Mr. Crosby:

The Historic Preservation Division (HPD) has reviewed the archaeological field survey submitted concerning the proposed development of a mixed-use community at the above referenced location. Our comments are offered to assist the Corps of Engineers (COE) and their applicants in complying with the provisions of Section 106 of the National Historic Preservation Act.

Based on the information provided, HPD concurs with the determination by Brockington & Associates that the proposed undertaking will have no effect on any archaeological sites that are listed or eligible for listing in the National Register of Historic Places.

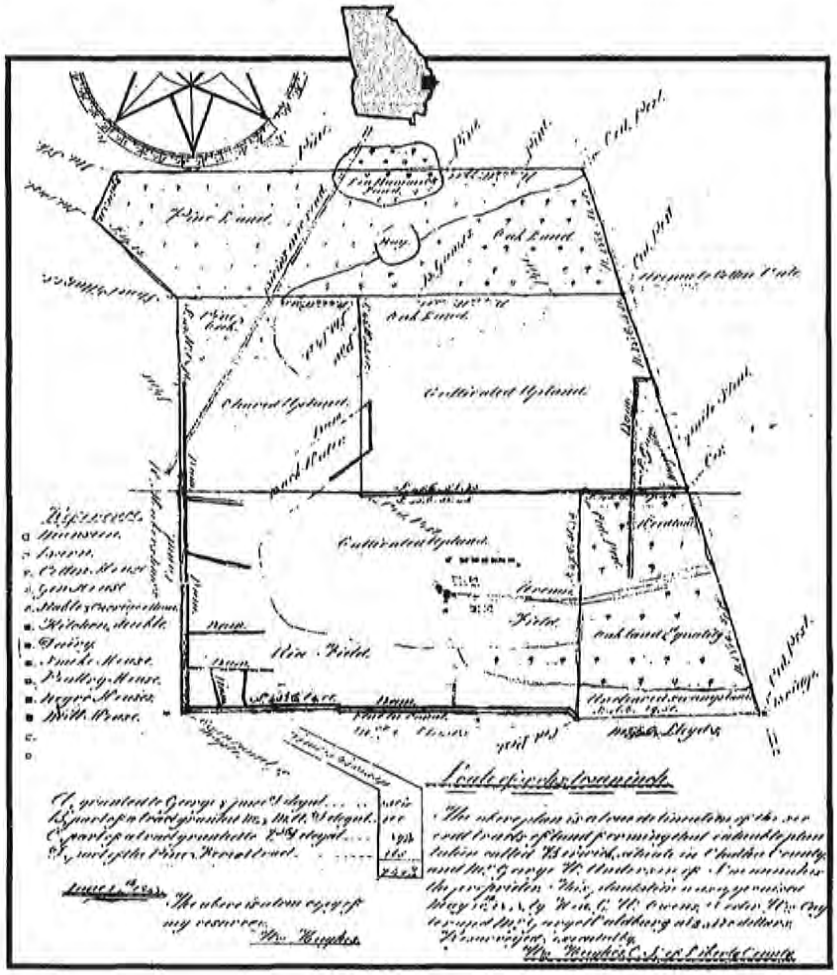
If we may be of further assistance, please do not hesitate to contact me at, at (404) 651-6624.

Sincerely,

Serena G. Bellew
Environmental Review Coordinator

cc: Brockington & Associates
Catherine Hankey, Coastal Georgia RDC

Intensive Cultural Resources Survey of the 1,900 Acre Berwick Tract Chatham County, Georgia



Brockington and Associates, Inc.
Atlanta Charleston

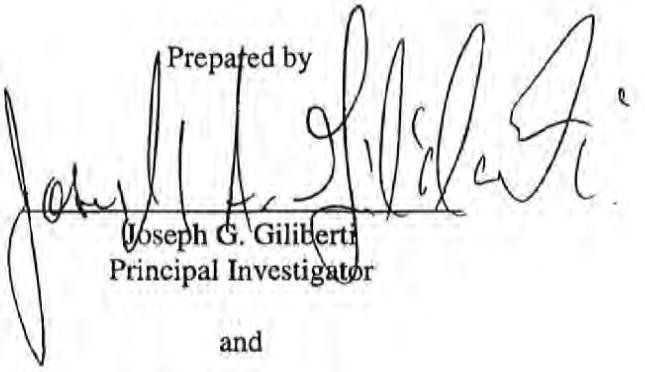
1999

Intensive Cultural Resources Survey of the 1,900 Acre Berwick Tract Chatham County, Georgia

Prepared for

Union Camp Realty Corporation
Savannah, Georgia

Prepared by



Joseph G. Giliberti
Principal Investigator

and

William R. Jordan
Historian

Brockington and Associates, Inc.
Atlanta Charleston
May 1999

Management Summary

In February and March 1999, Brockington and Associates, Inc. conducted intensive cultural resources survey of a 1,900 acre portion of the Berwick Tract in Chatham County, Georgia (Figure 1) for Union Camp Realty Corporation. Proposed residential and commercial construction within the project tract necessitated this study, in order to comply with cultural resource management provisions of the U.S. Army Corps of Engineers regulations (33 CFR 320-330) implementing Section 106 of the National Historic Preservation Act (as amended, 1992), and 36 CFR 800 (Protection of Historic Properties).

Project activities included background research, archaeological and architectural field survey, and evaluation of all cultural resources within the project tract for inclusion on the National Register of Historic Places (NRHP).

Cultural resources survey of the Berwick Tract revealed that much of the area has been heavily impacted by rice agriculture, silviculture, and road maintenance. This activity, in particular modern timbering with the use of heavy equipment, has in many cases left the area too disturbed to allow for the preservation of intact archaeological deposits. Based on previous disturbance, this tract exhibited low probability for well-preserved archaeological deposits. Field survey confirmed this hypothesis.

Five previously unrecorded archaeological sites (9CH893, 9CH894, 9CH895, 9CH896, and 9CH897) and four isolated finds (Isolates 1-4) were recorded in the Berwick Tract during field survey. No architectural resources are present in the tract. All of the sites and isolated finds identified within the Berwick Tract are recommended ineligible for the NRHP. Since no significant cultural resources were identified within the boundaries of the proposed Berwick Tract development, cultural resources clearance to proceed with this development is recommended.

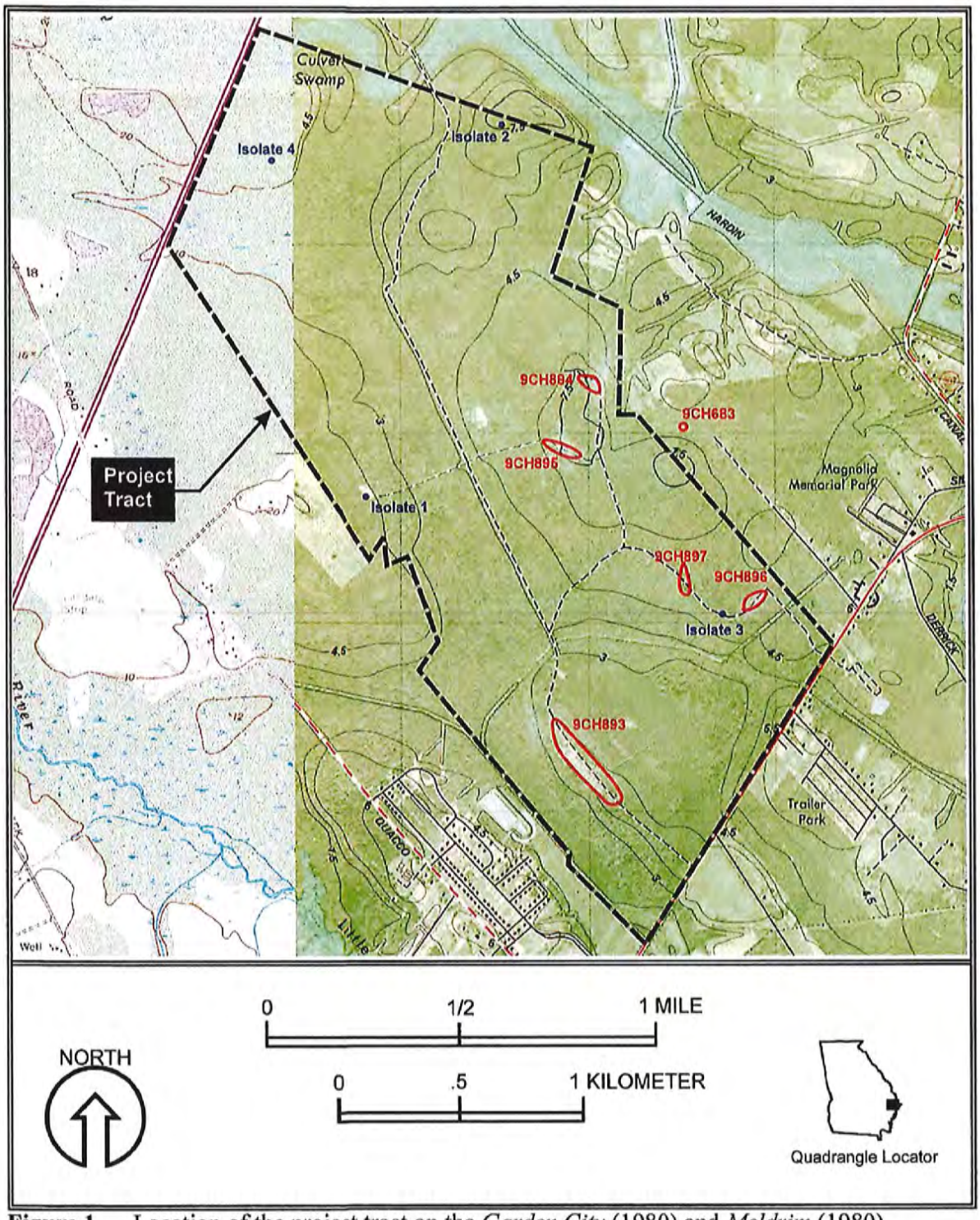


Figure 1. Location of the project tract on the *Garden City* (1980) and *Meldrim* (1980), Georgia USGS 7.5 minute quadrangles.

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Chapter 1. Introduction

On 18-29 January 1999, Brockington and Associates, Inc., conducted an intensive cultural resources survey of a 1,900 acre portion of the Berwick Tract, Chatham County, Georgia for Union Camp Realty Corporation. The property is located adjacent to and southeast of Interstate 95 and adjacent to and northwest of U.S. Highway 17. Figure 1 shows the boundaries of the project area on the USGS Garden City (1980) and Meldrim (1980) topographic maps.

The survey was conducted in compliance with federal and state laws and regulations concerning the management of cultural resources as administered by the Regulatory Program of the U.S. Army Corps of Engineers (33 CFR 325, Appendix C). These laws and regulations include:

- Section 404 of the Clean Water Act of 1948 [33 USC 1344], as amended;
- Section 106 of the National Historic Preservation Act of 1966 [16 USC 470], as amended; and
- 36 CFR 800: Protection of Historic Properties.

No previously recorded archaeological sites or cultural resources are located within the project tract. Five previously unrecorded archaeological sites (9CH893, 9CH894, 9CH895, 9CH896, and 9CH897) and four isolated finds (Isolates 1-4) were recorded during the survey.

Site 9CH893 consists of a heavy concentration of historic material and a very light concentration of prehistoric material. The historic component represents the remains of an early to middle nineteenth century homesite. Based on the level of disturbance and lack of significant cultural deposits at the site, site 9CH893 is recommended not eligible for listing on the National Register of Historic Places (NRHP).

Site 9CH894 consists of a low density scatter of prehistoric artifacts found on the eroded ground surface of a borrow pit. Borrow pit activity has completely destroyed its integrity, and the site is recommended ineligible for listing on the NRHP.

Site 9CH895 consists of a medium density scatter of historic artifacts found along a logging road. The site appears to represent the remains of a late nineteenth century homesite. The site lacks intact deposits and standing structures and is recommended ineligible for listing on the NRHP.

Site 9CH896 consists of a low density scatter of lithic debitage and ceramic sherds found on a recent clear cut along the edge of a logging road. This site is heavily disturbed and is recommended ineligible for the NRHP.

Site 9CH897 was also found in a recent clear cut area along a logging road. This site consists of lithic debitage and ceramic sherds. Due to heavy disturbance, 9CH897 is also recommended not eligible for listing on the NRHP.

The four isolated finds located during the field study consist of lithic debitage and ceramic sherds, but lack sufficient numbers of artifacts (five) to be considered archaeological sites. Based on the paucity of artifacts found and their non-unique nature, the isolated finds are also recommended not eligible for listing on the NRHP.

Chapter 2. Methods of Investigation

Archival Research Methods

Background research was conducted prior to the field investigations to determine if any recorded archaeological sites or National Register of Historic Places (NRHP) eligible or listed properties are in or near the project tract, and to provide a history of land ownership and land use of the project tract. This information, in conjunction with other variables discussed below, was used to help determine the potential for archaeological sites to exist in the project tract, to locate where that potential is the greatest, and to define what type of sites may be present.

A history of the project tract was compiled through the investigation of primary and secondary sources. Deed, title, and plat information was traced at the Legal Department of Union Camp Realty Corporation in Savannah. Research also was conducted at the Georgia Historical Society in Savannah, and the Georgia Department of Archives and History in Atlanta. The State Historic Preservation Office NRHP files (Historic Preservation Division, Atlanta) were checked for listed or eligible properties in or near the project tract; none are recorded.

Field Survey Methods

The surveyed portion of the Berwick Tract contains approximately 1,900 acres of land. Eric Poplin (Bailey et al. 1995) developed a predictive model for archaeological site potential in this area. Since Poplin's model was used successfully in a survey conducted near the project tract (Bailey et al. 1995), his method was adapted for use as a guide for the present survey. The classification was based on soil data. Initially, areas are divided into wetlands and uplands. Within the approximately 1,900 acre surveyed portion of the Berwick tract, 300 acres are considered wetlands, while the remaining 1,600 acres are considered uplands. Upland areas are further divided into either high/moderate or low potential areas for containing archaeological sites. Within the uplands in the surveyed portion of the Berwick Tract, 1,400 acres are considered low potential, while 200 acres are considered to have high/moderate potential for containing archaeological sites (Figure 2).

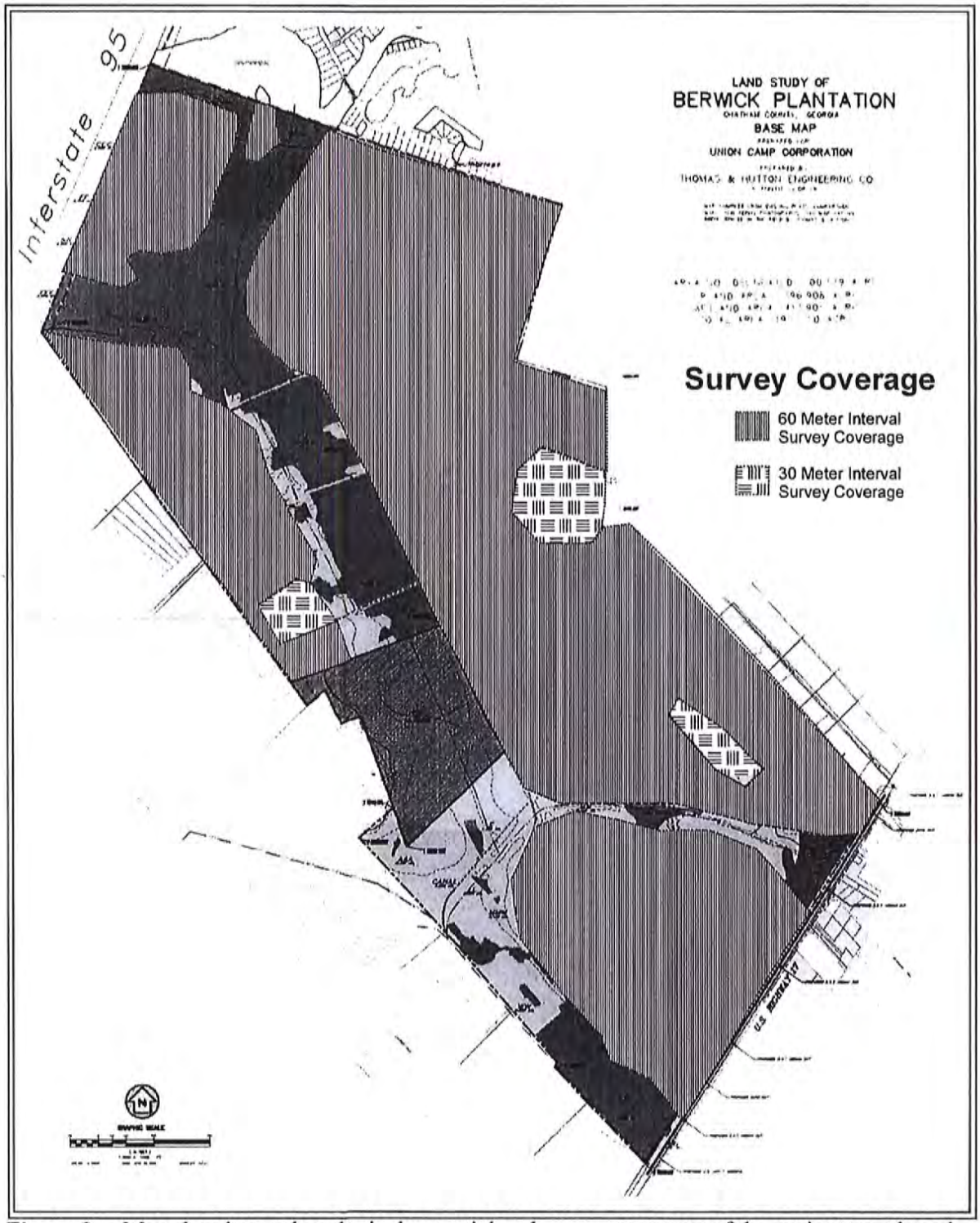

Figure 2. Map showing archaeological potential and survey coverage of the project tract based on soil data.

High/moderate potential areas were surveyed on a 30 by 30 meter grid. Unless an area displayed obviously heavy ground disturbance, shovel tests were dug at each grid intersection. Shovel tests measured approximately 30 by 30 cm and were excavated into sterile subsoil. All soil from shovel tests was screened through 1/4 inch hardware cloth. Shovel tests were not excavated in areas judged (through initial testing) to be highly disturbed, and were augmented by visual inspection in areas with good surface visibility. Good surface visibility was afforded by several activities, including clear cutting and road construction.

Low potential areas make up the majority of the uplands, equaling approximately 1,400 acres. These areas were examined in the same manner as the high/moderate potential areas with the exception of grid interval, which was increased from 30 to 60 meters. Wetland areas were not shovel tested.

For this project, an archaeological site was defined by the presence of five or more artifacts from the same occupation; isolated finds consist of four or less artifacts. Artifact producing locales were subjected to reduced interval shovel testing to determine site boundaries and to aid in determining whether intact buried deposits exist. Reduced interval shovel tests were excavated at 15 meter intervals in four cardinal directions from the original positive shovel test. The presence of two consecutive negative shovel tests represents a site boundary. Site maps were drawn and each site was plotted on a project map. Site maps include the locations of all excavation and cultural and natural features.

Laboratory Methods and Curation

At the completion of field investigations, all recovered artifacts were transported to the laboratory for cleaning and analysis. Based on the results of field investigations and laboratory analysis, an NRHP assessment was made for each site. All artifacts recovered during these investigations were cleaned and stored as appropriate for their material of manufacture. Site proveniences were assigned for each location within the site where cultural remains were recovered (e.g., shovel test, surface scatter, and unit levels). Each class or type of remains within each provenience was assigned a separate catalog number within that provenience. Each catalog "unit" was placed in a separate plastic storage container and labeled as to site, provenience and catalog number. All of the separate containers associated with each provenience were placed in an appropriately labeled larger plastic container; each provenience container was placed in a single

plastic storage container and appropriately labeled. All artifacts will be returned to Union Camp for permanent curation.

Typological identification, as manifested in technological and stylistic attributes, served as the basis for prehistoric artifact analysis. Lab personnel classified all prehistoric ceramic sherds larger than 2 by 2 cm by surface decoration and aplastic content. When recognizable, they recorded these attributes for residual sherds, i.e., those smaller than 2 by 2 cm. Nondiagnostic residual sherds were tabulated as a group. Historic ceramics were identified based on descriptions provided by Noël Hume (1970) and Brown (1982). Historic glass sherds were identified based on descriptions provided by Toulouse (1972) and Munsey (1970). Prehistoric ceramics were compared to types identified and described by Anderson et al. (1982), Espenshade and Brockington (1989), DePratter (1979), Trinkley (1980), and Williams and Shapiro (1990).

NRHP Assessment

The significance of identified archaeological resources is assessed based on the criteria of the NRHP (36 CFR 60.4). In order for a cultural resource to be defined as significant (i.e., eligible for the NRHP), it must meet one or more of the following criteria (National Park Service 1991):

a. The resource must be associated with events that have made a significant contribution to the broad pattern of history.
b. The resource must be associated with the lives of persons significant in the past.
c. The resource must embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction.
d. The resource must yield, or be likely to yield, information important to history or prehistory.

Sites 9CH893-897 were evaluated based on their ability to yield important archaeological information. Under 36 CFR 60.4 [d], sites that yield, or have yielded, information important in history or prehistory can be eligible for the NRHP. The ability of an archaeological site to yield important information is based on the number and kinds of artifacts that are present, the relationships

of these artifacts to each other and other kinds of features (e.g., buried soil horizons, architectural features, subsurface soil features) that are present, and the similarity of the encountered artifacts and features to those present at other sites in the region. In addition, site 9CH893 was also evaluated based on its association with Civil War era troop movements (under criterion a).

To be eligible for the NRHP, archaeological sites must possess artifacts that can be employed to determine the past use of the locale and the approximate date of its past use. These artifacts should occur in sufficient numbers to permit quantitative assessments of their distribution across the site, both horizontally and vertically. Also, these artifacts should occur within or in association with intact soil deposits that represent specific human activities, suites of activities, or natural events that occurred at the site. These associations are critical to understanding how the site was created (i.e., the kinds of human activities that occurred at the site to produce the artifacts and features) and how the site has changed since its initial occupation. The presence of artifacts and features that can be employed to make these interpretations is essential to recommending a site eligible for the NRHP. Additionally, a site that produces extremely rare artifacts or evidence of extremely rare activities may be considered eligible even if the integrity of the archaeological deposits is poor.

Chapter 3. Environmental and Cultural Setting

Environmental Setting

Paleoenvironment

Chatham County is located within the Coastal Marine Flatlands division of the Coastal Plain Province of Georgia (Wharton 1989:9). Hodler and Schretter (1986:16-17) indicate that this area was formed as part of the Barrier Island Sequence, a process whereby,

> the advance and retreat of former sea levels have left six shoreline deposit complexes parallel to the present coastline in a steplike progression of decreasing elevations. Slight to moderate dissection of these former levels has allowed marshes to exist in poorly drained low areas.

These Pleistocene depositional episodes formed as sea level fluctuated during periods of continental glaciation. They are considered to represent specific geologic terraces, based roughly on range of elevation above present mean sea level [amsl], i.e., Holocene deposits. In ascending order (from coastline inland) these complexes are Silver Bluff (5-15 ft amsl), Princess Anne (15-25 ft amsl), Pamlico (25-45 ft amsl), Talbot (45-75 ft amsl), Penholoway (75-100 ft amsl), and Wicomico (100+ ft amsl). Topographically, these former shorelines are represented by parallel sequences of ridges (former barrier islands), pine flatwoods (former sea marshes), and stream swamps (old tidal waterways) (Hodler and Schretter 1986:27). The project tract is located on the Princess Anne terrace. This terrace was formed between 25,000 and 100,000 years ago, making it available to the full range of human occupation in the region (DePratter 1979a).

The Coastal Marine Flatlands represent the youngest geologic deposits of Georgia's coastal plain. These interbedded sands overlay sandy clay dating to the Miocene and Pliocene epochs (Herrick 1965). Formation of these deposits was primarily sedimentational, with erosion of crystalline rocks from the Piedmont province as the predominant source. Herrick (1965) suggests that pre-existing Coastal Plain sediments (Miocene, Pliocene, and early Pleistocene) may also have contributed to these deposits through erosion and redeposition.

During the last 10,000 years, a modern, somewhat xeric forest probably covered much of the Southeastern United States (Kuchler 1964; Sheehan et al. 1985; Wharton 1989). As the climate continued to warm, increased moisture augmented the northward advance of the oak-hickory forest (Delcourt 1979; Sheehan et al. 1985). In a study by Sheehan et al. (1985) for the Richard B. Russell Multiple Use Area on the upper Savannah River, palynological evidence suggests that spruce, pine, fir, and hemlock rapidly decreased in importance between 9,000 and 4,000 years before present (BP). By the mid-Holocene, the oak-hickory forest was gradually being replaced by a pine dominated woodland (Wharton 1989:12).

From 4,000 years BP to the present, slight cooling and limited increases in precipitation may have been responsible for subtle changes in lowland vegetation. The oak-hickory forests appear to have decreased in area and density, and were slowly invaded or replaced by several conifer varieties. Early European explorers reported large pure stands of yellow (longleaf) pine in the Coastal Plain. These stands have recently been replaced by slash pines (*Pinus elliottii*), particularly in lowlying areas, where planted slash pine is said to dominate nearly 90 percent of the Pleistocene pine flatwoods (Wharton 1989:195).

Modern Environment

The eastern Georgia Coastal Plain (as with the majority of Georgia) is considered to be in the warm, temperate subtropical climate zone (Hodler and Schretter 1986:44-45). Summers are generally hot and humid, and winters are comfortable to cool. Average daily temperatures range from the low 50s (degrees F) in January to the middle 80s in July. The last frost generally occurs around 1 March, and the first frost is expected after 20 November. The average annual precipitation is 50 to 55 inches, the majority coming as summer rainfall.

Modern fauna of the Coastal Marine Flatlands are summarized by Wharton (1989), and include diverse species of mammals, birds, fish, reptiles, and amphibians. It is expected that a much wider variety of the extant fauna were available for exploitation during prehistoric and early historic habitation of this area. In addition to the more common species (e.g., white-tail deer, Virginia opossum, pine voles, field mouse, and short-tailed shrews, gray and fox squirrels, raccoon), less common mammals include the cotton mouse, cottontail rabbit, nine-banded armadillos (Laerm et al. 1981). Birds of possible food value include dove, quail, turkey, goose and a variety of ducks, wading, and shore birds. Fish found in nearby creeks and rivers include bluegill, black crappie,

largemouth bass, catfish, yellow sucker, gar, eel, and minnow. A wide variety of snakes, including the king snake, rat snake, corn snake, southern hognose, coachwhip, pine snake, copperhead, and the pygmy and diamondback rattlesnakes are in evidence. Amphibians include the striped and central newt, and several varieties of frogs.

The vegetation cover in the Berwick Tract varies from area to area. Much of the tract consists of fallow rice fields, which are now vegetated by mature hardwoods. Over much of the marginal uplands, pines ranging in age from 15 - 50+ years are common. Secondary vegetation includes immature oaks, palmettoes, and briers. In higher areas near the old homesites, a number a mature live oaks are also present. These trees are several hundred years in age or more. A large pine plantation with mature, row planted pines is present in the northwest portion of the Berwick tract. The faunal species encountered during this project are typical of those expected within the pine flatwoods of the region.

Silviculture has been practiced throughout the Berwick tract since the land was acquired by Union Camp Corporation. Clear cutting with mechanical removal (using skidders and trucks) has been employed throughout the harvested areas. Once cleared, areas were subjected to the initial bedding preparations. Timber planting in the tract involved three processes. Following clear cutting, areas were prepared (bedded) for planting. Previously wooded areas were mechanically chopped and/or raked with implements behind bulldozers to break and remove stumps of former trees. After tree and stump removal, the area was disked (with 32 in harrow blades) and plowed to create furrows and ridges. Seedlings then were inserted into the raised ridges. Chemical treatments to the young trees were conducted by air (for fertilizers) and from tractor (for pesticides). After 25-30 years, the timber can be harvested.

As a result of extensive silviculture, soils encountered on the Berwick Tract are very heavily disturbed. The soils in the former rice fields are also heavily disturbed, due both to the rice agriculture and tree cutting. Soils encountered in the tract consist of the Ogeechee-Ellabelle, Ocilla-Pelham-Albany, and Ellabelle-Cape Fear associations. These soils are somewhat poorly drained to very poorly drained and are often inundated. However, the excavation of drainage ditches on portions of the tract have resulted in a lowering of the water table, thus leaving many previously inundated areas dry. The exceptions to this are the few ridges on the tract that are higher than 5 m above mean sea level.

Cultural Setting

Prehistoric Context

The following discussions summarize findings of previous archaeological research in the region. The discussions focus on the Georgia Coastal Plain, and emphasize technological change, settlement patterns, and site choice throughout prehistory.

Paleoindian Period (12,000 - 8000 BC). Human occupation of the southeastern United States began with the Paleoindian period during the waning glacial conditions of the late Pleistocene Epoch terminating in the early amelioration of the Holocene. Based on data from several sites in western North America, Paleoindians are seen primarily as nomadic hunters. The association of Paleoindian period artifacts with the remains of extinct fauna lead early researchers to believe that Ice Age megafauna were the focus of Paleoindian subsistence but more recently this view has changed. Although megafauna were certainly exploited, wild plant foods and smaller game were probably a significant part of the Paleoindian subsistence strategy.

Over most of North America, the material remains of the Paleoindian period include a distinctive tool assemblage. Characteristic of this period are fluted lanceolate projectile points. These tools average three inches in length, and exhibit parallel or slightly convex sides, concave bases, and a distinctive narrow, vertical flake (a flute) removed from each face of the blade. Other somewhat less distinctive features of Paleoindian lithic assemblages include bifacially flaked knives, endscrapers, burins, and gravers (Griffin 1967; Kelly 1938, 1950; O'Steen et al. 1986).

In Georgia, the majority of Paleoindian sites are surface finds of diagnostic projectile points. Exceptions include the Theriault Site, a quarry in the Coastal Plain (Brockington 1971) and the Taylor Hill Site, a stratified deposit near Augusta (Elliott and Doyon 1981). No Paleoindian sites have been recognized as a result of professional investigation in the vicinity of the project area.

