McNeill, Catherine

From: CESAM-RD <CESAM-RD@usace.army.mil>
Sent: Thursday, October 31, 2024 12:26 PM
To: Christopher Terrell; hunter@cpc-tx.com; bgatlin@ttlusa.com
Cc: Mobile Coastal Mail
Subject: Acknowledgment Email SAM-2024-00973 (Hunter Megarity Lot Near Mobile Bay)

The U.S. Army Corps of Engineers (USACE), Mobile District is in receipt of your recent request. This request has been assigned the following file number, which should be referred to in all future correspondence with this office concerning this project:

File Number: SAM-2024-00973
Following an initial review of your request a project manager will contact you if any additional information is required.

The USACE, Mobile District now utilizes paperless communication, and you will receive only electronic copies of any correspondence from us concerning this matter (including any possible permit authorizations), unless a paper copy is specifically requested. If you wish to receive paper copies of our correspondence you should send a written request to this office at the following address:

U.S. Army Corps of Engineers
Mobile District, Regulatory Division (RD-A) Post Office Box 2288 Mobile, Alabama 36628.

Electronic copies of this email and any future correspondence will also be sent to your agent, if applicable, and to any relevant agencies.

For additional information on our Regulatory program, visit our website at:
www.sam.usace.army.mil/Missions/Regulatory.aspx

From: NoReplyTo@mail.mil <NoReplyTo@mail.mil>
Sent: Thursday, October 31, 2024 8:39 AM
To: Wilson, Stephanie L CIV USARMY CESAM (USA) <Stephanie.L.Wilson@usace.army.mil>
Subject: Re: [DoD SAFE] Individual/ALGP Permit Application - Claremont Property Company

***** DO NOT FORWARD *****

This is an automated message sent to you by the DoD SAFE service.

Braci Gatlin <**bgatlin@ttlusa.com**> has dropped off a file for you.

IF YOU TRUST THE SENDER and are expecting to receive a file from them, you may choose to retrieve the drop-off by clicking the following link (or copying and pasting it into your web browser):

https://safe.apps.mil/pickup.php?claimID=YPif2Zq2PJeNqfSQ&recipCode=n9XXgX

You will be required to enter the claim passcode, which is:
9nx8aw9cnadvNsDq

You have 7 days to retrieve the drop-off; after that the link above will expire. If you wish to contact the sender, just reply to this email.

The sender has left you a note:

TTL, on the behalf of the Claremont Property Company, is prepared to submit an Individual & Alabama General Permit application for a proposed land reclamation and bulkhead installation project located in Fairhope, Baldwin County, Alabama

Full information about the drop-off:

Claim ID:	YPif2Zq2PJeNqfSQ
Recipient Code:	n9XXgX
Claim Passcode:	9nx8aw9cnadvNsDq
Drop-off Submitted:	2024-10-31 13:36:41 UTC
Drop-off Completed:	2024-10-31 13:38:35 UTC

— Sender —

Name:	Braci Gatlin
Organization:	Guest
Email Address:	**bgatlin@ttlusa.com**

— File —

Name:	24-13-01833.00 - Claremont Property - Individual Permit.pdf
Description:	Individual/ALGP Permit Application - Claremont Property
Size:	67276776
SHA-256 Checksum:	332854753DB05B794721627D027587D705C16B83FC81B8DACC886CCC38FA124A
Content Type:	application/pdf

Thank you.

9797 Timber Circle, Ste. A
Daphne, AL 36527
205.345.0816
www.ttlusa.com

October 11, 2024

U.S. Army Corps of Engineers – Mobile District
Regulatory Division, South Alabama Branch Office
Attn: Mr. Philip Hegji
P.O. Box 228
Mobile, Alabama 36628

Subject: ***Individual Permit & Alabama General Permit Application***
Claremont Property Company, LLC
Fairhope, Baldwin County, Alabama
TTL Project No. 24-13-01833.00

Dear Mr. Hegji,

TTL, Inc. (TTL) respectfully submits this Individual Permit package for impacts to Waters of the U.S. (WOTUS) associated with the Claremont Property Company (CPC) proposed land reclamation and bulkhead installation project located in Fairhope, Baldwin County, Alabama. By signature of the Joint Application and Notification form enclosed, CPC designates and authorizes TTL to act as the Agent on the Applicant's behalf in the processing of this Individual Permit and Alabama General Permit.

TTL representatives look forward to working with you on this important permitting project.

Sincerely,

TTL, Inc.

Braci H. Gatlin, WPIT
Natural Resources Project Professional

Christopher Terrell, PWS
Natural Resources Regional Leader

Enclosed: Individual Permit and Alabama General Permit Package

JOINT APPLICATION AND NOTIFICATION
U. S. DEPARTMENT OF ARMY, CORPS OF ENGINEERS
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

THIS FORM IS TO BE USED FOR PROPOSED ACTIVITIES IN WATERS OF THE UNITED STATES WITHIN THE POLITICAL BOUNDARIES OF THE STATE OF ALABAMA.

PLEASE TYPE OR PRINT IN INK

1. DATE: October (month) / 11 (day) / 2024 (year)

Application Number: _____ (Agency Use Only)

2. APPLICANT INFORMATION:

Name: Hunter Megarity

Company: Claremont Property Company

Mailing Address: 5555 West Loop S, Suite 100

Ballaire, TX 77401

Telephone Number and Email (during business hours):

A/C (832) 523-7995

Email: hunter@cpc-tx.com

3. PROJECT LOCATION:

Street Address: County Road 1

City/Community: Fairhope

County: Baldwin

Name of Waterway: Mobile Bay

Latitude: 30.390689

Longitude: -87.875694

(Provide Lat/Long in decimal degrees, if available)

Section 1 Township 7S Range 2E

County Parcel Identification Number (PID): _____

(PID is typically located on property tax receipt)

4. DESIGNATION OF AGENT, STATEMENT OF AUTHORIZATION:

N/A ☐ (check here if applicant is not designating an agent)

I hereby designate and authorize

TTL, Inc.

(Print Name of Designated Agent)

to act on my behalf in the processing of this permit application and to furnish, upon request, supplemental information in support of the application.

Hunter Megarity 10/21/24

Signature of Applicant Date

AGENT INFORMATION:

Name: Christopher Terrell

Company: TTL, Inc.

Mailing Address: 2743-B Gunter Park Dr. W.

Montgomery, Alabama 36109

Telephone Number and Email (during business hours):

A/C (334) 220-0472

Email: cterrell@ttlusa.com

5. PROJECT DESCRIPTION: In addition to required attachments such as drawings/plans, provide a detailed narrative description of the project. Include all aspects of the project, describing completely and in detail. Provide the dimensions (in feet) of any structures such as piers, wharfs, bulkheads, pipelines, boathouses, boat ramps, groins, jetties, and appurtenances, as well as the dimensions (in feet/square feet) and volume (in cubic yards) of any dredging, excavation, or fill activities. Indicate the method(s) of construction and how the site would be accessed (i.e. by barge or land). Attach additional sheets if necessary.

Please see the attached.

6. DREDGING: For projects with dredging, show locations and dimensions of proposed dredge area(s) on attached plans. Include existing and proposed depths. N/A ☑ (check here if dredging is not proposed)

a. New Work ☐ Maintenance Work ☐
b. Volume (cubic yards) of material to be removed: _____
c. Type of material (sand, muck, hard bottom, etc.): _____
d. Surface area (square feet) impacted: _____
e. Method of dredging or excavation (hydraulic pump, mechanical, etc.):_____
f. Nature of area to be dredged (check all that apply) Upland ☐ Wetland ☐ Waterbottom ☐ Other ☐ (explain): _____
_____

7. DISCHARGE OF DREDGED OR FILL MATERIAL: For projects with discharge of dredged or fill material, show locations and dimensions of all disposal or fill areas on attached plans. N/A ☐ (check here if discharge of dredged or fill material is not proposed)

a. Volume (cubic yards) of fill: 330
b. Type of fill (sand, clay, rip-rap, etc.): Sand
c. Surface area (square feet) impacted: 4,356
d. Source of fill material (check all that apply): Commercially obtained ☑ Dredged material ☐ Borrowed on-site ☐
Other ☐ (explain): _____
e. How will discharge material be contained? Specify containment and/or erosion control measures (i.e. Best Management Practices):
Appropriate BMPs
f. Nature of disposal/fill area(s) (check all that apply.) Upland ☐ Wetland ☑ Waterbottom ☑ Other ☐ (explain): _____
_____

8. ADDITIONAL INFORMATION: Provide information below relating to the proposed activity.

a. Are oyster reefs located within or near the project area? Yes ☐ No ☑ If yes, explain: _____
_____
b. Will this project result in the siting, construction, and/or operation of an energy-related facility? Yes ☐ No ☑
c. Is the project area greater than 5 acres in size? Yes ☐ No ☑
d. Is any portion of the activity for which authorization is sought now complete? Yes ☐ No ☑ If yes, explain: _____
_____
_____ Month and year activity took place: _____
e. If project is for maintenance work of existing structures or channels, describe legal authorization for the existing work. Provide permit number, dates, or other form of authorization: _____

9. PURPOSE AND NEED: Describe the purpose and need of the project. Describe any public benefit, if applicable. Describe the relationship between the project and any secondary or future development the project is designed to support: _____
Please see attached.
_____
Intended use: Public ☐ Private ☑ Commercial ☐ Other ☐ (explain): _____

10. PROJECT SCHEDULE:

Proposed start date: _____ Proposed completion date: _____

11. ADJACENT PROPERTY OWNER NAMES AND MAILING ADDRESSES: Provide the names and mailing addresses of adjoining property owners, lessees, etc. whose property adjoins the project. Also, identify the location of each owner's property on the plan view drawings. Attach additional sheets as needed.

Owner's Name: Please see attached. Owner's Name: _____
Mailing Address: _____ Mailing Address: _____
_____ _____

12. OTHER AUTHORIZATIONS OR CERTIFICATIONS: List all authorizations or certifications requested, received, and/or required from other federal, state, or local agencies for any structures, construction, discharges, or other activities described in or directly related to this application. Note: The signature in Section 14 certifies that application has been made to or that permits are not required from the following agencies. *If permits are not required, place "N/A" in space for Type of Approval.*

Name of Federal, State, or Local Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial
U.S. Army Corps of Engineers					
Alabama Dept. of Environmental Management (ADEM)	401 WQC & CZC				
Alabama Dept. of Conservation and Natural Resources, State Lands Division (ADCNR-SLD)	Land Reclamation				
Alabama State Docks					
City/County/Other: _____					

13. ATTACHMENTS: In addition to the completed application form, the following attachments are **REQUIRED:**

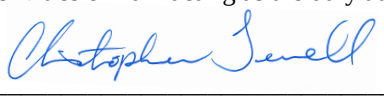
Vicinity Map: Show the location of the proposed site in relation to major highways, landmarks, and nearby streets.

Drawings: Provide plan view and cross-section or elevation view drawings of the project site. Drawings **must**:

1. Show fully-dimensioned and accurate representations of the existing and proposed structures and activities.
2. For projects located in or adjacent to waterways, clearly indicate the location of the Mean High Water and Mean Low Water lines (in tidally influenced areas) or the Ordinary High Water mark (in non-tidal creeks, rivers, etc.) along the shoreline or bank.
3. For projects located in or adjacent to waterways, include the width of the waterbody at the site location.

All attachments must be of reproducible quality. For hard copy applications, attachments must be on 8 ½ inch x 11 inch paper.

14. SIGNATURE OF APPLICANT OR AGENT (REQUIRED): Application is hereby made for authorization to conduct the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable state water quality standards or other environmental protection standards both during construction and after the project is completed. For projects within the coastal area of Mobile and Baldwin Counties, I certify that the proposed project for which authorization is sought complies with the approved Alabama Coastal Area Management Program and will be conducted in a manner consistent with the program. I agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making preliminary analyses of the site and monitoring permitted works. I certify that I am familiar with and responsible for 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 possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.



Signature of Applicant or Agent

10/11/2024

Date

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willingly falsifies, conceals, or covers up by any trick, scheme or device a material fact or make any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

15. APPLICATION SUBMISSION INFORMATION: Contact the U.S. Army Corps of Engineers prior to submitting the application if you have any questions or to request acceptable alternate content/format. **For electronic submittals (preferred method), please use the email addresses listed below**. An instruction package, example SPCC plans, and other information are available upon request. NOTE: Fees may be required in conjunction with ADEM certification. ADEM will contact the applicant with fee requirements. Fees may also be required by the ADCNR-SLD for dredging activities and projects impacting State-Owned Submerged Lands. ADCNR-SLD will contact the applicant with fee requirements.

Submit the completed and signed application (with original or digital signature) and attachments to the appropriate U.S. Army Corps of Engineers office below:

For activities in the *following counties* in Alabama: *Baldwin, Butler, Choctaw, Clarke, Coffee, Conecuh, Covington, Crenshaw, Dale, Escambia, Geneva, Henry, Houston, Marengo, Mobile, Monroe, Washington, and Wilcox*	**For activities in *all other counties* in Alabama:** (*Portions of northern Alabama counties may be within the U.S. Army Corps of Engineers Nashville District area of responsibility. Please contact the Nashville District Regulatory Division at (615) 369-7500 for more information*)
U.S. Army Corps of Engineers, Mobile District Attention: CESAM-RD-A Post Office Box 2288 Mobile, Alabama 36628-001 Phone: (251) 690-2658 Web: www.sam.usace.army.mil **Email: CESAM-RD@sam.usace.army.mil**	U.S. Army Corps of Engineers, Mobile District Attention: Regulatory Division, **North Branch** 218 Summit Parkway, Suite 222 Homewood, Alabama 35209 Phone: (205) 290-9096 Web: www.sam.usace.army.mil **Email: RD-N2@usace.army.mil**

Additionally, submit a signed paper or electronic **copy** of the application package to the appropriate state agencies below:

For activities in the *following counties* in Alabama: *Baldwin, Mobile, and Washington*		**For activities *statewide* in Alabama:** (*For northern counties, contact the Nashville District as noted above*)	
Coastal Section-Mobile Branch Field Operations Division, ADEM 3664 Dauphin Street, Suite B Mobile, AL 36608 Phone: (251) 304-1176 Fax: (251) 304-1189 Web: www.adem.state.al.us **Email:** coastal@adem.alabama.gov	ADCNR, State Lands Division Coastal Section 3115 Five Rivers Boulevard Spanish Fort, AL 36527 Phone: (251) 621-1216 Fax: (251) 621-1331 Web: www.outdooralabama.com	Field Operations Division, ADEM Post Office Box 301463 Montgomery, AL 36110-2059 Phone: (334) 394-4311 Fax: (334) 394-4326 Web: www.adem.state.al.us **Email:** fieldmail@adem.alabama.gov	Alabama State Port Authority Attn: Harbormaster P.O. Box 1588 Mobile, AL 36633 Phone: (251) 441-7074 Fax: (251) 441-7390 Web: www.asdd.com **Email:** harbormaster@asdd.com

INDIVIDUAL PERMIT AND ALABAMA GENERAL PERMIT APPLICATION

PROPOSED LAND RECLAMATION AND BULKHEAD INSTALLATION PROJECT FAIRHOPE, BALDWIN COUNTY, ALABAMA

Submitted to:

U.S. Army Corps of Engineers - Mobile District
Regulatory Division, South Alabama Branch Office
Attn: Mr. Philip Hegji – South Branch Chief
P.O. Box 228
Mobile, Alabama 36628

Prepared by:

TTL, Inc.
9797 Timber Circle, Ste. A
Daphne, Alabama 36527

Prepared for:

Claremont Property Company
Mr. Hunter Megarity
5555 West Loop S, Suite 100
Bellaire, TX 77401

TTL Project No. 24-13-01833.00

October 11, 2024

Preface: USACE Joint Application and Notification Form & Adjacent Property Owner Labels

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

USACE JOINT APPLICATION & NOTIFICATION FORM & ADJACENT PROPERTY OWNER LABELS

1.0 GENERAL DESCRIPTION

Claremont Property Company (CPC) is the applicant for this Individual Permit and Alabama General Permit. The applicant wishes to develop a single-family residential dwelling on each of two adjacent lots (Lots 19 and 20) along the bank of Mobile Bay in Fairhope, Baldwin County, Alabama. The proposed project area is an approximate 0.36-acre property located within the southeastern ¼ of Section 1, Township 7 South, Range 2 East as depicted on the U.S. Geological Survey (USGS) 7.5-minute Topographic Map of Point Clear, Alabama (**Figure 1**). The center of the site is located near latitude 30.390689 and longitude -87.875694. The adjacent property owners are depicted on **Figure 2** and are summarized in Table 1 below.

Table 1: Adjacent Property Owners

PARCEL ID	OWNER NAME	MAILING ADDRESS
05-56-08-33-0-000-001.000	Alabama Trust Fund for the State of Alabama State Lands Division Attn: Nyla Chaney	64 N Union Street, Room 464 Montgomery, AL 36130
05-56-08-33-0-000-061.000	Jordan, Donald Ray Jr ETAL Jordan, Mary	3594 Provident Ct Mobile, AL 36608
05-56-08-33-0-000-060.002	Guffy, James M ETAL Guffy, Deedra L	11591 Alabaster Dr Daphne, AL 36526

1.1 Summary of On-site Aquatic Resources

TTL completed an Aquatic Resources Delineation (report dated September 20, 2024) of the 0.36-acre property on August 20, 2024 to evaluate aquatic resources within the proposed project area. TTL identified Mobile Bay and one jurisdictional ditch within the project area. TTL did not identify the presence of any other aquatic resources within the project area. A copy of TTL's Aquatic Resources Delineation Report is provided in **Appendix A**.

2.0 PURPOSE AND NEED

The basic purpose of the project is land reclamation and bulkhead installation. The overall purpose of the proposed development project is to construct a single-family house on each of two adjacent lots (Lots 19 and 20) along Mobile Bay in Fairhope, Baldwin County, Alabama.

The need for the land reclamation activities is to restore the eroded and degraded land to a more functional use so residential lots (Lots 19 and 20) may be subsequently developed with residential dwellings. The shoreline of Lots 19 and 20 has been lost as a result of erosion enhanced by structural development (i.e. bulkhead installation) on the immediate adjacent properties. Based on review of historical aerial imagery, land loss as a result of adjacent bulkhead installation has been exacerbated since the northwestern adjacent bulkhead and residential dwelling development in 2023.

3.0 ALTERNATIVE ANALYSIS

Once CPC wished to develop residential dwellings along Mobile Bay, the applicant began the site selection process. As the residential lots are located along the banks of Mobile Bay and alternate lots potentially available for purchase and development in the general vicinity of County Road 1 are also subject to erosion from neighboring structures, offsite alternatives were not considered. The applicant evaluated various scenarios for the site to support land reclamation activities. Site criteria were developed to aid in the selection process. Site location criteria were developed to aid in the selection process. These factors include:

- Feasible construction methodology;
- Structure resistance from erosion and wave action;
- Cost and logistics;
- Adheres to Baldwin County setback requirements*.

* Baldwin County requires setbacks including: 35 feet from the front and rear property lines, 10 feet from the side property lines, and 20 feet from the street side.

3.1 Alternative 1

Alternative 1 is the preferred alternative and is situated southwest of the existing County Road 1 along Mobile Bay. The preferred alternative includes land reclamation and new bulkhead installation along the 2023 shoreline. The use of a bulkhead to protect land reclamation activities was selected as the structure provides the capacity to deflect wave energy currently forced towards the project site by neighboring artificial structures. The cost and logistics associated with the construction of a bulkhead compared alternative structures (i.e. seawalls) reduces insurmountable cost associated with alternative construction methodology. Additionally, through the reclamation of 0.1 acre of land, the proposed residential dwelling will adhere to the setback requirements as established by Baldwin County. Therefore, Alternative 1 was selected as it was determined to provide sufficient resistance from artificial erosion and wave action, it serves as the most cost and logistically feasible alternative, and it reclaims enough land to allow for residential development while adhering to Baldwin County setback requirements.

3.2 Alternative 2

Alternative 2 includes land reclamation activities and shoreline protection via living shoreline. Upon the evaluation of neighboring structures and the increased wave action to the project site resulting from the constructed artificial structures, a living shoreline was determined to be impracticable as the bank erosion rate is likely too rapid to support living shoreline creation. Additionally, as the living

shoreline would likely be lost to erosion, the continued maintenance cost to support the recreation of living shoreline is not practicable. Therefore, Alternative 2 was not selected.

3.3 Alternative 3

Alternative 3 is the No Action Alternative. The No Action Alternative would result in land reclamation not occurring and the associated bulkhead not being built. Without the land reclamation and bulkhead, the land located at the project site would continue to erode as a direct result of increased wave action from the neighboring artificial structures. The continued land loss would result in the residentials lots becoming unsuitable for development. Furthermore, as Baldwin County enforces single-family residential home setback requirements, the property would not consist of enough space to support residential development. Therefore, Alternative 3 was not selected. Drawings depicting the No Action Alternative, as provided by McCollough Architecture, Inc., are included within **Appendix B**.

3.3 Alternative 4

Alternative 4 includes the No Action Alternative described in Alternative 3, but includes the moving of the residential structure landward. Alternative 4 would result in land reclamation not occurring and the associated bulkhead not being built. Without the land reclamation and bulkhead, the land located at the project site would continue to eroded as a direct result of increased wave action from the neighboring artificial structures. The continued land loss would result in the residentials lots becoming unsuitable for development. Furthermore, as the structure would be shifted landward, the proposed residential structure would impede on the setback requirements enforced by Baldwin County. Therefore, Alternative 4 was not selected.

3.4 Summary of Alternative Analysis

Table 2: Summary of Offsite Alternative Analysis

Factor	Alternative 1 (Proposed Site)	Alternate 2 (Living Shoreline)	Alternative 3 (No Action Alternative)	Alternative 4 (No Action Alternative w/ Shifted Development)
Meets Purpose and Need	Yes	Yes	No	No
Feasible Construction Methodology	Yes	No	N/A	N/A
Structure Resistance from Artificial Erosion and Wave Action	Yes	No	N/A	N/A
Cost and Logistics	Yes	No	N/A	N/A
Practical	**Yes**	**No**	**No**	**No**

4.0 AVOIDANCE AND MINIMIZATION

Once the preferred development methodology was selected, the applicant began the site design and the permitting process. The applicant considered the following criteria when evaluating onsite alternative plans.

- Impacts to aquatic resources;
- Land lost to erosion within the last 5-years.

4.1 Alternative Layout 1

Alternative layout 1 was developed as an initial plan in an attempt to maximize land reclamation for future property development. Alternative 1 proposed to reclaim 0.17 acre of land and to construct a bulkhead along 0.002 acre of Mobile Bay. Alternative 1 was not selected as, upon historical aerial evaluation, the additional land proposed for reclamation was lost at a time exceeding the 5-year threshold as regulated by *Alabama Admin Rule 220-4-.09*. The Alternative 1 reclamation plan is provided as **Figure 3A**.

4.2 Alternative Layout 2

Alternative layout 2, the preferred site layout, was developed after the evaluation of onsite erosion rates within the last 5-years and was given special consideration to avoid and minimize impacts to Mobile Bay. The preferred layout proposed to impact to reclaim 0.1 acre of land and construct a bulkhead along 0.002 acre within Mobile Bay. The Alternative 2 reclamation plan is provided as **Figure 3B** and detailed plan and profile drawings are provided in **Appendix C**.

4.5 Summary of Onsite Alternative Layouts

The initial proposed reclamation area proposed to impact 0.17 acre of Mobile Bay associated with land reclamation and 0.002 acre of Mobile Bay associated with bulkhead installation. The preferred layout (Alternative 2) proposes to impact 0.1 acre of Mobile Bay associated with land reclamation and 0.02 acre of Mobile Bay associated with bulkhead installation. The overall reclamation area was modified to avoid and minimize aquatic resource impacts which resulted in a reduction of 0.07 acre of Mobile Bay water bottom impacts. A comparison of shoreline erosion at the project site is provided as **Figure 3C**.

Table 3: Summary of Onsite Alternative Analysis

Factor	Alternative Layout 1	Alternative Layout 2
Impacts to Aquatic Resources	Yes	Yes
Land Lost within the Last 5-years	Yes – 0.17 acre reclaimed	Yes – 0.1 acre reclaimed
Practical	**No**	**Yes**

5.0 TYPES OF IMPACTS

5.1 Aquatic Resource Impacts

The current design for the project includes a total of 330 cubic yards of commercially obtained sandy fill material be placed within 0.1 acre of Mobile Bay water bottom below the plane of mean high water for land reclamation purposes. Additionally, approximately a 115 linear foot wooden bulkhead will be constructed at the 2023 shoreline (**Figure 3B**). The impacts to WOTUS from filling are considered permanent as they will last longer than one year. SAV, NWI, and NRCS soils maps were considered during delineation and are provided as **Figure 4**, **Figure 5**, and **Figure 6**, respectively. The quantity of Mobile Bay within the project area and the proposed impacts are summarized below.

Table 4: Aquatic Resource Impact Summary Table

Feature	Classification	Impacted Length (LF)	Impact Type	Material Filled (yd^3)
Mobile Bay	Section 10 TNW	115	Filling	330

5.2 Physical and Chemical Characteristics of Aquatic Ecosystems

Upon the determination that there are no practical alternatives to the proposed project that would be less environmentally damaging, the discharge was evaluated to determine the potential adverse impacts on the aquatic ecosystems and other potential significant environmental consequences. A summary of these potential physical and chemical characteristics is summarized in Table 5 below:

Table 5: Potential Impacts on Physical and Chemical Characteristics

Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate					X	
Suspended particulates/turbidity				X		
Water					X	
Current patterns and water circulation					X	
Normal water fluctuations					X	
Salinity gradients			X			

5.4.1 Substrate

The substrate in the areas proposed for fill during land reclamation activities consists primarily of sandy soils. The placement of additional sandy fill material during reclamation activities would result in the burial of the existing substrate along the Mobile Bay water bottom. This burial would include the loss of chemical and biological characteristics of the substrates within the affected areas and the

degradation of the existing aquatic function. Off-site mitigation will be provided to compensate for the unavoidable loss of aquatic functions at the project site. Due to the proposed impacts associated with filling activities, this would be a minor and long-term.

5.4.2 Suspended Particulates/Turbidity

The suspension of sediments (i.e. plumes) during fill placement could result in minor, temporary adverse impacts to turbidity, total suspended soils, and dissolved oxygen in the water column within and near the discharge site. Prolonged sediment suspension and extensive turbidity plumes are associated with the suspension of fine silt/clay particles that have relatively slow settling velocities, whereas sand resettle rapidly. Turbidity increases are anticipated to be confined to the land reclamation area. With effective implementation of silt fencing and other recommended best management practices (BMPs) as outlined in Alabama's Erosion and Sediment Control Handbook and required by the Alabama Department of Environmental Management's (ADEM) Section 401 Water Quality Certification conditions, it is anticipated that only minimal temporary releases would occur. Therefore, there should not be an amount of deposition substantial enough to be deleterious to benthic organisms or free-swimming organisms in the receiving waters. Implementation of a Construction Best Management Practices Plan (CBMPP) for handling construction phase sediment, pollutants, and stormwater discharges to reduce turbidity and introduction of suspended particulates into waters of the state of Alabama is a requirement of ADEM water quality regulations to reduce the potential for sediment discharges from the construction site. Proper implementation of BMPs and permanent stabilization measures for the finished project should only result in minor, short-term impacts.

5.4.3 Water

Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. The discharge of fill material can potentially change the chemistry and physical characteristics of the receiving waters at the disposal site through the introduction of chemical constituents in suspended or dissolved form. As clean sandy fill material is proposed for use to prevent the introduction of chemical contaminants into receiving waters, the effects to water are minor, but long-term.

5.4.4 Current Patterns and Water Circulation

Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. As the project site is located within Mobile Bay, the project site is subject to diurnal tides. The project would have no effect on the current tidal cycle (i.e. it would remain diurnal). However, as the proposed project would result in the placement of 330 cubic yards of material along 115 linear feet of existing

shoreline and a 115 linear foot bulkhead is proposed for construction, the extent of tide would be reduced within the project area. Therefore, the project is anticipated to result in a minor, long-term effect to current water patterns and water circulation.

5.4.5 Normal Water Fluctuations

Reclamation activities and bulkhead installation at the project site are located within Mobile Bay and are subject to diurnal tides. The project would have no effect on the current tidal cycle (i.e. it would remain diurnal). However, the proposed project would result in the placement of sandy fill material along existing shoreline and the construction of a bulkhead within Mobile Bay, which would result in a decrease in tidal extent within the project area. Therefore, the project is anticipated to result in long-term minor effects to normal water fluctuations.

5.4.6 Salinity Gradients

Salinity gradients are where salt water from the ocean meets and mixes with fresh water from land. The project site is located within Mobile Bay and is subject to diurnal tides. The placement of sandy fill material within Mobile Bay would result in temporary, minor alteration of salinity within the project site. However, these minor salinity alternations are not anticipated impact to any adjacent sensitive resources. Therefore, the project is anticipated to result in negligible effects to salinity gradients.

5.5 Special Aquatic Sites

In addition to the evaluation of potential impacts to physical and chemical characteristics, potential impacts were evaluated on geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are typically recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. A summary of potential impacts on these special aquatic sites is provided in Table 6 below:

Table 6: Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges	X					
Wetlands		X				
Mudflats	X					
Vegetative shallows		X				
Coral reefs	X					
Riffle pool complexes	X					

5.5.1 Sanctuaries and Refuges, Mud Flats, Vegetated, Coral Reefs, and Riffle Pool Complexes

These resources do not exist within proximity to the project area, and the project will not result in any type of discharge that would influence the above-listed special aquatic sites. Accordingly, project effects on these aquatic sites are not applicable.

5.5.3 Vegetative Shallows

Based on information obtained from the former Barry A. Vittor & Associates, Inc. and review of current and historical aerial photographs, submerged aquatic vegetation is not present within the project area (**Figure 4**). TTL did not observe any submerged aquatic vegetation within the proposed land reclamation area during field work. As vegetated shallows are not documented within or in close proximity to the project area, the proposed land reclamation and bulkhead installation will have no effect to these resources.

5.5.2 Wetlands

TTL completed an Aquatic Resources Delineation of the project site in August 2024. TTL identified Mobile Bay and a jurisdictional ditch within the project area. As there is not wetland habitat within the project area, the proposed land reclamation and bulkhead installation activities will have no effect to wetlands.

5.6 Human Use Characteristics

The following effect determinations have been made in evaluating the potential impacts to human use characteristics. Table 7 provides a summary below:

Table 7: Potential Impacts on Human Use Characteristics

Human Use Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect	Beneficial Effect
Municipal and private water supplies		X					
Recreational and commercial fisheries		X					
Water-related recreation		X					
Aesthetics				X			
Parks, national and historic monuments, national seashores, wilderness areas, research sites, and similar preserves		X					

5.6.1 Municipal and Private Water Supplies

There are no private water supplies identified in proximity to the project area. There are no surface water intakes located downstream of the project that might be affected by turbidity or suspended particles resulting from the discharge of fill material during project implementation. There would be no temporary or permanent relocation(s) of any public or private water supply infrastructure, and the material to be discharged would consist of commercially obtained sandy fill that is not expected to be carriers of contaminants that could impact groundwater. Therefore, the proposed project will have no effect on municipal or private water supplies.

5.6.2 Recreational and Commercial Fisheries

As project activities are limited to land reclamation and bulkhead installation along the existing Mobile Bay shoreline, there are no anticipated affects to recreational watercraft operating in close proximity to the shoreline. Furthermore, there are no commercial fisheries (i.e. aquaculture) located within or immediately adjacent to the project site. Therefore, the project is anticipated to have no effect to recreation or commercial fisheries.

5.6.3 Water-Related Recreation

As the project activities are limited to land reclamation and bulkhead installation along the shoreline, there are no anticipated affects to water-related recreation. Therefore, the project is anticipated to have no effect to water-related recreation.

5.6.4 Aesthetics

Aesthetics associated with the aquatic ecosystem consists of the perception of beauty by a combination of sense of sight, hearing, touch, and smell, and is a subjective factor depending on individual perceptions and values. The proposed project would result in a temporary construction disturbance and permanent alteration of the landscape from natural shoreline to maintained landscape and bulkhead. However, based on the erosion rate of the existing shoreline due to the direct influence of adjacent artificial structures (i.e. bulkhead), project activities would result in shoreline stabilization through bulkhead installation. Therefore, the proposed project is expected to have minor, long-term effect on aesthetics.

5.6.5 Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves

The proposed project is not located within or in the vicinity of any state or nationally recognized monuments, waterways, wilderness areas, or other similar lands, and the project will not result in any type of modification or effect that would reduce or eliminate the uses for which such sites are set aside

and managed for public benefit. Therefore, the proposed project will have no effect on parks, national or historical monuments, national seashores, wilderness areas, research sites, or similar preserves.

6.0 POTENTIAL IMPACTS TO BIOLOGICAL CHARACTERISTICS

6.1 Threatened and Endangered Species

TTL completed an on-site habitat assessment for the review area in August 2024. According to information maintained by the U.S. Fish & Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) IPaC Species List, nine (9) federally-listed species may be located within the proposed project area. There is no critical habitat designated for the project area. A copy of the Official Species List Letter is included as an attachment and a species list is also tabulated in Table 8 below:

Table 8: Federal Status Species Potentially Occurring in the Project Area

Group	Name	Status
Mammals	Tricolored Bat *(Perimyotis subflavus)*	Proposed Endangered
	West Indian Manatee *(Trichechus manatus)*	Threatened
Birds	Rufa Red Knot (*Calidris canutus rufa*)	Threatened
Reptiles	Alabama Red-bellied Turtle (*Pseudemys alabaensis*)	Endangered
	Alligator Snapping Turtle *(Macrochelys temminckii)*	Proposed Threatened
	Eastern Indigo Snake *(Drymarchon couperi)*	Threatened
	Kemp's Ridley Sea Turtle *(Lepidochelys kempii)*	Endangered
Fishes	Gulf Sturgen *(Acipenser oxyrinchus (=oxyrhynchus) desotoi)*	Threatened
Insects	Monarch butterfly (*Danaus plexippus*)	Candidate

TTL's habitat assessment concluded that potentially suitable habitat for the West Indian manatee, Alabama red-bellied turtle, alligator snapping turtle, Kemp's Ridley Sea turtle, and gulf sturgeon is located within Mobile Bay within the review area. However, based on the lack of SAV, severe shoreline erosion, and the transitory nature of these species, TTL opines the proposed project activities may affect but are not likely to adversely affect these species. A copy of TTL's habitat assessment is provided in **Appendix D.**

6.2 Fish, Crustaceans, Mollusk, and Other Additional Organisms

The discharge of fill material associated with the project would result in the loss of Mobile Bay water bottom and shoreline and natural soils, detritus, and vegetation for feeding and refuge of organisms which utilize wetland habitat during portion(s) of their life cycle. Due to the small size and inability of these organisms to cover large areas of ground quickly in order to flee disturbance, most of the individuals of these species that are present within the permit area would be killed. However, natural areas that remain intact beyond the limits of the project would continue to support populations of these organisms. The project would result in minor, long-term effects to direct habitat and support habitat for aquatic organisms.

6.3 Other Wildlife

The discharge of fill material associated with the project would result in permanent loss of Mobile Bay water bottom and shoreline, displacing and/or disrupting the normal patterns of wildlife, such as birds, mammals (squirrels, rabbits, raccoons, opossums, deer), reptiles (turtles and snakes), and amphibians that potentially utilize the undeveloped areas that will be encompassed by the project. The project activities are expected to disrupt utilization of these corridors by such species. However, due to the presence of undeveloped forested areas adjacent (north) to the project site, there is available undeveloped land to accommodate displaced species. Populations of these species would continue to utilize the adjacent natural forested areas that will remain intact beyond the limits of the project. The project would result in minor, long term effects to wildlife habitat.

7.0 GENERAL PUBLIC INTEREST REVIEW

7.1 Public Interest Factors

An evaluation was performed on the probable impacts, including the cumulative impacts, of the proposed development project on public interest. The public interest factors have been reviewed and are discussed in detail below.

7.1.1 Economics

The proposed project is situated in a predominantly residential area. The proposed undertaking is anticipated to promote economic development of the surrounding area.

7.1.2 Aesthetics

The proposed development is located in an expanding residential use area. Based on the existing undeveloped state of the property, the proposed development of the property for residential purposes, and the proposed proper utilization of BMPs during project construction activities, the proposed project is expected to have minor, long-term effect to the community's aesthetics.

7.1.3 General Environmental Concerns

General environmental concerns include the grading and filling of Mobile Bay water bottom and potential minor loss and/or disruption of wildlife habitat. Potential impacts associated with these concerns will be mitigated and have negligible effects.

7.1.4 Historic Properties

In September 2024, a Phase I Cultural Resource Survey was conducted for the project area by TerraXplorations, Inc. (TerraX). The survey did not result in the recovery of any archaeological material or the discovery of any archaeological sites within the proposed project area. Furthermore, while the survey identified fourteen resources within an indirect area of potential effect (APE), the resources consisted of residential buildings. It is the opinion of TerraX that the identified resources lacked the historical significance and/or architectural or engineering distinction necessary for listing in the NRHP and therefore are not eligible individually or as a contributor to a historic district within the APE. A copy of TerraX's Phase I Cultural Resource Survey is included as **Appendix E**.

7.1.5 Land Use

The proposed project encompasses portions of two (2) individual parcels and encompasses approximately 0.36 acres. The project area is located within Baldwin County and is currently zoned as Residential Single Family District (RSF-1). As the proposed undertaking includes land reclamation and bulkhead installation in support of residential development at each of the residential lots, the proposed project is anticipated to have no effect to land use. A Zoning Map is depicted in **Figure 7**.

7.1.6 Important Farmland

The Farmland Protection Policy Act of 1981 (FPPA) (7 CFR §658) applies to prime and unique farmlands and those that are of State and local importance. "Prime farmland" is defined as land that has the best combination of physical and chemical characteristics for successfully producing crops. "Unique" farmland is defined as land that is used for the production of certain high-value crops, such as citrus, tree nuts, olives, and fruits. The Act requires Federal agencies to examine the potentially adverse effects to these resources before approving any action that would irreversibly convert farmlands to nonagricultural uses. A NRCS Farmland Classification Map for the proposed project area is provided in Table 9 below. Additionally, a NRCS Map with Farmland Classification is provided as **Figure 8** for reference.

Table 9: NRCS Farmland Classifications

Map Unit Symbol	Description	Farmland Classification
Td	Tidal Marsh	Not prime farmland

As the project property consists of areas designated as "Not prime farmland", the proposed undertaking is anticipated to have a no effect to import farmland. A NRCS Farmland Classification Map is depicted on **Figure 8**.

7.1.7 Navigation

The proposed project includes land reclamation activities and bulkhead installation along the shoreline of Mobile Bay. As the proposed extent of land reclamation does not surpass the neighboring structures or propose to impede into the Mobile Bay waterway. Therefore, the proposed land reclamation activities and bulkhead installation are anticipated to have no effect to navigation.

7.1.8 Shoreline Erosion and Accretion

The existing shoreline within the review area is currently subject to severe erosion as a result of the neighboring artificial structures (bulkheads) increasing wave action. The applicant proposes to install a bulkhead under ALGP-05 in association with the land reclamation activities to prevent additional erosion. Therefore, the bulkhead, if authorized, will have a beneficial effect on shoreline erosion and accretion.

7.1.9 Floodplains

Executive Order (EO) 11988 (Floodplain Management), and Executive Order 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input) require that a federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative.

The Federal Emergency Management Agency (FEMA) uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). According to the FEMA Map for the proposed project site, the proposed project area is located in areas zoned as AE (1% Annual Chance Flood Hazard). The overall undertaking includes land reclamation and bulkhead installation which will increase the amount of impervious surfaces located with Zone AE. Based on the nature of the proposed undertaking and the quantity of proposed impervious surface additions, minor long-term impacts related to floodplains or floodplain encroachment are anticipated. **Figure 9** depicts the FEMA FIRM Map.

7.1.10 Water Quality

The proposed project would have minor adverse effects to water quality as a result of the loss of wetland functions such as the reduction of nutrients, contaminant, and sediment loads through the physical and biological processes of retention, absorption, and assimilation. The project includes filling

within Mobile Bay that may result in minor adverse effects on water quality down-gradient from the site due to the potential for sedimentation. However, these potential adverse effects on water quality would be minimized through implementation of construction BMP plans, construction site management, and sediment retention measures required by the ADEM 401 Water Quality Certification.

7.1.11 Energy Needs

The proposed project will result in a negligible increase in local energy needs as a result of facility operations.

7.1.12 Safety

The proposed project will result in a negligible effect to safety as the bulkhead will result in a decrease in onsite shoreline erosion as a result of neighboring artificial structures.

7.1.13 Food and Fiber Production

The proposed project is not associated with food and fiber productions. Therefore, consideration for this factor is not applicable.

7.1.14 Mineral Needs

The proposed project does not require mineral needs. Therefore, consideration for this factor is not applicable.

7.1.15 Consideration of Property Ownership

The proposed project would have no effect on property ownership as the property is proposed to be developed for residential use by CPC.

7.1.16 Needs and Welfare of the People

The proposed project would benefit the needs and welfare of the people by increasing the availability of residential opportunities for local residents.

8.0 MITIGATION PLAN

Due to the nature of the proposed impacts, land reclamation in a recently eroded shoreline, TTL is not currently proposing compensatory mitigation. However, compensatory mitigation can be calculated and provided upon request of the USACE. The preferred site is located within the Fly Creek subwatershed, hydrologic unit code 031602050205. A copy of the HUC Map is depicted on **Figure 10**.

FIGURES

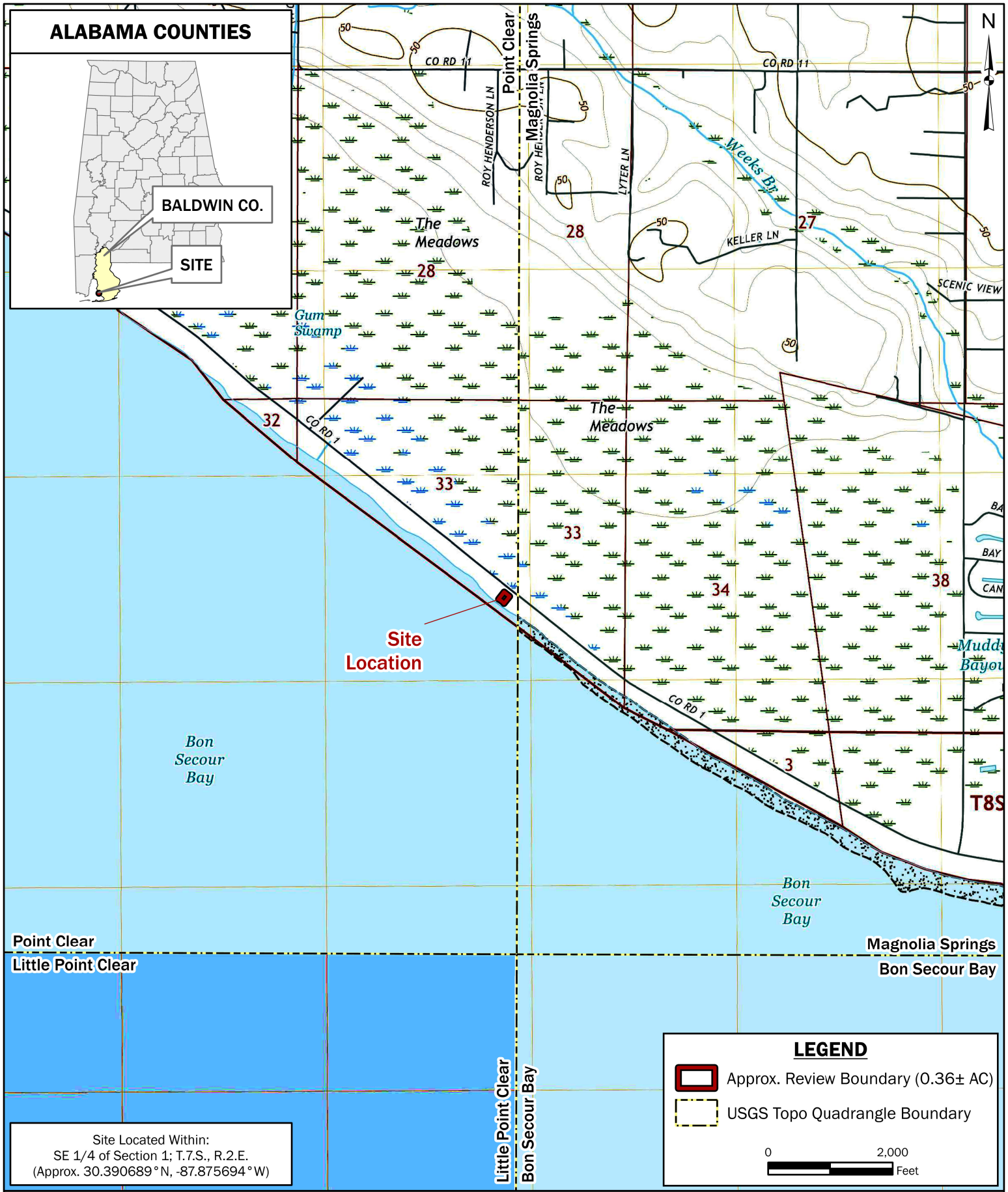


FIGURE 1: SITE LOCATION & TOPOGRAPHIC MAP

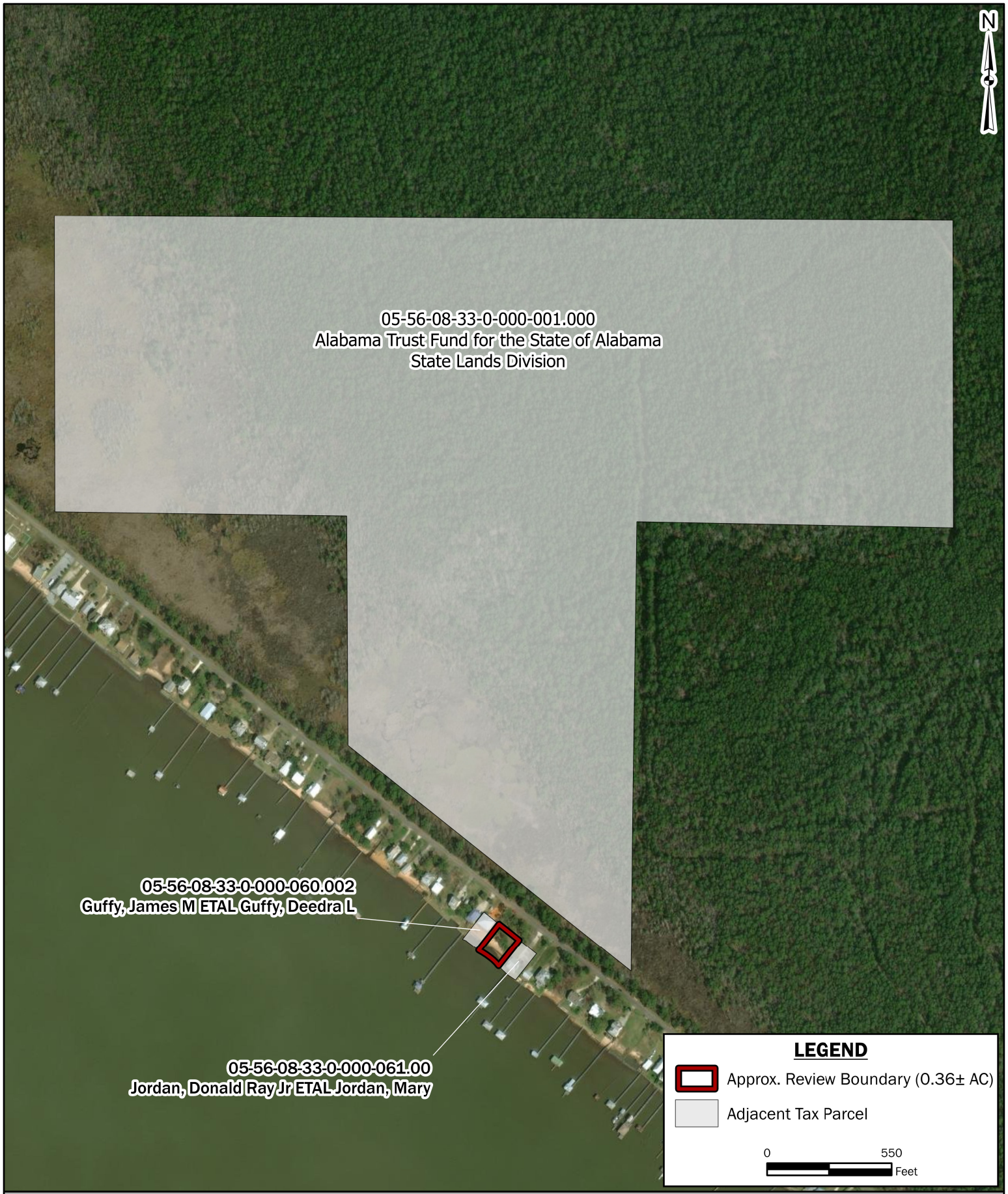
CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Point Clear, Alabama USGS 7.5 Minute Quadrangle Map, 2018 (10-ft Contour Interval).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 2,000 ft



TTL

FIGURE 2: TAX PARCEL & ADJACENT PROPERTIES MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 550 ft

TTL

FIGURE 3A: 2008 SHORELINE AERIAL PHOTOGRAPH

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: See Notes Above.