Early Archaic (8000 - 6000 BC). The Early Archaic subperiod generally is perceived as an adaptive response to the changing post-Pleistocene (Holocene) environment. This subperiod is characterized by a gradual shift in subsistence strategies, with an increasing reliance on hunting small game and procurement of wild plant foods. Relevant research by Chapman and Shea (1981), indicates that the exploitation of a broad range of local resources was achieved much earlier than previously thought. Chapman and Shea (1981) suggest that trends in settlement and subsistence

practices throughout the Archaic period can best be interpreted as the result of adaptive responses to a variety of cultural and environmental conditions. These factors influenced change within a number of distinct regional settings.

Archaeological remains diagnostic of this period include ovate, stemmed and beveled quartz bifaces, corner and side notched projectile points, hafted end scrapers, and flaked stone adzes. Chert remained a popular lithic raw material, and diagnostic projectile points of this period include Hardaway, Dalton, Palmer, and Kirk (Coe 1964).

Very little is known about the Early Archaic suberiod in the Georgia Coastal Plain. O'Steen's (1983) research in the Oconee River drainage in the Piedmont leads to general inferences concerning Early Archaic settlement and social organization which may be applicable to the project region. She suggests a multi-locational settlement system for the Early Archaic, focused on seasonal exploitation of faunal and floral resources and proximity to lithic raw materials. Primary site types consist of seasonally-utilized, residential base camps often located at tributary confluences, on high terraces, and at river shoal areas. Smaller, scattered resource extraction loci were often situated in a variety of ecological zones.

Previous research in the area indicates that Early Archaic sites are relatively uncommon on the Coastal Plain. Typically, sites of this period consist of small scatters of artifacts located on eroded hill tops or on river terraces. Garrow (1984) recorded four small Early Archaic campsites in Screven County. Fish (1976) noted several multicomponent sites exhibiting Early Archaic occupations along Ebenezer Creek and its upper tributaries. Survey of the 1800 acre Fort Howard Paper Company tract in Effingham County encountered only one site with a definable Early Archaic component (Smith and Elliott 1985a). Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Early Archaic sites (Bailey et al. 1997).

Middle Archaic (6000 - 4000 BC). The climatic changes that occurred during the Middle Archaic subperiod are thought to have influenced settlement, subsistence strategy, and technology (Dragoo 1975:11). Between 6000 and 4000 BC, the post-glacial Altithermal brought a period of warmer and drier climate. Temperate climatic conditions and abundant food resources provided optimal environmental zones suitable for exploitation by Middle Archaic populations.

Three projectile point/knife types dominate the Middle Archaic. These point types consist of Stanly (triangular blade point with narrow, straight-sided, vertical stem), Morrow Mountain

(isosceles triangle blade with contracting stem), and Guilford (lanceolate point with the widest point near the center) (Coe 1964:35-43). Other artifact types characteristic of this period are ground and polished stone tools (e.g., atlatl hooks, nutting stones, grinding stones and pestles, netsinkers), a variety of bone tools, flaking tools, and scrapers (Ford and Willey 1941:333; Griffin 1967:178; Stoltman 1978:715; White 1988:53).

Habitation sites during this period appear to have been located primarily on well defined flood plains, while temporary activity areas were often situated on upland ridges (Ford and Willey 1941; Griffin 1967). These sites are typically described as lithic scatters/hunting camps and are often composed of light to dense deposits of quartz and chert thinning flakes and tools. While the limited number of sites recorded indicate little change in habitation location during the Early and Middle Archaic in southeastern Georgia, White (1988) suggests increased utilization of a broadening range of resources.

Previous research in the project vicinity provides minimal data concerning settlement location. No sites with Middle Archaic components were located during either the Fort Howard Paper Company tract survey (Smith and Elliott 1985a) or the transmission line survey (Garrow 1984) performed inland of the project area. However, Fish (1976:23) shows an increase in site density, with some movement into the uplands away from creek valleys, during the Middle Archaic. Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract, discovered no definite Middle Archaic sites (Bailey et al. 1997).

Late Archaic (4000 - 1000 BC). The Late Archaic subperiod is defined as a time of considerable population growth, regional adaptation, and an inter-regional exchange of raw materials (Griffin 1967: 178-179). A greater reliance on riverine resources and the varied hunting of large and small game may have influenced Late Archaic populations toward long-term settlement within specific environmental zones (Griffin 1967:180; Dragoo 1975:12-13).

The Late Archaic is often further divided into preceramic and ceramic segments. The Preceramic Late Archaic is said to span the period 4000 to 2000 BC (Garrow 1984:47). The earliest pottery found to date in the Southeast - Stallings fiber tempered ware - was made during the Ceramic Late Archaic (2000 to 1000 BC; also called the Stallings Island Phase, after Claflin [1931]). Additional Late Archaic fiber tempered ceramic types have been defined at sites along the Georgia coast by DePratter (1979b; St. Simons wares), and Milanich (1971; Sapelo wares). The presence of Late Archaic shell middens along the Georgia coast, and shell refuse mounds at Groton

Plantation, South Carolina (Stoltman 1974), appear indicative of the development of a more sedentary lifestyle.

Late Archaic diagnostic lithic artifacts include Savannah River stemmed projectile points (a triangular blade with square shoulders and a vertical stem with straight or concave base; Coe 1964:44), grooved axes, net sinkers, steatite vessels, bone and antler tools, and a variety of shell ornaments (Griffin 1967:180; Coe 1964:113). A smaller variant of the Savannah River point, the Otarre (Keel 1976), is thought to be indicative of the later portion of the Late Archaic (Garrow 1984).

Settlement density in the Georgia Coastal Plain appears to have increased during the Late Archaic, while settlement location continues to be somewhat variable. Fish (1976:24) found patterns similar to those of the Middle Archaic. Garrow (1984) recorded a total of 17 Late Archaic sites, six in the Coastal Marine Flatlands and 11 in the adjacent Vidalia Uplands. Five of six Ceramic Late Archaic sites recorded on the Fort Howard Paper Company Tract in Effingham County were located within a creek (Dasher Creek) drainage, while the sixth was found on the Mill Creek bluff (Smith and Elliott 1985a:138). Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Late Archaic sites (Bailey et al. 1997).

Early Woodland (1000 - 300 BC). The transition from the Late Archaic to the Early Woodland suberiod was marked by a gradual increase in population and sedentism, and by the acquisition of a number of distinctive material and cultural traits. Technological advances in pottery manufacture became widespread during this period, resulting in increased efficiency and productivity of food processing and storage (Griffin 1967:180; Dragoo 1975:17; Stoltman 1978:715). Horticultural activities during the Early Woodland focused on the domestication of different plants, such as chenopodium, sunflower, and amaranth.

A distinctive break in lithic artifact types between Archaic and Woodland sites is not always evident. Early Woodland artifact assemblages often contain stemmed (e.g., Swannanoa, Little Bear Creek), and triangular (Yadkin) projectile points (Coe 1964; Justice 1987). Other diagnostic artifacts are groundstone manos and mortars, nutting stones, polished slate or copper spearheads, tubular stone pipes, and trade goods, such as red ocher, mica, and shell (Ford and Willey 1941:337; Griffin 1967:183; Stoltman 1978:718).

In addition to lithic artifacts, increasing amounts of pottery appear on Early Woodland sites. Wares are characteristically thick, sand and/or coarse sand tempered, and low fired. Predominant vessel forms have flaring sidewalls, wide mouths, and flat to rounded bases (Griffin 1967:180; Stoltman 1978:717).

In the coastal areas of Georgia, the Early Woodland is represented by Refuge (sand tempered ceramics exhibiting punctate, incised, dentate stamped, and simple stamped designs) and Deptford (coil built vessels with simple, linear, and check stamping) ceramics. Smith et al. (1981:86) observe stylistic affinities between many Refuge motifs and those of the Late Archaic St. Simons and Stallings ceramics, suggesting a developmental connection. Deptford ceramics appear to represent a long period of settlement stability, beginning at approximately 500 BC and often coinciding with St. Simons wares (Smith et al. 1981:86).

Early Woodland settlement in the Coastal Plain apparently focused on utilization of flood plain areas and stream-based resources. Smith and Elliott (1985a:138) indicate increases in overall site size and suggest a preference for site locations along Dasher Creek and the bluff overlooking Mill Creek throughout the Woodland period. Fish's (1976:24) results appear to concur with these locational preferences, based on mapped Early and Middle Woodland sites. Garrow (1984:49) recorded nine Early Woodland sites along the transmission corridor, predominantly in the Vidalia Uplands section. Numerous Early-Middle Woodland sites also were recorded on the upland areas adjacent to small drainages on Delta Plantation, in Jasper County, South Carolina (Poplin et al. 1990), northeast of the project area. Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Early Woodland sites (Bailey et al. 1997).

Middle Woodland (300 BC - AD 700). The Middle Woodland subperiod represents a time of population growth and increased cultural complexity. The Middle Woodland is characterized by increased site size and density, the appearance of large earthen mounds containing elaborately furnished graves, the emergence of agriculture, the development of ceremonialism, and a complex inter-regional trade network (Griffin 1967:183; Dragoo 1975:18-19; Stoltman 1978:717).

The artifact assemblages of the Middle Woodland remain virtually unchanged from the Early Woodland subperiod. In the Coastal Plain, medium to large stemmed projectile points are still present (i.e., Baker's Creek and Stemmed Copena), as are larger triangular arrow points such as Copena and Yadkin (Cambron and Hulse 1975; Justice 1987). Stone artifacts also include stemmed

knives, ground stone celts and rough slate or shale hoes (Ford and Willey 1941:337; Caldwell 1958:46).

Specialized tools, utilized in trade or as grave goods, included copper implements, deer bone awls, beaver and bear teeth, and exotic lithic material (Griffin 1967:183-186; Stoltman 1978:717-718). While Hopewell-influenced artifacts, such as copper panpipes, earspools, cut mica, and platform pipes have been found in Middle Woodland components in northwest Georgia (Jeffries 1976), Smith and Elliott (1985a:11) cast doubt on the influence of this trade network on cultures of the Georgia Coastal Plain.

Middle Woodland ceramics in the Coastal Plain generally exhibit a continuation and refinement of previous forms and motifs. Deptford simple and check stamped vessels are considered to be the material culture markers for this period. However, Garrow (1984:50) noted the presence of cord marked sherds (designated Deptford cord marked by DePratter [1979b]) at a number of Middle Woodland sites. Smith et al. (1981:88) and Fish (1976) suggest the introduction of Wilmington wares (grog tempered, cord marked) near the end of this period.

Recent surveys in the Georgia Coastal Plain suggest overall population increases and variability in site selection for Middle Woodland settlement. As noted above, Fish (1976) and Smith and Elliott (1985a) agree that preferences were shown for settlement in areas with easy access to floodplain and stream resources. Garrow (1984:51) documented sixteen sites with Middle Woodland components; three were found in the Coastal Marine Flatlands and thirteen were recorded in the Vidalia Uplands. As noted above, Poplin et al. (1990) recorded Early-Middle Woodland sites on Delta Plantation, on the opposite bank of the Savannah River in South Carolina. Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Middle Woodland sites (Bailey et al. 1997).

Late Woodland (AD 600 - 900). The Late Woodland subperiod within the Georgia Coastal Plain has not been documented as extensively as preceding cultural periods. Described as a transitional phase, the Late Woodland generally represents a continuation and an expansion of previous lifeways (e.g., agriculture, village occupation, ceremonialism; Dragoo 1975:19-20; White 1988:87). Due to similarities between Late Woodland and Mississippian cultures, a number of authors (e.g., Fish 1976; Hanson et al. 1981) group these two periods (as they occur in the Coastal Plain) together. Despite the relative rarity of habitation sites directly attributable to the Late Woodland Period (Caldwell 1958; Garrow 1975; Wauchope 1966), several sites (e.g., Kolomoki,

Early County, Georgia) provide data on material culture, architecture, community planning, and subsistence (Sears 1956).

The Late Woodland artifact assemblage, although poorly represented, has been reasonably well documented. Medium stemmed projectile points, similar to those associated with the Swift Creek site near Macon, Georgia (Wood et al. 1986) are typical, and small, straight-sided triangular points make their initial appearance (Justice 1987:224-225). Ground stone tools are more common than chipped tools, supporting the continued importance of plant food processing.

The ceramic type most closely associated with the Late Woodland in the Coastal Plain is Wilmington Cord Marked. This grog (ground sherd) tempered ware developed late in the Middle Woodland but became dominant during the Late Woodland.

Sites with definitive Late Woodland components are not expected to be as common in the Coastal Plain relative to materials from other periods. Garrow (1984:51) recorded four such sites (two in the Coastal Marine Flatlands and two in the Vidalia Uplands) during transmission line survey in Burke, Screven, Effingham, Chatham, Bryan, Long, Liberty, McIntosh, and Glynn Counties. Two sites with Wilmington ceramics were recorded by Smith and Elliott (1985a). Elliott, in his survey near Skidaway Island, located eight sites, four of which contained Late Woodland components (Smith and Elliott 1985b). Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Late Woodland sites (Bailey et al. 1997).

Mississippian Period (AD 900 - 1700). The Mississippian period is seen as a time of permanent settlements, increased religious and social complexity, and greater dependency on agricultural practices. Throughout the Southeast, the most dramatic characteristics of this period were the construction of large fortified villages, and flat-topped earthen mounds utilized in political and religious functions. An elaborate and complex iconography became widespread throughout the Midwest and Southeast during this time (Griffin 1967:189-190; Dragoo 1975:20-21; Smith 1978; Stoltman 1978:727). The conclusion of this period also encompasses the tremendous changes that occurred within Native American culture after European contact.

Mississippian settlements were located primarily along major streams or rivers on large alluvial flood plains which provided easily accessible fertile soils suitable for agricultural activities. Griffin (1967:189) suggests that "it was the gradual shift to a substantial dependence on agriculture that tied the societies to specific localities, emphasized territoriality and ownership of land."

Artifact assemblages during this time become more complex. Pottery is more diversified than during previous cultural periods; there are clear functional differences in form and quality. Cooking bowls and storage containers are the most common form, but polished and decorated vessels are also prevalent. Trade goods often include coastal plain shell, used in the manufacture of beads, drinking vessels, and elaborately decorated gorgets, as well as flint, copper, wood, and salt (Griffin 1967:189-191; Stoltman 1978:725-728). Fish (1976:19) lists a variety of small triangular (Caraway, Clements, Uwharrie), and pentagonal (Pee Dee) projectile point forms found on Mississippian sites in the Coastal Plain.

Mississippian ceramics common in southeastern Georgia are unique in their retention and refinement of a number of previously utilized decorative motifs, and in their reintroduction of earlier designs. General agreement has been reached on a Mississippian ceramic sequence for the Georgia coast (Braley 1990; DePratter and Howard 1980; Smith et al. 1981). Depending upon the source, the St. Catherine's Phase (AD 1000-1150) is considered either transitional (Smith et al. 1981:89; Williams and Shapiro 1990), contemporaneous with the Savannah Phase (Crook 1984), or the earliest Mississippian manifestation on the Georgia coast (White 1988:108). Differentiated by a clay (or fine grog) temper, St. Catherine's vessels are generally cord marked or net impressed; however, plain and burnished plain examples have also been defined.

The Savannah Phase (AD 1150-1300) is currently accepted as the initial Mississippian occupation in the Georgia Coastal Plain, and is usually divided into two subphases. According to DePratter and Howard (1980:24), Savannah I (AD 1150-1200) includes fine cord marked, plain, and burnished plain surface treatments. While DePratter and Howard (1980) utilize the introduction of check stamping as a marker for Savannah II (their sequence consists of three phases), Braley (1990:71) includes check stamping (on large jars) within Savannah I, and indicates that plain carinated bowls were also produced. Savannah II (AD 1200-1300) is defined by the use of the previous decorative motifs and the addition of complicated stamping (figure eights, figure nines, and bull's eyes; Caldwell and Waring 1939), particularly on large jars (Braley 1990:71).

The Irene phase (AD 1300-1450) follows Savannah II and was defined at the type site (9CH1), near Savannah, during excavations in the late 1930s (Caldwell and McCann 1941). This phase is currently thought to represent the initial manifestation of the Lamar Culture on the Georgia coast, and is called "Climax Mississippian" by Garrow (1984:52). Irene I (AD 1300-1350) ceramics are coarse sand/grit tempered and exhibit plain, burnished plain, and complicated stamped (variations on the filfot cross) surface treatments (DePratter and Howard 1980:24,31). Braley

(1990:71) lists large plain jars, and reed punctate or noded rims as defining ceramic attributes. During Irene II (AD 1350-1450), incising is added as a surface treatment (bold on carinated bowls; scroll motifs on small jars), and appliqued or segmented rim strips are seen on large jars.

Based on a number of recent analyses, Braley (1990:99-100) follows Larson (1958) in suggesting the use of the designation "Pine Harbor Phase" (AD 1450-1575) to represent the last Mississippian/Lamar culture manifestation on the upper Georgia coast prior to European contact. Smith et al. (1981:91) describe Pine Harbor as "the temporal equivalent of Irene on the lower Georgia coast [except for] the presence of an additional ceramic type, McIntosh Incised." Other ceramic attributes of this phase are:

> large jars with reed-punctated applique rim strips . . . small jars with intricate incised motifs . . . bold incising . . . punctation . . . carinated bowls with multiple-line incising . . . (Braley 1990:72).

Research in the project region suggests similarities in Late Woodland and Mississippian settlement patterns. In differentiating between early and late Mississippian, Garrow (1984:52) recorded six Mississippian sites (equally divided between the Vidalia Upland and the Coastal Marine Flatlands), and only one Climax Mississippian site (in the Coastal Marine Flatlands). Studies by Fish (1976) and Smith and Elliott (1985a) were inconclusive regarding the presence of Mississippian sites in the Ebenezer Creek watershed and on the Fort Howard tract, respectively. Survey of the 2,500 acre Savannah Quarters Tract northwest of the Berwick Tract discovered no definite Mississippian sites (Bailey et al. 1997).

Historic Context

Historic Indian Period (AD 1540 - 1733). This period is usually defined as the period after initial contact with Europeans, but before the loss of Native American political control over the region. In the project area, the beginning of this period is signalled by the DeSoto entrada, and the end by the signing of the Treaty of Yamacraw Bluff (Savannah). The early part of this period is often termed Protohistoric.

Early Spanish and English records indicate that an Indian group known as the Guale inhabited much of the Georgia coast at the time of first European contact. Larson (1958) posited the Irene/Pine Harbor phase as representative of the culture of the Guale Indians at the time of initial

contact with Spanish explorers and missionaries (approximately AD 1540 to 1600). As contact and settlement intensified, this group became more dependent upon Spanish trade goods, and began to associate themselves more closely with the expanding Spanish mission system. Increasing assimilation of European lifeways and decimation by European disease lead to profound changes in aboriginal lifeways and material culture.

The post-contact Mississippian/Lamar culture recognized for the Georgia coastal area is the Altamaha/Sutherland Bluff Phase (AD 1575-1700) (Braley 1990). Larson (1978) also associates this phase with the Guale, during "the period of intensive contact after the establishment of the mission system and prior to its destruction by British raiders from the Carolinas" (Smith et al. 1981:91). Large bell-shaped jars and plates were produced and red filming was applied, probably in imitation of European forms and decoration. Loop and strap handles were introduced for the first time to the coastal area. Vessel decorations are primarily simple, line block, or check stamped; plain; or incised with bold or narrow lines. A minority are decorated with rectilinear complicated stamping (DePratter and Howard 1980:31; Braley 1990:72).

A number of Native American groups may have occupied the project region during the early historic period. According to Lanning (1971:9-10), the Timucuans (from the southern Georgia coast) replaced the Guale on the northern coast during the seventeenth century. Swanton (1922) indicates that the Lower Creek and the Yuchi had settled along the Lower Savannah River during the late seventeenth and early eighteenth century. Across the Savannah River in South Carolina, the Yamasee, Coosaw, Cusabo, Westo, and Savannah Indian groups held territory not yet claimed by the English or Spanish (Smith and Elliott 1985a:12). Most of what is now Georgia was inhabited during the late seventeenth and early eighteenth centuries by members of what became known as the Creek Confederacy (Swanton 1922).

During the early 1700s, major European and Native American powers in the Southeast continually shifted alliances, conspiring and warring against each other to further their short and long term economic positions. In an apparent bid to take advantage of the power struggle between the English and the Spanish, the Creek sided with the Yamasee against the English at Charleston in the Yamasee War (1715-1717). Although the war went well for the Indians initially, English reinforcements along with superior weapons allowed the South Carolinians to counterattack successfully, forcing the Yamasee and their allies to retreat to Florida and the West (Fretwell 1980:118). This allowed the Yuchi to move into the area and take over the lucrative deer skin trade for a time.

Apparently other Indian groups achieved standing in the project region during the early eighteenth century. Soon after James Oglethorpe and his shipload of pioneer settlers landed at Yamacraw Bluff in February 1733, they were met by Chief Tomochichi of the Yamacraw Indians (Spalding 1977:19). This chief was instrumental in laying the groundwork for a treaty with the Lower Creek (Spalding 1977; Treaty of Yamacraw Bluff) which ceded the portion of Georgia containing the project area to the English settlers, despite continued trading visits and the presence of several smaller Indian groups to the north as late as 1750 (e.g., the Yuchi remained in villages along Ebenezer and Brier Creeks until 1763). This agreement ended Native American political control over the project region.

Previous researchers rarely have found historic Indian sites in the project region. No sites from this period were encountered by Fish (1976), Garrow (1984), Smith and Elliott (1985a), or Bailey et al. (1997).

Colonial Georgia (1733 - 1783). Georgia became a Trustee colony in 1733 under the direction of James Oglethorpe, one of a group of London philanthropists interested in settling a portion of the American colonies with the poor and disadvantaged of England. The location of this settlement was chosen by the Trustees in an effort to accomplish a number of goals. A settlement in this area (i.e., between Charleston and St. Augustine) would serve as a buffer between English and Spanish interests. The Trustees also hoped to produce a variety of semi-tropical exports, including silk, wine, and spices, to bolster the sagging economy. Finally, supporters of the colony urged development of strong trading ties with the natives in hopes of taking over this enterprise from the Spanish and French (Coleman 1982:2-4).

Oglethorpe and the Trustees also encouraged groups from across Europe and of other faiths (the charter excluded only Roman Catholics) to settle in the colony of Georgia. A group of Jewish families was allowed to settle in Savannah soon after its initial settlement (Spalding 1977:22). German Protestants settled at Bethany, and Quakers established a community at Wrightsborough, south of Augusta (Stokes 1982:124-125). Particularly noteworthy among those taking advantage of these offers was a group of German Lutherans who had fled Salzburg to escape religious persecution. In 1736, after abandoning their original inland grant called Ebenezer, the Salzburgers settled the town of New Ebenezer, located north of Savannah on the Savannah River (Elliott 1988). According to Smith and Elliott (1985a:145), by 1740 these settlers had moved south along the Savannah River and Mill Creek, and were farming the upland areas above the bluff.

While transportation throughout the area focused on the Savannah River and its tributaries, early attempts were made to link settlements over land. In 1735, Oglethorpe ordered completion of a road linking Savannah and Augusta, previously completed to Ebenezer. Despite providing a more direct route between these cities (140 miles by land as opposed to 210 miles on the meandering Savannah River), use of the river continued its dominance until after 1800 (Cooper 1960:30).

The Georgia colony developed and grew slowly. Although several grants were issued for lands near the Savannah River, few grantees made attempts to settle the holdings. The three year long Yamasee Indian War had only just ended across the river in Beaufort District, and the area was still vulnerable to Native American and Spanish attack (Rowland 1987). Furthermore, initial limitations placed on land ownership, labor, production, and trade by the Trustees further retarded growth (Boorstin 1958:88-95). The 50 acre tracts originally granted to each family, and the prohibition against selling land or passing it on to any but the first male offspring, made continued survival on the inland pine barrens difficult, if not impossible. Life in the new colony of Georgia was extremely difficult; the unfamiliar and inhospitable climate resulted in disease, failed crops, and early death for many (Elliott 1990).

By 1750, the Trustees had repealed many of these restrictions and allowed industrious colonists to accumulate larger tracts of land. This paved the way for the establishment of plantations and expansion of agricultural production. While slavery initially was prohibited, expansion of landholdings and the need for additional labor forced the Trustees to allow slaves into the colony after 1750. Failure to develop the silk industry lead to diversification of crop production, introduction of rice agriculture, and the growth of timber exports. In 1752, due to financial difficulties and pressure from the King, the Trustees relinquished their charter, and Georgia became a royal colony (Coleman 1982:11).

Establishment of a royal colony necessitated changes in political organization. The Georgia colony had been divided into two administrative districts or counties in 1741; the southern district had its governing center at Frederica, while the northern district was administered from Savannah (Spalding 1977:27). In 1758, Savannah County, the area encompassing the lower basin of the Savannah River, was divided into four parishes: St. Paul, St. George, St. Matthew, and Christ Church. Christ Church Parish encompassed the area between the Savannah and Ogeechee Rivers, including the project tract (Hemperley 1974:vii).

By the 1770s, Georgia had become a major agricultural colony. Although the silk industry had failed, rice had become an exportable cash crop for the coastal regions and cotton was growing in importance on inland uplands. Indigo was being grown along the Ogeechee River and on some of the sea islands. Instead of importing their food crops from South Carolina as they had done initially, Georgians were growing their own corn, potatoes, and peas. Other exported products included lumber (in the form of shingles, boards, and barrel staves) and naval stores (Coleman 1982, 1991).

Georgia's entrance into the Revolutionary War is said to have begun with meetings held at Tondee's Tavern in Savannah, in 1774. In 1777, Georgia adopted its first official state constitution, a document which established a state assembly and created eight counties (Burke, Camden, Chatham, Effingham, Glynn, Liberty, Richmond, and Wilkes) to replace the original colonial parishes. Chatham County encompassed all of the former Christ Church Parish and portions of St. Philip's and St. Matthew's parishes.

Between 1778 and 1781, many of the towns along the lower Savannah River were occupied by the British. Savannah was occupied immediately upon the initiation of hostilities, and used by the British as a base of operations in the southern colonies through 1782. Two expeditions to capture Charleston, South Carolina, to the north were initiated from Savannah in 1778 and 1780. British troops moved into Ebenezer at the request of resident Tories and destroyed several mill dams to allow British ships access upriver (Campbell 1981:71). On 3 March 1779, the Battle of Brier Creek, a major defeat for the rebel forces, took place in what is now Screven County (Ashmore and Olmstead 1926). British occupation of Georgia ended with the British evacuation of Savannah in July 1782. The Treaty of Paris in 1783 signalled the end of hostilities and of British colonial rule.

Smith and Elliott (1985a) note definite settlement trends during the eighteenth century toward river and lake bluffs as reflected in sites discovered during their Fort Howard survey. In addition to these sites, Garrow (1984:57) recorded three sites dated to this period; one of these sites (in the Vidalia Uplands) may have been a single family farmstead, while the other two (in the Coastal Marine Flatlands), appeared to represent "a more substantial settlement." The Savannah Valley was the focus of most settlement during this period. Large plantations, primarily producing rice, were established along the river's extensive marshes.

Frontier Statehood (1783 - 1830). The early history of the state of Georgia generally is marked by population increases and westward expansion. At the time George Washington became

president, Georgia had an estimated population of 82,000, primarily concentrated along the coast and extending northward along the Savannah River. Over the next forty years the state's population increased by over 500 percent, to 516,823, as more settlers moved in and the resident Indians were forced out (Table 1). An increase in population was evidenced in Chatham County during this period; however, the increase was not nearly as dramatic as in the state as a whole.

Table 1. Population Statistics For Chatham County and Georgia, 1790-1920.

Year	Chatham County	Georgia
1790	10,860	82,548
1800	12,860	162,686
1810	13,430	252,433
1820	14,860	340,985
1830	14,285	516,823
1840	19,170	691,392
1850	24,170	906,185
1860	33,330	1,057,286
1870	41,670	1,184,109
1880	45,000	1,542,180
1890	58,000	1,837,353
1900	70,000	2,216,331
1910	80,000	2,609,121
1920	100,000	2,895,832

In a comparison of population statistics 1790-1830 for the five coastal counties (Bryan, Chatham, Glynn, Liberty, and McIntosh) and three inland counties (Burke, Effingham, and Screven), white population decreased while black population (i.e., slaves) increased during the time period; throughout this period, whites were in the minority. For two of the three inland counties, whites remained the majority, but populations remained relatively stable. Garrow (1984) attributes these differences to variability in agricultural economy. Coastal plantation residents who focused on sea island cotton and rice found it necessary to maintain large slave labor pools, while inland farms with short staple cotton as a primary crop tended to be smaller, family run operations with little use for slaves.

Population statistics and period maps for the late eighteenth through the early nineteenth century reflect shifts in agricultural methods which had a profound effect on settlement patterns across Georgia. Agricultural production prior to 1780 was focused on coastal areas, where rice, sea island cotton, and indigo were the major cash crops, and the plantation system became firmly established. Rice production was also developed as a profitable enterprise by the Salzburgers who utilized the swampy flood plains along the lower Savannah River. Expansion of existing coastal plantations, development of upland cotton varieties, and the invention of the cotton gin in the late eighteenth century all made movement into inland areas both practical and necessary. Upland cotton farms initially were relatively small, needing little if any slave labor. Over time, these holdings increased in size, with a parallel increase in slavery (Cooper 1960; DePratter and Howard 1980:44). Sixty percent of the upland plantations produced the more profitable, short staple cotton by 1820, and in 1825, Georgia led the world in cotton production, with 150,000 bales annually (Coleman 1982:39).

The Savannah River valley was the focus of some large, important settlements during this period. Large plantations, primarily producing rice, were established along the river's extensive marshes north of Savannah. A few land owners operated plantations on large tracts of land near the project tract. These plantations often generated vast wealth for their owners. Most of these were rice plantations, located east of the project tract, on the Savannah River. Rice production was concentrated along the tidal swamps of the Savannah River; the expansive interior acreages were most likely left in pine forest that was harvested as needed for the operation of the plantation. Smith and Elliott (1985a) note definite settlement trends during the eighteenth century toward river and lake bluffs as reflected in sites discovered during their Fort Howard survey. In addition to these sites, Garrow (1984:57) recorded three sites dated to this period; one of these sites (in the Vidalia

Uplands) may have been a single family farmstead, while the other two (in the Coastal Marine Flatlands), appeared to represent "a more substantial settlement."