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 50 ft

TTL

FIGURE 3B: 2023 SHORELINE AERIAL PHOTOGRAPH

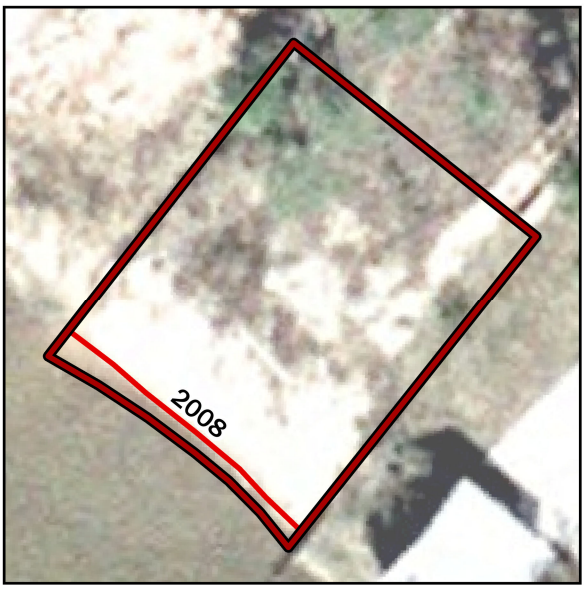
CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: See Notes Above.

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 50 ft



Google Earth Satellite Imagery, 02/2008.

Maxar Technologies, Vivid Imagery, 02/2023

Google Earth Satellite Imagery, 07/2024.

N

LEGEND

Approx. Review Boundary (0.36± AC)

Shoreline Erosion Timeline

- 2008
- 2023
- 2024

TTL

FIGURE 3C: SHORELINE EROSION COMPARISON

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: See Notes Above.

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 70 ft

TTL

FIGURE 4: SUBMERGED AQUATIC VEGETATION MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY: SG
CHECKED BY: CGT
DRAWING DATE: 09/11/2024
REVISION DATE: N/A
TTL JOB NO.: 24-13-01833.00
APPROX. SCALE: 1 in = 200 ft

Map Unit Symbol	Description
E2USP	Estuarine; Intertidal; Unconsolidated Shore; Irregularly Flooded

FIGURE 5: NATIONAL WETLAND INVENTORY (NWI) MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

TTL

FIGURE 6: NRCS HYDRIC SOIL RATING MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

TTL

FIGURE 7: ZONING MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 100 ft

TTL

FIGURE 8: NRCS FARMLAND CLASSIFICATION MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

TTL

FIGURE 9: FEMA FLOOD HAZARD ZONE MAP

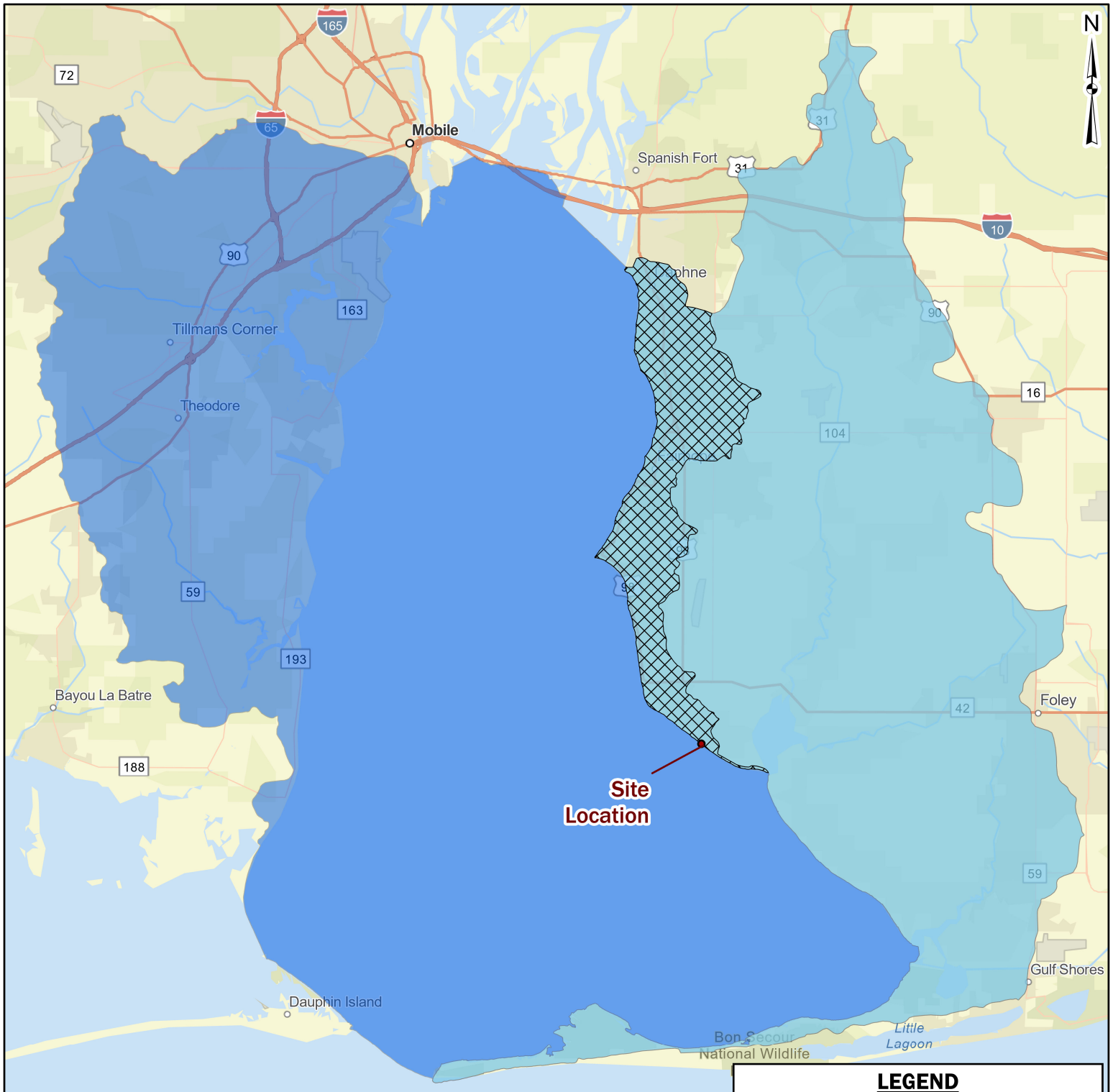
CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/11/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 500 ft



Service Layer Credits: World Street Map: City of Mobile GIS Department, CONANP, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

	LEVEL	HUC	NAME
REGION	1	03	South Atlantic-Gulf Region
SUBREGION	2	0316	Mobile-Tombigbee
BASIN	3	031602	Mobile Bay-Tombigbee
SUBBASIN	4	03160205	Mobile Bay
WATERSHED	5	0316020502	Fish River-Frontal Mobile Bay
SUBWATERSHED	6	031602050205	Fly Creek

LEGEND

- Approx. Review Boundary (0.36± AC)
- HUC12 (Level 6)
- HUC10 (Level 5)
- HUC8 (Level 4)

0 25,000 Feet

TTL

FIGURE 10: HYDROLOGIC UNIT CODE (HUC) MAP

CLAREMONT PROPERTY COMPANY

INDIVIDUAL PERMIT APPLICATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: ESRI World Street Map (See Service Layer Credits).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 25,000 ft

APPENDICIES

APPENDIX A:
TTL's Aquatic Resources Delineation Report

AQUATIC RESOURCES DELINEATION REPORT

PROPOSED USACE PERMITTING PROJECT
FAIRHOPE PROPERTIES – 0.36± ACRES
FAIRHOPE, BALDWIN COUNTY, ALABAMA

Submitted to:

Claremont Property Company
Attn: Hunter Megarity
5555 West Loop S., Suite 100
Bellaire, Texas 77401

Prepared by:

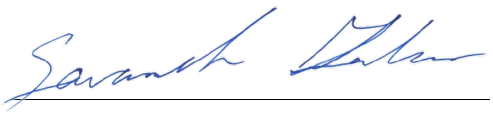
TTL, Inc.
9797 Timber Circle, Suite A
Daphne, Alabama 36527

Project No.

September 20, 2024

SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

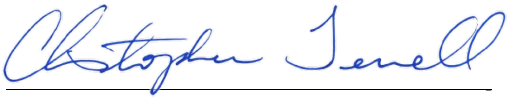
TTL, Inc. has performed an aquatic resources delineation in general conformance with the scope and limitations of the *U. S. Army Corps of Engineers Wetland Delineation Manual, 1987 Edition*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0* (2010). Identification of ephemeral, intermittent and perennial streams has been performed in general conformance with methodology outlined in *Methodology for Identification of Intermittent and Perennial Streams and their Origins, Version 4.11* (2010).



09/20/2024

Savannah Gabrus
Project Professional

Date



09/20/2024

Christopher Terrell, PWS
Environmental Business Unit Leader

Date

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

TTL, Inc. (TTL) was contracted by Mr. Hunter Megarity, with Claremont Property Company (CPC), to perform a delineation of aquatic resources associated with a proposed development project in Fairhope, Baldwin County, Alabama (Figure 1). The site is currently undeveloped. TTL conducted the field activities on August 20, 2024.

Activities within jurisdictional aquatic resources are regulated by the U.S. Army Corps of Engineers (USACE). Authority to permit discharges (fill) within jurisdictional wetlands or non-navigable aquatic resources is granted under Section 404 of the Clean Water Act (CWA) of 1972. Authority to permit work and placement of structures in navigable aquatic resources is granted under Sections 9 and 10 of the Rivers and Harbors Act of 1899. For regulatory purposes under the CWA wetlands are defined by the USACE as:

> "*Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.*"

2.0 SITE DESCRIPTION

The delineation area is approximately 0.36 acre and is located within the southeast ¼ of Section 1, Township 7 South, Range 2 East as depicted on the U.S. Geological Survey (USGS) 7.5-minute Topographic Map of Point Clear, Alabama (Figure 1). The center of the site is located near latitude 30.390689 and longitude -87.875694. To further evaluate site specific topography, Light Detection And Ranging (LiDAR) data was acquired and is included as Figure 2. The LiDAR is depicted as one-meter resolution to view slight topographic changes within the delineation area.

The delineation area is located in west/southwest Baldwin County, Alabama. The delineation area is currently undeveloped and contains one (1) ditch feature. The primary sources of hydrology for the delineation area are groundwater, rainfall, and surface flow from the surrounding areas. Figure 3 depicts the site location and aerial photograph.

Driving directions to the site are as follows: from Fairhope Airport, turn left (west) onto Co Rd 32. Travel west for 0.5 miles and turn left (south) onto US-98 E. Continue south for 3.5 miles and turn right (west) onto US-98 ALT W. Travel west for 1.3 miles and turn left (west) onto Sunset Rd. Travel west for 0.1 mile and turn left (south) onto Co Rd 1. Travel for 3.0 miles and the delineation area is located on the right.

3.0 LITERATURE AND RECORDS REVIEW

Prior to conducting the field effort, TTL performed a literature and records review to develop an understanding of the potential for the presence of aquatic resources on the subject site or surrounding properties. These data sources and the review findings are described below.

3.1 Hydric Soils

The Natural Resources Conservation Service (NRCS) maintains an online database of soil types (map units) for most areas of the U.S. (NRCS, 2024). The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit which represents a large area dominated by one or more major kinds of soil. Map units are further classified with a rating of hydric, partially hydric or non-hydric. Map units are useful for planning purposes to provide an overall understanding of the soils that occur in a general area; however, due to the natural variability of the landscape, direct observation of the soils profile is necessary to identify hydric soil indicators.

A classification of hydric means that the soil components listed for a given map unit are rated as being hydric. “Predominantly hydric” means that more than 66 percent to less than 100 percent of soil components are hydric. "Partially hydric" means that more than 33 percent to less than 67 percent of soil components are hydric. “Predominantly non-hydric” means that more than 0 percent and less than 34 percent of soil components are hydric. "Not hydric" means that all soil components are rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made. A map of the soils located on the site with the associated hydric rating is presented in Figure 4 and summarized in Table 1 below.

Table 1: Soil Map Units Classifications

Map Unit Symbol	Description	Hydric Percentage	Hydric Description
Td	Hydric – Td (Tidal Marsh)	100	Hydric

3.2 National Wetland Inventory

The U.S. Fish and Wildlife Service (USFWS) created and maintains the National Wetland Inventory (NWI) database of information on the characteristics, extent, and status of the wetlands and deepwater habitats within the U.S. (USFWS, 2024). This information is useful for planning purposes and provides an overall understanding of the habitats that may be present in or around the site. The NWI classifies habitat types as marine, estuarine, riverine, lacustrine or palustrine with additional

modifiers as appropriate to identify the water regime, water chemistry, soil or other characteristics-based on *Classification of Wetlands and Deepwater Habitats of the U.S.* (Cowardin, 1979).

TTL reviewed the NWI data for the site using the USFWS NWI Wetlands Mapper web-based tool to determine the potential for wetlands to exist on the site. The USFWS NWI Mapper identified one (1) estuarine feature within the delineation area. Figure 5 depicts the NWI Map, and Table 2 summarizes the identified habitat below.

Table 2: NWI Classification

Map Unit Symbol	Description
E2USP	Estuarine; Intertidal; Unconsolidated Shore; Irregularly Flooded

3.3 Hydrologic Unit Code

The U.S. is divided and subdivided into successively smaller hydrologic units, which are classified into six (6) levels: region, subregion, basin, subbasin, watershed, and subwatershed. The hydrologic units are arranged within each other, from the smallest (subwatershed) to the largest (regions). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to 12 digits based on the six (6) levels of classification in the hydrologic system (Seaber, Kapinos, Knapp, 1987). The site is located within the Fly Creek subwatershed 12-Digit HUC 031602050205, which is located within the Fish River-Frontier Mobile Bay watershed 10-Digit HUC 0316020502, which is located within the Mobile Bay 8-unit HUC 03160205. Figure 6 depicts the location of the delineation area in relation to the associated HUCs.

3.4 Normal Weather Conditions

TTL evaluates the normal weather conditions of the delineation area before performing site work to understand whether aquatic features in the landscape may exhibit certain characteristics related to current and near past hydrologic regime. TTL utilizes the USACE Antecedent Precipitation Tool (APT) Version 1.0 to evaluate climatological parameters when determining and documenting whether precipitation and other climatic variables are within the normal periodic range (i.e., seasonally, annually) for the delineation area. Included with the APT output are the Palmer Drought Severity Index (PDSI) and the WebWIMP Climatic Water Balance.

In addition to the information provided by the APT, TTL reviewed the U.S. Drought Monitor, which is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture (USDA), and NOAA.

The following conditions were determined by the respective resource:

- APT: *Normal Conditions (12)*
- WebWimp H_2O Balance: *Dry Season*
- PDSI Drought Index: *Incipient Drought*
- U.S. Drought Monitor: *Abnormally Dry*

The APT output and U.S. Drought Monitor Map of Alabama are included in Appendix A.

4.0 WETLAND AND WATERS DELINEATION

4.1 Wetland Identification Methodology

TTL utilizes the *U.S. Army Corps of Engineers Wetland Delineation Manual* (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0* (USACE, 2010) technical guidelines for determining the presence of wetlands. This determination requires that a positive wetland indicator be present for each of the three parameters (hydrology, soil, and vegetation), with the exception of areas altered by recent human activities or natural events. During field activities, TTL assessed the project area for the presence of hydrophytic vegetation and used a Dutch hand-auger to evaluate the project area for the presence of hydric soils. TTL examined the soil for hydric soil indicators as identified in the *Field Indicators of Hydric Soils in the United States, V. 8.2* (NRCS, 2018). Additionally, TTL observed the project area for indications of inundated or saturated soils, water marks, drift lines, crayfish burrows, sediment deposits, and other wetland hydrology indicators. TTL used *Wetland Determination Data Forms – Atlantic and Gulf Coastal Plain Region Version 2.0* (2010) to record field conditions for the soil, vegetation, and hydrology for wetlands and uplands located on the site. At least one data point was established in each habitat type observed within the delineation area.

TTL traversed the project area on foot and placed orange flagging labeled with Upland Data Point (UDP) or Wetland Data Point (WDP) to identify the data point location. The locations of the data point flagging were mapped with a Trimble DA2 Global Positioning System (GPS) unit, which was set to sub-meter tolerances. Features were manually digitized in ArcGIS using the flag locations; geographic coordinates and area quantities were calculated using ArcGIS “area” function. Figure 7 depicts the Overall Aquatic Resources Delineation Map.

4.2 Wetland Findings

The project area did not contain areas that exhibited wetland characteristics. Photographs of our field observations are provided in Appendix B. Wetland Determination Data Forms are included in Appendix C.

4.3 Streams Identification and Methodology

When observed, TTL uses the *North Carolina Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11, September 1, 2010 (NC Method)* technical guideline to determine the most appropriate classification of each subject stream. This technical guideline for stream identification is the preferred methodology for distinguishing between intermittent and perennial streams in the southeast United States and requires evaluation of 26 attributes of the stream and assigning a numeric score to each on the *NC DWQ Stream Identification Form Version 4.11*. A four-tiered, weighted scale is utilized for evaluating and scoring the features categorized in sets of geomorphic, hydrologic, and biological attributes. Additionally, TTL utilizes the *Regulatory Guidance Letter No. 05-05*: *Ordinary High Water Mark Identification* (USACE, 2005) as the basis for the delineation, mapping, and linear footage/areal estimations of onsite streams. Identified streams are mapped using the method described in Section 4.1. NC Division of Water Quality Stream Identification Forms (v. 4.11). The forms are used to classify streams that were not clearly perennial (i.e. flowing water at greater than 48 hours since rainfall, strong morphology, and obvious biological presence). When needed, TTL traverses the stream channels on foot and places blue flagging labeled with stream data point identifications near the observed ordinary high water mark (OHWM). The locations of the boundary flags are mapped with a Trimble DA2 GPS unit set to sub-meter tolerances. When LiDAR data clearly exhibits physical channel characteristics, it is utilized to assist with accurately depicting channel sinuosity and dimensions. Features are manually digitized in ArcGIS using the flag locations. Geographic coordinates, length, and area quantities are calculated using ArcGIS. Figure 7 depicts the Overall Aquatic Resources Delineation Map.

4.4 Streams and Other Water Findings

TTL identified one (1) manmade ditch feature consisting of 41.1 linear feet within the delineation area. Table 4 summarizes the stream findings below.

Table 3: Stream Summary

Stream ID	Cowardin Habitat Description	Length (linear feet)/ Area (acres)
D1	Ditch	41.1 lf/0.001 ac

4.5 Deepwater / Open Water Methodology and Findings

TTL evaluated the delineation area for open waters based on the below definition. The 1986/1988 regulatory definition of WOTUS [40 CFR 230.3(s)] included inland open waters under the following:

> *"3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:*
>
> > *a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
> > *b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
> > *c. Which are used or could be used for industrial purposes by industries in interstate commerce;*
>
> *4. All impoundments of waters otherwise defined as waters of the United States under this definition;"*

Historically, open waters (e.g., lakes, ponds, and impoundments) were considered "*deepwater aquatic habitats*" in the USACE 1987 Wetland Delineation Manual (1987 Manual). The jurisdictional nature of open waters is therefore evaluated during all WOTUS delineations. The 1987 Manual states the following regarding deepwater aquatic habitats:

> *"a. Definition. Deepwater aquatic habitats are areas that are permanently inundated at mean annual water depths >6.6 ft or permanently inundated areas >6.6 ft in depth that do not support rooted-emergent or woody plant species.*
> *b. Diagnostic environmental characteristics. Deepwater aquatic habitats have the following diagnostic environmental characteristics:*
>
> > *(1) Vegetation. No rooted-emergent or woody plant species are present in these permanently inundated areas.*
> > *(2) Soil. The substrate technically is not defined as a soil if the mean water depth is >6.6 ft or if it will not support rooted emergent or woody plants."*

4.6 Deepwater Aquatic Habitat/Open Water Findings

TTL identified one (1) deepwater/open water feature consisting of 0.076 acres within the delineation area. The feature is identified as Mobile Bay which is a Section 10 Water and is 413 square miles in area.

Table 4: Open Water Summary

Open Water ID	Cowardin Habitat Description	Area (acres)
Mobile Bay	Section 10 Water	0.076 ac

4.7 Jurisdictional Determination Request

The USACE has the sole authority to determine whether aquatic features are "jurisdictional." Under certain circumstances, wetland areas may be considered non-jurisdictional because they lack a direct surface water connection with other aquatic resources. As of June 2023, the U.S. Supreme Court ruling (Sackett vs. EPA) has set a new precedent for evaluating the jurisdictional status of WOTUS, and the Revised 2023 WOTUS Rule (Conforming Rule) was made effective September 8, 2023. In addition, the Revised 2023 WOTUS Rule is not currently operative in certain states and for certain parties due to ongoing litigation. Where the Revised 2023 Rule is not enjoined, the agencies are implementing the January 2023 Rule, as amended by the Conforming Rule. In the jurisdictions and for the parties where the January 2023 Rule is enjoined, the agencies are interpreting WOTUS consistent with the pre-2015 regulatory regime and the Supreme Court's decision in Sackett (EPA). TTL utilized the USACE pre-2015 (1986 Definition as amended in 1993) and the Supreme Court's decision in Sacket vs. EPA to also evaluate onsite aquatic features and to complete the Jurisdictional Determination Request Forms (Appendix E). TTL recommends obtaining a Preliminary Jurisdictional Determination (PJD) for all aquatic features mapped within the delineation area, as it is TTL's opinion that these are jurisdictional aquatic features.

If the USACE is not engaged regarding a jurisdictional determination, TTL is neither responsible for the final determination of jurisdictional features within the delineation area, nor responsible for violations associated with unauthorized activities that may occur within areas deemed jurisdictional by the USACE at a later time.

5.0 CONCLUSIONS

- Approximately 41.1 linear feet (0.001 acre) of ditch were identified within the delineation area.
- Approximately 0.076 acre of Section 10 Waters were identified within the delineation area.

- Upon approval by the client, TTL will submit a request for a PJD from the USACE of all aquatic features within the site.

6.0 RELIANCE/LIMITATIONS

Please note that the conclusions and recommendations of this report are based solely on the field conditions observed at the site. All information (written or electronic) from TTL concerning TTL's work is for the sole use and reliance of Claremont Property Company and applicable regulatory agencies. TTL intends no third party beneficiaries (express or implied) and copies of such information received by any third parties are NOT for reliance unless TTL first receives a signed Secondary Client Agreement from the third party.

7.0 REFERENCES

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.html (Version 04DEC98).

NC Division of Water Quality. 2010. *Methodology for Identification of Intermittent a Perennial Streams and their Origins*, Version 4.11. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, NC.

National Drought Mitigation Center (NDMC). Accessed at http://droughtmonitor.unl.edu/ . Accessed August 2024.

National Oceanic and Atmospheric Administration (NOAA). Accessed at http://www.ncdc.noaa.gov/oa/climate/research/prelim/drought/palmer.html. Accessed August 2024.

Natural Resource Management Division, Regulation Department, South Florida Water Management District. 1999. *Wetland Rapid Assessment Procedure*. Technical Publication REG-001.

Seaber, P.R., Kapinos, F.P., and Knapp, G.L., 1987, Hydrologic Unit Maps: U.S. Geological Survey Water-Supply Paper 2294, p.63.

U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory. Vicksburg, MS: U.S. Army Engineers Waterways Experiment Station.

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J.S. Wakeley, R. W. Lichvar, and C.V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2007. Jurisdictional Determination Form Instructional Guidebook.

U.S. Army Corps of Engineers. 2005. *Ordinary High Water Mark Identification*. Regulatory Guidance Letter No. 05-05

U.S. Army Corps of Engineers 2020. *National Wetland Plant List, version 3.5*. http://wetland-plants.usace.army.mil/ U.S. Army Corps of Engineers. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH

U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States*, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Accessed at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.html. Accessed August 2024.

U.S. Fish and Wildlife. National Wetland Inventory Mapper. Accessed at: https://www.fws.gov/wetlands/data/mapper.HTML=. Accessed August 2024.

FIGURES

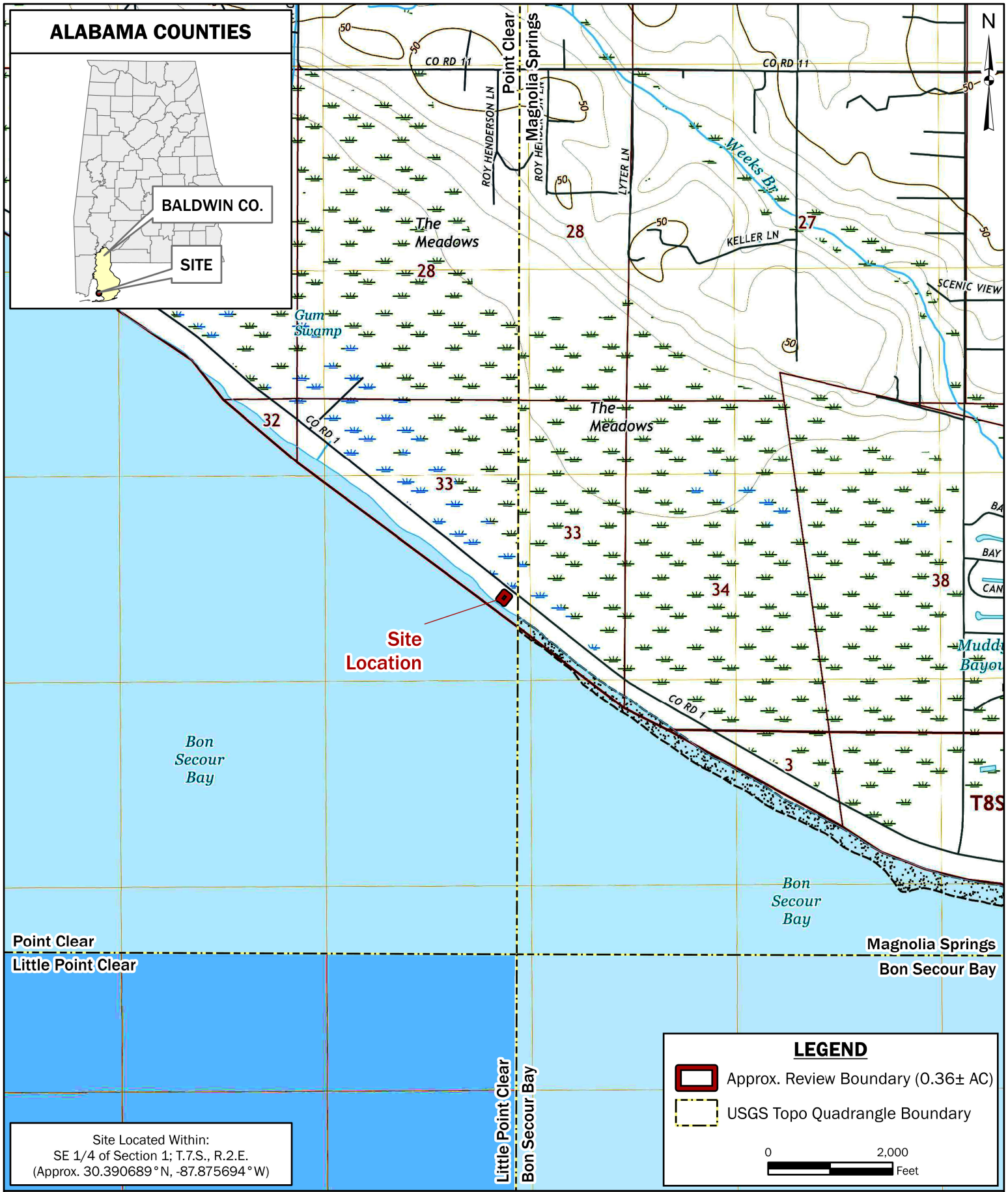


FIGURE 1: SITE LOCATION & TOPOGRAPHIC MAP

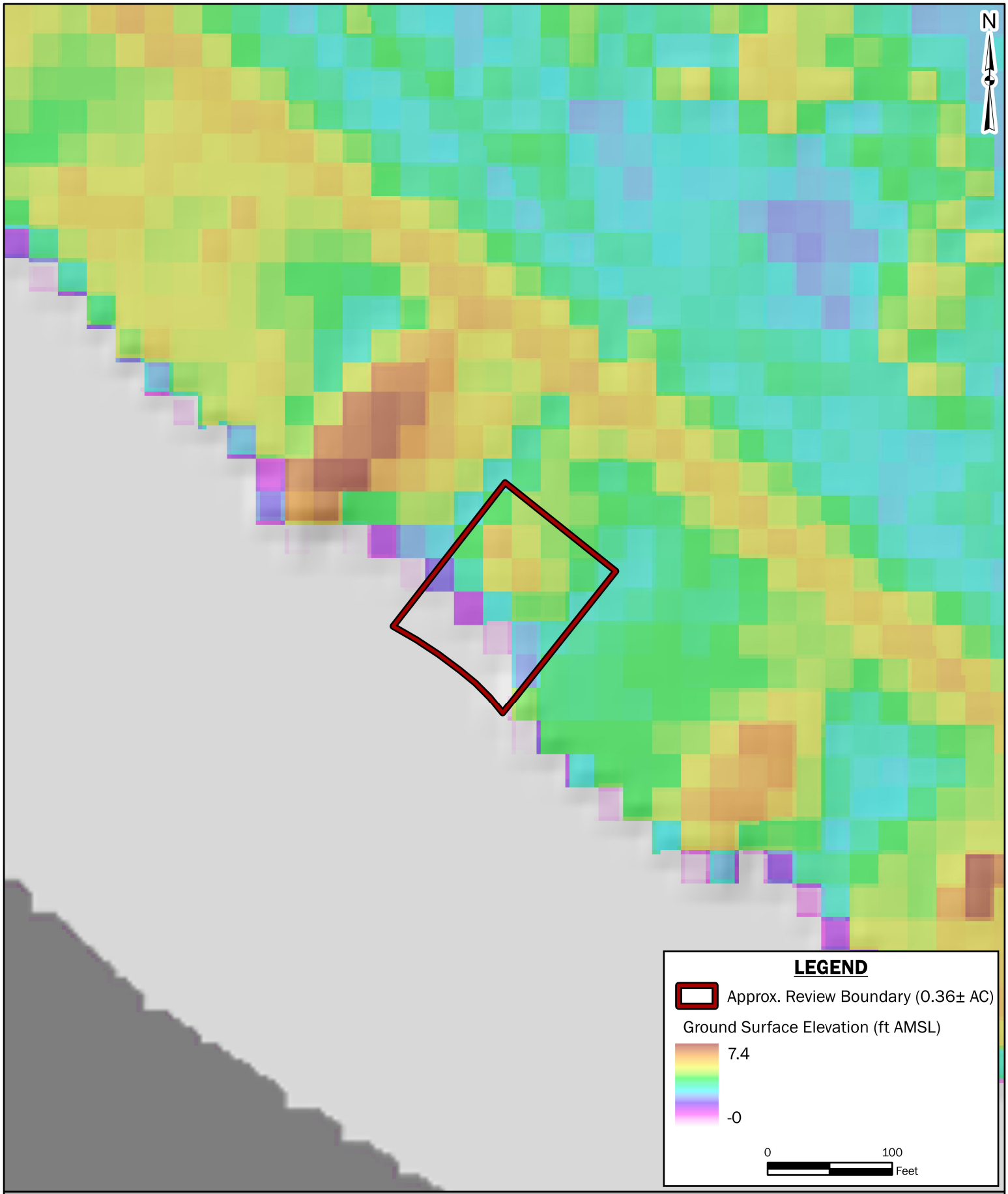
CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Point Clear, Alabama USGS 7.5 Minute Quadrangle Map, 2018 (10-ft Contour Interval).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 2,000 ft



TTL

FIGURE 2: LiDAR HILLSHADE AND ELEVATIONS MAP

CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: USGS Elevation & Hillshade Derivative (1 m Resolution).

DRAWN BY: SG
CHECKED BY: CGT
DRAWING DATE: 09/08/2024
REVISION DATE: N/A
TTL JOB NO.: 24-13-01833.00
APPROX. SCALE: 1 in = 100 ft

TTL

FIGURE 3: SITE LOCATION & AERIAL PHOTOGRAPH

CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

TTL

FIGURE 4: NRCS HYDRIC SOIL RATING MAP

CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

Map Unit Symbol	Description
E2USP	Estuarine; Intertidal; Unconsolidated Shore; Irregularly Flooded

TTL

FIGURE 5: NATIONAL WETLAND INVENTORY (NWI) MAP

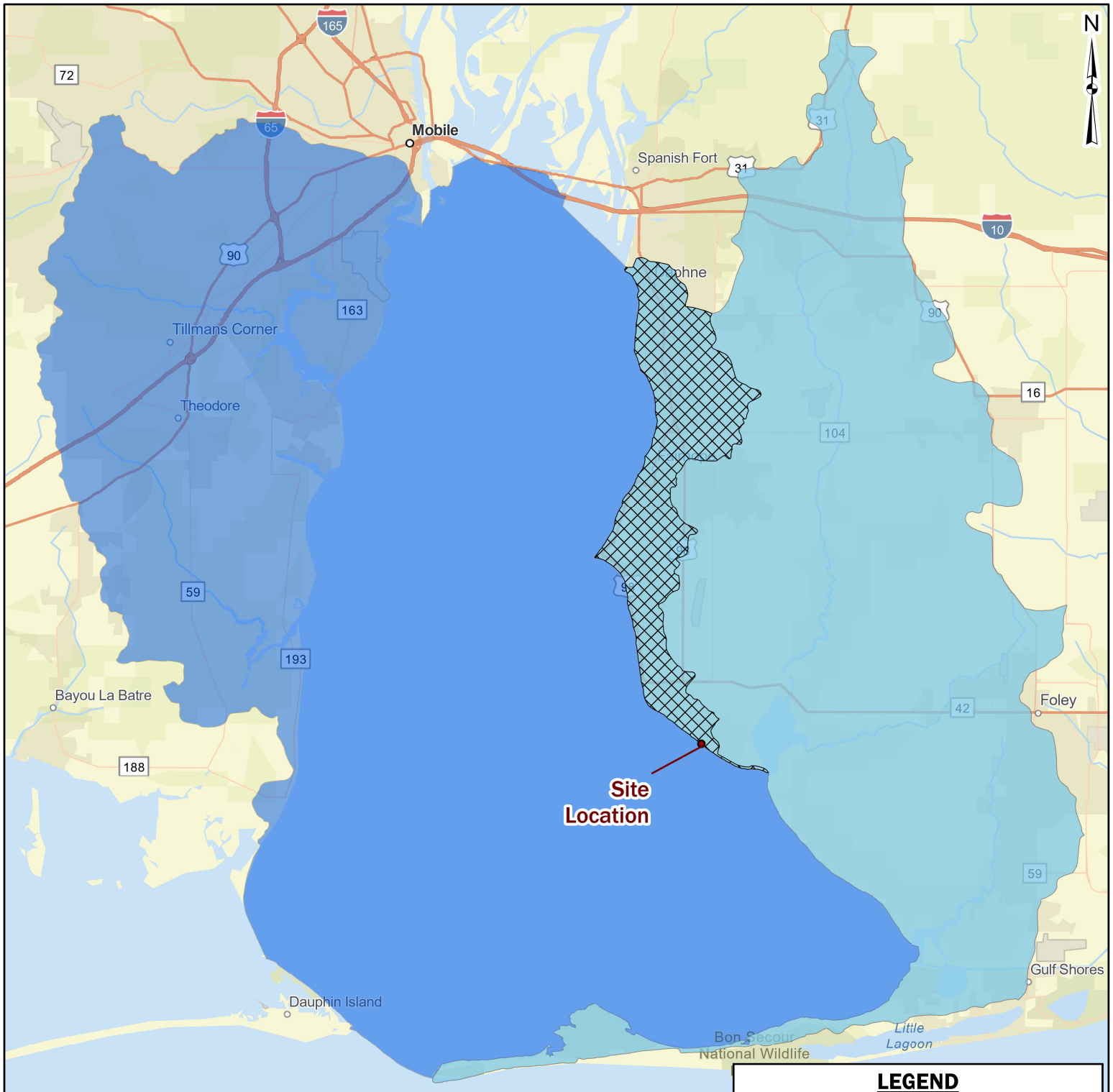
CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft



Service Layer Credits: World Street Map: City of Mobile GIS Department, CONANP, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

	LEVEL	HUC	NAME
REGION	1	03	South Atlantic-Gulf Region
SUBREGION	2	0316	Mobile-Tombigbee
BASIN	3	031602	Mobile Bay-Tombigbee
SUBBASIN	4	03160205	Mobile Bay
WATERSHED	5	0316020502	Fish River-Frontal Mobile Bay
SUBWATERSHED	6	031602050205	Fly Creek

LEGEND

- Approx. Review Boundary (0.36± AC)
- HUC12 (Level 6)
- HUC10 (Level 5)
- HUC8 (Level 4)

0 25,000 Feet

TTL

FIGURE 6: HYDROLOGIC UNIT CODE (HUC) MAP

CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: ESRI World Street Map (See Service Layer Credits).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 25,000 ft

TTL

FIGURE 7: AQUATIC RESOURCES DELINEATION MAP

CLAREMONT PROPERTY COMPANY

AQUATIC RESOURCES DELINEATION

FAIRHOPE, BALDWIN COUNTY, ALABAMA

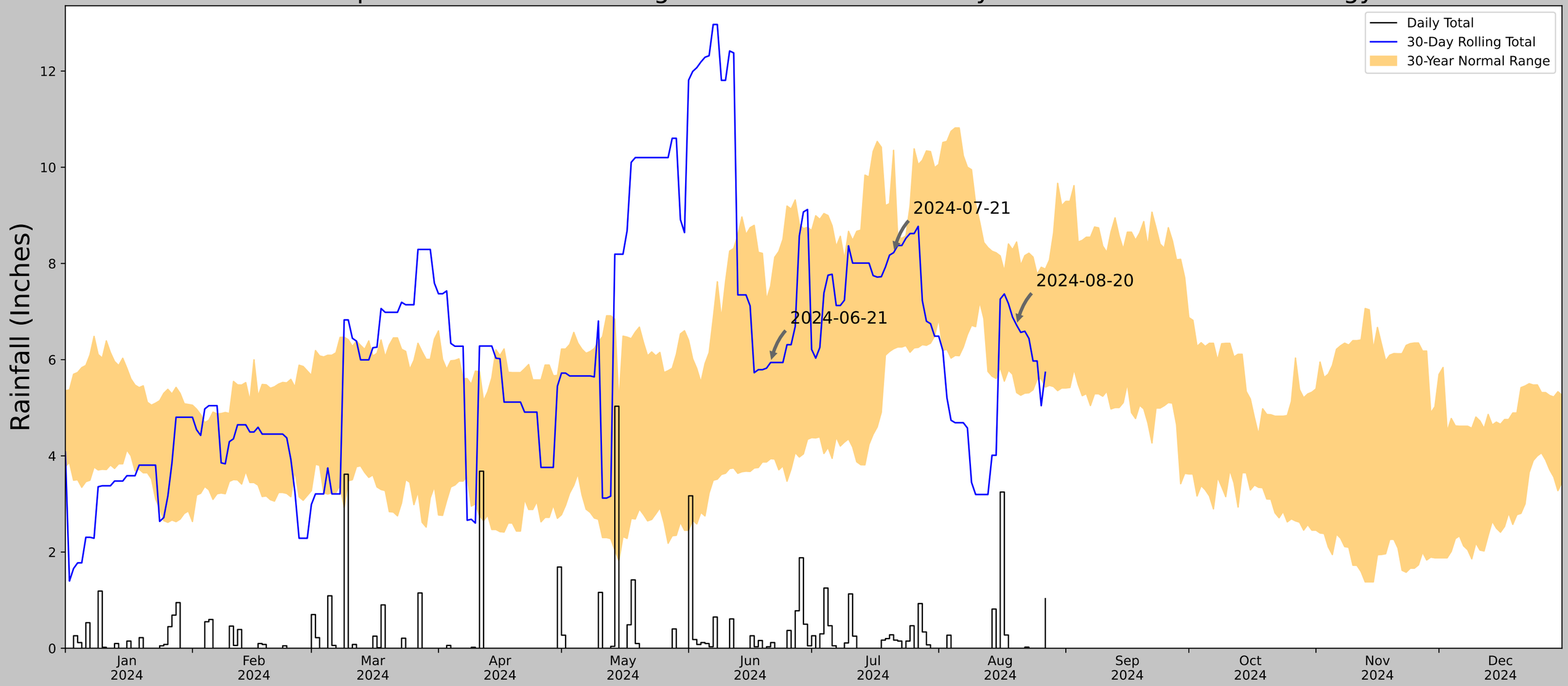
BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY:	SG
CHECKED BY:	CGT
DRAWING DATE:	09/08/2024
REVISION DATE:	N/A
TTL JOB NO.:	24-13-01833.00
APPROX. SCALE:	1 in = 40 ft

APPENDIX A

Antecedent Precipitation Tool Output
U.S. Drought Monitor - Alabama

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	30.3908560, -87.8754976
Observation Date	2024-08-20
Elevation (ft)	4.541
Drought Index (PDSI)	Incipient drought (2024-07)

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-08-20	5.315355	8.446851	6.716536	Normal	2	3	6
2024-07-21	6.225984	10.353544	8.22441	Normal	2	2	4
2024-06-21	3.941339	7.527559	5.940945	Normal	2	1	2
Result							Normal Conditions - 12

US Army Corps of Engineers

ERDC

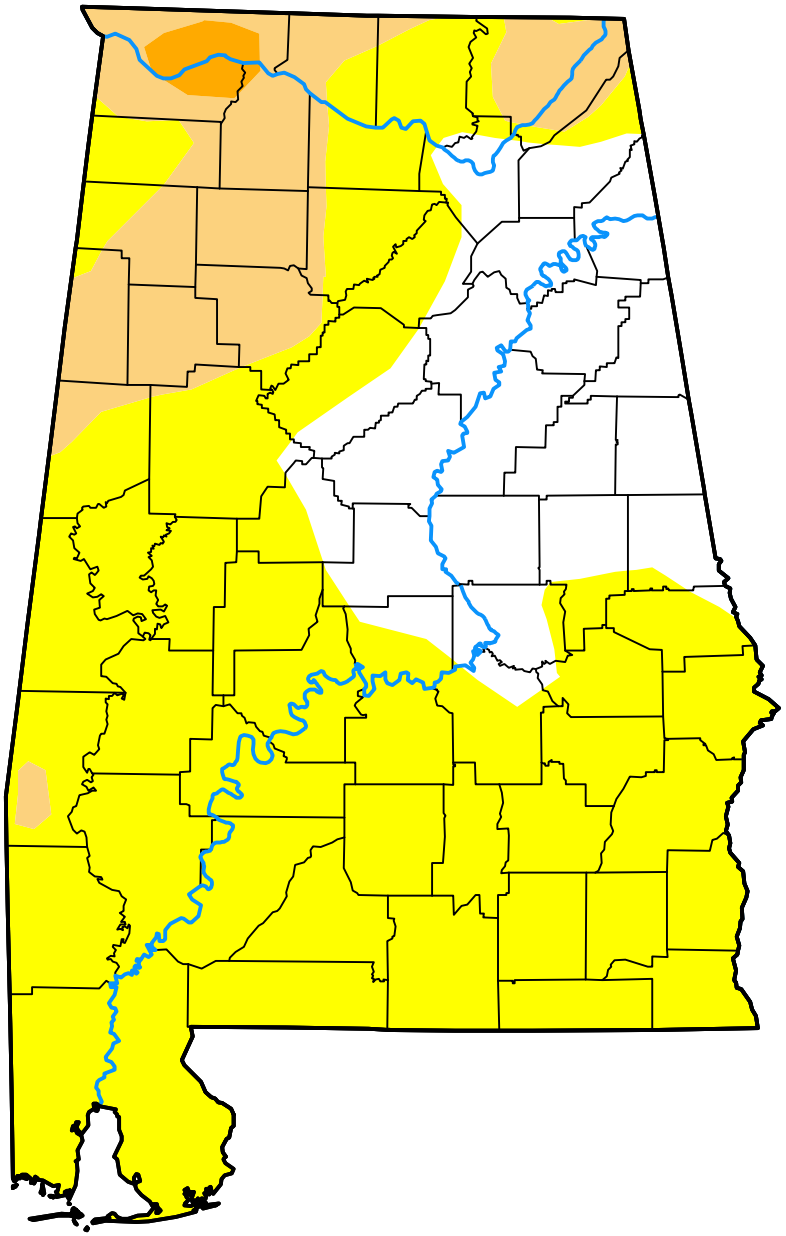
Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
FAIRHOPE 2 NE	30.5467, -87.8808	22.966	10.772	18.425	5.046	11336	70
FAIRHOPE 3 NE	30.5486, -87.8758	95.144	0.325	72.178	0.17	11	20
FAIRHOPE 2.3 N	30.5483, -87.8887	107.94	0.483	84.974	0.258	1	0
MOBILE DWTN AP	30.6147, -88.0631	16.076	11.818	6.89	5.4	1	0
ROBERTSDALE	30.5653, -87.7017	161.089	10.733	138.123	6.312	3	0

U.S. Drought Monitor

Alabama



August 20, 2024

(Released Thursday, Aug. 22, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.48	78.52	14.17	0.98	0.00	0.00
Last Week *08-13-2024*	61.19	38.81	10.76	0.00	0.00	0.00
3 Months Ago *05-21-2024*	95.24	4.76	0.00	0.00	0.00	0.00
Start of Calendar Year *01-02-2024*	0.90	99.10	78.97	44.62	12.61	0.00
Start of Water Year *09-26-2023*	21.58	78.42	30.60	16.04	2.30	0.00
One Year Ago *08-22-2023*	69.76	30.24	9.71	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Richard Heim

NCEI/NOAA

droughtmonitor.unl.edu

APPENDIX B

Site Photographs

Site Photographs

Aquatic Resources Delineation — TTL Project No. 24-13-01833.00
Fairhope Property USACE Permitting ● Fairhope, Baldwin County, Alabama
Photos taken August 20, 2024

Photograph 1: View of upland data point 1 (UDP-1) location.