Maturation, Upheaval, and Reconstruction (1830-1870). Observations by White (1849) indicate a continuation of agricultural trends from the previous period, and suggest the beginnings of industrial development in southeast Georgia. Lower coastal counties continued to produce rice, and sea island cotton, but began to substitute sugar cane for indigo as a cash crop. Subsistence crops included corn, potatoes, various fruits, and grain (e.g., rye and oats). Textile, rice, saw, and grist mills were concentrated around Savannah; by 1850, Chatham County boasted two iron foundries and a brickyard. Construction of the Central of Georgia Railroad, linking the expanding cotton belt with Georgia's major seaport, began at Savannah in 1836. The railroad was completed to Macon in 1843, after many delays (Boney 1977:158).

As in most areas of the South, the Civil War and its aftermath brought many hardships to Chatham and Effingham Counties. Early in the war, when military action took place in states to the north and west of Georgia, the negative economic effects could already be seen in the project area. As farmers became soldiers, crops were left in the fields, unharvested. Disruption of markets left cash in short supply. While several skirmishes took place in the county, this area of Georgia remained relatively unscathed by battle until near the end of the conflict.

In the Fall of 1864, Sherman began his infamous March to the Sea from Atlanta. Sherman's troops followed the Augusta-Savannah Road, and destroyed nearly everything in their path. Savannah was captured on 21 December 1864, with little resistance from the inhabitants, and the war ended nearly six months later. Defeat led to occupation by federal troops and Reconstruction. In some areas where large plantations had dominated, freedom for the slaves meant an exodus of blacks from the county. This diminished the available labor pool, and made large-scale farming less profitable than before the war. Figure 3 shows the project area during the Civil War period.

Archaeological evidence for occupation during this period in the Coastal Marine Flatlands is available. While Smith and Elliott (1985a) do not observe this temporal distinction, mapped sites for the periods immediately preceding and following this period suggest continued movement into better drained areas, above and away from the Savannah River. Garrow (1984:65) recorded 24 domestic sites dating to the period 1830-1870. Four of these sites were located in the Vidalia Uplands, while the remaining 20 sites were found in the Coastal Marine Flatlands.

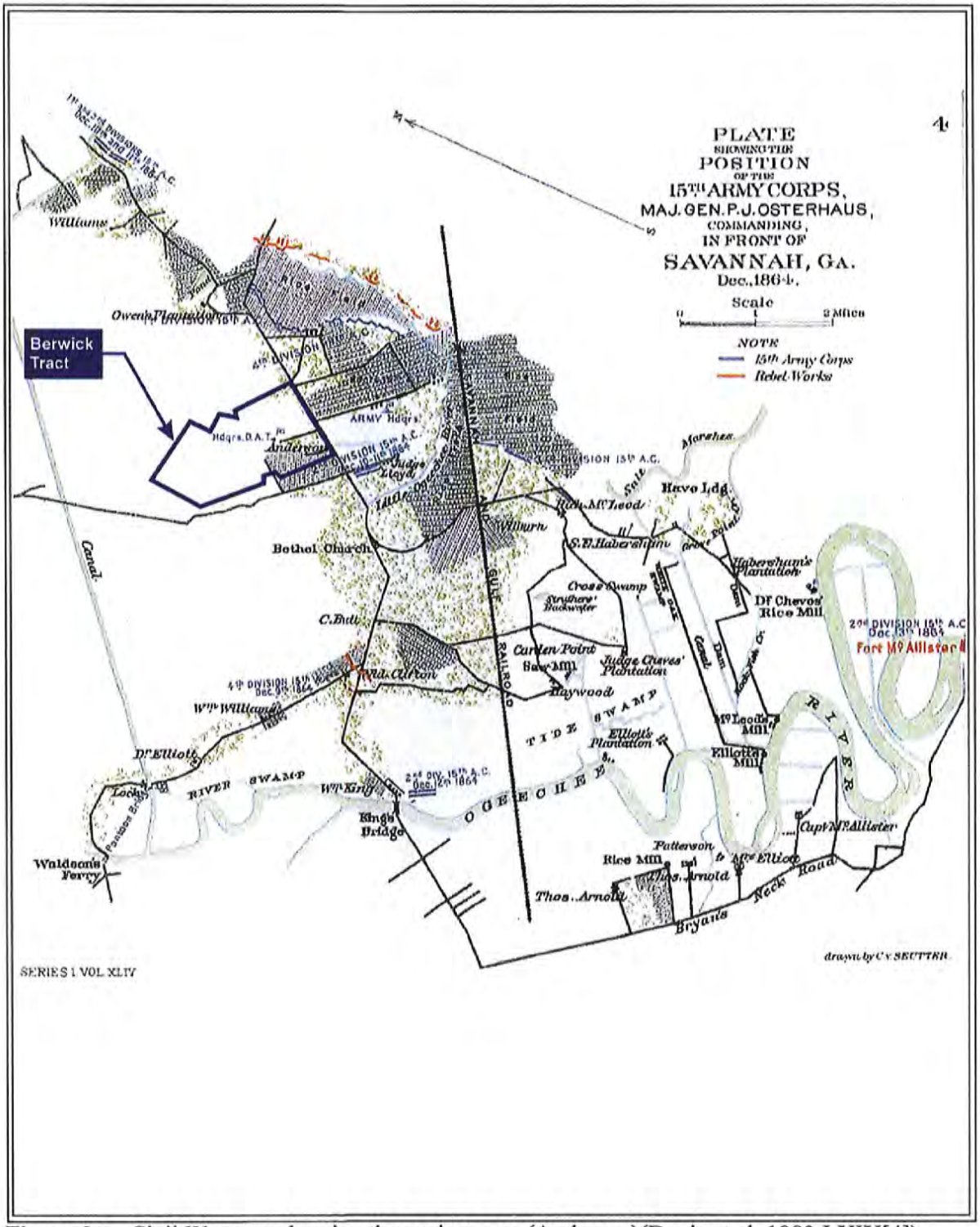

Figure 3. Civil War map showing the project area (Anderson)(Davis et al. 1983:LXIX[4]).

Post-Bellum Georgia (1870 - 1930). Following Reconstruction, the railroads which had been destroyed by federal troops were rebuilt and refurbished, and exportation of agricultural products again became an important part of the local economy. Specifically, cotton soon regained its position as the major cash crop, and remained as such until the 1920s, when the boll weevil reached the area. Industrial growth which centered on textiles followed at a slower rate, and was focused around Savannah. Other industries which exhibited growth and were often seen in more rural areas included various grain milling operations, tanneries, distilleries, brick manufacture, and fertilizer manufacture. Unfortunately, continuation of cotton monoculture generally worked to the exclusion of developments in food production or industry, resulting in increased severity of the economic depressions which occurred in late 1870s, the middle 1890s, and the 1930s.

Despite population decreases noted by Garrow (1984:69-70) in a number of coastal counties, population continued its steady rise in inland areas throughout much of the Post-Bellum period. Between 1870 and 1920, Chatham County's population continued to grow, showing an increase of approximately 140 percent during this period (see Table 1). This increase compares with an increase of 145 percent for Georgia during the same period.

Analysis of farm size and occupancy data conducted by Garrow (1984:71-75) illustrates changes occurring in the local agricultural economy during the late nineteenth through the early twentieth century. These data suggest that Chatham County differed somewhat from the norms. Compared to the other counties studied, Chatham County had higher frequencies of smaller farms (less than 100 acres), with over 40 percent of its farms containing 3-10 acres. In general, farms in Chatham County appeared to have been more often under tenant occupancy than in any other county studied.

The production of naval stores was a major industry in the area throughout the first half of the twentieth century. Post-Bellum Southerners used the turpentine industry as a quick way to recoup capital lost during the Civil War. By the last quarter of the nineteenth century, factors in Savannah and the Gulf ports controlled the trade. Savannah controlled the world price for naval stores from 1880 to 1950. Ceramic pots, replacing boxes cut into trees, were introduced to the trade around 1908, and several other technical improvements lessened some of the exhaustive effects of the practice. These improvements notwithstanding, an estimated 130,000 acres of pine forest were consumed between 1810 and 1930 (Wilson and Ferris 1989:40, 752-753, 1428-1429).

By 1974, about 65 percent of Chatham and adjoining Effingham Counties was woodland held in large tracts by wood and paper companies. The warm climate and high water table allow for rapid tree growth making the area ideally suited for the production of timber and its products (Wilkes et al. 1974:1).

Sites in the project region during this period appear to be primarily domestic, and to increase in number overall, while continuing to decrease in the areas adjacent to the Savannah River. Garrow (1984:76) recorded 26 sites: sixteen in the Coastal Marine Flatlands, and ten in the Vidalia Uplands. Three house sites were recorded on the Fort Howard Paper Company Tract, and Smith and Elliott (1985a:146) suggest that this area may have been generally abandoned after the Civil War. One homesite was recorded from this period on the Savannah Quarters Tract (Bailey et al. 1997).

Berwick Tract Property History

The land which comprises the 1,911 acre project tract includes all or portions of three former early Savannah area plantations: Berwick, Beverley, and Pine Forest. Figure 4 is a 1917 plat which roughly approximates the boundaries of the project tract, and shows the relative locations of these former plantations.

In 1848, the lands of George Anderson were equally divided and distributed to his three sons, George Wayne Anderson, Sr., John Wayne Anderson, and Edward Clifford Anderson, Sr., according to the terms of his will. George Wayne Anderson, Sr. received the Berwick Plantation tract, consisting of 745 acres (Chatham County Deed Book 65-E: 349). Figure 5 is a copy of an 1848 surveyor's plat of Berwick Plantation (Hughes 1848). The property was bounded on the northwest by a canal and Beverly Plantation (owned by Robert Habersham), on the northeast by land known as the "Pine Forest tract," on the southeast by Ogeechee Road (present U.S. 17) and on the southwest by a canal and property owned by Mrs. E. Lloyd. By this time, Berwick Plantation included a strip of land on the northeastern boundary which was formerly part of the Pine Forest tract. Buildings on Berwick Plantation were situated in the southern portion of the tract, west of the Ogeechee Road. These included a main house, a barn, a cotton house, a cotton gin house, a combination stable and a carriage house, two adjacent detached kitchens, a dairy barn, a smoke house, a poultry house, a mill house, and slave cabins. The Berwick Plantation main house and associated buildings were situated on an elevated landform at the end of a long driveway which ran west from the Ogeechee Road. This driveway passed through an oak forest, while rice fields and

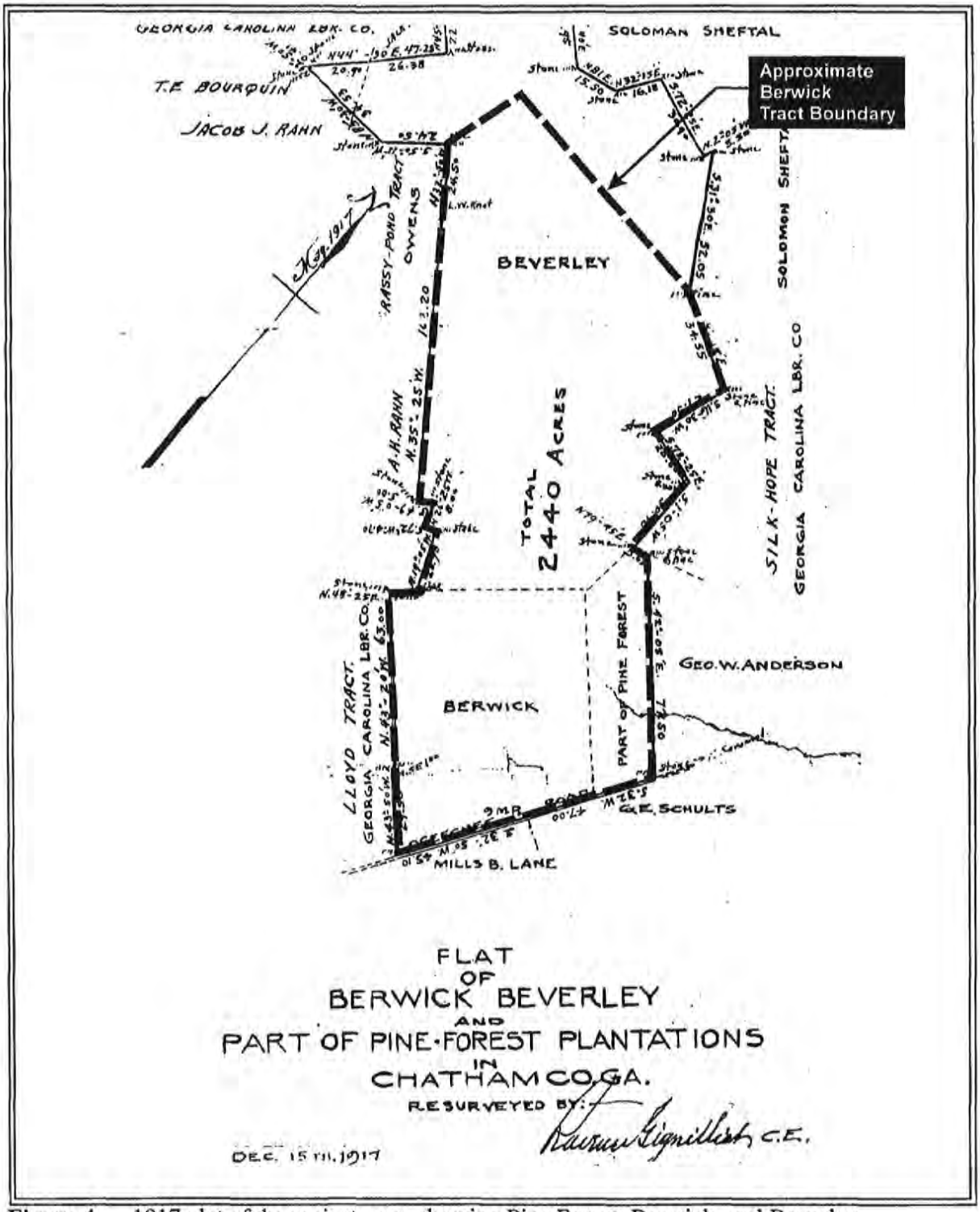

Figure 4. 1917 plat of the project area, showing Pine Forest, Berwick, and Beverley Plantation lands (Gignilliat 1917).

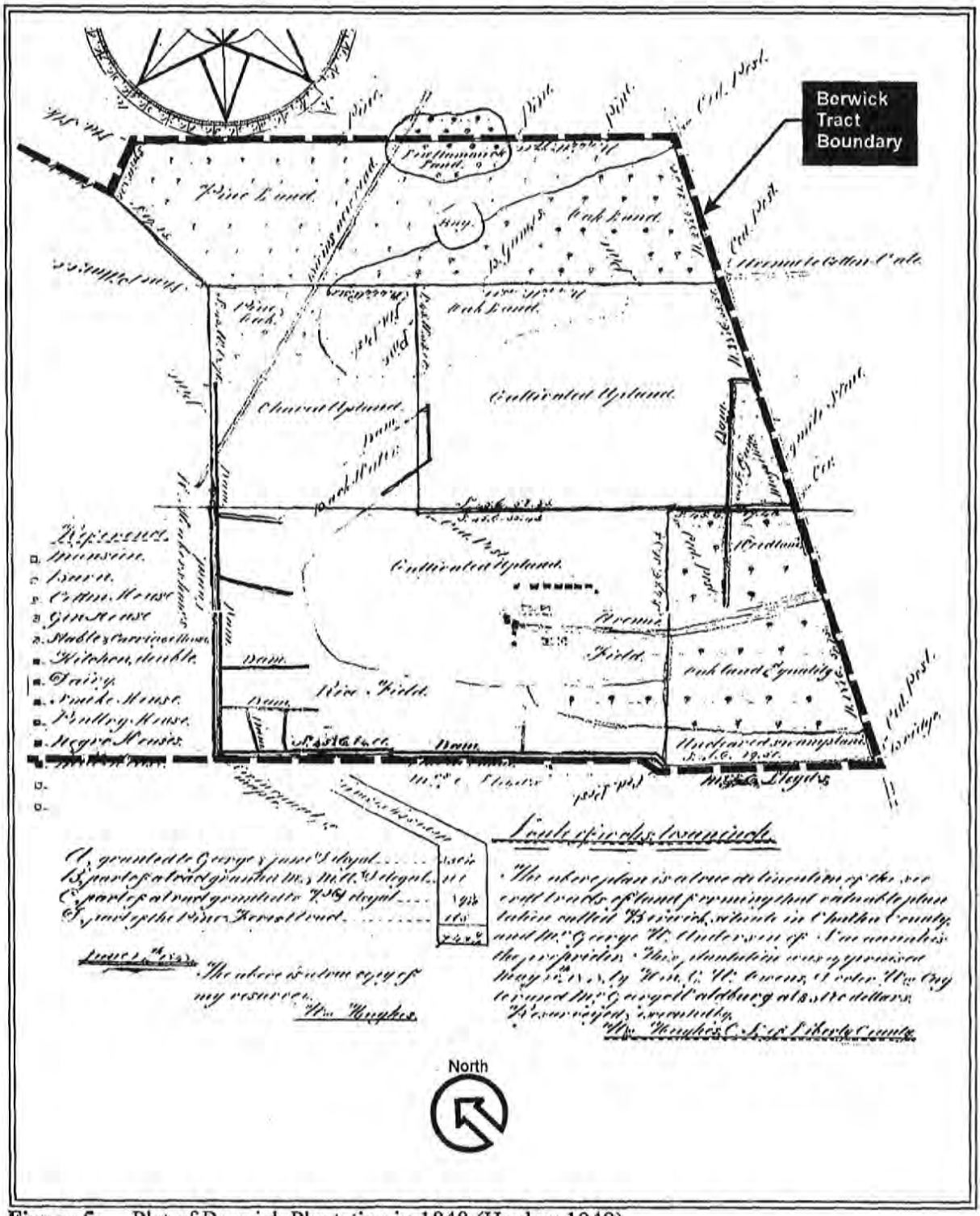

Figure 5. Plat of Berwick Plantation in 1848 (Hughes 1848).

cultivated upland surrounded the house complex. The northern portion of the tract was wooded, consisting primarily of pines and oaks.

In 1871, George Wayne Anderson, Sr. granted title to Beverley Plantation to his son Edward C. Anderson, Jr. (Chatham County Deed Book 4-L: 529). In 1870 Robert Habersham transferred Beverley Plantation to John R. Tebeau (Chatham County Deed Book 4-T: 173-175). By 1873 George W. Anderson, Sr. was deceased (Chatham County Deed Book 4-P: 143). In December 1873 Abraham Sheftall, trustee for Mrs. Sarah E. Sheftall and her children, transferred Beverley Plantation to Edward C. Anderson, Jr. (Chatham County Deed Book 4-P: 143). As a result of this transaction, Edward C. Anderson, Jr. became the owner of a large tract of land which included the former Berwick and Beverley Plantations, and includes the present project tract.

Edward C. Anderson, Jr. died intestate (without a will) on 27 September 1876, owning 2,550 acres of land valued at $10,000 (Chatham County Administration Proceedings, Ordinary's File A-132). The land owned by Anderson remained in the joint ownership of five heirs (probably J. Randolph Anderson, George Wayne Anderson, Margaret R. Anderson Rotch, Sarah Anderson, and Anne Page Anderson (Chatham County Deed Book 10-D:238). In January 1910 the heirs of George Anderson sold this land to J. R. Paschall and Thomas Gresham of Richmond, Virginia (Chatham County Deed Book 10-D: 238). Before the end of the month, Paschall and Gresham transferred title to the property to Sunbury Lumber Company (Chatham County Deed Book 10-D:45). In June 1912, Sunbury Lumber Company sold the same tract of land to R. G. Wiggins of Savannah, Georgia, with a clause which provided "all railroads, buildings, and other improvements which are still on the property on February 1, 1917, may be removed from said property by first party (Sunbury Lumber Company) before February 1, 1918" (Chatham County Deed Book 11-B:129). Figure 5 is a plat of the land conveyed in this transaction. In December 1925, Wiggins sold the land to Sol Kaminsky of Savannah, Georgia (Chatham County Deed Book 20-Y:455). On 4 January 1946, Kaminsky sold the land to Remer Y. Lane of Savannah, Georgia. In March 1946, Lane leased a 0.95 acre parcel of this tract for a fee of $50 per year to the U. S. Department of Commerce, Civil Aeronautics Administration (CAA). The CAA used the land for construction of a VHF Radio Range site, used to aid in the guidance of airplanes (Chatham County Deed Book 42-Y:321). In November 1950, Lane transferred the entire tract (purchased from Kaminsky) to the Citizens and Southern Bank of Savannah as Trustee of an Irrevocable Trust (Chatham County Deed Book 52-V:466). In July 1956, the Citizens and Southern Bank of Savannah (as Trustee) sold the entire tract to Union Bag & Paper Corporation of New Jersey.

Chapter 4. Results and Recommendations

Results of Background Research

Six archaeological studies have been conducted relatively near the Berwick Tract. Four of these surveys were conducted by Brockington and Associates, Inc. (Bailey and Poplin 1997, Bailey et al. 1997; Hicks 1997; McMakin et al. 1997). The remaining two surveys were conducted by Garrow (1984) and Stoops (1995). As a result of these surveys, fourteen archaeological sites have been recorded. A discussion of these previous investigations follows. In addition to these studies, a Historic Resource Survey was conducted by the Chatham-Savannah Metropolitan Planning Commission (1993). This study recorded no buildings, structures, or objects located within 0.5 mile of the project tract.

Inspection of the Georgia Archaeological Site Files revealed one prehistoric site recorded within one half mile of the Berwick Tract. This is site 9CH683, the Habersham Site. Site 9CH683 was reported by F. Cook in May 1981. The site is recorded as a Late Woodland burial mound, with "no associated village site," and was recommended potentially eligible for the National Register of Historic Places (NRHP). No artifacts were found in the areas surrounding the mound. The site is located on private property east of the Berwick Tract, and therefore was not visited during the present study.

Phase II Portion of the Godley Tract. In 1997, Brockington and Associates, Inc. conducted a cultural resources survey of 3,800 acres of the Phase II Portion of the Godley Tract, Chatham County. This area is located several miles to the northwest of the Berwick Tract, on the west side of Interstate I-95 between Highway 30 to the north and Highway 80 to the south. As a result of this survey, one previously recorded site was revisited and one previously unrecorded site and four isolated finds were identified.

The previously recorded site (9CH872) was determined to be a multi-component site with occupations dating from the Late Archaic, Woodland, and Colonial Georgia subperiods. The prehistoric components of the site were recommended potentially eligible for listing on the NRHP. Archaeological site (9CH872) represented the remains of an early twentieth century homesite. Due to a high level of disturbance, the site was recommended not eligible for listing on the National Register of Historic Places (NRHP).

Savannah Quarters Tract Survey. In 1996, Brockington and Associates, Inc. conducted a cultural resources survey of approximately 2,500 acres on the Savannah Quarters Tract, Southwest Quadrant (Bailey et al. 1997). The Savannah Quarters Tract is located less than one mile northwest of the Berwick Tract, on the western side of Interstate 95. As a result of this survey, seven archaeological sites (9CH859-9CH865), eight isolated finds (Isolates 1-8), and two standing structures (CH218 and CH219) were identified. Two previously recorded archaeological sites (9CH688 and 9CH825) were also located within the project tract. The Savannah-Ogeechee Canal (9CH688), completed in 1831, also lies in the Savannah Quarters tract; this feature has been recommended eligible for the NRHP.

The nine archaeological sites identified on the Savannah Quarters Tract include two aboriginal occupations (9CH861 and 9CH 865), four historic sites (9CH825, 9CH859, 9CH862, and 9CH864), and two sites with both prehistoric and historic components (9CH860 and 9CH863). With the exception of the Savannah-Ogeechee Canal (9CH688), each of the sites identified during the Savannah Quarters Tract survey are located on high ground adjacent to the Little Ogeechee River or its associated drainages. These sites are situated on slightly elevated soils between 5.5 and 6.2 m above sea level. Soils on the tract varied; however, most sites were located on soils of the Ocilla Complex. These soils are moderately well drained. It was considered likely that slightly elevated soils on the Berwick Tract would contain similar types of resources. However, the lack of a major water source such as the Little Ogeechee River was expected to reduce the likelihood of encountering prehistoric archaeological sites.

Brockington and Associates, Inc. (1997). Portions of the 5,100 acre Godley Tract have been surveyed by representatives from Brockington and Associates, Inc. to mitigate potential adverse effects from the removal of fill. This borrow pit survey was completed under contract to the Georgia Department of Transportation. The tract included approximately 18 acres of lowland flats; vegetation consisted of planted pines. During the course of the survey, one site (9CH872) and four isolated finds (Isolates 1-4) were identified (Hicks 1997).

Site 9CH872. This site was identified on 14 May 1997 during a survey of proposed borrow pit locations on the Godley Tract-Phase II. Excavations identified a multicomponent site on a ridge overlooking Walthour Swamp and St. Augustine Creek. The estimated dimensions of 9CH872 are 150 m E/W by 180 m N/S. Diagnostics recovered from shovel testing on this site included a Morrow Mountain point (Middle Archaic) and Woodland period ceramic sherds. Due to the

presence of moderate densities of diagnostic artifacts, as well as their buried nature, 9CH872 was recommended potentially eligible for the NRHP (Hicks 1997).

Vogtle-Effingham-Thalman Transmission Line Survey. In 1984, Garrow and Associates, Inc. conducted a survey of an approximately 153 mile transmission line corridor (Garrow 1984). A total of 2,782 acres were surveyed, recording 112 cultural properties. A segment of this survey is located near the Berwick Tract. Cultural resources identified in this area include sites 9CH771 and 9CH772. Site 9CH771 is a prehistoric ceramic scatter and 9CH772 is a historic surface scatter. Due to disturbance and a general paucity of artifacts, these two sites were recommended not eligible for the NRHP. These two sites are located on moderately high ground adjacent to a major drainage.

Pooler Parkway and I-16 Interchange Survey. In 1995, Stoops (1995) conducted a cultural resources survey of the proposed route of the Pooler Parkway and I-16 Interchange. Two archaeological sites were identified (9CH824 and 9CH825). Both of these sites consist of multi-component historic and unknown prehistoric occupations. Due to a lack of features and/or low artifact densities, these two sites were recommended not eligible for the NRHP. These sites are located on moderately high ground adjacent to a major drainage.

Results of Field Survey

Examination of the Berwick Tract revealed that much of the area has been heavily impacted. Impact of the land has occurred from three primary sources; rice agriculture, silviculture, and road maintenance. Rice farming resulted in the clearing of old growth bottomland forest and the channelization of natural drainages (Figures 6 and 7). High ground along natural drainages which were the most likely location of prehistoric archaeological sites in the bottomlands have been decimated by this activity. Road construction and maintenance has resulted in the leveling and bisecting of much of the highest ground in the project area, and the borrowing of much of the remaining high ground. This includes much of the area designated as high/moderate potential for archaeological site location. Silviculture is perhaps the most extensive of the destructive forces to act on the area's topsoil. This activity, in particular modern timbering with the use of heavy equipment such as skidders and bulldozers, has in many cases left the area too disturbed to allow for the preservation of intact archaeological deposits. These activities and their results are visible in Figures 8 and 9.

Figure 6. Canal and levee from old rice plantation, looking west from main road.

Figure 7. View of old rice fields (note levee on left).

Figure 8. View of recent damage to topsoil from logging.

Figure 9. View of damage to topsoil from recent logging.

Natural conditions of much of the Berwick Tract also hinder the likelihood of finding intact cultural deposits. In particular, the extremely low, flat land forms and very high water table offer little enticement to long term prehistoric or historic occupation. The lack of a large natural drain through the area exacerbates this problem. Although activities likely occurred within all environmental zones within the Berwick Tract, these activity areas were likely utilized for very short periods. Environmental factors offer little hope for finding well-preserved archaeological deposits.

Despite the heavy impact that relatively recent cultural activity has had on the Berwick Tract, five previously unrecorded archaeological sites and four isolated finds were recorded during the field work phase of the study. Also located during the study are the historic structures associated with the rice farming; the levees and ditches. Descriptions of the sites, isolated finds, and rice farm engineering structures are presented in the following section, as are recommendations for NRHP eligibility.

9CH893

Cultural Affiliation *- Early to middle nineteenth century, unknown aboriginal*
Site Description *- Plantation site and Prehistoric surface scatter*
Soil Type *- Ocilla sand*
Nearest Water Source *- Rice drainage ditch (Culvert Swamp)*
Site Dimensions *- 700 meters by 200 meters*
Present Vegetation *- Pines, live oaks, mixed pine and hardwoods*
NRHP Recommendation *- Ineligible*

Site 9CH893 is the site of Berwick Plantation (see Figure 5). Figures 10 and 11 provide views of 9CH893. Site 9CH893 consists of a small, disturbed historic component and a much larger, disturbed prehistoric component. The historic component may date to as early as the late eighteenth or early nineteenth century based on diagnostic artifacts recovered from the site. Disturbed remnants of canals and levees from early rice agriculture were identified near 9CH893 (see Figures 6 and 7). Davis et al. (1983:LXIX and LXX) shows the Anderson home at this site, which was used as the Headquarters of the Army & Department of Tennessee during the Savannah campaign in December 1864 (Davis et al. 1983). The site has been utilized up through the twentieth century, and has been heavily disturbed by tree cutting, agriculture, modern activity, and road maintenance. The site was most recently used as a hunting camp and as a movie set. A hog pen from the hunting camp is still extant. Two small houses and a shed were constructed recently for

Figure 10. View of 9CH893 showing portion of movie set, looking southeast.

Figure 11. View of 9CH893 showing main road, looking northeast.

use in the filming of the movie "The Ginger Bread Man" (see Figure 11). One of these houses was burned as part of the movie story line.