Photograph 2: View of UDP-1 location.

Site Photographs

Aquatic Resources Delineation — TTL Project No. 24-13-01833.00
Fairhope Property USACE Permitting ● Fairhope, Baldwin County, Alabama
Photos taken August 20, 2024

Photograph 3: View of UDP-1 soil profile.

Photograph 4: View of Section 10 Water, Mobile Bay.

Photograph 5: View of culverted end of ditch D-1 located on the northern boundary.

Photograph 6: View of D-1.

APPENDIX C

U.S. Army Corps of Engineers Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Fairhope Property USACE Permitting City/County: Fairhope, Baldwin County Sampling Date: 8-20-24

Applicant/Owner: Claremont Property Company State: AL Sampling Point: UDP-1

Investigator(s): Christopher Terrell, PWS Section, Township, Range: Section 1, T.7.S, R.2.E

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): N/A

Subregion (LRR or MLRA): LRR P, MLRA 133A Lat: 30.390627 Long: -87.875581 Datum: NAD83

Soil Map Unit Name: Tidal Marsh NWI classification: Upland

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

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

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: UDP-1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus elliottii*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover:	8
Sapling Stratum (Plot size: 30 feet)			
1. *Triadica sebifera*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover:	8
Shrub Stratum (Plot size: 30 feet)			
1. *Morella cerifera*	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Herb Stratum (Plot size: 30 feet)			
1. *Ambrosia artemisiifolia*	40	Yes	FACU
2. *Chamaecrista nictitans*	30	Yes	FACU
3. *Smilax bona-nox*	10	No	FAC
4. *Eupatorium capillifolium*	10	No	FACU
5. *Eupatorium serotinum*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100	=Total Cover	
50% of total cover: 50		20% of total cover:	20
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	90	x 3 =	270
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	210 (A)		670 (B)
Prevalence Index = B/A =			3.19

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

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

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

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

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

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL Sampling Point: UDP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					Sandy	
3-20	10YR 5/3	100					Sandy	
20-24	10YR 5/4	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

APPENDIX D

U.S. Army Corps of Engineers Jurisdictional Determination

U.S. Army Corps of Engineers (USACE)

REQUEST FOR JURISDICTIONAL DETERMINATION (JD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2024-04-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that are or that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary, however, if the information is not provided there may be some delay in processing your request. Failure to provide this information will not result in an adverse action.
System of Record Notice (SORN): The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website:
http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. To (*District Name*):

2. I am requesting a JD on property located at (*Street Address*): County Road 1

City/Township/Parish: Fairhope County: Baldwin State: Alabama

Acreage of Parcel/Review Area for JD: 0.39

Section: 1 Township: 7S Range: 2E

Latitude (*decimal degrees*): 30.390689 ° Longitude (*decimal degrees*): -87.875694 °

(*For linear projects, please include the center point of the proposed alignment.*)

3. Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. ☐ I currently own this property. ☐ I plan to purchase this property.

☒ I am an agent/consultant acting on behalf of the requester.

☐ Other (*please explain*):

5. Reason for request: (*check as many as applicable*)

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

6. Type of determination being requested:

- [ ] I am requesting an approved JD.
- [x] I am requesting a preliminary JD.
- [ ] I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
- [ ] I am unclear as to which JD I would like to request and require additional information to inform my decision.

7. Typed or Printed Name: Christopher Terrell

Daytime Phone No.: 334-220-0472

Company Name: TTL, Inc.

Email Address: cterrell@ttlusa.com

Address: 2743-B Gunter Park Drive West
Montgomery, AL

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

Signature:	Date:
Christopher Terrell 2024.09.19 09:02:04 -05'00'	09-19-2024

U.S. Army Corps of Engineers (USACE)

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2024-04-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any resulting jurisdictional determination (JD), which may be made available to the public on the District's website and/or on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary; however, if information is not provided, the request for a JD cannot be evaluated nor can a PJD be issued.

The Agency Disclosure Notice (ADN)

The public reporting burden for this collection of information, 0710-0024, is estimated to average 25 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

SECTION I - BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Christopher Terrell, PWS
2743-B Gunter Park Drive West, Montgomery, AL 36109

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION AND BACKGROUND INFORMATION:
(*USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES*)

State: Alabama County/Parish/Borough: Baldwin City: Fairhope

Center coordinates of site (*lat/long in degree decimal format*): Latitude: 30.390689 ° Longitude: -87.87569 °

Universal Transverse Mercator:

Name of nearest waterbody: Mobile Bay

E. REVIEW PERFORMED FOR SITE EVALUATION (*CHECK ALL THAT APPLY*):

☐ Office (*Desk*) Determination. Date:

☐ Field Determination

Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)
	D-1	32.794353	-88.039580	740.5 lf / 0.092 ac	Non-wetland Waters	Section 404

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)
	Mobile Bay	30.390855	-87.875950	0.076 ac	Non-wetland Waters	Section 10

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD or no JD whatsoever, which do not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the USACE has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD or reliance on no JD whatsoever; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of USACE permit authorization based on a PJD or no JD whatsoever constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the USACE will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

F. SUPPORTING DATA. Data reviewed for PJD (*check all that apply)*
Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: Figures 1-7
- [x] Data sheets prepared/submitted by or on behalf of the PJD requestor.
- [ ] Office concurs with data sheets/delineation report.
- [ ] Office does not concur with data sheets/delineation report.
  Rationale:
- [ ] Data sheets prepared by the USACE:
- [ ] Corps navigable waters' study:
- [ ] U.S. Geological Survey Hydrologic Atlas:
- [ ] USGS NHD data.
- [x] USGS 8 and 12 digit HUC maps.
- [x] U.S. Geological Survey map(s). Cite scale & quad name:
  7.5 Minute Fairhope, AL (Figure 1)

☒ USDA Natural Resources Conservation Service Soil Survey.

Citation: WebSoil Survey (Figure 4)

☒ National Wetlands Inventory map(s).

Cite Name: NWI Mapper Hydric Soils Ratings (Figrue 5)

☐ State/Local Wetland Inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: _____. (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (*Name & Date*): GoogleEarth Satellite Imagery 2/20/2023

or ☒ Other (*Name & Date*): Site Photos August 20, 2024

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (*please specify*):

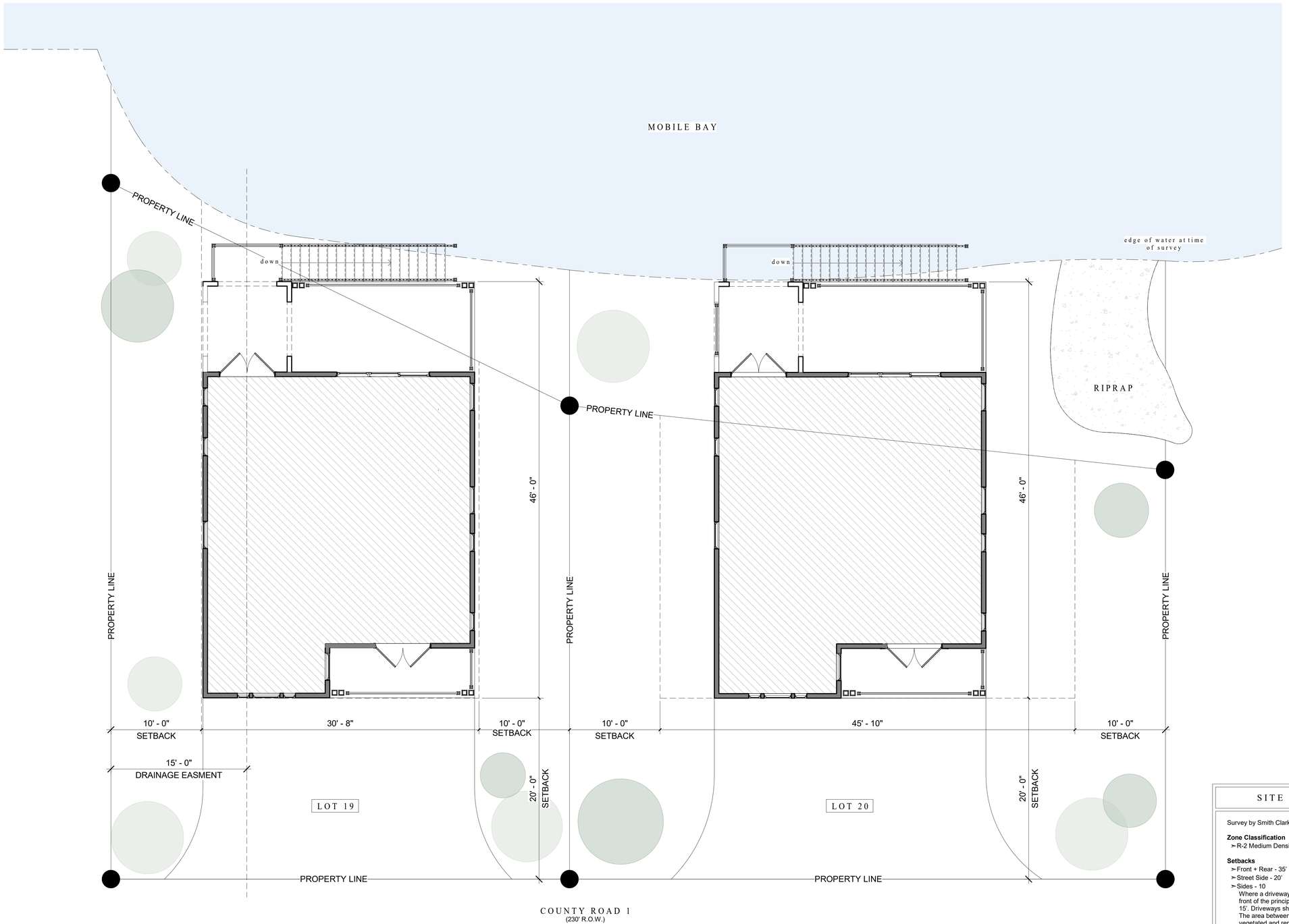
IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the USACE and should not be relied upon for later jurisdictional determinations.

Name of Regulatory Staff Member Completing PJD	Date	Signature of Regulatory Staff Member Completing PJD
Name of Person Requesting PJD	**Date**	**Signatureof Person Requesting PJD *(REQUIRED, unless obtaining the Signature is Impracticable***
Christopher Terrell, PWS	2024-09-19	Christopher Terrell 2024.09.19 09:03:04 -05'00'

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

APPENDIX B:

McCollough Architecture, Inc.'s No Action Alternative Drawing



1 SITE PLAN - LOTS 19 & 20
3/16" = 1'-0"

SITE INFORMATION

Survey by Smith Clark + Associates

Zone Classification
- R-2 Medium Density Single Family, Residential District

Setbacks
- Front + Rear - 35'
- Street Side - 20'
- Sides - 10
  Where a driveway is on the side, and extends past the front of the principle structure, the side setback shall be 15'. Driveways shall not be within 3 feet of the side lot line. The area between the side lot line and driveway shall be vegetated and remain pervious.

Maximum Lot Coverage
- 37%

Maximum Height
- 30ft
  Structure may exceed the building height provided the lot width is increased by 10 feet for each additional foot in height.

McCOLLOUGH ARCHITECTURE, INC.
P.O. BOX 6310
GULF SHORES, ALABAMA
36547-6310
PHONE: 251-968-7222

NOT FOR CONSTRUCTION

A NEW PROTOTYPE
FOR
CLAREMONT PROPERTIES
0 COUNTY ROAD 1 | FAIRHOPE, ALABAMA

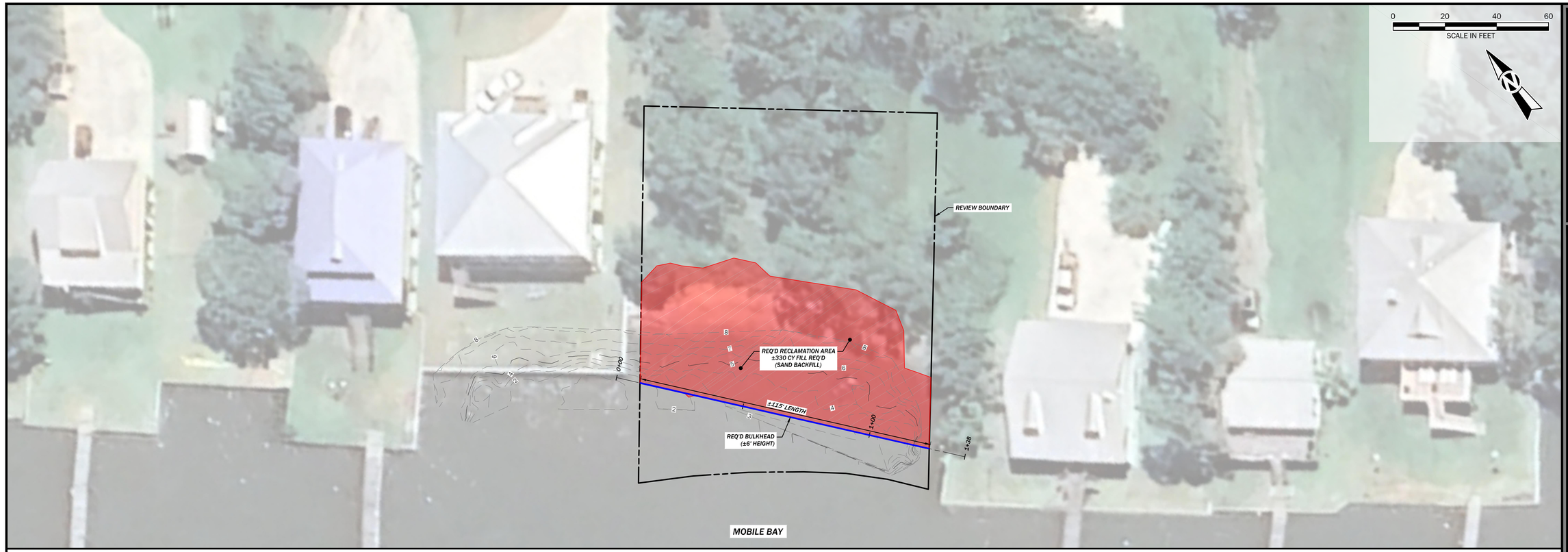
JOB NO.:
DRAWN: SEW
CHECKED: SBM
DATE: 2024.09.23
REVISION:

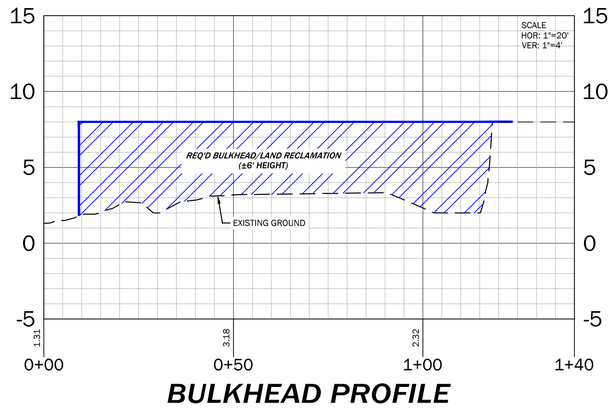
SCALE: 3/16"=1'-0"

SHEET NO.:
C1.1

SITE PLAN - LOTS 19 & 20

APPENDIX C:
Preferred Alternative
Plan and Profile Drawings





BULKHEAD PROFILE

TTL
3516 Greensboro Avenue | Tuscaloosa, AL 35401
205.345.0816 | www.ttlusa.com

CLAREMONT LAND RECLAMATION AND BULKHEAD INSTALLATION

COUNTY ROAD 1
FAIRHOPE, ALABAMA

PRELIMINARY
(NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION)

Sheet Title
BULKHEAD PLAN & PROFILE

No.	Date	Revision Description

Drawn By: J.N.B
Date: 10/03/2024
Checked By:
Proj. No.:
File Name: XXXXX.Sheet C1 01 Bulkhead Plan & Profile.dwg

Sheet No.
01

APPENDIX D:
TTL's Threatened and Endangered Species Habitat Assessment

9797 Timber Circle, Ste. A
Daphne, AL 36527
205.345.0816
www.ttlusa.com

September 24, 2024

Claremont Property Company
Attn: Mr. Hunter Megarity
5555 West Loop S., Suite 100
Bellaire, Texas 77401

RE: ***USFWS Threatened and Endangered Species Habitat Assessment Letter***
Proposed USACE Permitting for Fairhope Property
Fairhope, Baldwin County, Alabama
TTL Project No. 24-13-01833.00

Dear Mr. Megarity:

TTL, Inc. (TTL) is assisting the Claremont Property Company (CPC) with an evaluation of the potential environmental impact associated with the proposed development of residential lots located in Fairhope, Baldwin County, Alabama. TTL understands a habitat assessment was requested for an approximate 0.36-acre property in an effort to identify potentially suitable habitat for federally protected species in association with a proposed USACE Clean Water Act Section 404 and Section 10 Rivers and Harbor Act permit application for the review area.

A topographic map and an aerial photograph of the site are enclosed for your review (see Figures 1 and 2). The survey area is identified on the Point Clear, Alabama U.S. Geological Survey (USGS) 7.5-minute Topographic Map (Figure 1).

Site and Habitat Evaluation

The review area is comprised of two (2) adjacent lots (Lots 19 and 20) located along County Road 1. The review area is currently undeveloped. Areas surrounding the review area consist primarily of residential development and undeveloped land.

TTL conducted an Aquatic Resources Delineation and on-site habitat assessment for the review area on August 20, 2024. Select site photographs from TTL's on-site assessment are provided as an attachment.

TTL identified the following site/habitat observations:

- Forested upland habitat including canopy/sapling species of slash pine *(Pinus elliottii) and* Chinese tallowtree *(Triadica sebifera).*

- Herbaceous/shrub upland habitat including species of southern bayberry *(Morella cerifera),* annual ragweed *(Ambrosia artemisiifolia)*, partridge-pea *(Chamaecrista nictitans)*, fringed greenbrier (*Smilax bona-nox*), dog-fennel (*Eupatorium capillifolium*), and late-flowering thoroughwort *(Eupatorium serotinum).*

- One man-made drainage feature was observed to contain a sandy streambed and appeared to be moderately to well oxygenated. TTL observed fish within the drainage feature.

- Mobile Bay was observed along the southern extent of the review area and was observed to consists of sandy bottoms. TTL did not observe the presence of submerged aquatic vegetation (SAV) located within the observable portions of Mobile Bay within the review area. Furthermore, avaliable remote data, as documented by Barry A. Vittor & Associates, Inc., does not denote the presence of SAV within the review area.

IPAC Species List

According to information maintained by the U.S. Fish & Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) IPaC Species List, nine (9) federally-listed species may be located within the proposed project area. There are no critical habitats at this location. A copy of the Unofficial Species List Letter is included as an attachment. A species list is also provided in the table below:

Group	Name	Status
Mammals	Tricolored Bat *(Perimyotis subflavus)*	Proposed Endangered
	West Indian Manatee *(Trichechus manatus)*	Threatened
Birds	Rufa Red Knot (*Calidris canutus rufa*)	Threatened
Reptiles	Alabama Red-bellied Turtle (*Pseudemys alabaensis*)	Endangered
	Alligator Snapping Turtle *(Macrochelys temminckii)*	Proposed Threatened
	Eastern Indigo Snake *(Drymarchon couperi)*	Threatened
	Kemp's Ridley Sea Turtle *(Lepidochelys kempii)*	Endangered
Fishes	Gulf Sturgen *(Acipenser oxyrinchus (=oxyrhynchus) desotoi)*	Threatened
Insects	Monarch butterfly (*Danaus plexippus*)	Candidate

Species Information

Mammals

Tricolored Bat

The tricolored bat *(Perimyotis subflavus)* is a small to medium-sized bat distinguished by its unique tricolored fur composition that appears dark at the base, lighter in the middle, and dark at the tip. According to the USFWS 2024 *Range-wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines:*

> *"Suitable tricolored bat summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and include some adjacent and interspersed non-forested habitats such as emergent wetlands, shrublands, grasslands, and forested edges of agricultural fields, old fields, and pastures. Roosting habitat includes forests, woodlots, and linear features (e.g., fencerows and riparian corridors) containing trees with potential roost substrate (e.g., live and dead leaf clusters of live and recently dead deciduous trees, Spanish moss [Tillandsia usneoides], and beard lichen [Usnea trichodea]). Tricolored bats will roost in a variety of tree species, especially oaks (Quercus spp.), and often select roosts in tall, large diameter trees, but will roost in smaller diameter trees when potential roost substrate is present (e.g., 4- inch [10-centimeter]. Tricolored bats seem to prefer foraging along forested edges of larger forest openings, along edges of riparian areas, and over water and avoid foraging in dense, unbroken forests, and narrow road cuts through forests. Tricolored bats also roost in human-made structures, such as bridges and culverts, and occasionally in barns or the underside of open-sided shelters (e.g., porches, pavilions); therefore, these structures should also be considered potential summer habitat."*

Based on TTL's on-site habitat observations in August 2024, it is TTL's opinion that potentially suitable roosting and foraging habitat for the tricolored bat is not located within the review area. Therefore, TTL opines the proposed project activities will have no effect to tricolored bat individuals or populations.

West Indian Manatee

The West Indian manatee *(Trichechus manatus)* lives in marine, brackish, and freshwater systems in coastal and riverine areas throughout their range. Preferred habitats include areas near the shore featuring underwater vegetation like seagrass and eelgrass. Many manatees rely on the warm water from natural springs and power plant outfalls. Manatees feed on plants. They feed along grass bed margins with access to deep water channels, where they flee when threatened. They prefer submerged vegetation, such as turtle and manatee grass, and will feed on floating and emergent plants as well. Manatees also require freshwater for drinking.

Based on TTL's on-site habitat observations in August 2024, potentially suitable habitat for the west Indian manatee is located within Mobile Bay. However, based on the lack of SAV located within the project area, it is likely that manatee within the project area would be transitory. Therefore, it is TTL's opinion the proposed project may affect, but is not likely to adversely affect the west Indian manatee.

Birds

Rufa Red Knot

The red knot *(Calidris canutus rufa)* is usually found in coastal marine and estuarine habitats with large areas of exposed intertidal sediments. Red knot are a migrating and wintering species which both habitats include high-energy ocean/bay front areas and tidal flats in sheltered bays and lagoons.

Based on TTL's on-site habitat observations in August 2024, it is TTL's opinion that potentially suitable habitat for the rufa red knot is not located within the review area due to the absence of large areas of exposed intertidal sediments. Therefore, it is TTL's opinion that, based on the lack of suitable habitat and the transitory nature of rufa red knot, proposed project activities will have no effect to rufa red knot individuals or populations.

Reptiles

Alabama Red-bellied Turtle

The Alabama red-bellied turtle *(Pseudemys alabamensis)* is found in shallow vegetated backwaters of freshwater streams, rivers, bays, and bayous in or adjacent to Mobile Bay. They seem to prefer habitats having soft bottoms and extensive beds of submergent aquatic macrophytes. The Alabama red-bellied turtle is herbaceous, feeding on submergent aquatic macrophytes, such as hydrilla, brushy pondweed, eel-grass, arrowhead, and mud plantain. They feed almost entirely on aquatic plants.

Based on TTL's on-site habitat observations in August 2024, potentially suitable habitat for the Alabama red-bellied turtle is located within Mobile Bay, however based on the lack of SAV and potential basking habitat (logs, etc.) located within the project area, it is likely that Alabama red-bellied turtles within the project area would be transitory. Therefore, it is TTL's opinion the proposed project may affect, but is not likely to adversely affect the Alabama red-bellied turtle.

Alligator Snapping Turtle

The alligator snapping turtle (*Macrochelys temminckii)* is generally found in deeper water of large rivers and their major tributaries; however, they can also be found in small streams, bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows. Alligator snapping turtles often utilize structured areas including tree root masses, stumps, submerged trees, etc. The diet of the alligator snapping turtle consists of fish, crayfish, mollusks, smaller turtles, insects, nutria, snakes, birds, and vegetation.

Based on TTL's on-site habitat observations in August 2024, potentially suitable habitat for the alligator snapping turtle is located within Mobile Bay, however based on the lack of potential basking habitat (logs, etc.) and SAV, it is likely that alligator snapping turtles within the project area would be transitory. Therefore, it is TTL's opinion the proposed project may affect, but is not likely to adversely affect the alligator snapping turtle.

Eastern Indigo Snake

The eastern indigo snake *(Drymarchon corais couperi)* is usually found in flatwoods, hammocks, dry glades, stream bottoms, cane fields, riparian thickets, and high ground with well-drained, sandy soils. Eastern indigo snakes are most abundant in sandhill plant communities. Eastern indigo snakes are a

commensal species associated with the gopher tortoise *(Gopherus polyphemus)* and utilize their abandoned burrows for winter and spring habitat.

Based on TTL's on-site habitat observations in August 2024, suitable habitat for the eastern indigo snake is not located within the review area. Additionally, TTL did not observed any eastern indigo snakes within the review area. Therefore, it is TTL's opinion that there will be no effect on the eastern indigo snake individuals or populations associated with the proposed project.

Kemp's Ridley Sea Turtle

Kemp's Ridley sea turtle *(Lepidochelys kempii)* is usually found in the nearshore or inshore waters of the northern Gulf of Mexico. Adults and sub-adults primarily occupy nearshore habitats that contain muddy or sandy bottoms where prey can be found. Kemp's Ridley Sea Turtle hatchlings and small juveniles inhabit open ocean developmental habitat in association with floating *Sargassum* seaweed. Nesting for Kemp's Ridley Sea Turtles occur from April to July during which time the turtles appear off the Tamaulipas and Veracruz coasts of Mexico.

Based on TTL's on-site habitat observations in August 2024, it is TTL's opinion that potentially suitable habitat for the Kemp's Ridley sea turtle is located within Mobile Bay within the review area. Additionally, TTL opines that the existing shoreline located within the project area does not provide suitable nesting habitat as the existing shoreline within the review area is actively facing severe erosion as a result of neighboring artificial structures (i.e. bulkheads). Therefore, it is TTL's opinion the proposed project activities may affect but are not likely to adversely affect Kemp's Ridley sea turtle individuals or populations.

Fishes

Gulf Sturgeon

The gulf sturgeon *(Acipenser oxyrinchus (=oxyrhynchus) desotoi)* is generally found in marine waters within shallow seagrass beds with muddy and sandy bottoms of the continental shelf. Adult gulf sturgeon spend a portion of their lives in rivers, returning to estuarine or gulf waters during cooler times of the year. During warmer summer months, gulf sturgeon migrate to deeper sandy and rocky bottom areas of rivers and springs.

Based on TTL's on-site habitat observations in August 2024, potentially suitable habiat for the gulf sturgeon is located within Mobile Bay within the review area. However, based on the absence of shallow seagrass beds and deep sandy-bottom habitat, it is TTL's opinion the proposed project activities may affect but are not likely to adversely affect gulf sturgeon individuals or populations.

Insects

Monarch Butterfly

Monarch butterflies (*Danaus plexippus*) are typically found in meadows, edges of agricultural fields, or flowering areas with available nectar in regions of moderate temperatures with clean water sources.

Monarch butterflies in eastern and western North America exhibit long-distance migration and overwinter as adults at forested locations in Mexico and California. Reproduction is dependent on the presence of milkweed, which serves as the sole food source for larvae. Adult monarch butterflies possess two sets of orange wings spanning three to four inches with black veins and white spots located along the edges. The body is black with white markings. Male monarch butterflies also possess black dots along the veins of their hind winds and are larger in size than females.

The caterpillars are striped with yellow, black, and white bands, have a set of antennas, and reach a length of two inches before metamorphosis.

Based on TTL's on-site habitat observations in August 2024, suitable habitat for the monarch butterfly is not located within the review area. Therefore, it is TTL's opinion the proposed project activities will have no effect to monarch butterfly individuals or populations.

Conclusions and Recommendations

Based on TTL's on-site habitat observations in August 2024, potentially suitable habitat for the West Indian manatee, Alabama red-bellied turtle, alligator snapping turtle, Kemp's Ridley sea turtle, and gulf sturgeon is located within Mobile Bay within the review area. However, based on the lack of SAV, severe shoreline erosion, and the transitory nature of these species, TTL opines the proposed project activities may affect but are not likely to adversely affect these species.

TTL appreciates the opportunity to work with you on this project. Should you have any questions, please do not hesitate to contact Braci Gatlin at (205) 535-5380 or bgatlin@ttlusa.com.

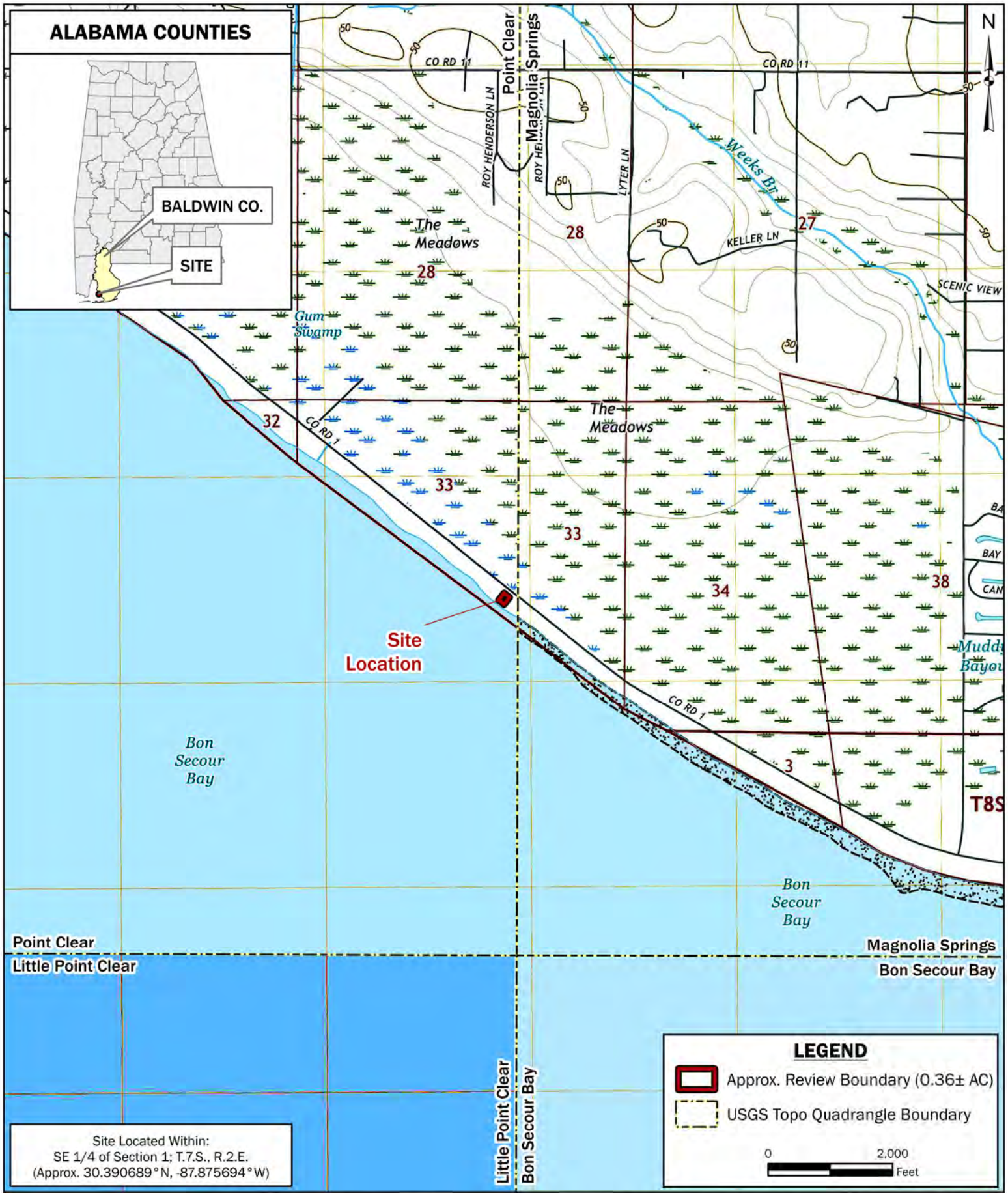
Sincerely,

TTL, Inc.

Braci H. Gatlin, WPIT
Natural Resources Project Professional
Federally Permitted Bat Biologist

Christopher Terrell, PWS
Natural Resources Regional Leader

Attachments: *Figure 1: Site Location & Topographic Map*
Figure 2: Site Location & Aerial Photograph Map
USFWS-IPAC Unofficial Species List Letter
Select Site Photographs



TTL

FIGURE 1: SITE LOCATION & TOPOGRAPHIC MAP

CLAREMONT PROPERTY COMPANY

THREATENED & ENDANGERED SPECIES HABITAT ASSESSMENT

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Point Clear, Alabama USGS 7.5 Minute Quadrangle Map, 2018 (10-ft Contour Interval).

DRAWN BY: SG	
CHECKED BY: CGT	
DRAWING DATE: 09/08/2024	
REVISION DATE: N/A	
TTL JOB NO.: 24-13-01833.00	
APPROX. SCALE: 1 in = 2,000 ft	

TTL

FIGURE 2: SITE LOCATION & AERIAL PHOTOGRAPH

CLAREMONT PROPERTY COMPANY

THREATENED & ENDANGERED SPECIES HABITAT ASSESSMENT

FAIRHOPE, BALDWIN COUNTY, ALABAMA

BASEMAP: Maxar Industries, Vivid Imagery, 02/20/2023 (0.31 m Resolution).

DRAWN BY: SG	
CHECKED BY: CGT	
DRAWING DATE: 09/08/2024	
REVISION DATE: N/A	
TTL JOB NO.: 24-13-01833.00	
APPROX. SCALE: 1 in = 30 ft	

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

Baldwin County, Alabama

Local office

Alabama Ecological Services Field Office

(251) 441-5181
(251) 441-6222
alabama@fws.gov

1208 B Main Street
Daphne, AL 36526-4419

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. IPaC only shows species that are regulated by USFWS (see FAQ).

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
Tricolored Bat *Perimyotis subflavus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Birds

NAME	STATUS
Rufa Red Knot *Calidris canutus rufa* Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1864	Threatened

Reptiles

NAME	STATUS
Alabama Red-bellied Turtle *Pseudemys alabamensis* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1494	Endangered
Alligator Snapping Turtle *Macrochelys temminckii* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

Eastern Indigo Snake Drymarchon couperi — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/646

Kemp's Ridley Sea Turtle Lepidochelys kempii — Endangered
Wherever found
There is **proposed** critical habitat for this species.
https://ecos.fws.gov/ecp/species/5523

Fishes

NAME	STATUS
Gulf Sturgeon Acipenser oxyrinchus (=oxyrhynchus) desotoi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/651	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

NAME	BREEDING SEASON
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. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

"Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

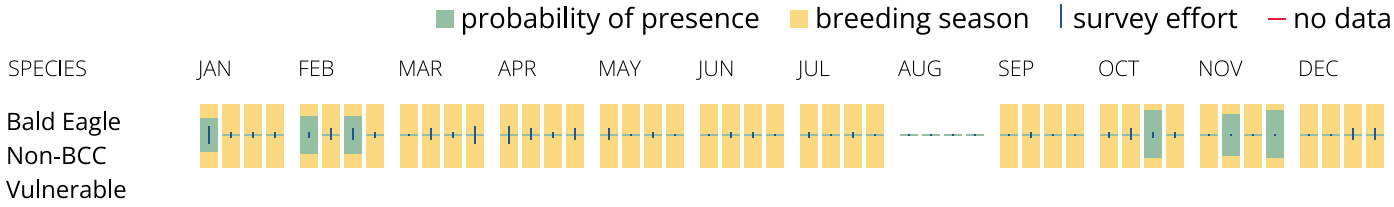
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles 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 Rapid Avian Information Locator (RAIL) Tool.

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. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

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, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	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. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Brown-headed Nuthatch Sitta pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Chuck-will's-widow Antrostomus carolinensis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Jul 10
Coastal (wayne s) Black-throated Green Warbler Setophaga virens waynei This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Aug 15
Least Tern Sternula antillarum antillarum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 25 to Sep 5
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Prairie Warbler Setophaga discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 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
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Swallow-tailed Kite Elanoides forficatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

"Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

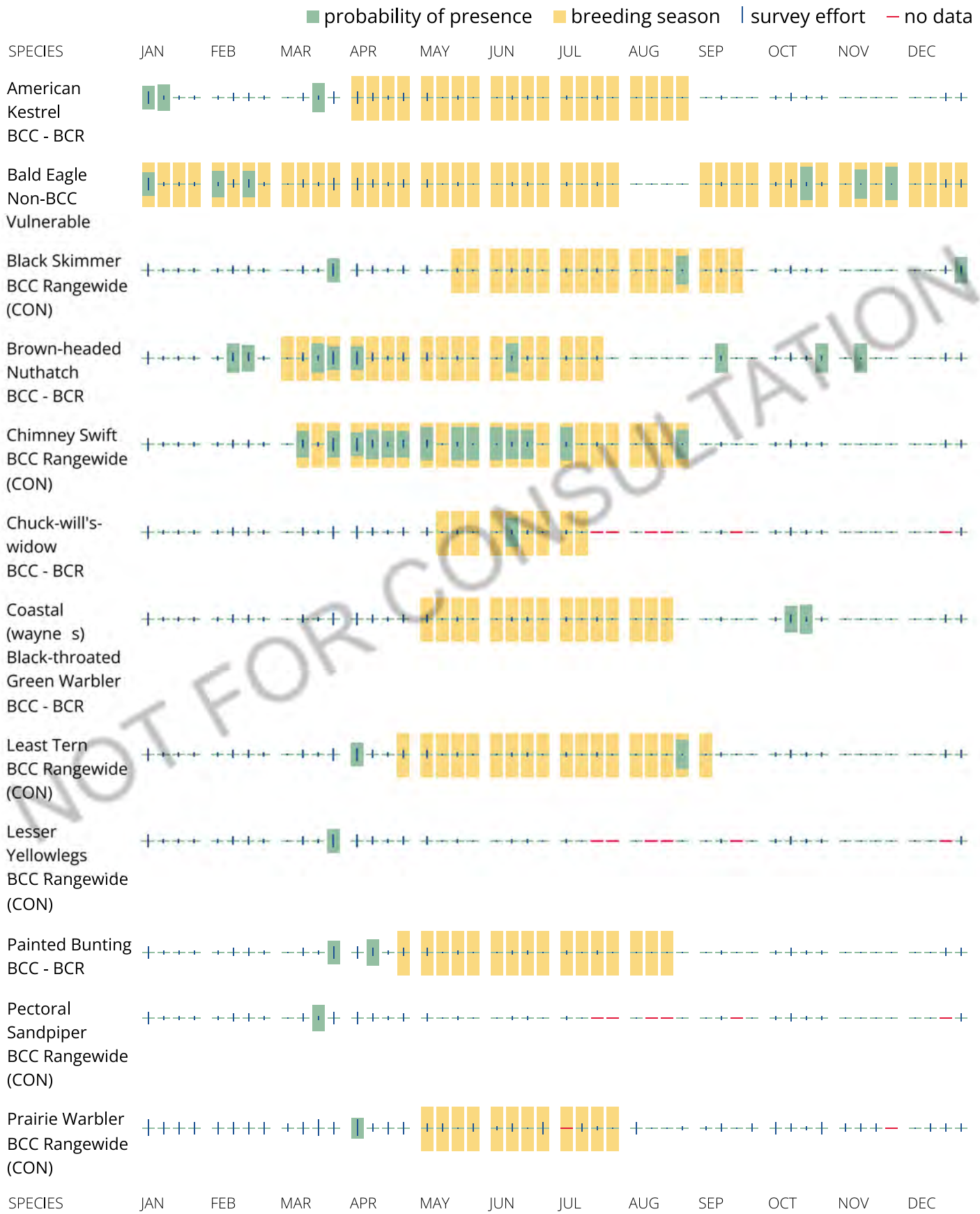
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

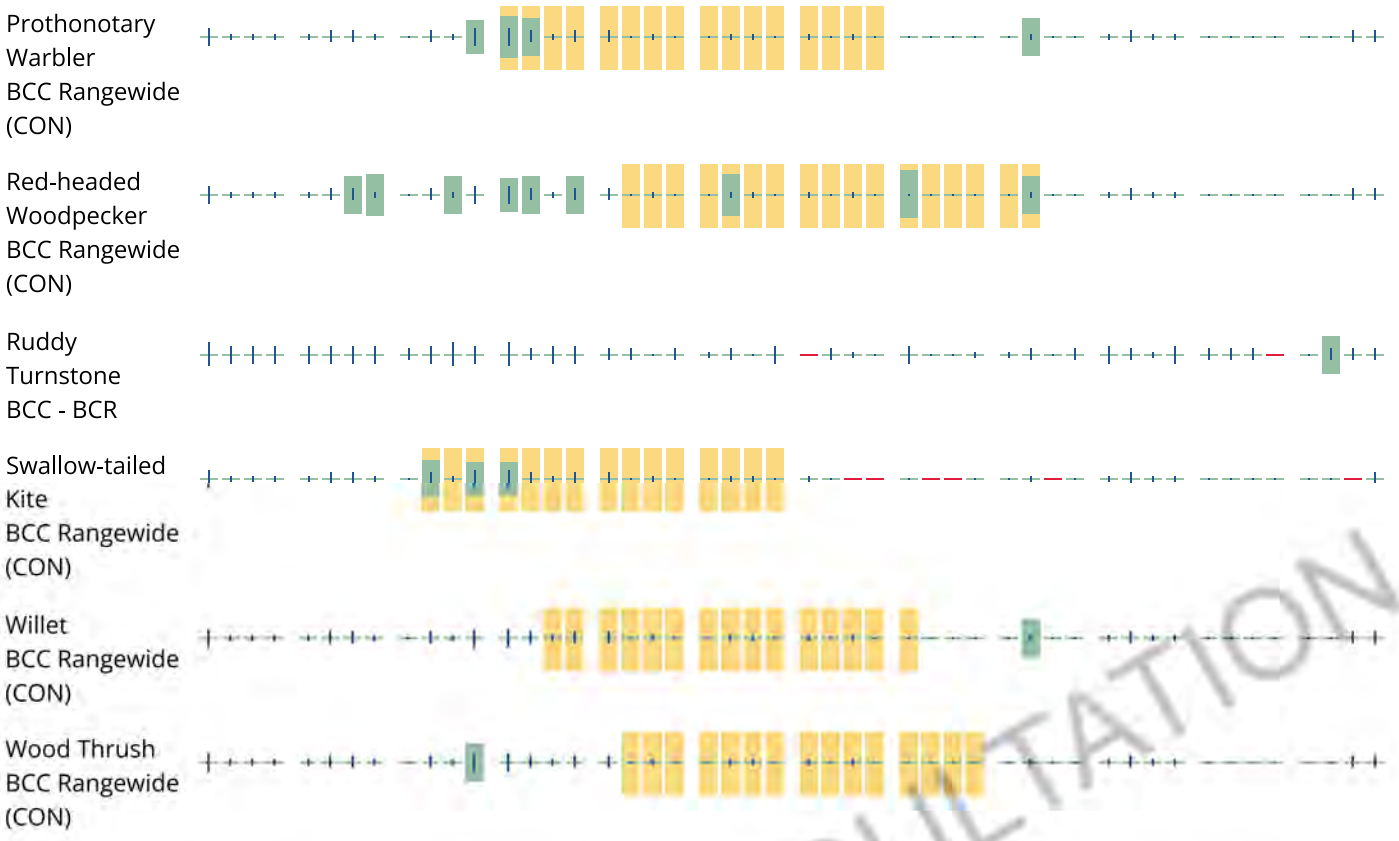
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





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 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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 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 (NWI)

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:

ESTUARINE AND MARINE WETLAND

E2USP

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

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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.