Initially, Area A (see Figure 2) was defined as a low potential area and was gridded with shovel tests at 60 meter intervals. Following excavation of 60 meter interval shovel tests, a close-interval walkover of the site area was conducted to identify cultural material and features visible on the surface. Following the site walkover, close-interval shovel tests were excavated (at 15 m intervals) on the outer site boundary near selected initial positive shovel tests. The highest density of cultural material was recovered near a line of large mature live oaks which run adjacent to the logging road (see Figure 10). Based on surface finds and shovel tests, the site measures approximately 700 meters at its longest extent (along an axis at 310 degrees) by 200 meters at its widest point (at 40 degrees) (Figure 12).

Shovel testing results indicate that artifacts are restricted to the upper 25 cm of soil. Heavy ground disturbance, likely from agricultural and silvicultural activity, was indicated in shovel test profiles. Current logging activity has caused huge ruts and erosion in and around the site area. Soils consisted of medium to light gray sand (0-19 cm) over very light gray sand mixed with light tan sand (19-50 cmbs). Surface and shovel test soils were often heavily mottled with yellow and tan clayey pockets. The soils are defined as being part of the Ocilla complex by Wilkes et al. (1974), although the current land management study has defined them as Coosa Series.

A broad, low to medium density surface scatter of historic artifacts (Prov. 1.0) was identified at 9CH893. Historic material consists of pearlware, creamware, whiteware, ironstone, porcelain, alkaline glazed and Albany slipped stoneware, and glass. Fragments of kaolin pipes were also recovered. The greatest concentrations of this material were located along a dirt log road which runs at roughly 310 degrees through the southwestern portion of the project tract. Architectural artifacts include brick fragments and unidentifiable nails. The remnants of brick house piers were also found in several locations. These piers were re-used during construction of the hunting camp, and for the buildings on the movie set. Also found was a relatively high density of modern debris including concrete blocks, an electrical transformer, a washing machine, and domestic trash. In addition, two eroded prehistoric sherds were found in the shovel tests (Prov. 5.1 and Prov. 13.1).

Site 9CH893 is recommended ineligible for listing on the NRHP, primarily because the site lacks integrity. Research suggests the site has historic significance as a plantation site and as a

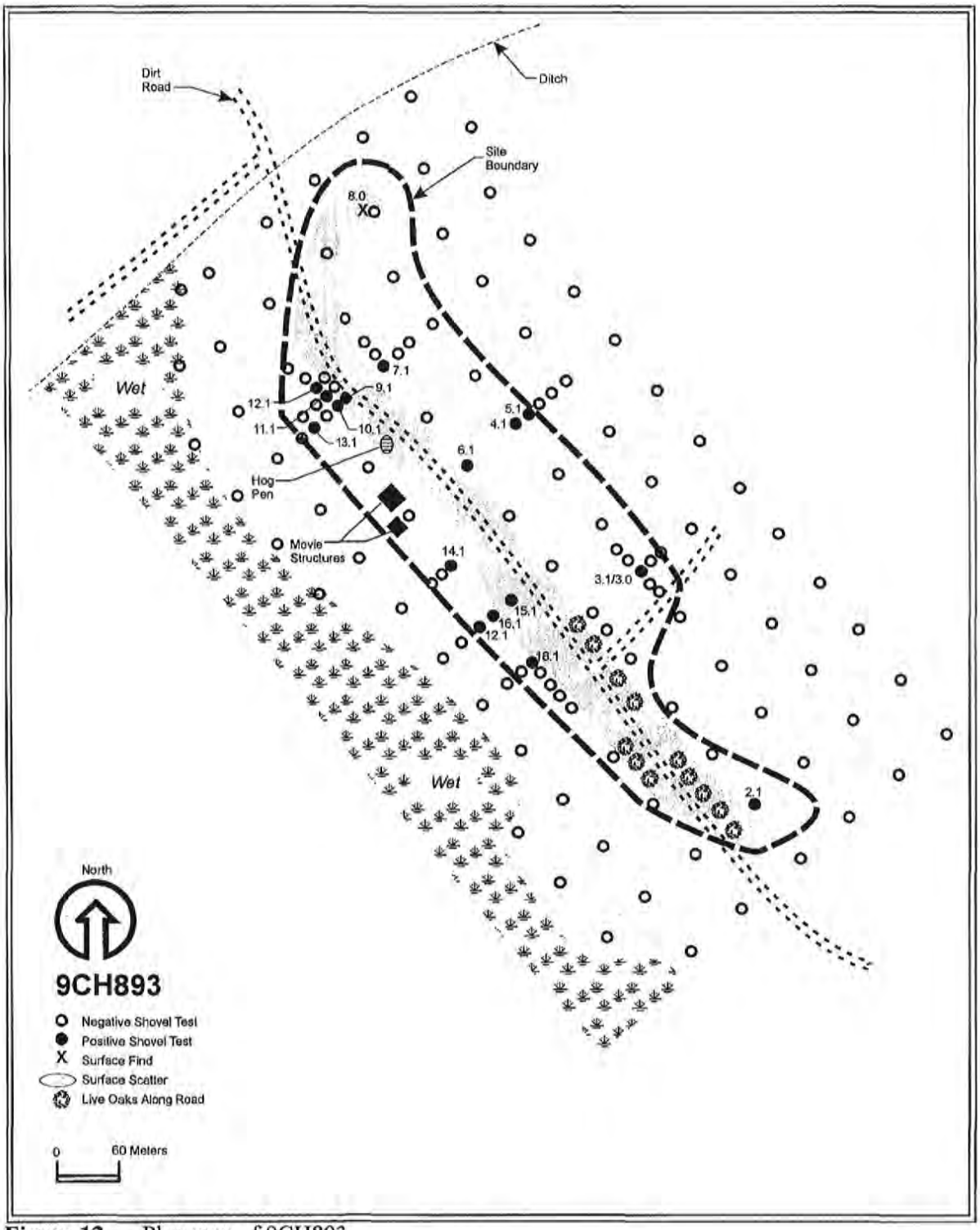

Figure 12. Plan map of 9CH893.

temporary military headquarters during the Civil War. However, archaeological survey at site 9CH893 indicates that no intact buildings from this period have survived. Only small segments of the canals and levees from the ante-bellum rice fields exist. The majority of these are destroyed or damaged. In addition, the integrity of the setting of the few remaining canals and levees is lost due to disturbance caused by logging. The likelihood of encountering undisturbed archaeological deposits is extremely low. No evidence of intact, sub-plowzone archaeological deposits were found during our survey, and the current property managers report numerous encounters with relic collectors with metal detectors who have apparently looted the property. Therefore, it is unlikely that further archaeological study would generate sufficient data to contribute to our understanding of ante-bellum period Savannah River plantations, or the Civil War in the Savannah area.

9CH894

Cultural Affiliation *- Late Archaic to Late Woodland*
Site Description *- Light surface scatter on edge of borrow pit*
Soil Type *- Blanton Sand*
Nearest Water Source *- Borrow Pond (swamp)*
Site Dimensions *- 87 meters by 20 meters*
Present Vegetation *- Denuded*
NRHP Recommendation *- Ineligible*

Site 9CH894 consists of a low density surface scatter of Archaic and Woodland period lithics and ceramics, with a single historic artifact. The site is located on the northeastern rim of an abandoned, eroded, water-filled borrow pit. Based on surface finds, the site runs roughly east-west 87 meters east-west by 20 meters north-south, along the slope of the borrow pit (Figure 13). Figure 14 provides a view of 9CH894.

Since 9CH894 is in an area considered high-medium probability, the site area was initially gridded with 30 meter interval shovel tests. During initial 30 meter interval survey, a scatter of prehistoric artifacts was observed on a heavily eroded ground surface along the slope of a borrow pit/pond. Examination of the ground surface in the area of the artifact scatter indicates that all of the former topsoil at the site has been completely scraped and eroded away. Following initial transect coverage, additional 15 meter interval shovel tests were excavated upslope from the surface scatter. No artifacts were recovered from any shovel tests excavated at site 9CH894.

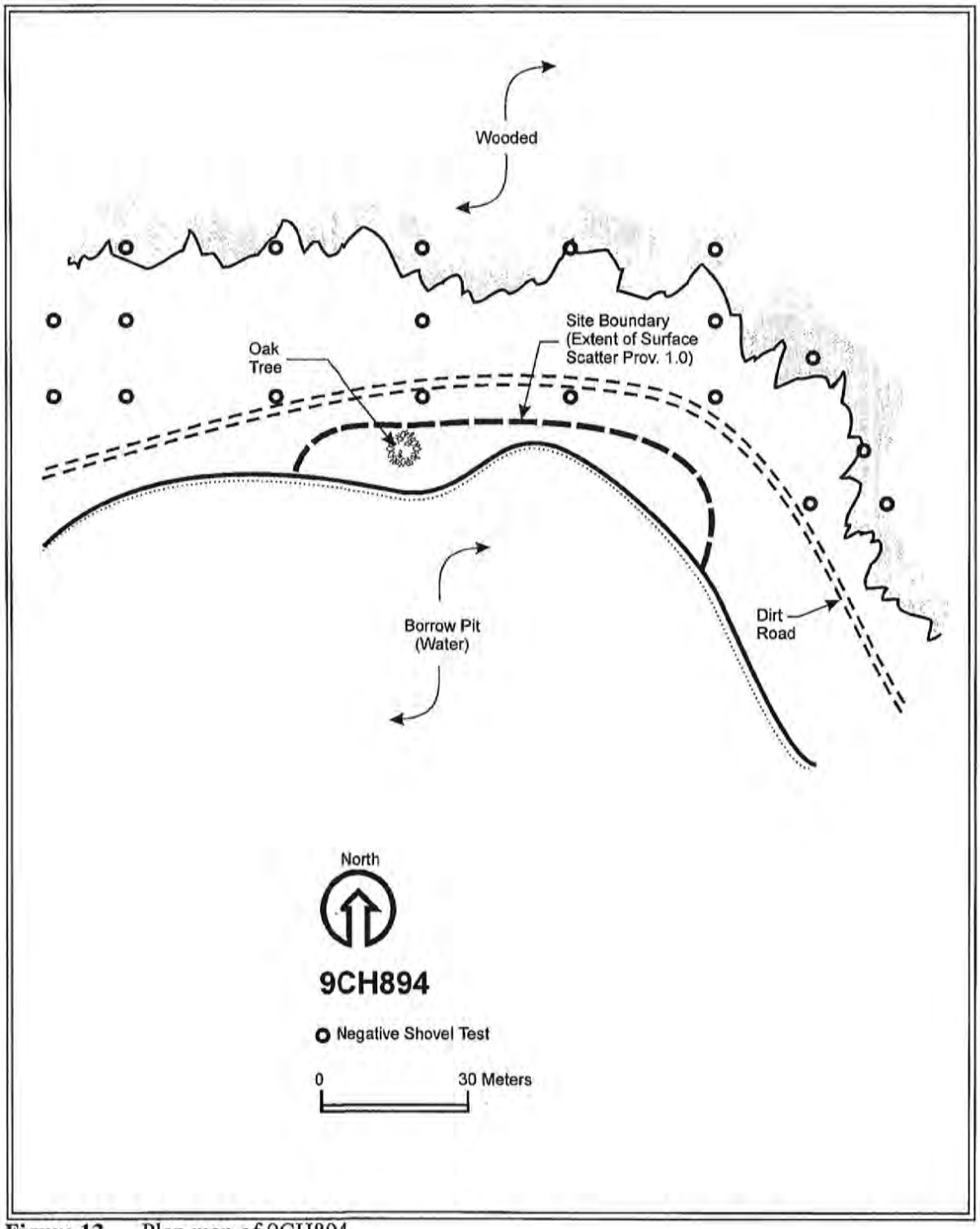

Figure 13. Plan map of 9CH894.

Figure 14. View of site 9CH894 from across borrow pit.

Lithic debitage recovered from the ground surface of 9CH894 includes translucent quartz and Coastal Plain chert (biface, projectile point base, flakes and flake fragments). The biface recovered is possibly a Savannah River projectile point. Translucent quartz debitage includes two primary cobble flakes and a single flake. Several eroded ceramic sherds, including plain grog temper and plain very coarse sand temper sherds were recovered. Also recovered was a single diagnostic sherd identified as Deptford cord marked. In addition, an isolated historic artifact (kaolin pipe fragment) was recovered.

The chert Savannah River biface indicates a Late Archaic presence at 9CH894. Deptford cord marked sherds provide evidence of Early to Middle Woodland activity at the site. In addition, grog tempered ceramics (Wilmington/St. Catherine's) suggest that there was also a Late Woodland presence at 9CH894.

Site 9CH894 is recommended ineligible for listing on the NRHP. Although diagnostic lithics and ceramics were recovered, no associated shell middens, which are common throughout this time span near the Georgia and South Carolina coasts, were identified. It is unlikely that further archaeological study would generate sufficient data to contribute to our understanding of prehistoric

lifeways in the Georgia Coastal Plain. In addition, this site is considered 100 percent disturbed from borrowing, scraping, and erosion.

9CH895

Cultural Affiliation *- Middle to late nineteenth century through early twentieth century*
Site Description *- Surface scatter, homesite*
Soil Type *- Coosaw sandy loam*
Nearest Water Source *- Borrow pit pond (swamp)*
Site Dimensions *- 300 meters by 80 meters*
Present Vegetation *- Pines, live oaks, mixed pine and hardwoods*
NRHP Recommendation *- Ineligible*

Site 9CH895 consists of a medium density scatter of historic artifacts along a dirt road and around a number of large mature live oak trees. The scatter ran roughly 300 meters long east-west along the road, and was no greater than 80 meters wide at the live oak cluster (Figure 15). Figure 16 provides a view of 9CH895. Ground cover consisted of brush in the recently cut road edges, mixed hardwoods and pines, one patch of young pines, and the aforementioned live oak cluster. A Civil War map of the area near 9CH895 dated December 1864 (Davis et al. 1983) does not show a house at this location, although a road to the Owen house may have passed nearby.

Site 9CH895 was initially identified by observation of a surface scatter of cultural material on the dirt road. Evidence of heavy machine activity in the form of large push piles was found in the northern edge of the site. These piles contained a scattering of historic material including glass, ceramic fragments and at least one brick. Seventeen shovel tests were excavated in the area of 9CH895. These included the initial survey grid of 30 meter interval and tighter interval tests at 15 meter intervals. Two shovel tests (Prov. 2.1 and 3.1) were positive. No artifacts were found below the disturbed plowzone (0-30 cmbs).

Ceramic artifacts from 9CH895 include pearlware, creamware, whiteware, unglazed redware, stoneware (salt glazed and British Brown), and Chinese porcelain. Other domestic artifacts include bottle glass and kolin pipe fragments. Brick and unidentifiable nails were also recovered from 9CH895. Ceramics indicate a potential occupation range of the site from the early nineteenth through early twentieth centuries.

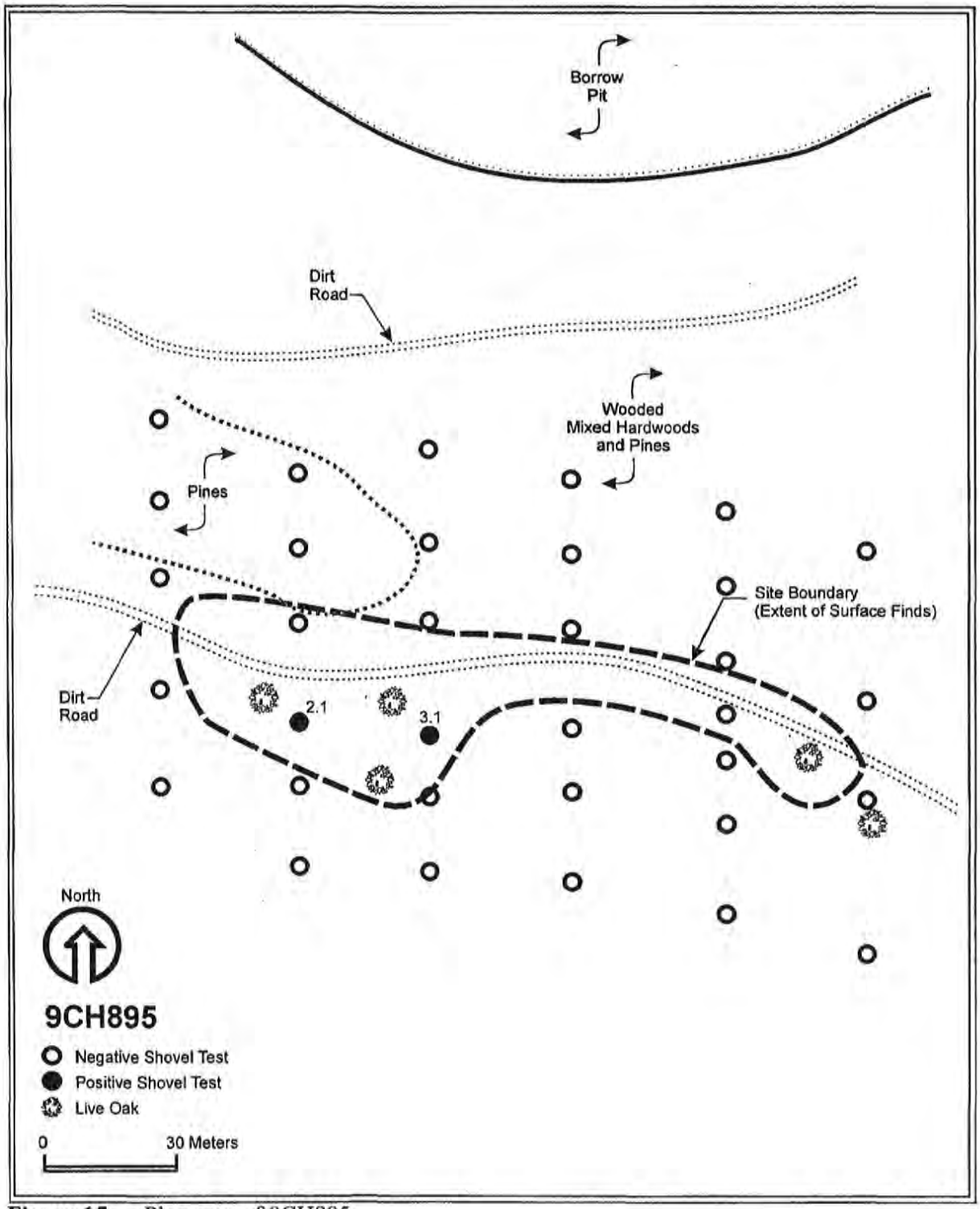

Figure 15. Plan map of 9CH895.

Figure 16. View of site 9CH895 from logging road, looking south.

Based on the lack of intact deposits and level of disturbance observed at site 9CH895, it is recommended ineligible for listing on the NRHP. Examination of records failed to link this site to people or events of historic significance (Criteria A and B). No intact buildings, structures, objects, or landscaping (Criterion C) from site occupation periods have survived. In addition, the likelihood of encountering undisturbed archaeological deposits (Criterion D) is low. No evidence of intact, sub-plowzone archaeological deposits were found during our survey, and the current property managers report numerous encounters with relic collectors with metal detectors who have apparently looted the property. Therefore, it is unlikely that further archaeological study would generate sufficient data to contribute to our understanding of early nineteenth through early twentieth century lifeways in the Savannah area.

9CH896

Cultural Affiliation *- Early - Late Woodland, isolated Historic*
Site Description *- Surface scatter*
Soil Type *- Coosaw loamy sand*
Nearest Water Source *- Drainage ditch*
Site Dimensions *- 75 meters by 25 meters*
Present Vegetation *- Denuded*
NRHP Recommendation *- Ineligible*

Site 9CH896 consists of a primarily surface scatter of lithic debitage and eroded ceramic sherds. Good ground surface visibility at the site resulted from recent clear cutting along the sides of a logging road which bisects the site (Figure 17). The site was approximately 75 meters (northeast-southwest) by 25 meters (southeast-northwest), running along a slight rise (Figure 18). Soils were a mix of dark humus mottled in a light gray loamy sand.

Lithic debitage and eroded ceramic sherds were found on the exposed ground surface and in a single shovel test. Lithics recovered (n=5) include Coastal Plain chert flake fragments and one cobble. Recovery of Deptford sand tempered sherds (n=3) suggest Early to Middle Woodland activity at the site. In addition, cord marked and fabric impressed, grog tempered ceramics (Wilmington/St. Catherine's) suggest that there was also a Late Woodland presence at 9CH896. An isolated historic artifact (whiteware) was also recovered.
Figure 18. Plan map of site 9CH896.

Site 9CH896 is heavily disturbed and is recommended ineligible for listing on the NRHP. Shovel tests and surface observation indicate heavy ground disturbance. The majority of the site was apparently destroyed during the creation of the road which now bisects it. Although diagnostic Woodland period ceramics were recovered, no associated shell middens, which are common throughout this time span near the Georgia and South Carolina coasts, were identified. There were no indications that intact subsurface deposits were present at the site. It unlikely that further investigation would be productive.

Figure 17. View of site 9CH896 looking northeast.

9CH897

Cultural Affiliation *- Woodland*
Site Description *- Surface scatter*
Soil Type *- Bonneav sand*
Nearest Water Source *- Drainage ditch*
Site Dimensions *- 130 meters by 50 meters*
Present Vegetation *- Denuded*
NRHP Recommendation *- Ineligible*

Site 9CH897 consists of lithic debitage and prehistoric sherds found primarily in shovel tests. Shovel tests were initially dug at 30 meter intervals and were reduced to 15 meter intervals around positive tests. The site measures approximately 103 meters in length (running north-south) by 50 meters in width (Figure 19). Site 9CH897 is located northwest of site 9CH896, and is crosscut by the same dirt logging road which bisects site 9CH896 (Figure 20).

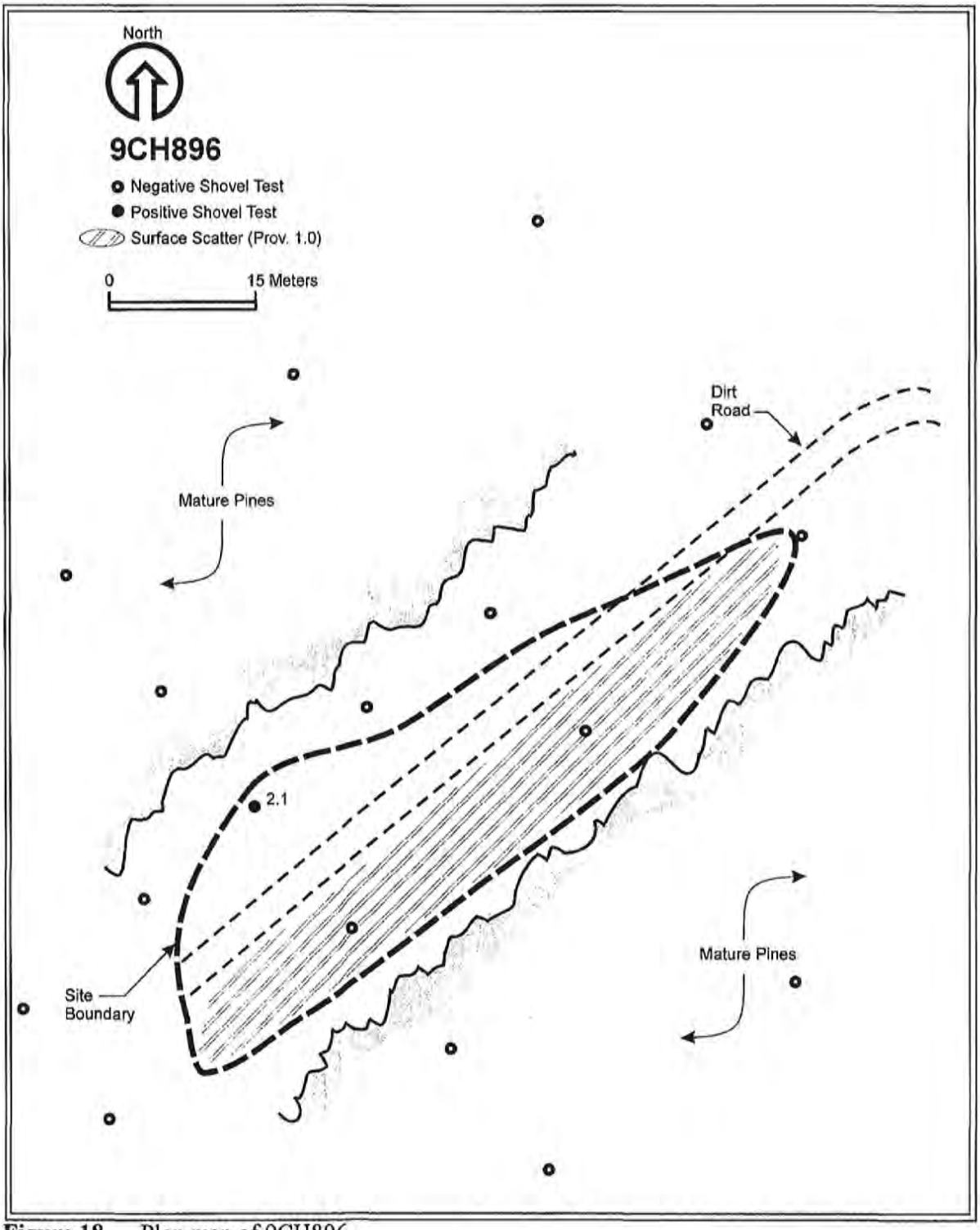

Figure 18. Plan map of 9CH896.

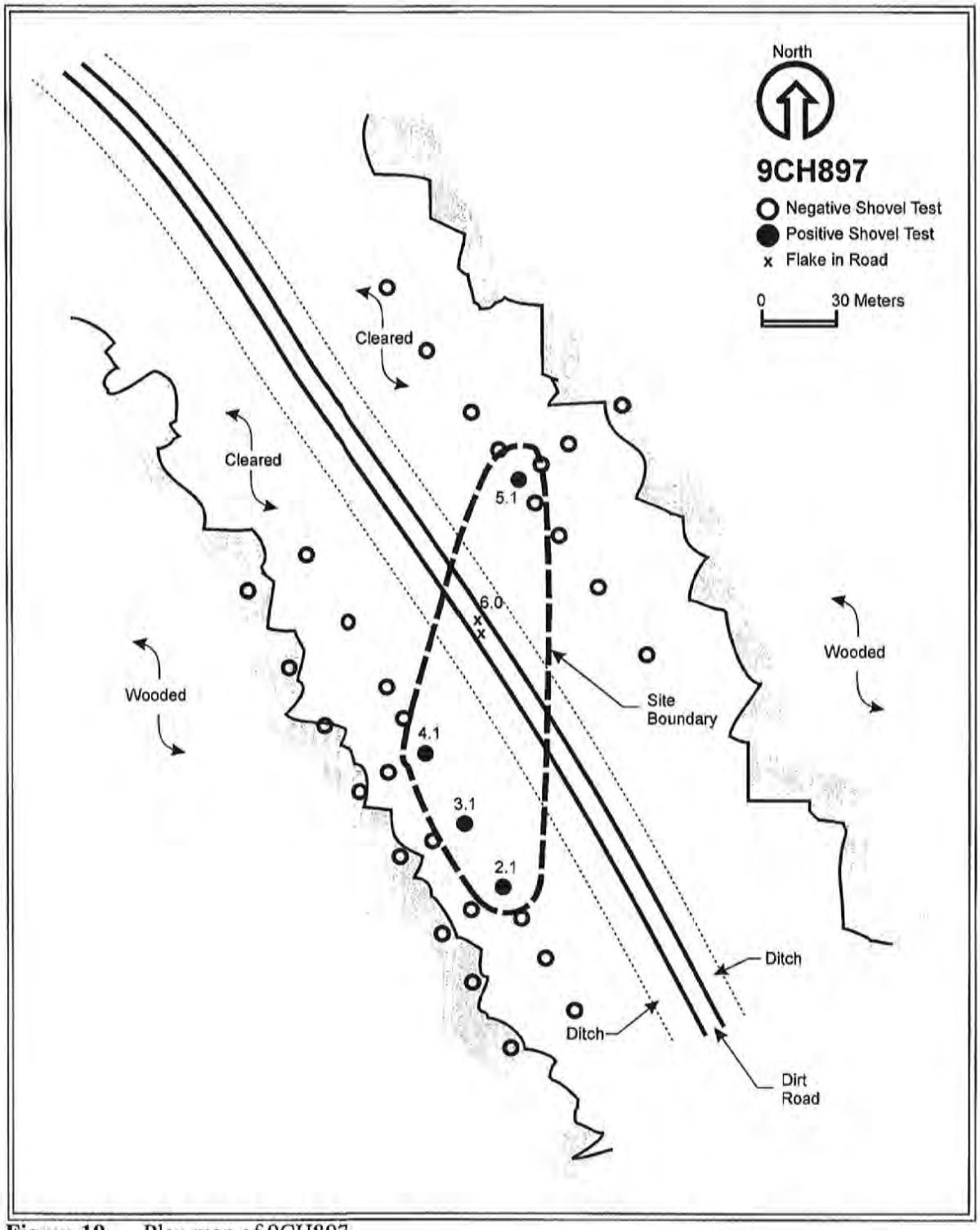

Figure 19. Plan map of 9CH897.

Figure 20. View of site 9CH897 looking northwest.

Figure 21. Borrow pit in pine plantation, isolate K1 location on far side.

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Appendix A

Artifact Catalog

Artifact Catalog

Brockington and Associates, Inc. uses the following proveniencing system. Provenience 1 designates general surface collections. Numbers after the decimal point designate subsequent surface collections, or trenches. Proveniences 2 to 200 designate shovel tests. Controlled surface collections and 50 by 50 cm units are also designated by this provenience range. Proveniences 201 to 400 designate 1 by 1 m units done for testing purposes. Proveniences 401 to 600 designate excavation units (1 by 2 m, 2 by 2 m, or larger). Provenience numbers over 600 designate features. For all provenience numbers except 1, the numbers after the decimal point designate levels. Provenience X.0 is a surface collection at a shovel test or unit. X .1 designates level one, and X.2 designates level two. For example, 401.2 is Excavation Unit 401, level 2. Flotation samples are designated by a 01 added after the level. For example, 401.201 is the flotation material from Excavation Unit 401, level 2.

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Site Number: 9CH893

PROVENIENCE NUMBER: 1 . 0 Area A : surface

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	2		dark olive green bottle glass	
2	2		light blue/blue bottle glass	
3	2		tumbler	clear, stippled
4	1		tumbler	clear
5	1		plain kaolin pipe stem	
6	1		dark olive green bottle glass	burned
7	2		undecorated porcelain	
8	5		undecorated pearlware	
9	1		polychrome hand painted pearlware	
10	1		blue shell edged pearlware	
11	2		blue transfer printed pearlware	
12	8		undecorated creamware	
13	4		annular whiteware	
14	2		blue shell edged whiteware	
15	3		green shell edged whiteware	
16	3		blue transfer printed whiteware	
17	1		red transfer printed whiteware	
18	12		undecorated whiteware	
19	1		green transfer printed ironstone	
20	1		annular ironstone	
21	2		blue transfer printed ironstone	
22	2		Albany slipped stoneware	
23	1		alkaline glazed stoneware	
24	3		unidentified burned ceramic	

25		0.49		

PROVENIENCE NUMBER: 2 . 1 Area A : Transect 8, shovel test 9 : 0-20cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		Flow Blue whiteware	with maker's mark "...RCELAINE/...AYER"

PROVENIENCE NUMBER: 3 . 0 Area A : Transect 12, shovel test 2 : surface

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		olive green bottle glass	applied lip
2	2		undecorated whiteware	
3	1		blue transfer printed whiteware	

PROVENIENCE NUMBER: 3 . 1 Area A : Transect 12, shovel test 2 : 0-20cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	2		olive green bottle glass	
2	1		undecorated creamware	
3	3		unidentifiable iron/steel	
4		1.2	faunal remains	

PROVENIENCE NUMBER: 4 . 1 Area A : Transect 15, shovel test 9 : 0-35cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		light blue/blue bottle glass	
2		34.59	unglazed brick fragments	
3	1		unidentifiable iron/steel	

PROVENIENCE NUMBER: 5 . 1 Area A : Transect 15, shovel test 9 + 15m N:0-25cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		residual sherd	

PROVENIENCE NUMBER: 6 . 1 Area A : Transect 15, shovel test 10 : 0-35cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		blue hand painted pearlware	
2	1		non-cultural rock	burned

PROVENIENCE NUMBER: 7 . 1 Area A : Transect 17, shovel test 1 : 0-35cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		blue shell edged whiteware	
2		5.12	unglazed brick fragments	

PROVENIENCE NUMBER: 8 . 0 Area A : Transect 19, shovel test 2 : surface

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		pearlware with indeterminate decoration	Wieldon design

PROVENIENCE NUMBER: 9 . 1 Area A : Transect 24, shovel test 1 : 0-20cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	2		clear bottle glass	
2		0.84	unglazed brick fragments	

PROVENIENCE NUMBER: 10 . 1 Area A : Transect 24, shovel test 1 + 15mS: 0-30cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		blue transfer printed pearlware	

PROVENIENCE NUMBER: 11 . 1 Area A : Transect 24, shovel test 1 : 0-15cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	2		undecorated creamware	

PROVENIENCE NUMBER:			12 , 1 Area A : Transect 24, shovel test 1 +15mS +30mW : 0-30cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		olive green bottle glass	
PROVENIENCE NUMBER:			13 , 1 Area A : Transect 24, shovel test 1 + 45mS : 0-60cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		eroded body sherd, very coarse sand temper	
PROVENIENCE NUMBER:			14 , 1 Area A : Transect 27, shovel test 1 : 0-40cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		undecorated porcelain	
2	1		unidentifiable nail	fragment
PROVENIENCE NUMBER:			15 , 1 Area A : Transect 28, shovel test 1 : 0-35cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		unidentifiable nail	fragment
2		40.68	unglazed brick fragments	
PROVENIENCE NUMBER:			16 , 1 Area A : Transect 28, shovel test 1+15mS : 0-20cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		dark olive green bottle glass	
2		87.57	unglazed brick fragments	
PROVENIENCE NUMBER:			17 , 1 Area A : Transect 28, shovel test 1+30mS : 0-20cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1		69.01	unglazed brick fragments	
PROVENIENCE NUMBER:			18 , 1 Area A : Transect 29, shovel test 2 : 0-30cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		plain kaolin pipe bowl	

Site Number: 9CH894

PROVENIENCE NUMBER:			1 , 0 Area C : General surface collection	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		plain kaolin pipe bowl	
2	1		plain body sherd, grog temper	
3	1		plain body sherd, very coarse sand temper	
4	1		Coastal Plain chert biface	possible Savannah River
5	1		Coastal Plain chert projectile point base	
6	2		Coastal Plain chert flake	
7	2		Coastal Plain chert thinning flake	
8	1		Coastal Plain chert flake fragment	
9	1		translucent quartz flake	
10	2		translucent quartz primary cobble flake	
11	1		cord marked body sherd, very coarse sand temper	Deptford

Site Number: 9CH895

PROVENIENCE NUMBER:			1 , 0 Area D : General surface collection	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		plain kaolin pipe stem	
2	1		molded kaolin pipe bowl	
3	3		dark olive green bottle glass	1 base with kickup

4	3		olive green bottle glass
5	1		burned glass
6	1		clear flat (window) glass
7	1		blue transfer printed pearlware
8	4		undecorated pearlware
9	4		undecorated creamware
10	4		Chinese undecorated porcelain
11	1		sepia transfer printed whiteware
12	1		Flow Blue whiteware
13	2		annular whiteware
14	2		blue transfer printed whiteware
15	1		blue shell edged whiteware
16	7		undecorated whiteware
17	2		gray salt glazed stoneware
18	1		brown salt glazed stoneware
19	1		British Brown stoneware
20	3		clear salt glazed stoneware
21	1		unglazed redware
22	1		unidentified burned ceramic

PROVENIENCE NUMBER: 2 . 1 Area D : Transect 10, shovel test 1: 0-50cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	2		unidentifiable nail	fragments
2		10	unglazed brick fragments	not collected

PROVENIENCE NUMBER: 3 . 1 Area D : Transect 11, shovel test 1

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		olive green bottle glass	
2	1		blue transfer printed whiteware	
3	2		unidentifiable nail	
4		2000	unglazed brick fragments	

Site Number: 9CH896

PROVENIENCE NUMBER: 1 . 0 Area H : Surface collection near transect 7

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	4		cord marked body sherd, grog temper	Wilmington / St. Catherine's
2	1		fabric impressed body sherd, grog temper	Wilmington / St. Catherine's
3	1		body sherd with unidentifiable decoration, coarse sand temper	
4	1		eroded body sherd, grog temper	
5	1		eroded body sherd, very coarse sand temper	
6	1		plain rim sherd, very coarse sand temper	
7	2		residual sherd	
8	1		Coastal Plain chert flake fragment	
9	1		cobble	
10	1		blue transfer printed whiteware	

PROVENIENCE NUMBER: 2 . 1 Area H : Transect 8 + 15mN : 0-20cm

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		cord marked body sherd, very coarse sand temper	

Site Number: 9CH897

PROVENIENCE NUMBER:			1 , 0 Area I : General surface collection	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		Coastal Plain chert flake fragment	
PROVENIENCE NUMBER:			2 , 1 Area I : Transect 3, shovel test 10 : 0-50cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		fabric impressed body sherd, fine/medium sand temper	
PROVENIENCE NUMBER:			3 , 1 Area I : Transect 3, shovel test 11 : 0-10cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		residual sherd	
PROVENIENCE NUMBER:			4 , 1 Area I : Transect 3, shovel test 11+ 15m N : 0-25cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		eroded body sherd, very coarse sand temper	
PROVENIENCE NUMBER:			5 , 1 Area I : Transect 1, shovel test 13 : 0-25cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		Coastal Plain chert flake fragment	
PROVENIENCE NUMBER:			6 , 0 Area I : Transect 1, shovel test 13 : surface	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		Coastal Plain chert thinning flake	
2	2		Coastal Plain chert flake fragment	

Site Number: *Isolate 1*

PROVENIENCE NUMBER:			2 , 0 Area B : transect 39, shovel test 1 : surface	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		residual sherd	
PROVENIENCE NUMBER:			2 , 1 Area B : transect 39, shovel test 1 : 0-35cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		cord marked body sherd, grog temper	Wilmington / St. Catherine's

Site Number: *Isolate 2*

PROVENIENCE NUMBER:			2 , 1 Area G : transect 6, shovel test 3 : 0-40cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	3		plain body sherd, very coarse sand temper	2 mend

Site Number: *Isolate 3*

PROVENIENCE NUMBER:			2 , 0 Area I : surface of road edge	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		translucent quartz flake	
PROVENIENCE NUMBER:			2 , 1 Area I : transect 4, shovel test 5 : 0-25cm	
Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		unidentified stamped body sherd, grog temper	
2	2		residual sherd	

Site Number: *Isolate 4*

PROVENIENCE NUMBER: 2 . 0 Area K : transect 4 : surface

Catalog #	*Count*	*Weight*	*Artifact Description*	*Comments*
1	1		translucent quartz flake	

Appendix B

Resumes of Key Project Personnel

Joseph Anthony Giliberti
The Exchange Building
9 North Second Street, Suite 102
Memphis, Tennessee 38103
901-527-3237

EDUCATION

B.S. Anthropology, University of Southern Mississippi, 1988
M.A. Anthropology, University of Southern Mississippi, 1994

AREAS OF SPECIALIZATION

Prehistoric Archaeology of the Southeastern United States, Paleoindian and Archaic Period lithic analysis, Civil War Archaeology, Global Positioning Systems applications in Archaeology, computer data base management, archaeological conservation, human skeletal analysis, faunal analysis, dental micro-defect analysis, and scuba diving.

HONORS

Recipient of Graduate Assistantship, USM 1989-1991.
Recipient, Outstanding Anthropology Student Award, USM, 1988.
Recipient, University Scholar Scholarship Award, USM, 1984-1988.
Recipient, Star Student Award, Bay Sr. High School, Bay St. Louis, MS, 1982.

PROFESSIONAL AFFILIATIONS

Society for American Archaeology
Southeastern Archaeological Conference
Mississippi Association Professional Archaeologists
Mississippi Archaeological Association

PROFESSIONAL POSITIONS HELD

July 1997-Present
Archaeologist, Brockington & Associates, Inc., Memphis, Tennessee.

May-August 1997
Adjunct Faculty Member, University of Southern Mississippi, Gulf Coast Campus.

July 1996-February 1997
Archaeologist, Mann & Associates, Inc., Bay St. Louis, Mississippi.

January 1993-June 1996
Staff Archaeologist, Mississippi Department of Archives & History

January-December 1992
Crew Member & Assistant Crew Chief, Scott & Associates, Hattiesburg, Mississippi.

April- August 1991

Archaeological Technician, National Park Service, Southeastern Archaeological Center, Tallahassee, Florida. Main project consisted of investigations at Big South Fork National Park, Tennessee and Kentucky. Performed both lab and field duties.

August 1989-May 1991
Research & Teaching Assistant, University of Southern Mississippi.

May-August 1990
Forest Archaeologist, U.S. Forest Service, Desoto National Forest, Mississippi.

January-August 1989
Archaeological Technician, Mid-Continental Research Associates, Lowell Arkansas.

March 1985-April 1988
Archaeological Technician for C. Baxter Mann.

SELECTED FIELD EXPERIENCE

1998

Principal Investigator for Phase I Cultural Resources Survey, OU-3 Groundwater Treatment Plant, Extraction Well Area, Denny Property, Milan Army Ammunition Plant, Carroll County, Tennessee. Performed for U.S. Army Corps of Engineers, Mobile District.

Field Director for Cultural Resources Survey of the Lowndes County Wildlife Management Area, Lowndes County, Alabama. Performed for the U.S. Army Corps of Engineers, Mobile District.

1997

Principal Investigator for Phase III Data Recovery at the Chandler Site (40CH74), Pleasant View, Cheatham County, Tennessee. Performed for James C. Hailey & Company, Nashville, Tennessee.

Principal Investigator for Cultural Resources Survey of Proposed Widening and Realigning of MS 29 between Runnelstown and New Augusta, Perry County, Mississippi. Performed for the Mississippi Department of Transportation, Contract #97-001.

Principal Investigator for Cultural Resources Survey of Proposed Widening and Realigning of US 84 from east end of Monticello bypass to Covington County Line, Lawrence and Jefferson Davis Counties, MS. Performed for the Mississippi Department of Transportation, Contract #941-065.

Principal Investigator for Cultural Resources Assessment of Proposed Widening of US 84 from Monticello Bypass to east of Brookhaven, in Lawrence and Lincoln Counties, MS. For the Mississippi Department of Transportation, Project No. 17-0015-01-052-10.

1996

Principal Investigator for Cultural Resources Assessment of a Proposed Hospital Site in Harrison County, MS. Performed for Knesal Engineering Services, Inc., Gulfport, MS.

Principal Investigator for Cultural Resource Assessment of Proposed Widening of an Existing Boatslip and Maintenance Dredging at a Pre-Existing Commercial Facility on the Escatawpa River Near Moss Point, Jackson County, MS. Performed for Zapata Protein (USA), Inc., Mandeville, LA.

Principal Investigator for Cultural Resources Assessment of a proposed Gravel Mining Site in Pearl River County, MS. Performed for Mr. Bennie E. Watts, Industrial, MS.

Principal Investigator for Cultural Resource Investigation of a Proposed Residential Development Near the Canal Road and I-10 Interchange, Harrison Co., MS. Performed for Chaplewood Development, L.L.C., Covington, LA.

Principal Investigator for Cultural Resources Survey of Proposed New Location of MS57 from Old US 98 to New US 98, Greene County, MS. Performed for the Mississippi Department of Transportation, Contract #941-065.

Principal Investigator for Cultural Resources Survey of Property Adjacent to the Biloxi Commercial Docking Facility in Harrison County, MS. Performed for Brown and Mitchell, Inc., Gulfport, MS.

Principal Investigator for Cultural Resources Survey of Proposed Widening of US 11 from I-59 to MS 43 North, Picayune, Mississippi. Performed for the Mississippi Department of Transportation, Contract #941-065.

Principal Investigator for Cultural Resources Survey of A Proposed Access Road and Oil Well Location in Wayne County, MS. Performed for Anadarko Petroleum Corporation, Houston, TX.

Principal Investigator for Cultural Resources Survey of the Proposed Maurepas Landing Residential Subdivision, Ocean Springs, MS. Performed for EnviroSouth Engineering, Gulfport, MS.

1995

Staff Archaeologist for survey of the Corinth Siege and Battlefield area with National Park Service CRGIS personnel, using Global Positioning Systems equipment for input into a Geographical Information System data base.

Principal Investigator Hancock County Preliminary Site Assessment, Survey and Research Project, Bay St. Louis, Mississippi.

Principal Investigator of Salvage excavation of human burials from the Winterville Mound and Village Site, Winterville, Mississippi.

Principal Investigator for Cultural Resources Survey of Construction Areas in Hugh White and George P. Cossar State Parks. Sardis Lake, Mississippi

Crew Member for Comprehensive G.P.S. survey of historic and prehistoric cultural resources in Shiloh National Park, Tennessee, with the National Park Service.

1994

Principal Investigator for Cultural Resources Survey of a Proposed Golf Course Development, John Kyle State Park, Sardis, Mississippi.

Principal Investigator for Cultural Resources Survey of a Proposed Development, Percy Quin State Park, McComb, Mississippi.

Principal Investigator for Cultural Resources Survey of Proposed Development, Hinds County Community College, Raymond, Mississippi, with Keith Baca.

Assistant Field Director for salvage excavation of Mississippian burial, York Mounds, Yazoo City, Mississippi.

Assistant Field Director of site testing and assessment, Schaefer Mound site, Diamondhead, Mississippi.

1993

Assistant Field Directo for survey and assessment of reported mound and shipwreck, Tara wildlife reserve, Eagle Lake, Mississippi, with Keith Baca.

Crew Member for re-survey and assessment of CRT surveyed land in DeSoto National Forest, Mississippi, with Sam Brookes, Forest Archaeologist.

Principal Investigator for Cultural Resources Survey of Proposed Hotel and Lodge, Percy Quin State Park, McComb, Mississippi.

Archaeological Technician for Excavation and Testing of the Godsi Site, Biloxi, Mississippi. Crew Member. Principle Investigators John Blitz and Baxter Mann.

Principal Investigator for Cultural Resources Survey of Gravel Mining Permit Area, Forrest County, Mississippi.

Assistant Field Director for testing of suspected prehistoric mound near Raymond Mississippi.

1992

Crew Member and Assistant Crew Chief, Scott and Associates, Hattiesburg, MS. Projects: Various Cultural Resource Assessments in South and Central MS. Principle Investigator: Susan Scott.

1991

Archaeological Technician, National Park Service, Southeastern Archaeological Center, Tallahassee, Florida. Main Project: Archaeological Investigation of Big South Fork National Park, Tennessee and Kentucky. Performed Lab and Field Crew duties. Principle Investigator: Guy Prentice

Research Assistant, University of Southern Mississippi, Hattiesburg. Assisted Archaeologist and Physical Anthropologist in on-going research projects, and instructed undergraduates on laboratory analysis techniques.

1990

Principal Investigator for Cultural Resource and Impact Assessment of Proposed Land Exchange Area, Desoto National Forest. For the U.S. Forest Service, Black Creek Ranger District.

Principal Investigator for Site Assessment, Joe's Creek Site, Perry County, Mississippi. For the U.S. Forest Service, Black Creek Ranger District.

Principal Investigator, Cultural Resources Assessment of the Leaf River Wildlife Management Area, Green and George Counties, Mississippi. For the U.S. Forest Service, Black Creek Ranger District.

1989

Archaeological Technician, Scott and Associates, Hattiesburg, MS. Projects: various cultural resources investigations and mitigation projects in South Mississippi. Field Director: Dr. Ed Jackson

Archaeological Technician, Mid-Continental Research Associates, Lowell Arkansas. Projects: Cultural resource investigations and testing projects in Arkansas and Missouri including New Madrid Floodway Phase I Survey. Field Director: Bob Candi Principle Investigator: Dr. Robert Lafferty

1988

Volunteer Assistant, University of Southern Mississippi investigation of Diamondhead Shell Midden, Hancock County, MS. Principal Investigator: Dr. Ed Jackson.

1987

Archaeological Technician for C. Baxter Mann. Projects: various cultural resource surveys in South and Central MS.

1985

Volunteer, University of Southern Mississippi Archaeological investigation of Robertson Site, Hattiesburg, MS. Project Director: Dr. Jerome Voss

Volunteer, University of Southern Mississippi archaeological investigation of Simms site, Hattiesburg, MS. Principal Investigator: Dr. Jerome Voss

1984

Volunteer, University of Southern Mississippi archaeological investigation of Apple Street site, Ocean Springs, MS. Principal Investigator: C. Baxter Mann

TEACHING EXPERIENCE

January-December 1991
University of Southern Mississippi. Taught Introduction to Anthropology (ANT 101).

May-August 1997
University of Southern Mississippi. Taught American Indians (ANT 315).

PUBLICATIONS, PRESENTATIONS AND MANUSCRIPTS

Giliberti, Joseph A.

(In press) *San Patrice and Related Early Tool Assemblage from the Beaumont Gravel Pit Site (22-Pe-504): A Late Paleoindian Site in South Mississippi.* Mississippi Department of Archives and History Archaeological Report. Jackson, Mississippi. Series Editor Dr. Patricia Galloway.

(in press) Site Distribution Along the Eastern Mississippi Gulf Coast. In *Archaeological Investigations in Coastal Jackson County, Mississippi.* Edited by John Blitz and C. Baxter Mann.

1998 The Chandler Site. Report of Phase III Data Recovery from Cheatham County, in the Western Highland Rim of Tennessee. Paper presented to the Annual Meeting of the Tennessee Ant bla blah blah Nashville.

1997 Site Distribution Along the Eastern Mississippi Gulf Coast. Paper presented to the Mississippi Archaeological Association Annual Meeting, Biloxi.

1995 The Utility and Potential of the Mississippi Archaeological Site File. In *Archaeological Site File Management: A Southeastern Perspective.* Edited by David G. Anderson and Virginia Horak.

1995 *San Patrice and Related Early Tool Assemblage from the Beaumont Gravel Pit Site (22-Pe-504): A Late Paleoindian Site in South Mississippi.* M.A. thesis on file University of Southern Mississippi, Hattiesburg.

1995 The Late Archaic State Plan for Mississippi, manuscript on file, Mississippi Department of Archives and History, Jackson.

1995 The Slate Site, An Early Lapidary Industry Site in Mississippi. Paper presented to the Meridian chapter of the Mississippi Archaeological Association.

1994 Prehistoric and Historic Burials and the Law in Mississippi. Paper presented to the District Five Coroner's Meeting, Yazoo City.

1994 Intersite Analysis at the Beaumont Gravel Pit Site, 22-Pe-504. Paper presented to the annual meeting of the Mississippi Archaeological Association, Jackson.

1993 The Unifacial Tool Assemblage from the Beaumont Gravel Pit Site, 22-Pe-504. Paper presented to the annual meeting of the Mississippi

Archaeological Association, Meridian.

1992 An Analysis of Diet in the Population at Kellogg Village, Mississippi, Using Dental Indicators. *Mississippi Archaeology* 27(1):44-59.

1992 Patterns of Inter- and Intraobserver Error in the Microscopic Scoring of Linear Enamel Hypoplasia. *Journal of Paleopathology Monographic Publications - 2.* Associazione Anthropologica Abruzzese, Chieti, Italy.

1992 Reconstruction of Diet Using Dental Indicators at the Kellogg Village Site, 22-Cl-527, Clay County, Mississippi. Paper presented at the Annual Meeting of the Mississippi Archaeological Association, Biloxi, MS.

1991 Preliminary Analysis of the Beaumont Gravel Pit Site, Perry County, Mississippi. Paper presented to the Pine Belt Chapter of the Mississippi Archaeological Association.

1990 Assessment of a Cultural Impact Study for Proposed Land Exchange Area in the Desoto National Forest. Report prepared for the U.S. Forest Service.

1990 Cultural Impact Study of the Leaf River Wildlife Management Area of the Desoto National Forest. Report prepared for the U.S. Forest Service.

1990 Intra- and Interobserver Error in Enamel Microdefect Scoring. Paper presented at Annual Meeting of the American Association of Physical Anthropologists, Miami.

ATTACHMENT H:
Compensatory Mitigation Calculations

Worksheet 1: Qualitative Worksheet for Wetland Adverse Impacts

Project Name:	Southbridge at Berwick
Impact Wetland Name:	Lot Development
Acres of Impact (Acres):	4.30
Wetland Type:	Slope Wetlands
Date:	July 19, 2018

Impact Factors	**Index Description**	**Index Value**
1. Wetland Qualitative Functional Capacity Score (*WQFC*)	Low	0.50
2. Impact Category Description (*Impact Category*)	Discharge of Fill	1.00
3. Product of WQFC and Impact (*WQFC Impact*) =		0.50
4. Duration of Impact (*Duration*)	Permanent/Reoccurring	1.00
5. Product of WQFC Impact and Duration (*Total WQFC Impact*) =		0.50
6. Product of Total WQFC Impact and Acres (***Total 2018 Wetland Credits Owed***) =		**2.15**
7. Conversion of Total 2018 Wetland Compensation to Grandfathered Credits (***Grandfathered Wetland Credits Owed***) =		**17.20**

Legend

Green Cells = User must manually input information.
Orange Cells = User must select the index choice from the drop-down list.
Grey Cells = The calculation of these cells is automated.

NON-RIVERINE WETLAND QUALITATIVE ASSESSMENT

Project Name:	Southbridge at Berwick
Impact Wetland Name:	Residential Lot Development
Wetland Type:	Slope
WAA Center Coordinates:	N/A
Date:	7/19/2018

Water Storage -1

Answer		Questions
Yes		Are there above grade fills or structures obstructing hydrologic flows into or out of the wetland, or are there drainage structures, ditches, or man-made impoundments within 100 feet of the assessment area and within the catchment that are hydrologically affecting the wetland? (Y/N)
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)
FUNCTION SCORE	Low	

BioGeoChemical Cycling - 2

Answer		Questions
No		Is there large woody debris (LWD) in the wetland? (Y/N)
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)
FUNCTION SCORE	Low	

Maintain Characteristic Wetland Community - 3

Answer		Questions
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)
No		Is there greater than 10 percent invasive cover (i.e., cummulative absolute cover across all strata)? (Y/N)
FUNCTION SCORE	Moderate	

Maintain Faunal Habitat - 4

Answer		Questions
Yes		Has the vegetative community been adversely altered within the last 20 years? (Y/N)
No		Is there woody debris in the wetland? (Y/N)
No		Is the contributing drainage basin at least 50 percent forested? (Y/N)
FUNCTION SCORE	Low	

WETLAND QUALITATIVE FUNCTIONAL CAPACITY SCORE	**Low**

Legend
Green Cell = User must manually input information.
Orange Cells = User must select the choice from the drop-down list.
Grey Cells = The calculation of these cells is automated.
Dark Grey Cells = These cells do not require input. The corresponding value is populated from the user input to a previous question.

ATTACHMENT I:
Adjacent Land Owner Information

Larson David J & Carolyn M as Cotrustees
101 Oakcrest Drive
Savannah, GA 31405

Poth Louis L
105 Oakcrest Dr W
Savannah, GA 31405

Hendricks, Charles
111 Oakcrest Drive
Savannah, GA 31405

Cox W Earl & Brenda R
3 Kestrel Court
Savannah, GA 31405

Anthony Kenneth E & Emily Nassar
116 Trail Creek Lane
Savannah, GA 31405

Nathaniel James E & Rosalind S
117 Trail Creek Lane
Savannah, GA 31405

Faust Robert & Logan
165 Trail Creek Lane
Savannah, GA 31405

McKenzie & Flowers Penny Lynn & Wiley Terrell Jr.
2 Linden Hill Ct
Savannah, GA 31405

Steele John & Isabel
10415 SW 115 CT
Miami, FL 33176

Croft Adam & Sabrina
175 Trail Creek Ln
Savannah, GA 31405

Casella Charles & Elizabeth
187 Trail Creek Ln
Savannah, GA 31405

Edwards Alvin D & Vivian L
189 Trail Creek Ln
Savannah, GA 31405

Daugherty William J
168 Trail Creek Ln
Savannah, GA 31405

Johnson James H Sr & Debra J
7 Rock Dove Lane
Savannah, GA 31405

Gati George & Deborah
11 Rock Dove Lane
Savannah, GA 31405

Barnum Richard D & Sandra L
10 Rock Dove Ln
Savannah, GA 31405

Jue Valerie & Thomas
106 Oakcrest Dr W
Savannah, GA 31405

Doerksen Ryan & Martha Kellene
104 W Oakcrest Dr
Savannah, GA 31405

APPENDIX C:

Figures

RLC Project No.:	14-053.1
Figure No.:	1
Prepared By:	MG
Sketch Date:	7/19/2018
Map Scale :	1 inch = 1,500 feet

Southbridge at Berwick

Chatham County, Georgia

Project Location Map

Prepared For: Southbridge Berwick, LLC

RLC RESOURCE + LAND CONSULTANTS

Y:\2014 Projects\14-053.1 Tim Shea Southbridge at Berwick Lots\graphics\Phase_III_Lots_Location.mxd

Source(s): ESRI Basemap, World Street Map

RLC Project No.:	14-053.1
Figure No.:	1
Prepared By:	MG
Sketch Date:	7/19/2018
Map Scale :	1 inch = 400 feet

Southbridge at Berwick

Chatham County, Georgia

2015 Ortho Aerial

Prepared For: Southbridge Berwick, LLC

RLC
RESOURCE+LAND CONSULTANTS

Y:\2014 Projects\14-053.1 Tim Shea Southbridge at Berwick Lots\graphics\Phase_III_Lots.mxd

Source(s): 2015 Georgia NAIP Imagery

APPENDIX D:

Site Photographs

Photo 1: Typical Road Within Subdivision

Photo 4: Existing Stormwater Lagoon

Photo 2: Typical Lot With Wetland

Photo 5: Typical Condition of Wetland

Photo 3: Storm Drain Adajcent To Wetland Lot

Photo 6: Typical Condition Of Wetland

RLC Project No.:	14-053.1
Figure No.:	N/A
Prepared By:	AB
Photo Date:	7/19/2016
Exhibit Date:	7/20/2018

Southbridge At Berwick

Chatham County, Georgia

Site Photographs

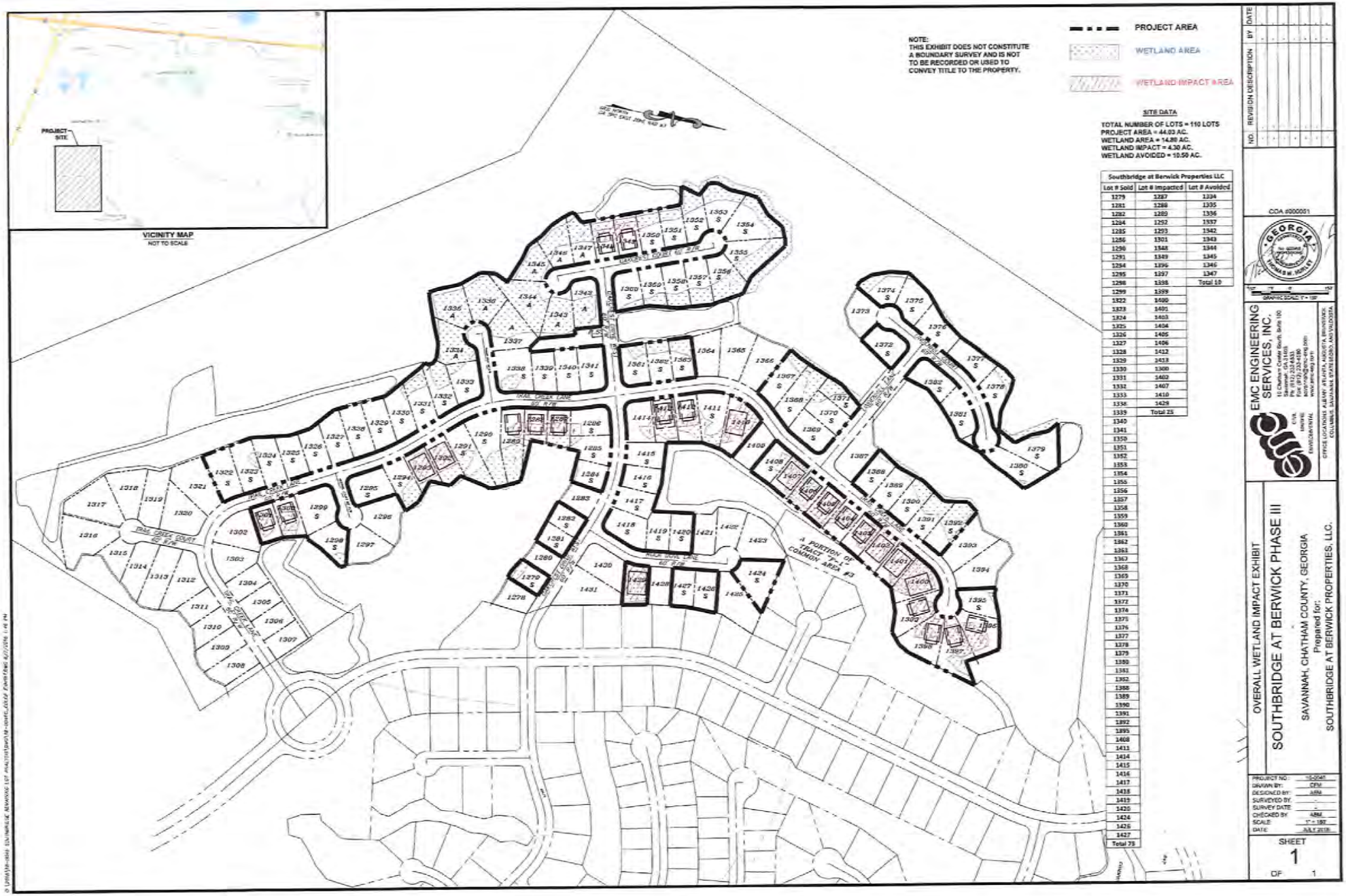
Prepared For: Southbridge Berwick, LLC

RLC
RESOURCE+LAND CONSULTANTS

Y:\2014 Projects\14-053.1 Tim Shea Southbridge at Berwick Lots\Individual Permit\Photo_6_landscape_2016.mxd