Site Photographs

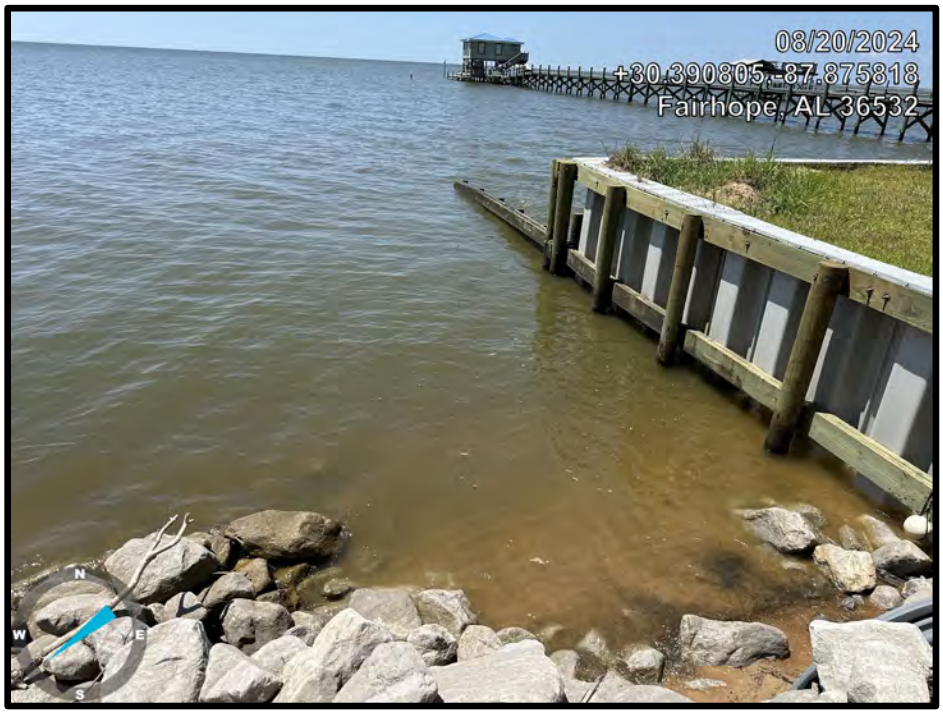
Threatened & Endangered Species – TTL Project No. 24-13-01833.00
Fairhope Property USACE Permitting ● Fairhope, Baldwin County, Alabama
Photos taken August 20, 2024

Photograph 1: View of upland forested habitat within the review area.

Photograph 2: View of shoreline habitat located within the review area.

Site Photographs

Threatened & Endangered Species – TTL Project No. 24-13-01833.00
Fairhope Property USACE Permitting ● Fairhope, Baldwin County, Alabama
Photos taken August 20, 2024



Photograph 3: View of culvert outlet into Mobile Bay within the review area.

Photograph 4: View of ditch habitat located within the review area.

APPENDIX E:
TerraXploration's Phase I Cultural Resource Survey

A PHASE I CULTURAL RESOURCES SURVEY FOR THE PROPOSED HALF ACRE AT MOBILE BAY RESIDENTIAL DEVELOPMENT PROJECT IN BALDWIN COUNTY, ALABAMA

Prepared by
TerraXplorations, Inc.

Prepared for
TTL

Helping our clients through the cultural resource process

Doing the best job in every situation

Advancing our employees

September 2024

TerraXplorations, Inc.
3120 University Boulevard E,
Tuscaloosa, AL, 35404
TerraXplorations.com

TTL
2743-B Gunter Park Dr. W.
Montgomery, AL, 36109

This page intentionally left blank

A PHASE I CULTURAL RESOURCES SURVEY FOR THE PROPOSED HALF ACRE AT MOBILE BAY RESIDENTIAL DEVELOPMENT PROJECT IN BALDWIN COUNTY, ALABAMA

BY

Zackariah D. Pagels, Elizabeth Valentine, Alexis Muschal, Brendan Cooper, and Sarah Knauer

Prepared by
TerraXplorations, Inc.
3120 University Boulevard E.
Tuscaloosa, Alabama, 35404

Prepared for
TTL
2743-B Gunter Park Dr. W.,
Montgomery, Alabama, 36109

Principal Investigator

Emma Jackson Pepperman

TerraX Project Number
24137

September 2024

INTRODUCTION

TerraXplorations, Inc. (TerraX) of Tuscaloosa, Alabama was contracted by TTL of Montgomery, Alabama on behalf of Claremont Property Co. of Bonita Springs, Florida to conduct a cultural resources survey for the proposed Half Acre at Mobile Bay Residential Development Project in Baldwin County, Alabama. The Phase I survey was performed on September 4, 2024. Emma Jackson Pepperman served as the Principal Investigator and was assisted in the field by Kevin Rolph and Cat Strader. The purpose of this study was to determine if any prehistoric or historic properties exist within the limits of the survey area and, if so, to document and assess each based on the National Register of Historic Places (NRHP) criteria. The proposed project involves the construction of a single-family residence and associated infrastructure alongside proposed land reclamation. While there is no lead federal agency at this time, lead federal agency responsibilities will fall upon the United States Army Corps of Engineers (USACE) once permitting is acquired.

The project area is located in a residential area along the coast of Mobile Bay, south-southeast of the city of Barnwell, Alabama, and west-southwest of Yupon, Alabama, 1.81 miles (mi) (2.91 kilometers [km]) west of Weeks Bay. The project area consists of one 0.45-acre (ac) parcel bounded to the northeast by State Highway 1, to the southwest by Mobile Bay, and to the northwest and southeast by abutting residential properties. The project area is partially wooded, partially sandy, and partially within the Mobile Bay. Beach houses surround that project area to the southeast and northwest.

The project area consists of a total of approximately 0.45 ac (0.18 hectares [ha]) (Figure 1). The direct Area of Potential Effect (APE) is the same as the project area, and the indirect APE includes the subject property and adjacent properties found within a 0.25 mi radius. The subject property and surrounding area can be found on the 1956 (1986 edition [ed.]) Point Clear, Alabama United States Geological Survey (USGS) 7.5' series topographic quadrangle (Figure 2).

PROJECT AREA ENVIRONMENT

The survey area is situated within the Gulf Barrier Islands and Coastal Marshes sub-ecoregion of the Southern Coastal Plain Province. The Southern Coastal Plain Province is classified mostly as flat plains; however, barrier islands, coastal lagoons, swamps, and marshes are also present throughout this ecoregion, which spans from South Carolina and Georgia, into Florida, the Gulf Coast, the Florida Panhandle, and finally into Alabama and Mississippi. Landcover for this region is significantly comprised of slash and loblolly pine while swamps are composed of oak and cypress; however, this ecoregion was once composed of various species of beech, pine, oak, sweetgum, and magnolia. Cleared areas are utilized as pasture, groves for citrus production, and urbanization. The Gulf Barrier Islands and Coastal Marshes sub-ecoregion of the Southern Coastal Plain Province consists of brackish marshes and dune-covered beaches and barrier islands surrounding Mobile Bay. Vegetation in the Gulf Barrier Islands and Coastal Marshes sub-ecoregions consists of grasses, forbes, and pine scrub, which contribute to wildlife habitat, especially that of migratory birds (Griffith et al. 2001).

Elevations in the survey area range between 0 m (0 feet [ft.]) above mean sea level (AMSL) and 3.05 m (10 ft.) above mean sea level with an average elevation of 1.5 m (5 ft.) AMSL (Google Earth 2024). The lowest elevations occur in the southwestern portion where the project area meets Mobile Bay, with the higher elevations in the northeastern portion of the project area. The total survey area is a gently sloping landform consisting mainly of water of the Mobile Bay, sand, and grasses and brush under pine trees (Figure 3). The underbrush is lightly dense in the wooded area, and the surface visibility is poor. Visibility is great on the sandy beach portion of the project area. Modern trash was noted within the sandy portion of the project area. Photographs depicting the present condition of the land within the survey limits are provided (Figures 4-7).

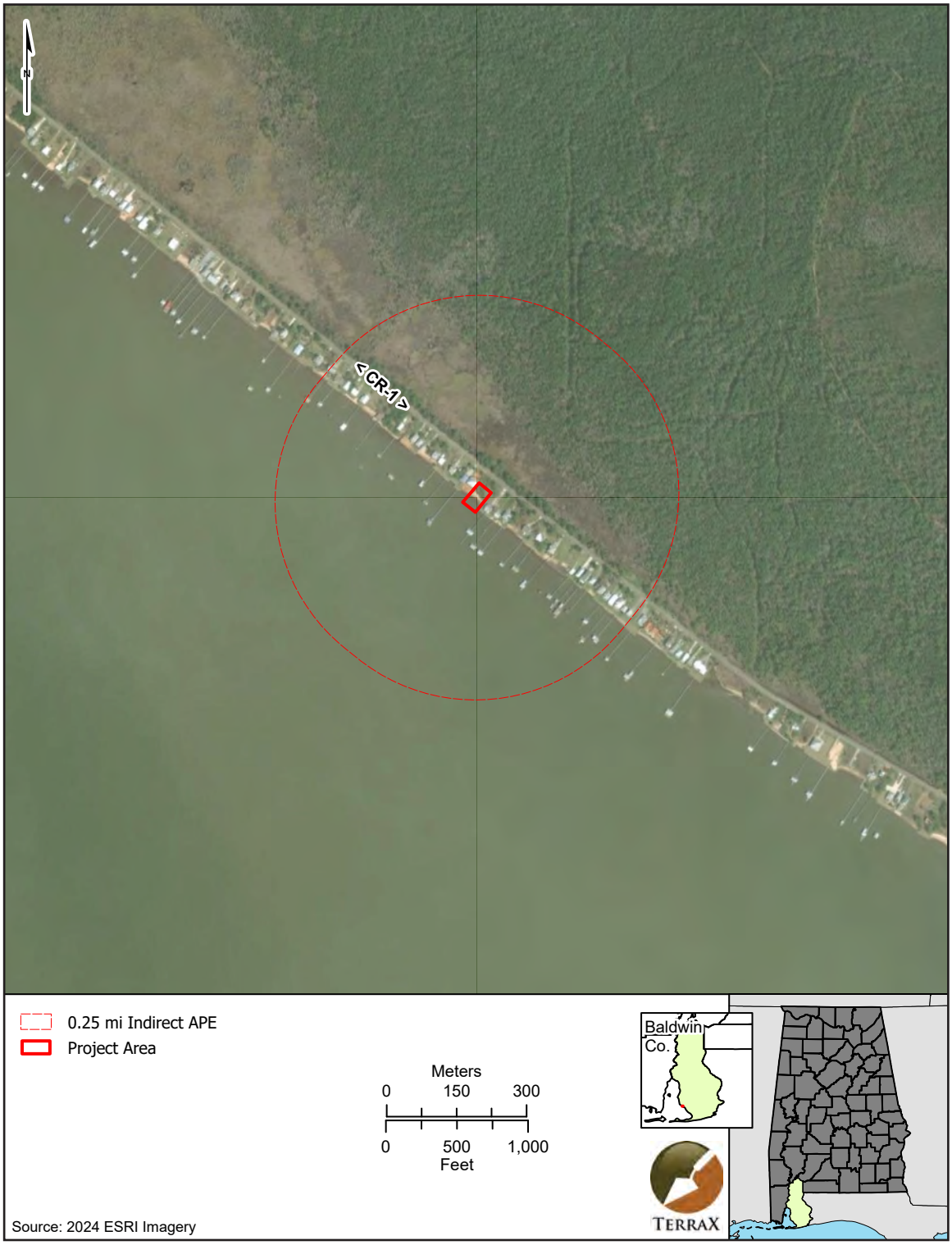


Figure 1. *Aerial map depicting the project area.*

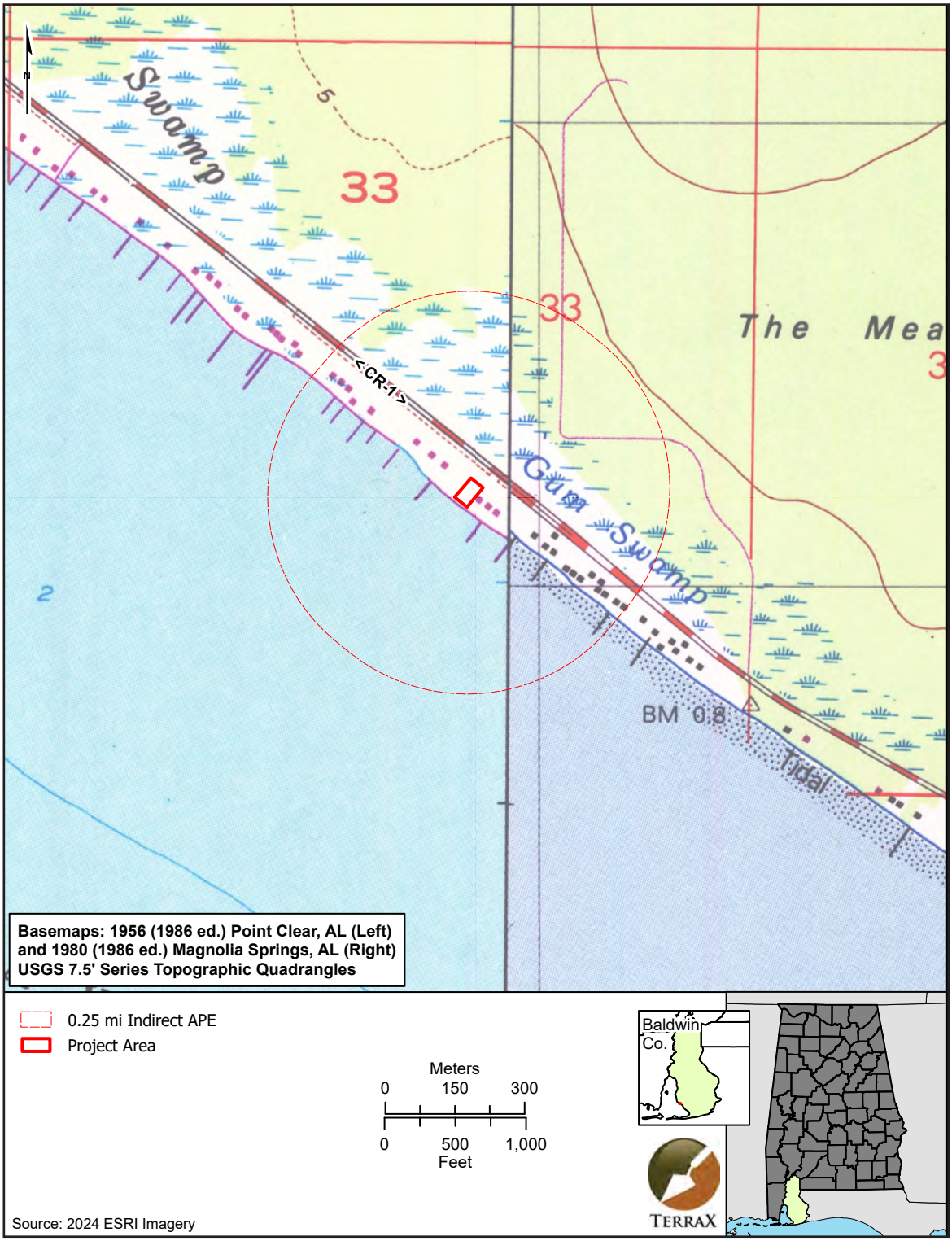


Figure 2. *Topographic map depicting the project area.*

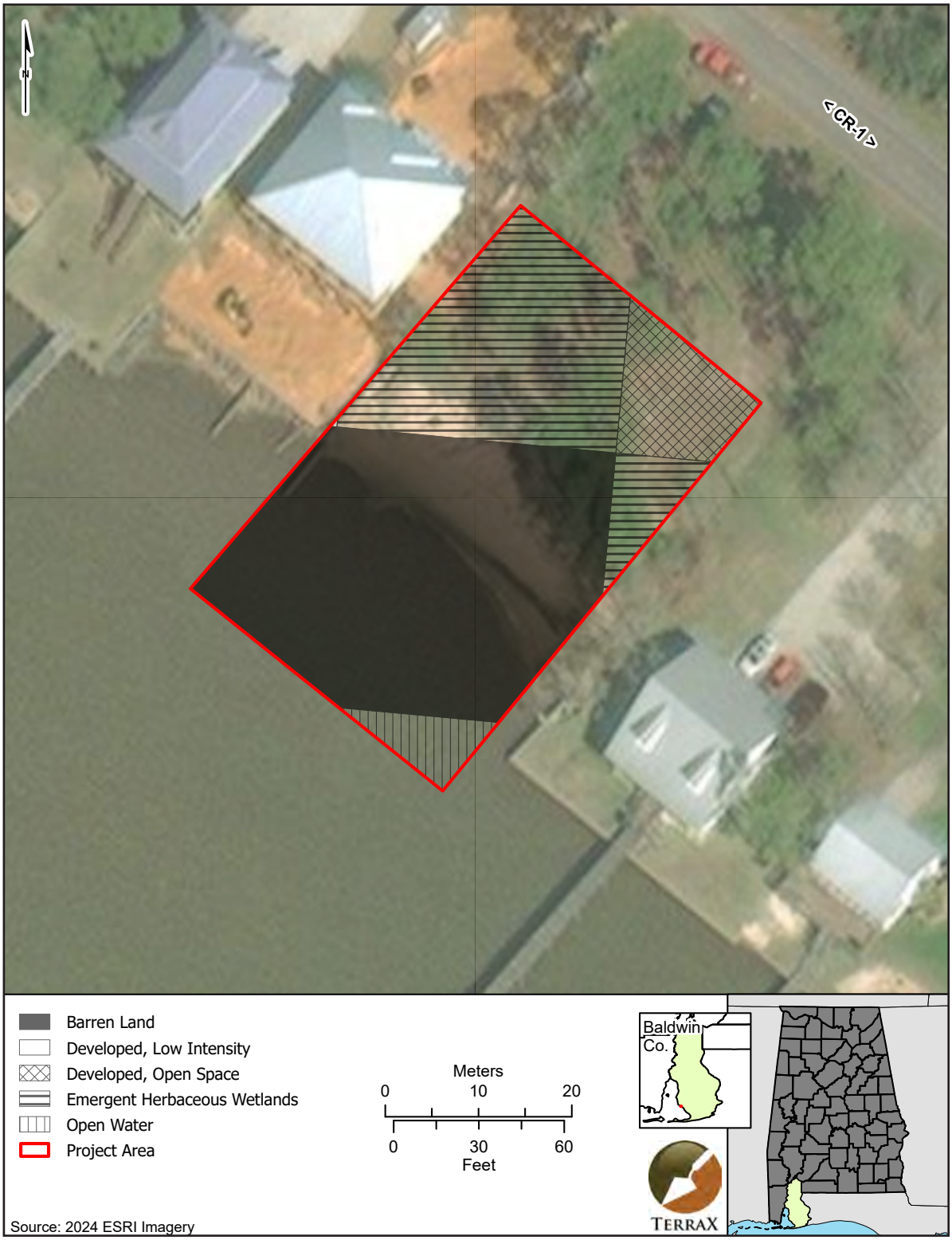


Figure 3. *Aerial map depicting land coverage throughout the project area.*

Figure 4. *View of forested environment and underbrush within the project area, facing northeast*

Figure 5. *View of forested environment and underbrush within the project area, facing northwest.*

Figure 6. *View of environment within the project area and nearby development, facing southeast.*

Figure 7. *View of environment within the project area and nearby development, facing northwest.*

A review of the United States Department of Agriculture (USDA) Web Soil Survey (USDA 2024a) identified one soil type, Tidal Marsh, within the project area (Figure 8). Tidal Marsh comprises the largest coverage of soil types, accounting for 92.3 percent of the project area, while the remaining 7.7 percent of the project area consists of water (USDA 2024a). The Tidal Marsh series "consists of deep and very deep, very poorly drained, moderately slowly permeable soils that are inundated by high tides" (USDA 2024b). A typical profile consists of five soil horizons: an A1 horizon consisting of 0 to 10 inches of mucky clay, an A2 horizon consisting of 10 to 24 inches of silty clay, an A3 horizon consisting of 24 to 40 inches of sandy clay loam, and a 2C horizon consisting of 40 to 76 inches of loamy fine sand, underlain by a 3R horizon consisting of limestone bedrock. Vegetation associated with this soil type includes various grasses and forbs and contributes to coastline wildlife habitat (USDA 2024b).

CULTURAL HISTORY - MOBILE BAY AND TOMBIGBEE RIVER BASIN

Paleoindian (10,000–8,000 BC)

The Paleoindian period represents the earliest agreed-upon human occupation in the Americas. Paleoindian populations are conventionally described as highly adaptive, mobile hunter-gatherers whose ancestors had migrated from Siberia into North America approximately 13,500 years ago. This migration is believed to have occurred near the end of the Ice Age, during the Late Pleistocene Epoch, when glaciers were expanding and retreating in response to fluctuations in global temperatures. The movement of populations was made possible when the colder periods of the Pleistocene captured large quantities of the Earth's water in glaciers, which lowered sea levels and exposed large portions of the continent, including a land bridge between Siberia and Alaska, allowing human populations to follow Pleistocene mammals across the Americas (Anderson 1990, 1996).

However, increasing evidence is being found for occupations of greater antiquity than traditionally recognized for the Pleistocene period. For example, radiocarbon dating of underwater deposits associated with stone tools and mastodon bones from the Page-Ladson site in northern Florida indicates that Paleoindians occupied the American Southeast as early as 12,600 BC (Halligan et al. 2016). These research trends and additional deficiencies in the conventional model have led archaeologists to advance alternative models for the people of the Americas, including a route via watercraft down the Pacific coast. Consensus has yet to be achieved within the professional archaeological community, and these models are still a topic of healthy debate (see Braje et al. 2020; Faught 2008; Pitblado 2011).

Within the southeastern United States, the Paleoindian period has been provisionally divided into Early, Middle, and Late or Transitional subperiods based on distinctive changes in material culture and is most commonly recognized via projectile point morphology. These changes roughly correlate with the initial colonization and exploration of the Americas, the development of regional traditions, and a shift to Holocene environmental conditions with a transition to more Archaic period traits (Anderson 1990:165–166). Clovis sites are often defined by small campsites or isolated finds (Walthall 1980). Lithic raw material acquisition sites for Clovis points can be found hundreds of kilometers from the archaeological contexts in which they are found (Anderson and Sassaman 2012). Later in the Paleoindian and into the Early Archaic, lithic raw materials appear to have been sourced more locally, suggesting decreased mobility (Anderson and Sassaman 2012).