Source(s): RLC Site Photographs

ATTACHMENT E:
Permit Drawings


PROJECT SITE
VICINITY MAP
NOT TO SCALE
NOTE:
THIS EXHIBIT DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS NOT TO BE RECORDED OR USED TO CONVEY TITLE TO THE PROPERTY.
PROJECT AREA
WETLAND AREA
WETLAND IMPACT AREA
SITE DATA
TOTAL NUMBER OF LOTS = 110 LOTS
PROJECT AREA = 44.03 AC.
WETLAND AREA = 14.80 AC.
WETLAND IMPACT = 4.30 AC.
WETLAND AVOIDED = 10.50 AC.
Southbridge at Berwick Properties LLC
Lot # Sold | Lot # Impacted | Lot # Avoided
1279 | 1287 | 1334
1281 | 1288 | 1335
1282 | 1289 | 1336
1284 | 1292 | 1337
1285 | 1293 | 1342
1286 | 1301 | 1343
1290 | 1348 | 1344
1291 | 1349 | 1345
1294 | 1396 | 1346
1295 | 1397 | 1347
1298 | 1398 | Total 19
1299 | 1399
1322 | 1400
1323 | 1401
1324 | 1403
1325 | 1404
1326 | 1405
1327 | 1406
1328 | 1412
1329 | 1413
1330 | 1300
1331 | 1402
1332 | 1407
1333 | 1410
1336 | 1429
1339 | Total 25
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1341
1350
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1352
1353
1354
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1356
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1359
1360
1361
1362
1363
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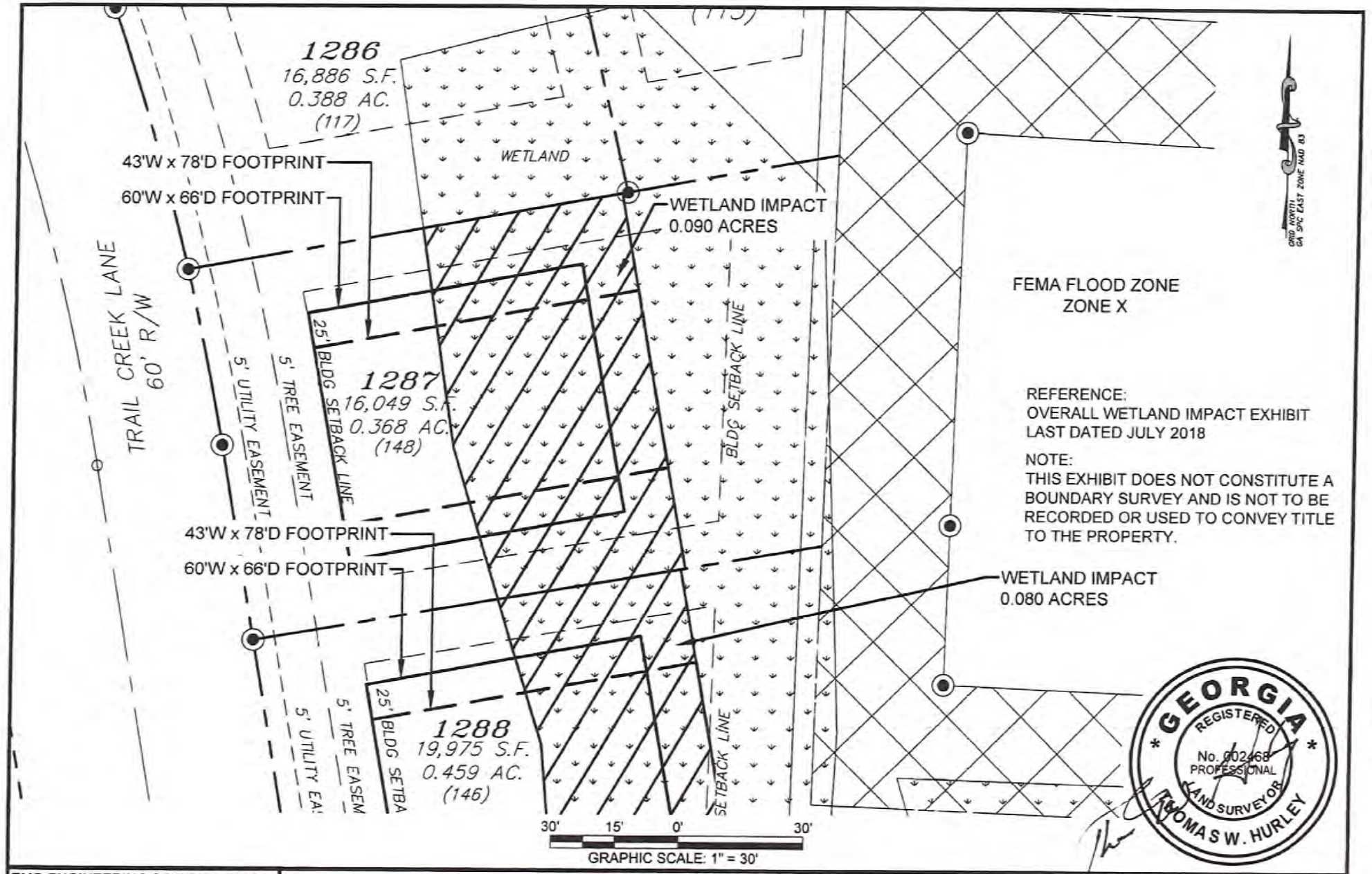
1392
1395
1408
1411
1414
1415
1416
1417
1418
1419
1420
1424
1426
1427
Total 75
COA #000051
GEORGIA
THOMAS W. HURLEY
GRAPHIC SCALE: 1" = 100'
EMC ENGINEERING SERVICES, INC.
16 Chatham Center South, Suite 100
Savannah, GA 31405
Ph: (912) 233-4533
Fax: (912) 233-4190
www.emc-eng.com
CIVIL
SURVEYING
ENVIRONMENTAL
OFFICE LOCATIONS: ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH, STATESBORO, AND VALDOSTA
NO. | REVISION DESCRIPTION | BY | DATE
OVERALL WETLAND IMPACT EXHIBIT
SOUTHBRIDGE AT BERWICK PHASE III
SAVANNAH, CHATHAM COUNTY, GEORGIA
Prepared for:
SOUTHBRIDGE AT BERWICK PROPERTIES, LLC.
PROJECT NO: 16-0045
DRAWN BY: CEM
DESIGNED BY: ABM
SURVEYED BY: -
SURVEY DATE: -
CHECKED BY: ABM
SCALE: 1" = 100'
DATE: JULY 2016
SHEET 1 OF 1



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Fax: (912) 233-4580
savannah@emc-eng.com
www.emc-eng.com
CIVIL MARINE ENVIRONMENTAL
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, STATESBORO & VALDOSTA
COA #000051

WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

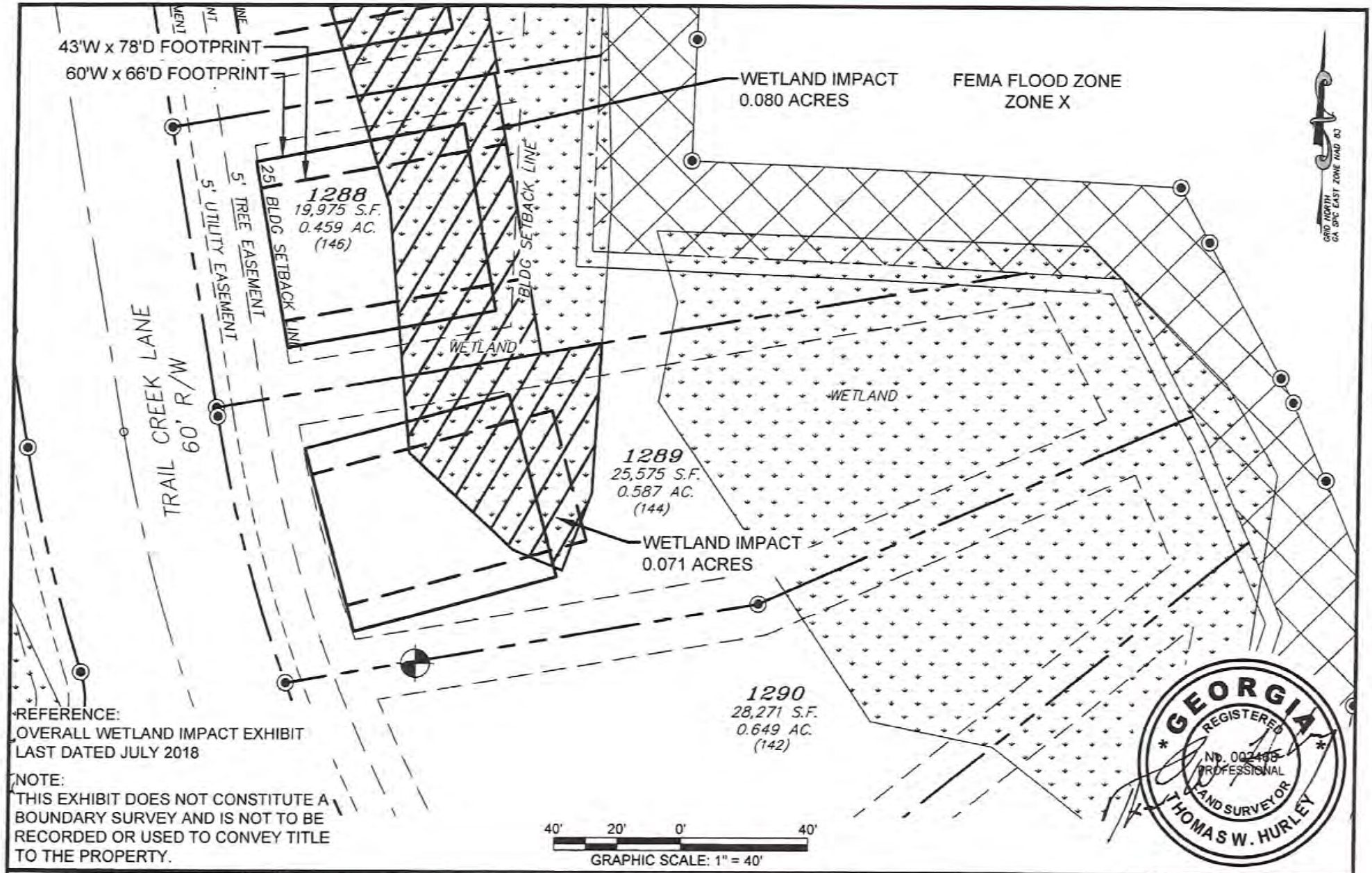
LOT 1287

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
DRAWN BY:	CFM
DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
CHECKED BY:	ABM
SCALE:	1" = 30'
DATE:	JULY 2018



REFERENCE:
OVERALL WETLAND IMPACT EXHIBIT
LAST DATED JULY 2018

NOTE:
THIS EXHIBIT DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS NOT TO BE RECORDED OR USED TO CONVEY TITLE TO THE PROPERTY.

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savannah@emc-eng.com
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CIVIL MARINE ENVIRONMENTAL
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, STATESBORO & VALDOSTA
COA #000051

WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

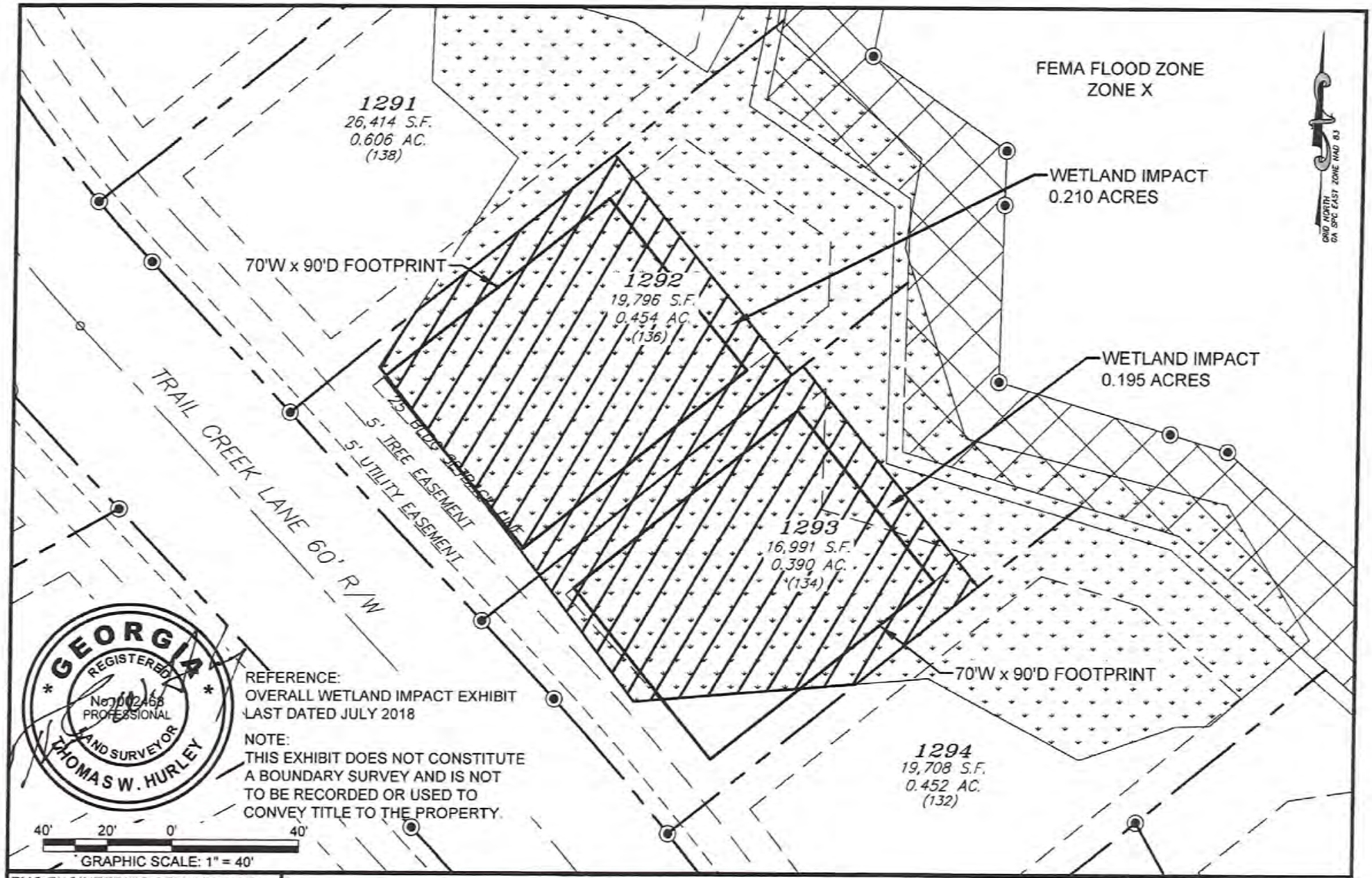
LOTS 1288 AND 1289

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
DRAWN BY:	CFM
DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
CHECKED BY:	ABM
SCALE:	1" = 40'
DATE:	JULY 2018



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COA #000051

WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

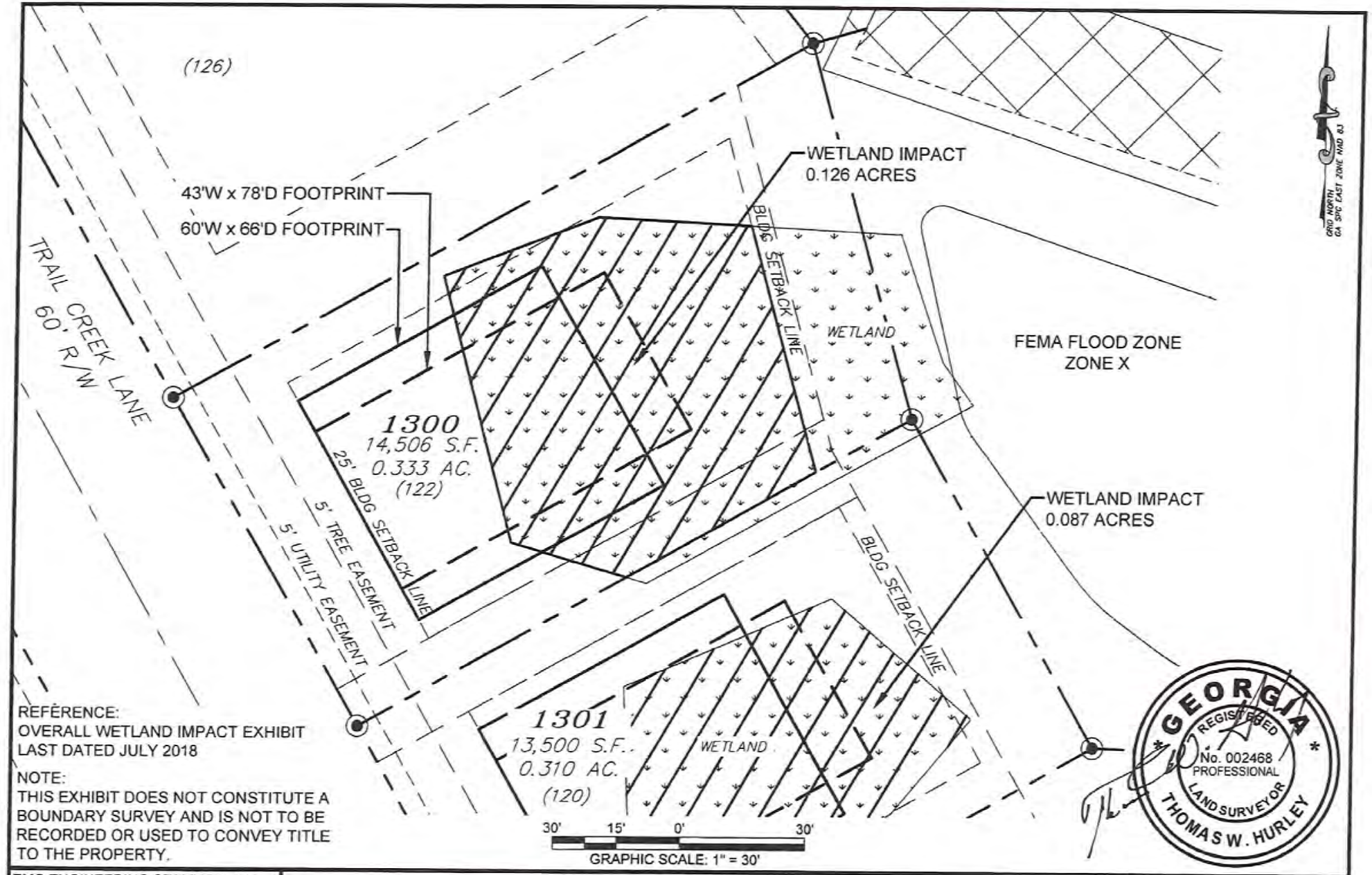
LOTS 1292 AND 1293

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
DRAWN BY:	CFM
DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
CHECKED BY:	ABM
SCALE:	1" = 40'
DATE:	JULY 2018



REFERENCE:
OVERALL WETLAND IMPACT EXHIBIT
LAST DATED JULY 2018

NOTE:
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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1300

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
DRAWN BY:	CFM
DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
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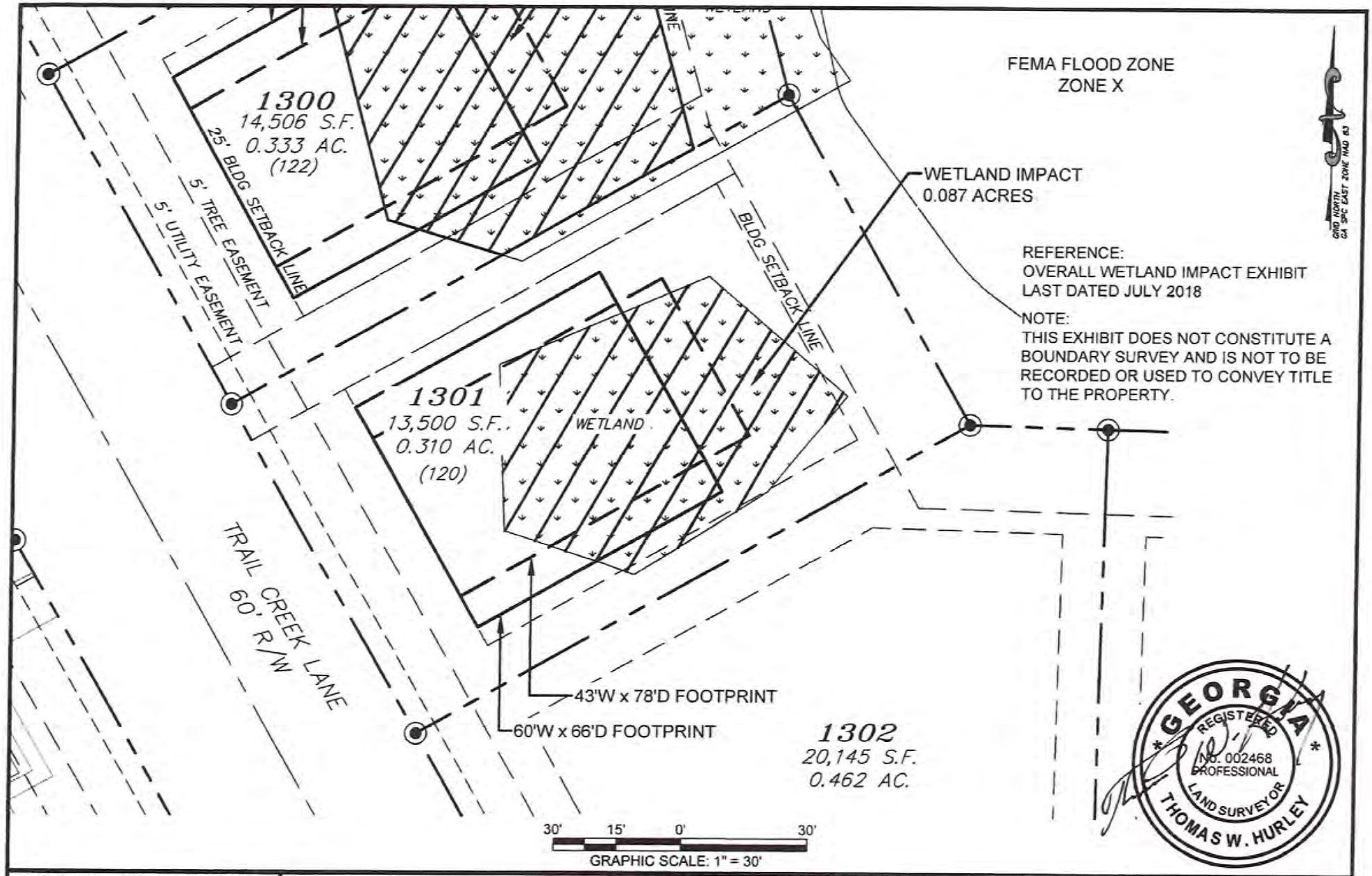

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1301

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
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SURVEYED BY:	-
SURVEY DATE:	-
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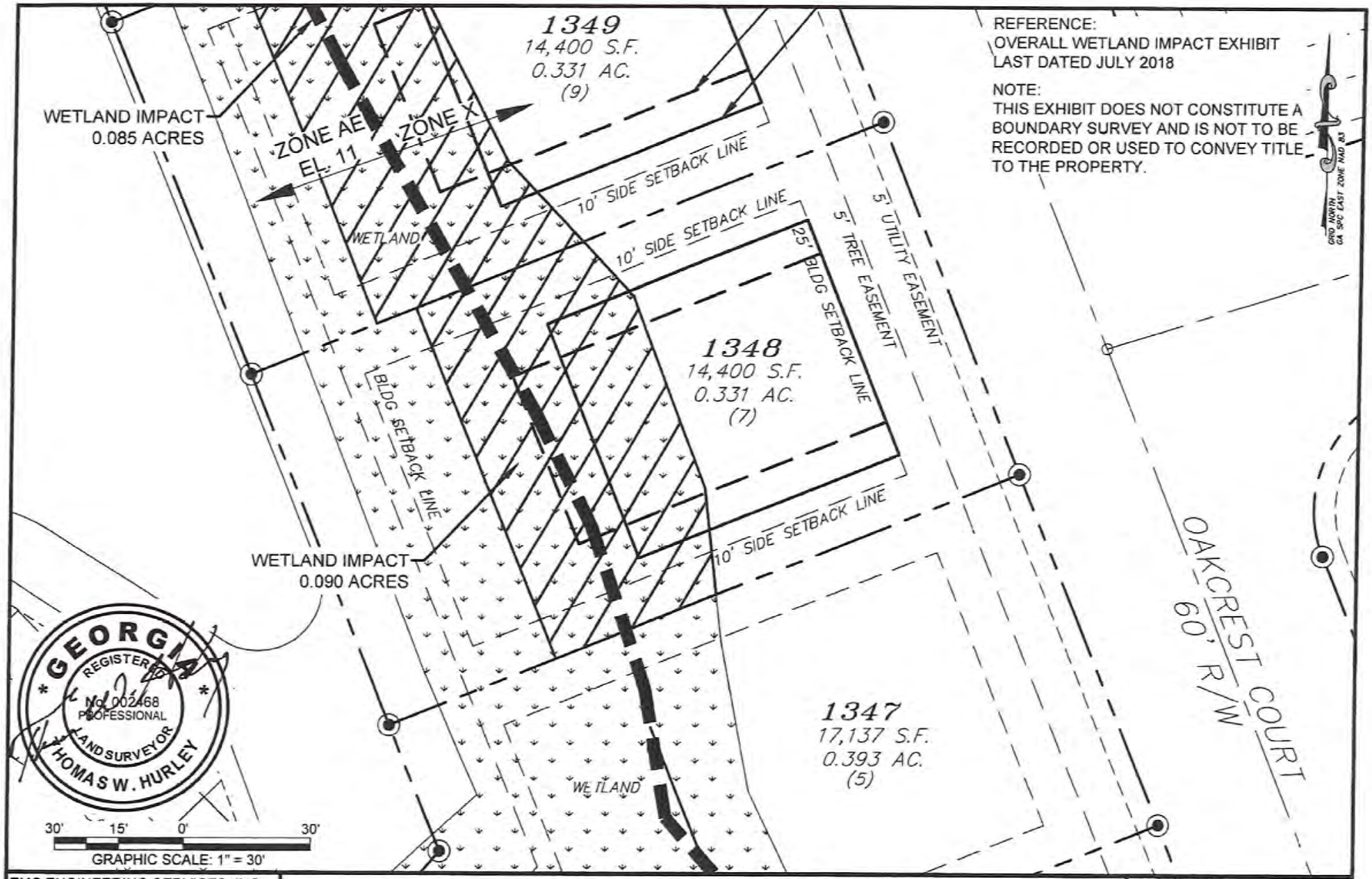

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1348

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
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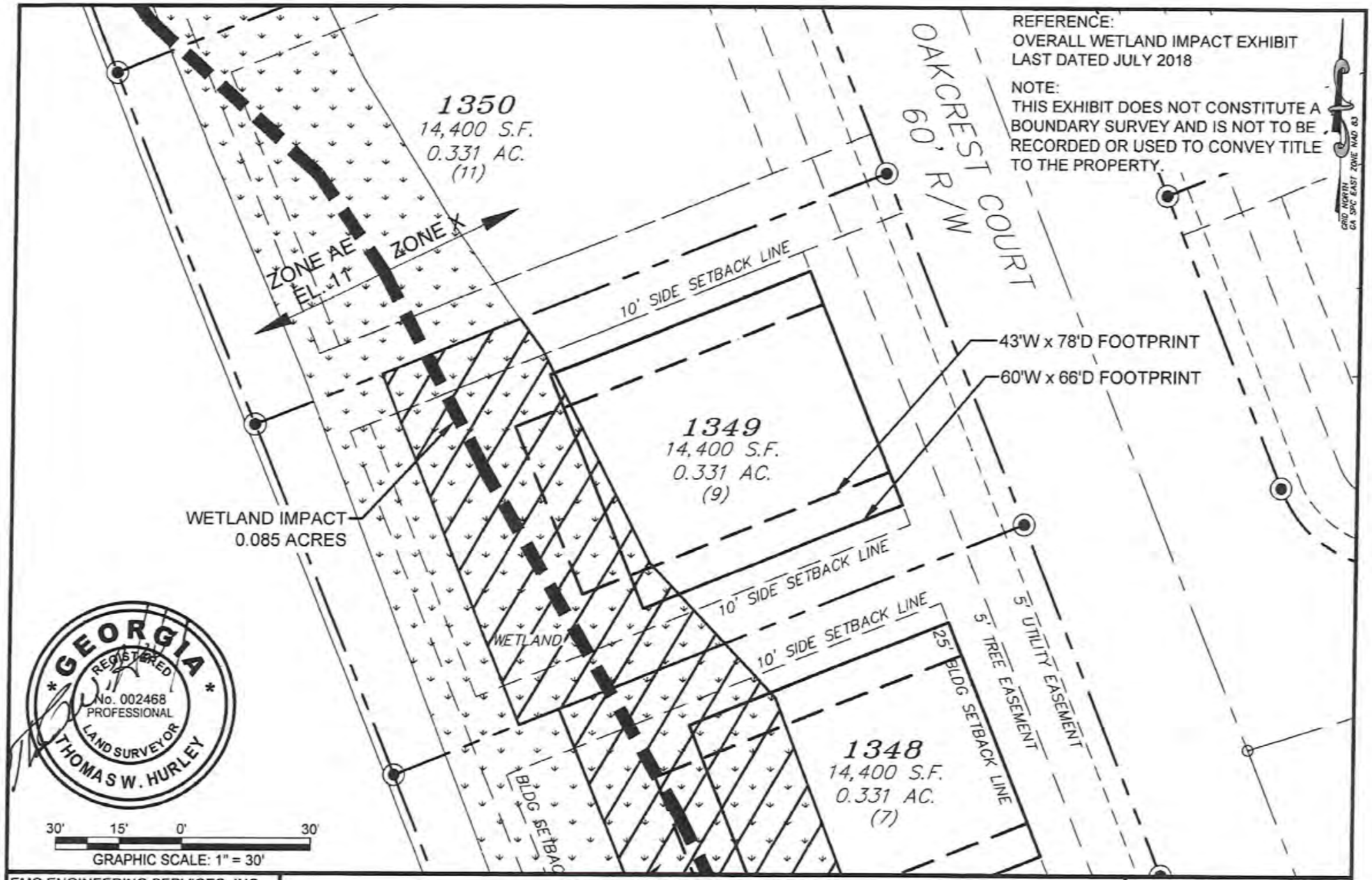

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SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1349

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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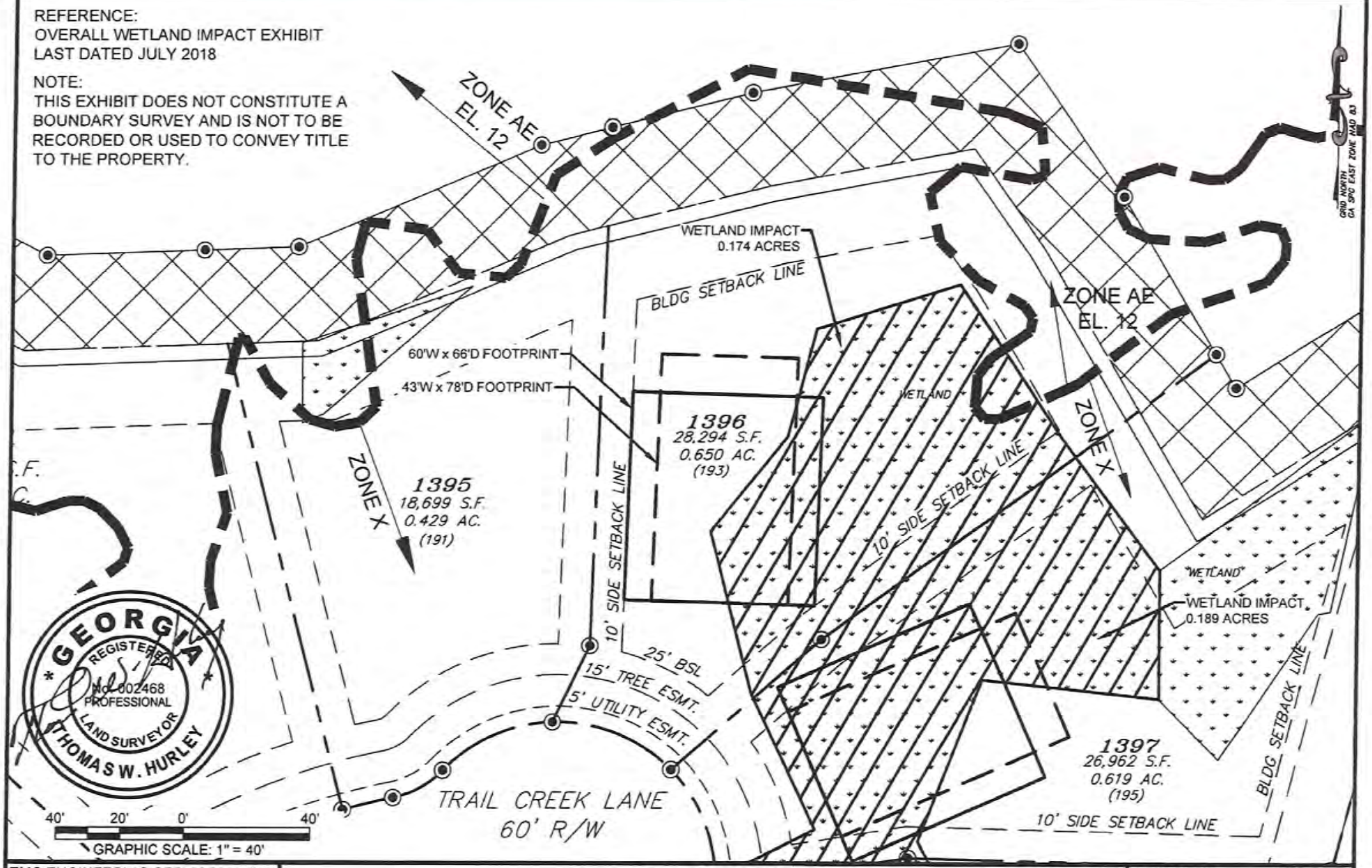

GEORGIA
REGISTERED
No. 002468
PROFESSIONAL
LAND SURVEYOR
THOMAS W. HURLEY

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1396

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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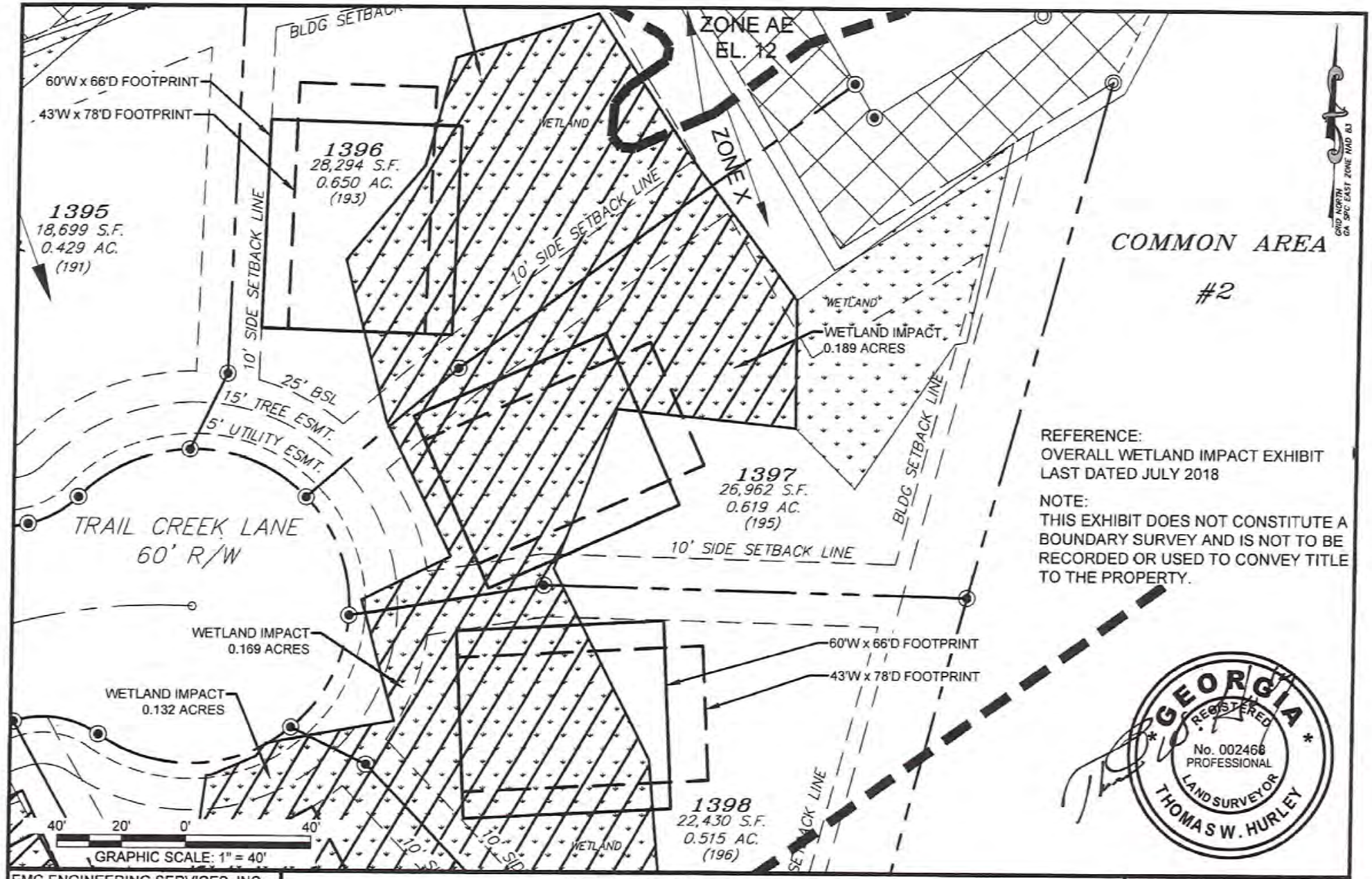

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1397

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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COA #000051

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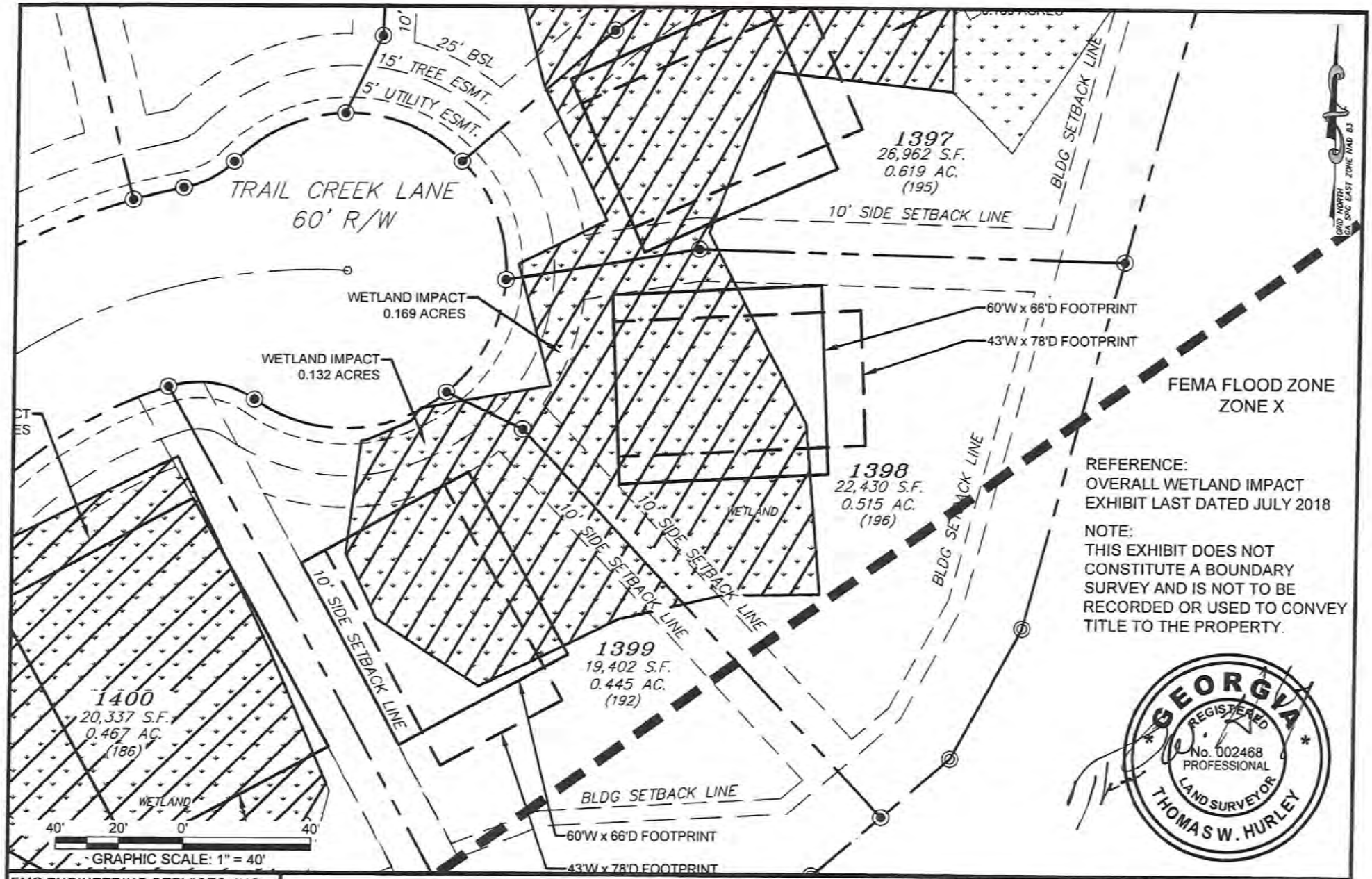

FEMA FLOOD ZONE
ZONE X

REFERENCE:
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EXHIBIT LAST DATED JULY 2018

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SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1398

SAVANNAH, CHATHAM COUNTY, GEORGIA

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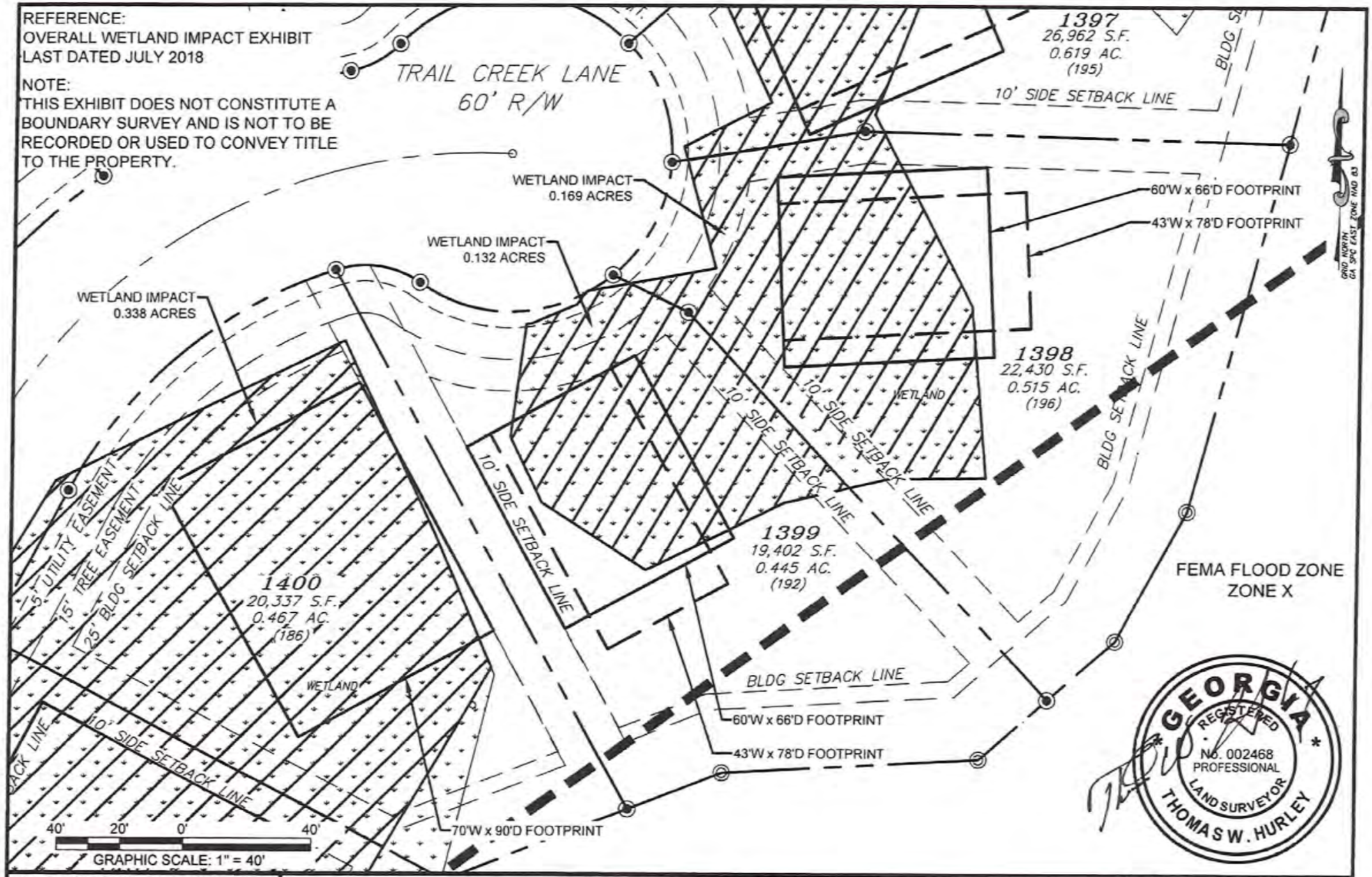

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1399

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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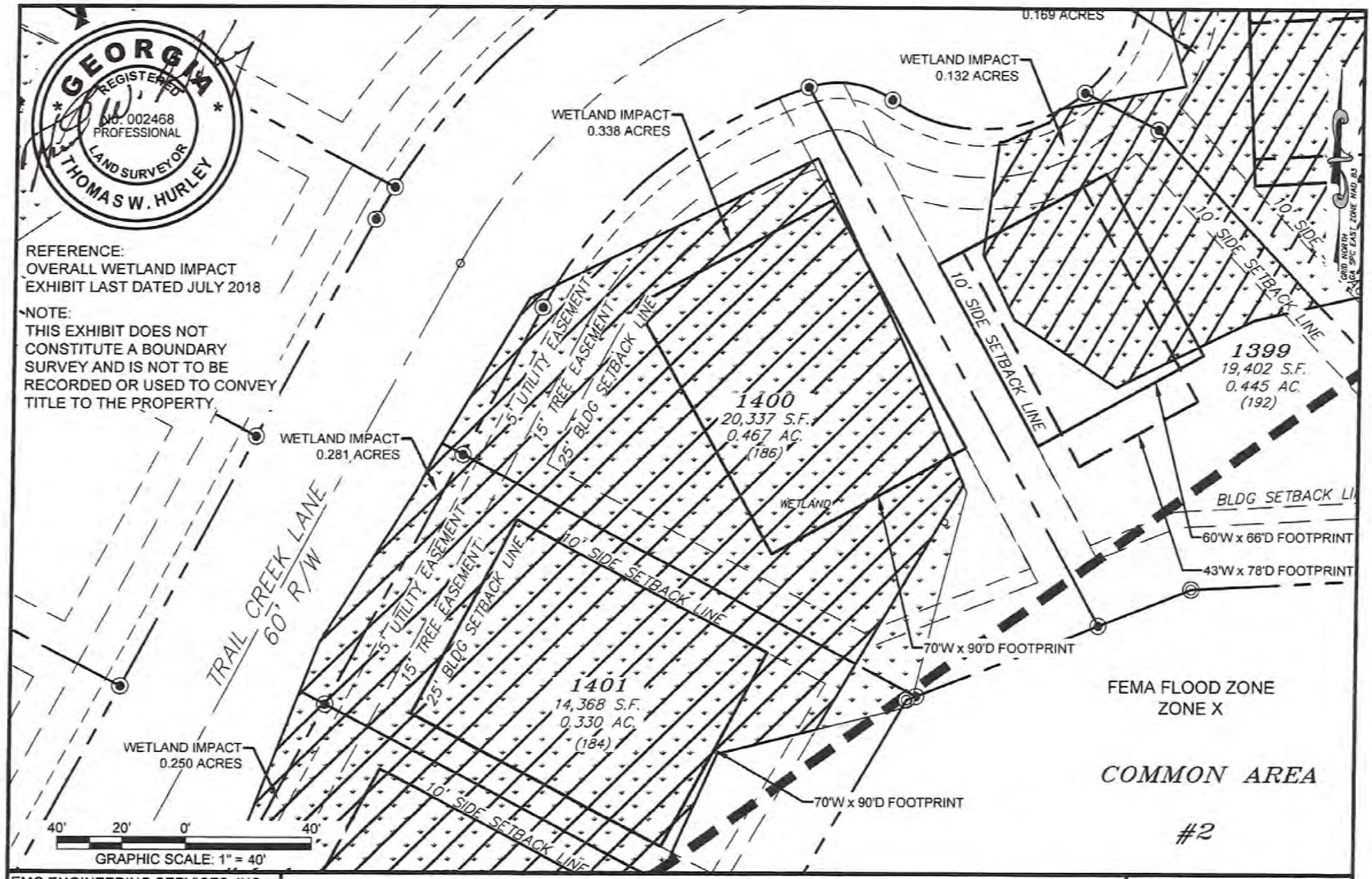

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1400

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
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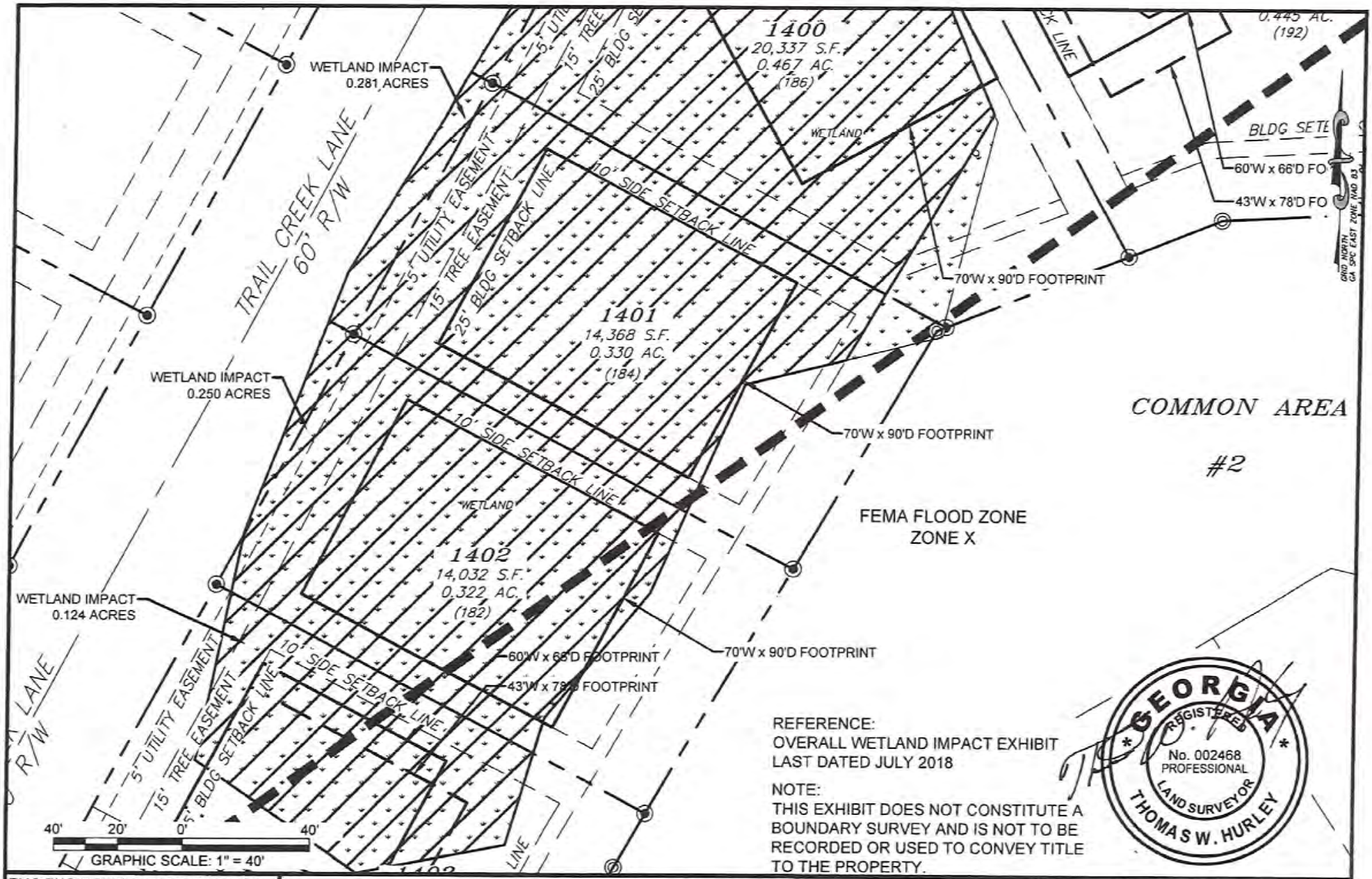

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOTS 1401 AND 1402

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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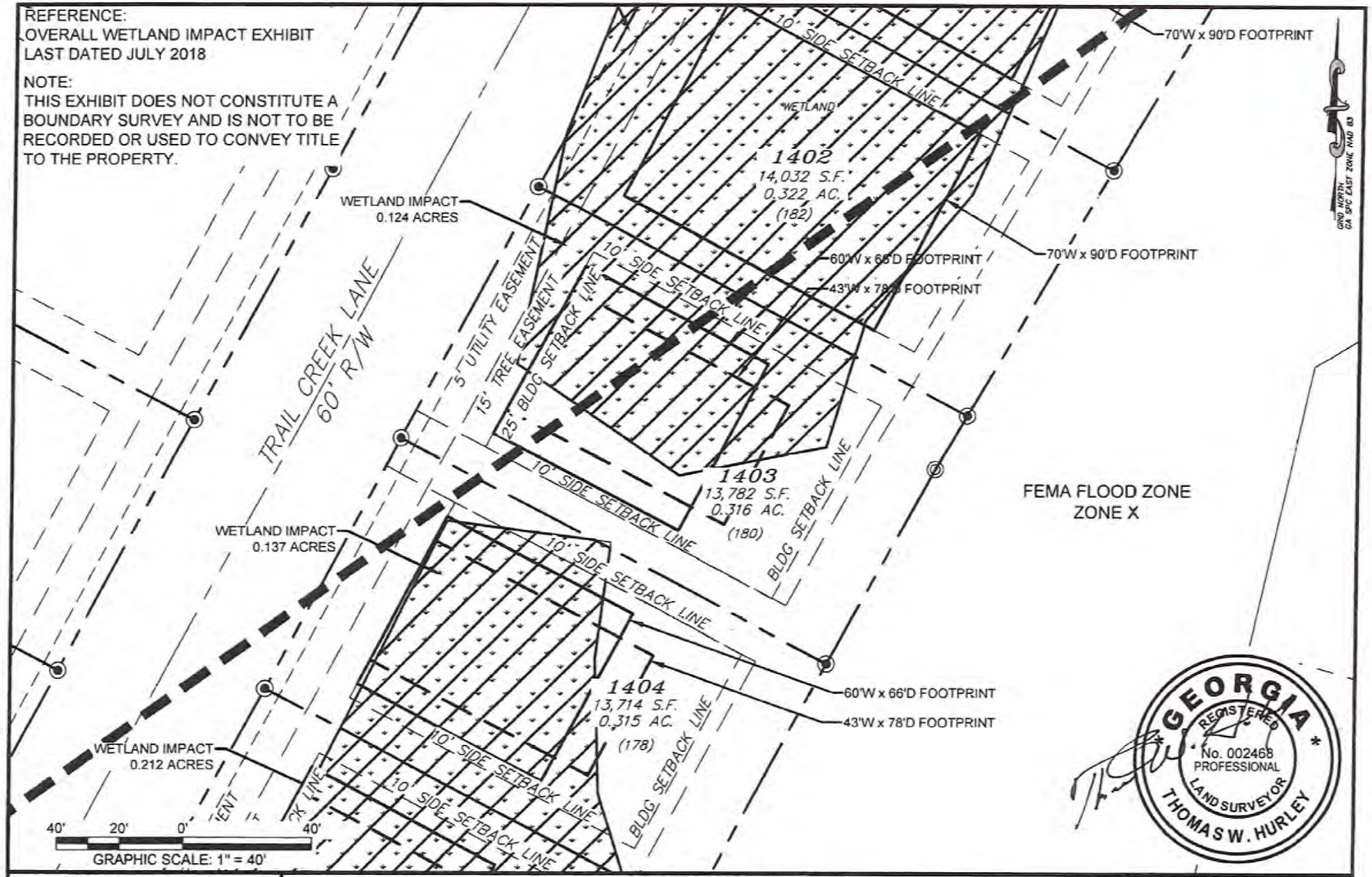

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1403

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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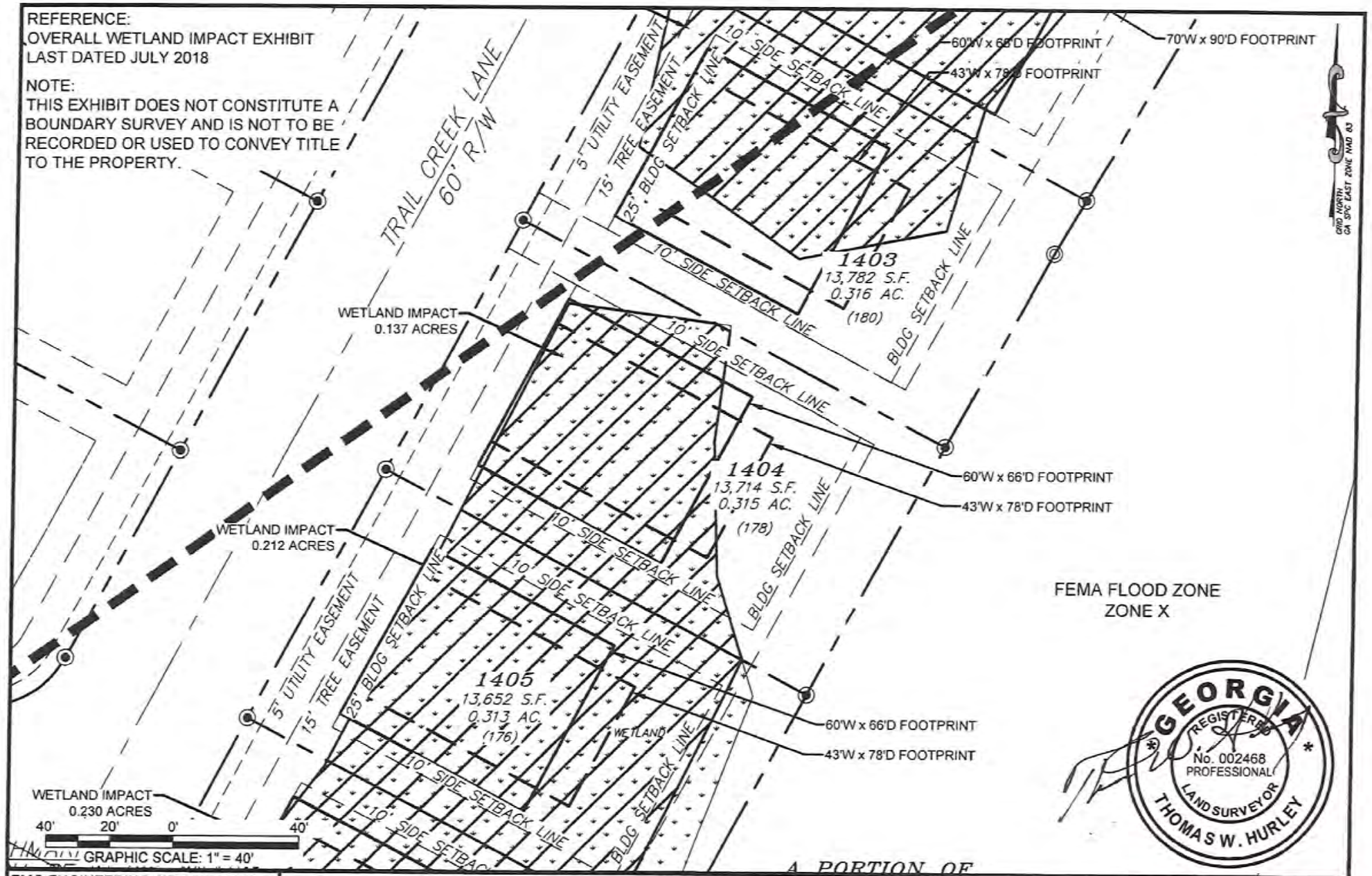

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1404

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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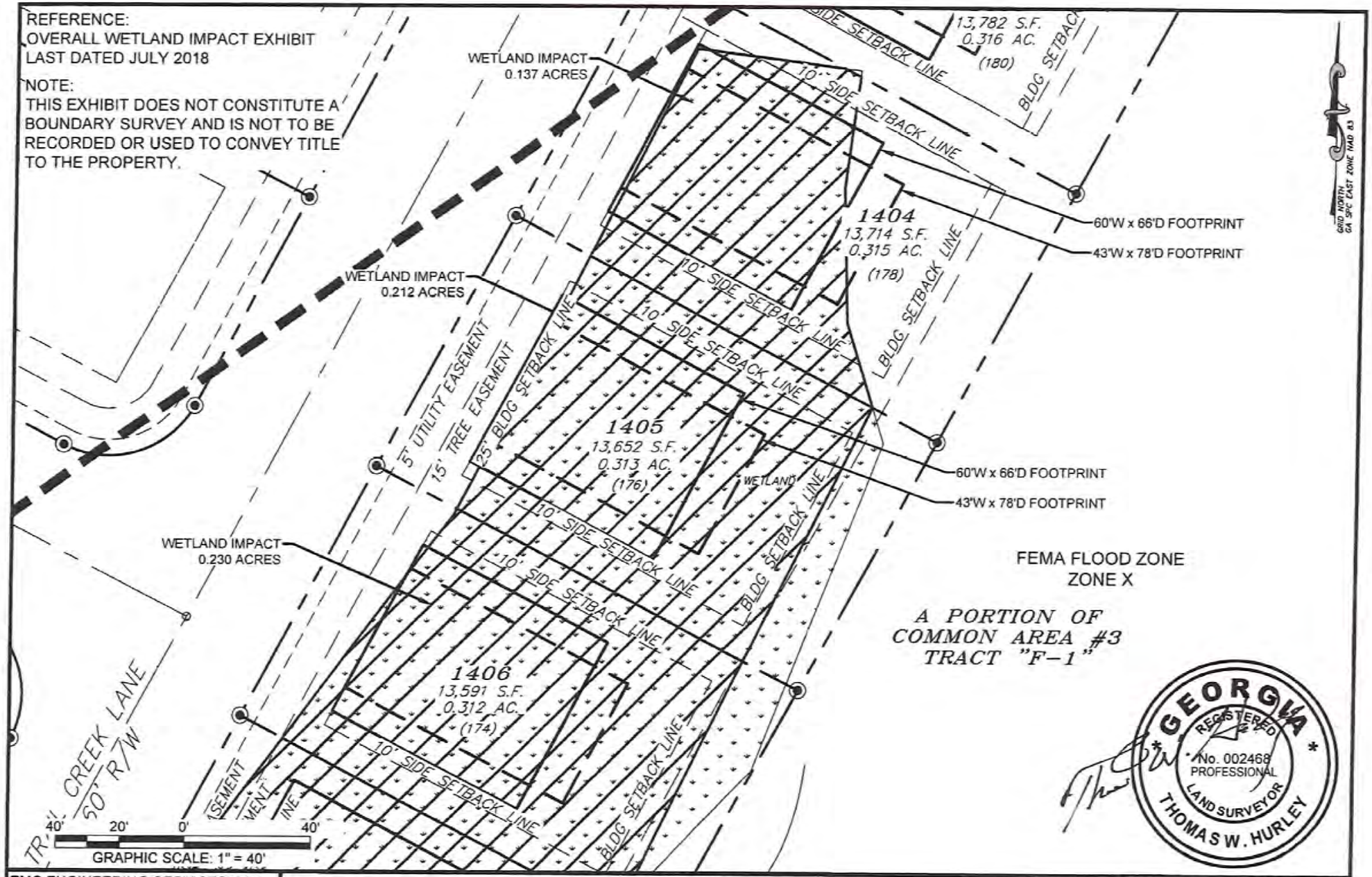

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1405

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

PROJECT NO:	18-0046
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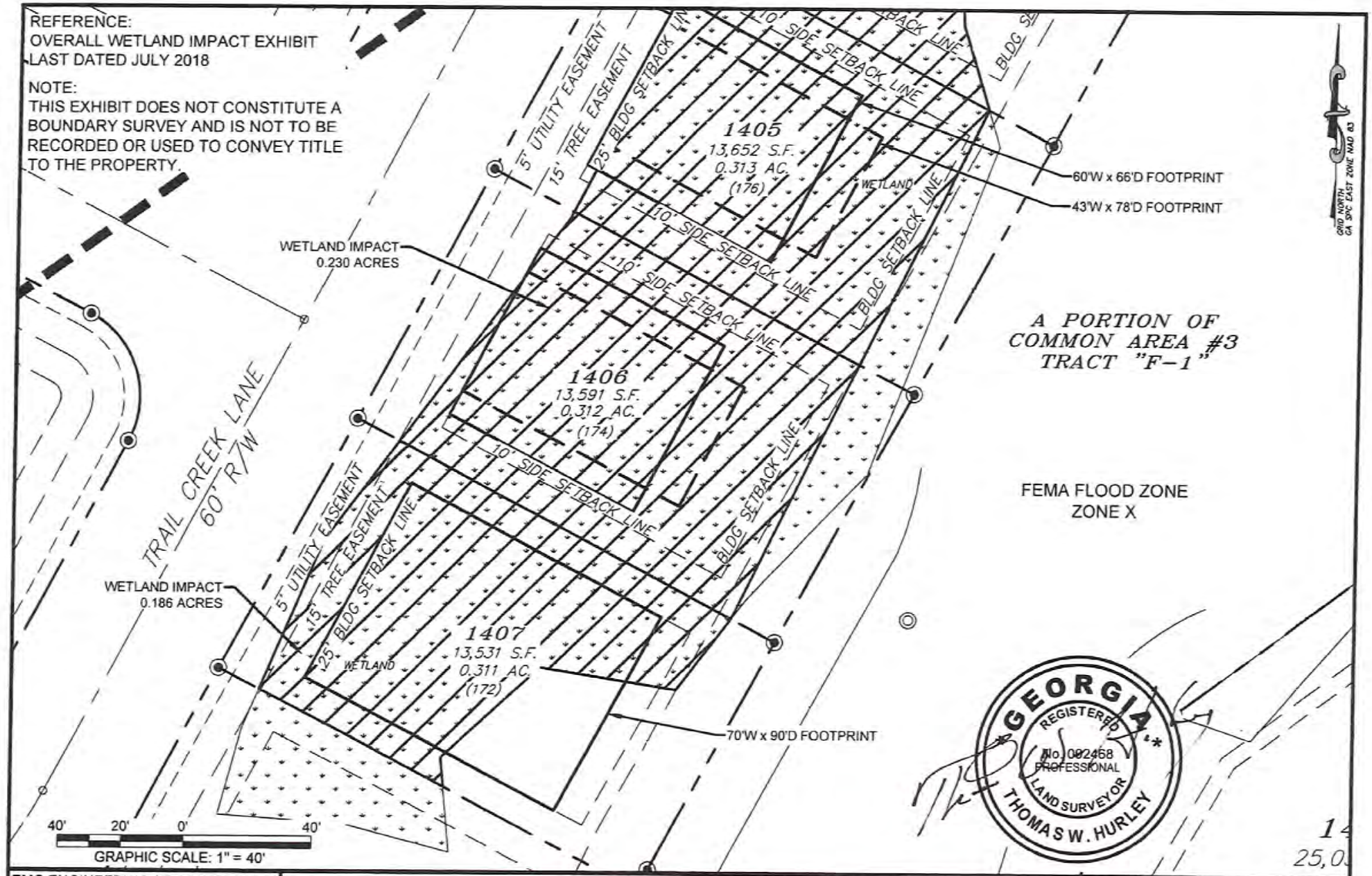

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1406

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

COA #000051

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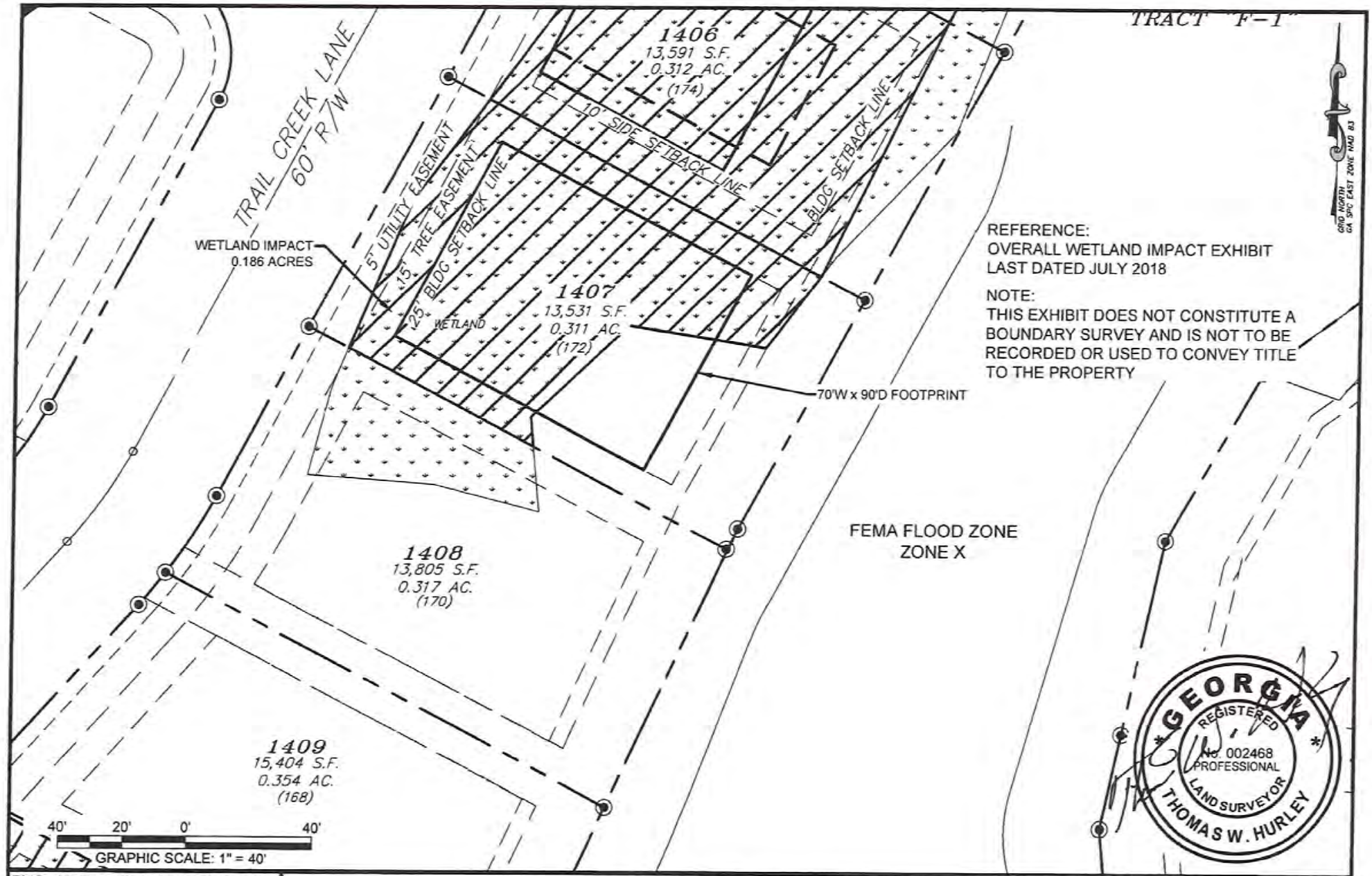

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1407

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

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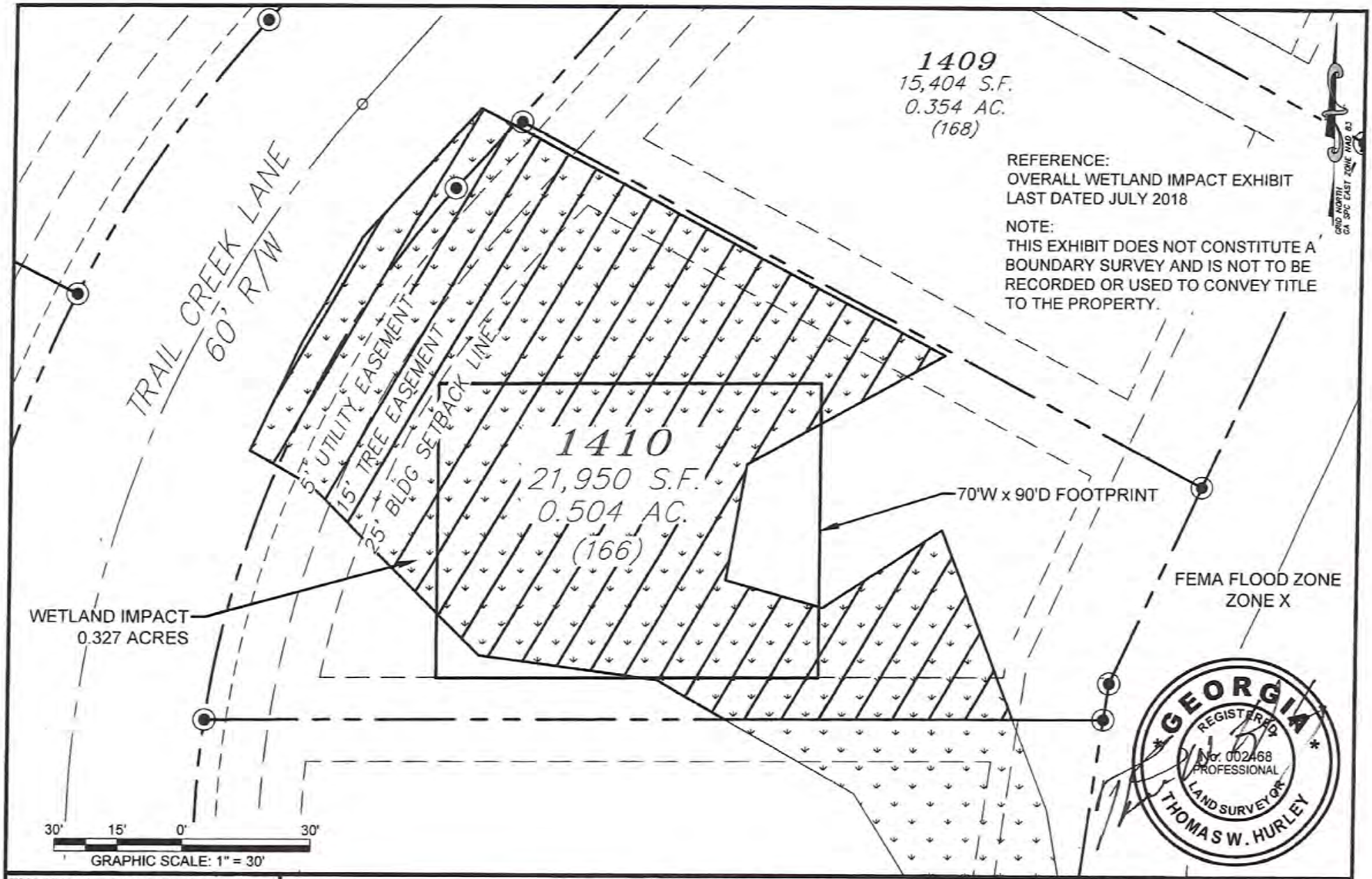

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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1410

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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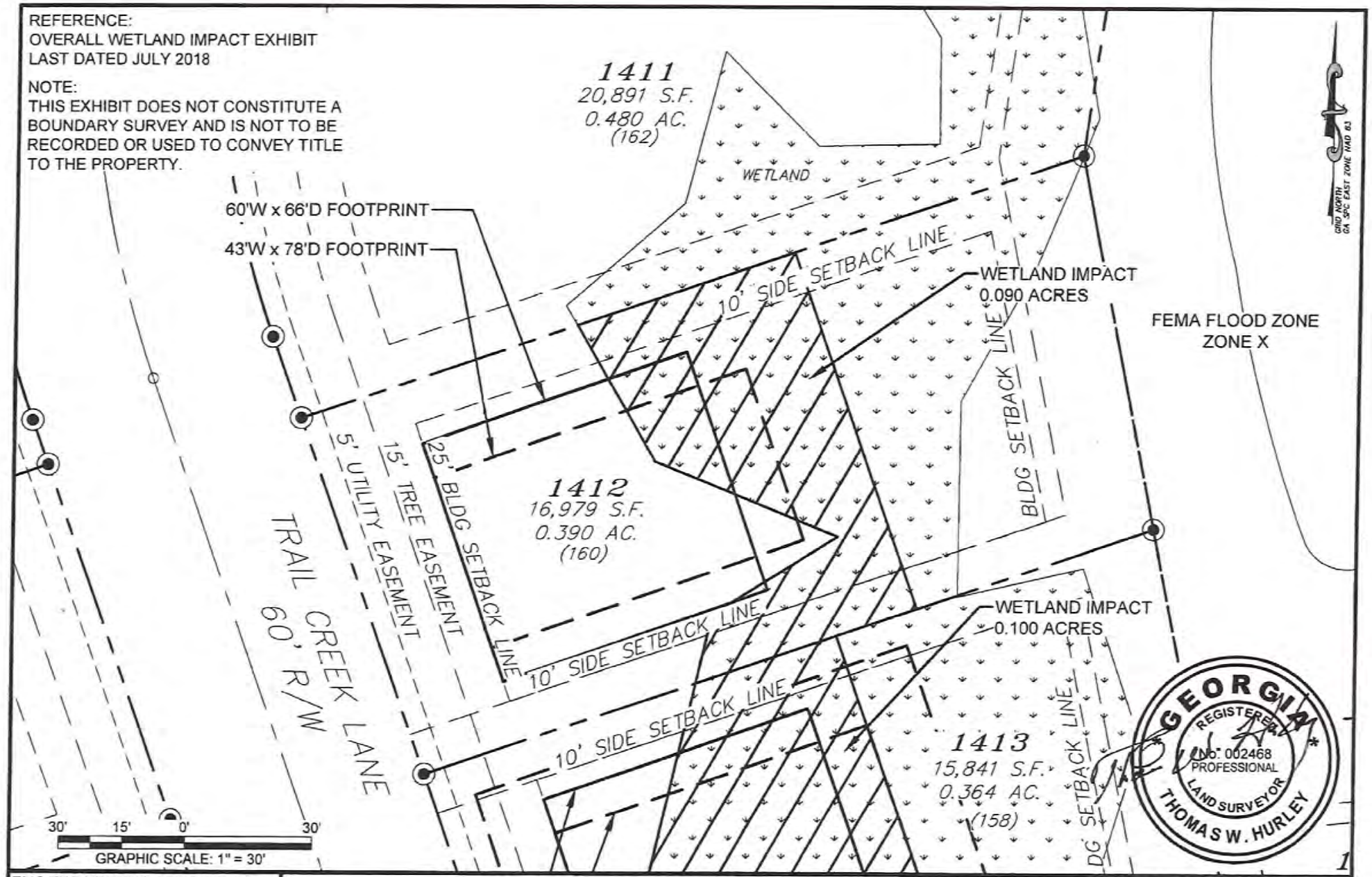

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SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1412

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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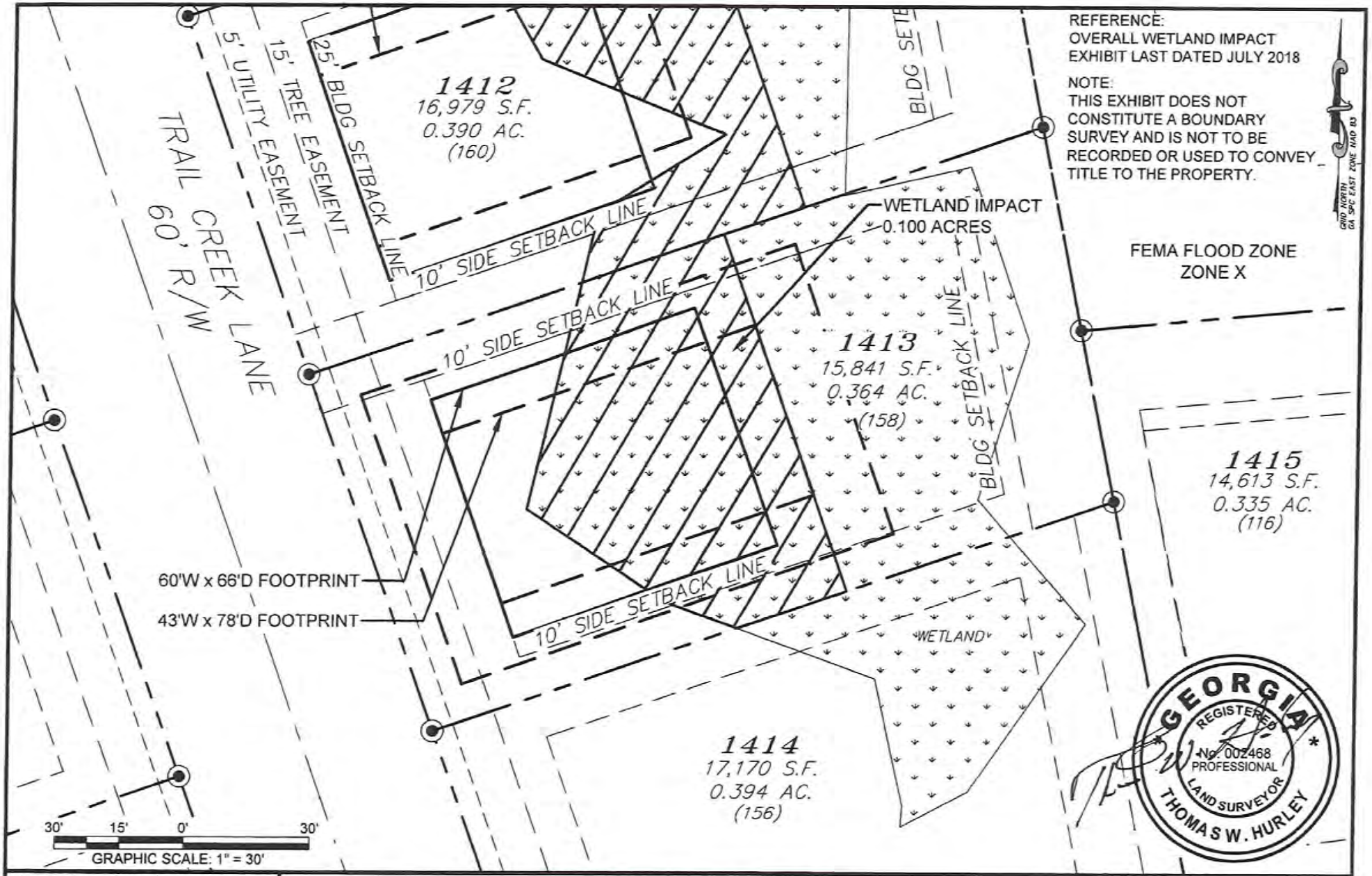

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SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1413

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

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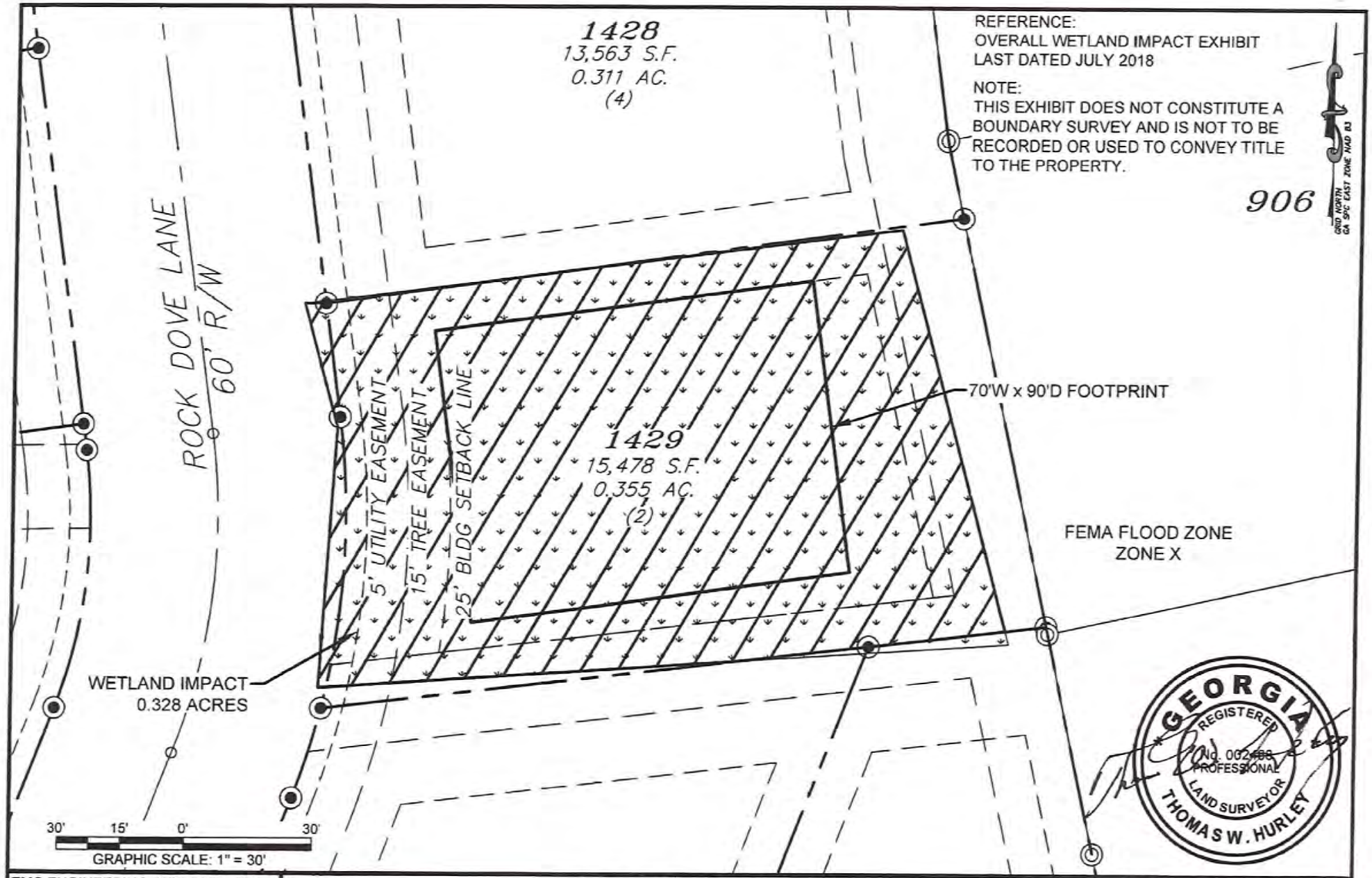
SCALE:	1" = 30'
DATE:	JULY 2018



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WETLAND IMPACT EXHIBIT

SOUTHBRIDGE AT BERWICK PLANTATION PHASE III

LOT 1429

SAVANNAH, CHATHAM COUNTY, GEORGIA

Prepared for:

SOUTHBRIDGE AT BERWICK PROPERTIES, LLC

PROJECT NO:	18-0046
DRAWN BY:	CFM
DESIGNED BY:	ABM
SURVEYED BY:	-
SURVEY DATE:	-
CHECKED BY:	ABM
SCALE:	1" = 30'
DATE:	JULY 2018