The Early Paleoindian period (ca. 10,000–8800 BC) is typically recognized by the presence of Clovis and Clovis-related projectile points. These points are characterized by large, lanceolate blades that feature roughly parallel ground haft margins, slightly concave bases, and channels or flutes created by removing a vertical flake from the center of one or both faces of the point (Anderson 1990:165).

During the Middle Paleoindian period (8800–8500 BC), projectile points included fluted and unfluted lanceolate/auriculate forms and varieties with broad blades and constricted haft elements. Point types associated with this period include Cumberland, Suwannee, Simpson, and probable transitional Clovis variants. The loss of the distinctive "flute" on the Middle Paleoindian projectile points may be a morphological adaptation relating to the extinction of the megafauna (Anderson 1996). This change in Clovis structure and the creation of other regional variants suggests Clovis populations were growing and their ranges becoming more firmly established across Eastern North America (Anderson 1996; Anderson et al. 2015; Smallwood 2012). Most Clovis sites identified in Alabama have been found in the northern portion of the state (Dunbar 2016).

Late or Transitional Paleoindian period (8500–8000 BC) projectile points are dominated by Dalton cluster varieties, including Cumberland, Quad, and Beaver Lake (Anderson and Sassaman 2012). These types, which frequently exhibit evidence of extensive resharpening, are typically lanceolate forms with concave bases and grinding on the lateral and basal margins. The blades of these types are often serrated or beveled. A review of the Alabama Cultural Online Resources Database (ACORD) (2024) reveals a small number of Paleoindian sites present along the Tennessee River to the north. Most notable is the Dust Cave Site, located in the Highland Rim region of northern Alabama.

By the end of the Paleoindian period, which generally corresponds to the end of the cold Younger Dryas, many of the megafauna species that had been a staple food source, such as mammoth and mastodon, became extinct as temperatures rose. Subsistence strategies shifted to generalized hunting and gathering, relying on deer, small prey animals, fishing, and wild plants such as blackberries, hackberries, grapes, amaranth, and nuts (Dent 1995).

Archaic Period (8000–1200 BC)

The Archaic period in southeastern North America represents a lengthy interval of over 7,000 years. The Archaic period is traditionally described as an era of gradual change from highly mobile, camp-based lifeways to more sedentary settlements with complex sociopolitical organization and religious expression (Anderson and Sassaman 2012:66; Sassaman 2010). More recently, however, archaeologists are challenging this linear narrative as evidence of a diversity of lifeways becomes increasingly apparent. In addition to acknowledging the variation present within the Archaic period, archaeologists in recent decades have recognized that several hallmarks of subsequent periods have Archaic-period origins, such as the invention of pottery, participation in vast exchange networks, and the erection of monumental architecture. The Archaic period is typically divided into Early, Middle, and Late subperiods, each coinciding with a significant post-glacial climatic shift (Anderson and Sassaman 2012:66–71).

The Early Archaic period spanned from 8000–6000 BC and was characterized by the manufacture of notched and stemmed projectile points, unifacial flake tools, and the use of rock shelters—particularly in northern Alabama. The beginning of the Early Archaic period coincides with an increase in global temperature that marks the beginning of the Holocene geological epoch. The higher frequency of sites shows that the population has increased during this time. Early Archaic groups are thought to have been organized as mobile bands whose ranges were constrained by physiographic regions or material resources, adhering to relatively small territories centered on base camps served by smaller resource procurement camps.

As the megafauna disappeared at the close of the Pleistocene, adaptations in projectile point forms from the larger lanceolate varieties of the Paleoindian to the smaller serrated and notched types of the Early Archaic appear to reflect the concomitant shift in hunting strategies that the die-off would have necessitated. These smaller bifaces have well-documented pan-regional sequences that include the side-notched (Taylor, Big

Sandy, and Bolen), corner-notched (Kirk and Palmer), and bifurcate (MacCorkle, St. Albans, and LeCroy) traditions (Anderson and Sassaman 2012; Coe 1964; Daniel 2021; Daniel and Moore 2011; Walthall 1980). Bone tools appear in abundant evidence from this time, including ornaments, awls, and needles, which would have been used to process hides. Cane matting impressions found at Early Archaic sites in the region suggest the manufacture of mats and baskets.

The Middle Archaic period coincides with the Hypsithermal Climatic Interval, which brought increased seasonal extremes with overall hotter and drier conditions (Anderson and Sassaman 2012:73). This climatic trend caused a vegetative shift in which pine expanded and overtook oak-hickory forests. As the temperature rose, riverine swamps, marshes, modern river deltas, and estuaries formed (Anderson and Sassaman 2012). At this time, populations experienced a change in economies, which is thought to have led to more diverse territorial groups (Walthall 1980). Developments at this time included the deer bone atlatl hook, flexed burials with grave goods, bone tools, projectiles made from antler tips, grinding stones, and the erection of earthen mounds in the Lower Mississippi Valley and parts of Florida. Evidence of some of the earliest known domestication of dogs has been found in the region (Walthall 1980).

Regarding material culture, the Marrow Mountain tradition defines the Middle Archaic in the region. Morrow Mountain projectile points are small to medium points with short, tapered stems (Walthall 1980). A shift from curated tools made from high-quality, often exotic, materials in favor of more expedient flake tools, often made from lower-quality local lithic resources, has been observed across the Southeast and Middle Atlantic during this time (Blanton et al. 1994; Custer and Wallace 1982). At the same time, tools such as atlatl weights, net sinkers, and grooved axes were added to the assemblage. Although Middle Archaic sites with organic remains are scarce, the increase in tool diversity suggests an expansion of subsistence strategies. Early and Middle Archaic living areas did not show post holes or signs of large structures, but these habitation site floors often included hearths, grinding slabs, and shallow pits (Steponaitis 1986). Steponaitis (1986) indicated that understanding early settlement systems during these periods will require more archaeological excavations, as investigations at the time of his writing were frequently the result of salvage archaeology, which limited the environment and topography studied.

By the Late Archaic period, the climate was stabilizing, and modern environmental conditions were taking hold, allowing for the exploitation of a greater variety of ecological settings (Anderson and Sassaman 2012; Walthall 1980). The stabilization of riverine floodplains enabled seasonal base camps to expand into new physiographic zones with a preference for resource-rich riverine environments, leading to more permanent settlements (Custer and Wallace 1982; Steponaitis 1986). The general trends of the Late Archaic period, likely initiated by the development of a more modern climate and environment, consisted of the rise and expansion of trade networks, an increase in population, and a greater degree of sedentism (Dent 1995; Ward and Davis 1999). In Alabama, stone vessels and fiber-tempered pottery arose (Steponaitis 1986; Walthall 1980).

Late Archaic sites abound throughout Alabama, and large middens can be found over several hectares, commonly along terraces and floodplains of streams. Sites along floodplains and terraces show signs of dwellings with clay floors surrounded by post molds, which are consistent with aboveground walls. Storage pits and burials are also expected at these sites (Steponaitis 1986). In the nearby Tennessee Valley and along the coast, large shell mounds comprise the debris generated from mollusk exploitation (Walthall 1980). These shell mounds are associated with base camps containing clay floors and post holes representing structures built over middens. Burial practices throughout the Late Archaic included dedicated burial grounds, cremation, cave burials, and mortuary caches.

Gulf Formational Period (2500–100 BC)

Walthall and Jenkins (1976) defined the Gulf Formational period to accommodate pottery-making cultures at the end of the Late Archaic period. While the appearance of pottery between the Late Archaic and Woodland periods was transformative, there was little change in settlement patterns or social organization (Futato 1989:225). Because of this, some controversy remains as to whether the appearance of ceramics should mark the advent of a new cultural stage or if it represents a period of cultural transition between the Late Archaic and Woodland peoples. The Gulf Formational stage is divided into three sequential periods: Early (2500–1200 BC), Middle (1200–500 BC), and Late (500–100 BC); however, only the Middle and Late Gulf Formational periods are present in Alabama (Walthall 1980:78; Walthall and Jenkins 1976). The Gulf Formational stage began along the Atlantic coast in Georgia and Florida with the appearance of fiber-tempered pottery. However, archaeologists studying these earliest ceramic sites typically associate them with the Late Archaic or Early Woodland periods and eschew using the Gulf Formational stage in their chronological frameworks. Many scholars of the Atlantic coast do not recognize the Gulf Formational period. The period ended with southern Appalachian and northern pottery types spread into the Southeast (Walthall 1980: 78).

Pottery was introduced to cultures living in Alabama around 1300 BC, as fiber-tempered wares spread along the Gulf Coast from Florida and into the interior. From these origins, two primary pottery-making cultures developed: Wheeler, a fiber-tempered ceramic complex that emerged along the upper Tombigbee and spread to the Tennessee Valley of western Alabama, and Bayou la Batre, a sand-tempered ceramic complex that extended up the lower Tombigbee and Alabama Rivers from Mobile Bay (Walthall 1980). Flat-bottomed bowl forms with plain and dentate-stamped surface treatments characterize Wheeler pottery. Bayou La Batre pottery is a coarse sand-tempered ware frequently decorated with scalloped shell impressions. Vessel forms included a flaring-side cup or beaker and a globular-shaped pot. These styles are known to have either annular bases or four podal feet (Walthall 1980:95).

The most notable Middle Gulf Formational period archaeological site is Poverty Point, located on the edge of the Macon Ridge overlooking the Mississippi floodplains. The data recovered from this site reflects and builds upon Archaic period culture and incorporates traditions from other regional cultures. These trends are reflected in the presence of specific pottery types and earthen mounds and embankments in a geometric design oriented according to the cardinal directions (Walthall and Jenkins 1976:46-47). Three types of pottery have been recovered from the earthworks at Poverty Point: fiber-tempered Wheeler ceramics, sand-tempered Alexander pottery, and grog-tempered ware (Walthall 1980: 86). Lithic tools associated with Middle Gulf Formational assemblages in this region include Little Bear Creek, Wade, and Cotaco Creek (Walthall 1980). During the Late Gulf Formational period in western Alabama, fiber-tempered pottery was replaced by the Tchefuncte and Alexander complexes (Walthall 1980:98). Tchefuncte and Alexander pottery is coil constructed and formed into a deep cup or wide-mouthed pot occasionally with tetrapodal supports attached (Walthall 1980: 86). Alexander pottery is sand-tempered, while Tchefuncte wares exhibit no deliberate inclusions. In the Late Gulf Formational period, a second phase of the Tchefuncte-Alexander complex, the Henson Spring phase, was identified in the Upper Tombigbee River Basin (Walthall 1980:100). A review of sites within the Mobile Bay-Tombigbee River valley shows that very few sites are categorized as having Gulf Formational period components. These sites are more likely to have been categorized into the Late Archaic or Early Woodland periods (ACORD 2024).

Woodland Period (100 BC-AD 1000)

Like its predecessors, the Woodland period is usually divided into Early, Middle, and Late subperiods. The Early and Middle Woodland periods (AD 100–600) are minutely distinguished and often combined in this

region, while the Late Woodland period (AD 600–1000) boasts of more recognizable trends. Archaeologists generally distinguish the Woodland period as a whole by the widespread use of pottery, the rise and decline of regional trade networks, an increasing reliance on agriculture, and population growth (Anderson and Mainfort 2002:1). The introduction and intensification of horticulture, earthwork construction, and elaboration of artistic expression and burial ritual are all thought to be related to the reorganization of social structure. Woodland groups organized themselves into egalitarian bands or tribal groups, divided into small, local communities of approximately a hundred individuals.

Essential trends that characterize the Early and Middle Woodland periods include an increasing emphasis on horticulture, increased sedentism, and the appearance of elaborate mortuary practices (Steponaitis 1986:379). Early Woodland groups continued with patterns of floodplain and upland basecamp occupations coupled with auxiliary resource procurement satellite camps; however, a marked decrease in the number of Early Woodland sites and a reduction in occupation intensity has been attributed to climatic disruptions and the disintegration of social networks that began in the Late Archaic/Gulf Formational periods (Anderson and Sassaman 2012; Kidder 2006).

Around this time, trade with the Poverty Point culture disappeared in the Lower Mississippi Valley (Steponaitis 1986: 381). However, long-distance trade continued during the Early Woodland period, and exotic commodities increased across the Southeastern United States during the subsequent Middle Woodland period. Copper, marine shells, greenstone, chert, crystalline quartz, galena, and mica were moved hundreds of miles from their sources (Steponaitis 1986: 381).

By the Late Middle Woodland period, tribes became less nomadic, and by AD 400, at least some settlements may have been occupied year-round (Steponaitis 1986: 381). Permanent or semi-permanent settlements would have consisted of houses. These houses would have been round or oval in shape and were constructed from wooden posts ranging from 2.5 to 9 meters in length (Steponaitis 1986:380). Further evidence of more sedentary lifestyles was apparent through changing mortuary practices. Mortuary practices in the Early Woodland period consisted of primarily flexed human skeletal remains, bone bundles, or cremations placed in pits. In contrast, the Middle Woodland period featured more elaborate mortuary practices. Around this time, the rise in burial mounds and associated ceremonial practices spread throughout the Southeastern United States (Steponaitis 1986:382).

The Late Woodland period (AD 600–1000) was a time of significant cultural change due partly to climatic shifts, new subsistence technologies, population growth, and the emergence of entirely sedentary villages (Steponaitis 1986:384). Burial mounds were still used but were less elaborate than those of the Middle Woodland period. A decrease in diversified burial goods and elaborate mortuary practices suggests that social ranking, chiefly power and foreign exchange, became less important in the Late Woodland period (Purdue and Green 2001:26).

The Weeden Island culture defines the Late Woodland period in the northern Gulf Coast. Two classes of vessels have been identified within Weeden Island ceramic assemblages. The first is ceremonial ware characterized by decorative painting and incised lines. The second is utilitarian ware that is either undecorated or has a stamped pattern (Walthall 1980:165). Weeden Island pottery has been identified at Late Woodland sites in southwestern Alabama, suggesting cultural diffusion occurred between Weeden Island peoples and cultural groups in the Mobile Bay region.

Specific to the Lower Tombigbee River Basin and north of Mobile Bay was a cultural group known as McLeod. McLeod pottery contains elements of nearby regional styles, including Deptford and Weeden

Island surface treatments such as plain, check-stamped, and simple-stamped types. These finishes are usually found on straight-sided or globular bowls and jars. Exterior rim folds are standard on all McLeod vessel forms (Walthall 1980:167).

Mississippian Period (AD 1000–1500)

The Mississippian stage is the most elaborate and complicated social structure of indigenous peoples in the Southeast. This stage has many distinguishing characteristics that signify the complexity of the emerging society. A few of these aspects include very distinctive pottery forms and decorations, the use of large platform earthen mounds on and around open plazas, increased territoriality and warfare, floodplain agriculture based on maize, squash, and beans, religious ceremonialism, timber, and thatch structures, and highly organized chiefdoms (Purdue and Green 2001:27; Steponaitis 1986; Walthall 1980:185–200).

Large ceremonial centers such as Hopewell in the north and Moundville in the nearby Black Warrior River Basin flourished. However, large ceremonial complexes were only one of multiple types of settlement patterns. Settlement in the Mississippian Period occurred within riverine, interior, and coastal environments (McMakin et al. 1996:24). Riverine settlements include complex single or multi-mound ceremonial structured societies such as Moundville in central Alabama, but also small campsites exist between larger ceremonial centers. These sites were typically positioned to take advantage of the fertile floodplain soils along major rivers and tributaries to support intensive agriculture-based subsistence, supplemented by exploiting wild plant and animal resources (Anderson 1994:108; Hudson 1999). Interior settlement occurred on interiorly located uplands and featured largely dispersed small rural farmsteads. On the coast of the Gulf of Mexico, coastal settlement occurred and focused on the availability of coastal resources such as shellfish (McMakin et al. 1996).

Mississippian sites are typically distinguishable by small triangular projectile points. At the same time, other recognizable tools include flake scrapers, perforators, ground stone objects such as celts, pipes, and discoidals, and worked shells and mica. The Mississippian period also produced a greater variety of pottery types using clay mixed with crushed shell, grog, or sand (Walthall 1980). Stone, clay, bone, shell, and plant products were all used in the production of vessels and tools. Wood was used primarily for structures and other everyday functional purposes.

In Alabama, the Mississippian period is divided into two sub-periods, the Early Mississippian (AD 900–1200) and Mature Mississippian (AD 1200–1500). Early Mississippian culture in Alabama is observed primarily in the Black Warrior River and Guntersville Basin regions (Walthall 1980:200), and it is not until the Mature Mississippian period that these cultural traits began appearing along the Tombigbee River and Mobile Bay via the influence of Moundville culture (Walthall 1980:226). Pensacola culture was observed around AD 1500 to the Protohistoric period in the Mobile Bay. This culture resembles a mixture of Weeden Island and Fort Walton cultures but includes shell-tempered pottery (Weinstein and Dumas 2008). According to Walthall (1980), population density was light in the Mobile Bay-Tombigbee River Basin during the Mississippian period, resulting in a paucity of sites dating to that period. The decline of major Mississippian cultures began in late AD 1500 and 1600 when centers such as Moundville and Etowah were abandoned. The collapse of the Late Mississippian period was likely due to the arrival of diseases brought by the Spanish, and it was likely accelerated by colonization (Steponaitis 1986: 392–393).

Protohistoric (AD 1500–1700)

By AD 1500, the large ceremonial complexes that dominated the Mississippian Period began to decline. Local communities continued building temple mounds on a much smaller scale for several hundred years.

Multi-mound towns like Moundville began to 'decline' while groups began to form communities in the same locations as earlier Late Woodland and Early Mississippian towns, albeit in a much more nucleated fashion. Very little information is known about the collapse of societies such as Moundville in central Alabama. However, it is clear that the decline of large ceremonial centers, specialized crafts, and social stratification occurred before the introduction of Europeans (Regnier 2001).

Still, the major event that would significantly change the native population's trajectory was their introduction to exploring and colonizing Europeans. In many locations, the impact of European colonization happened just following the development of significant tensions across communities in the greater US Southeast (Walthall 1980:246). The beginning of the sixteenth century marks the preliminary investigations of the first Europeans into North America. (Anderson and Sassaman 2012:178).

European contact was initially sporadic and mainly occurred in coastal areas. This contact began in 1513, when the Spanish expedition, led by Ponce De Leon, landed and began to explore Florida. Like most that would follow, this expedition was driven by a desire to exploit the New World for wealth and religious converts (Perdue and Green 2001; Walthall 1980). Expeditions to follow include those led by Alonzo Alvarez de Pineda in 1519, Hernando de Soto from 1539–1543, Tristan de Luna from 1559–1561, and Juan Pardo from 1566–1568. The Spanish left a path of destruction across the lands they traveled, torturing and murdering indiscriminately as they sought anything of value they could steal from the local inhabitants (Anderson and Sassaman 2012; Perdue and Green 2001).

Alonzo Alvarez de Pineda was the first Spanish explorer to reach Alabama in 1519, but this journey was short-lived. The crew entered Mobile Bay, sailed up the Mobile River, and saw Indigenous villages along the shoreline. Pineda did not consider these people noteworthy, and there is no account of how the Indigenous people viewed this Spanish expedition (Walthall 1980).

By AD 1600, archaeological evidence indicates that most of the large Mississippian civic-ceremonial centers were either abandoned or had suffered substantial declines in population. The populations of these centers dispersed into smaller villages, hamlets, and farmsteads (Perdue and Green 2001). The scattered tribal units encountered by the earliest explorers probably bore little resemblance to the highly integrated cultural systems of the Mississippian peoples. The lasting impacts of a decline in mound complexes and the introduction of European colonization created a 'shatter zone' across the Southeast, ultimately leading to the large-scale movements of many groups across the region and within Alabama (Anderson and Sassaman 2012:184). According to Walthall (1980), acculturation during this period was limited. In the eighteenth century, Indigenous culture shifted towards European customs due to contact with and pressure from the English and French.

Walthall (1980) contends that following the routes of Spanish explorers lends insight into the locations of these Protohistoric Indigenous villages and towns. Despite those resources, archaeologists and ethnohistorians have had difficulty identifying those settlements visited by the Spanish. Reasons given for the inability to locate these sites have included the meandering of nearby waterways, incorrect accounts and maps, and the historic tendency of settlements relocation (Walthall 1980). Anderson and Sassaman (2012) note important strides in the 1990s made by Charles Hudson and his team in locating the routes of early European explorers. These Spanish explorers used Indigenous people as laborers, guides, interpreters, hostages, and providers of food (Perdue and Green 2001; Walthall 1980). The slave trade of Indigenous people (termed "the Indian Slave Trade") was prevalent from 1640–1716. Though, after the Yamasee War (1715-1717), Europeans were dissuaded from enslaving Indigenous peoples. Despite the destruction wrought by colonization, Indigenous people were resilient and often formed new cultural entities (Anderson and Sassaman 2012). An unanticipated

result of the imposed turmoil was the restructuring of native communities during this period. Despite past conflict and territoriality between Native groups, the following Historical Period would challenge and change indigenous communities as they were forced to contend with European colonizers, European government and legal rule, and the limitations to Indigenous independence and political power. To contend with these new challenges, a new ethnic identity and political structure were required for the survival of the Native culture (Anderson and Sassaman 2012:185).

Historic Period (AD 1700–present day)

The historical period was marked by continued mobility and instability in the region and changing political dynamics between and among Indigenous and colonial powers (Smith 1987:129–142). Beginning in 1699, the French presence along the Gulf Coast and in the interior of present-day Alabama began to grow considerably. Forts and settlements in Biloxi Bay (1699), Mobile (1702), and at the confluence of the Coosa and Tallapoosa Rivers (1717) helped initiate trade and diplomatic relations, while the founding of New Orleans in 1718 helped solidify French economic and political influence (Perdue and Green 2001:63-65; 225–226; NPS 2018). French settlement along the Gulf Coast followed a very different pattern from the nearby English colonies. Initially, the French intended to establish profitable plantation economies. However, France could not attract significant numbers of settlers to the region and failed to develop large-scale staple crop production. The French thus placed much less pressure on land, labor, and resources than the English did in Virginia or Carolina.

Early confrontations with the Creek also revealed that they did not possess a clear military advantage over other groups in the region (Heldman 1973:163–164). In many cases, French traders and colonial administrators were forced to acquiesce to the demands and cultural norms of the region's Native population, who in turn proved capable of molding the terms of trade and ceremonial exchange in their favor (Ramsey 2003:59, 71–74; Silvia 2002:33). As a matter of policy, the French also refrained from enslaving members of allied Native American nations so as not to upset the delicate balance of trade and diplomacy (Ramsey 2003:59–60). This policy stood in direct contrast to the actions of English traders in the Carolinas, who by the early eighteenth century had become notorious across the southeast for sponsoring slave raids, purchasing members of allied nations, and refusing to engage in ceremonial gift-giving in good faith. The native population in the southeast made clear distinctions between the two groups of settlers and, at times, viewed French trading posts and settlements as a refuge from English slave raids (Galloway 1994:513–515; Silvia 2002:26; Ramsey 2003:60).

A large amount of indigenous-made pottery, stone tobacco pipes, and maize remains recovered from French domestic sites on Dauphin Island, Mobile, and along the Mobile River, for example, reveals the broad range of Native American goods were sought out and used by French settlers. The pottery assemblages found at French domestic sites in Mobile, in particular, suggest the settlement's place in extensive inland trade networks (Silvia 2002:26–28). Old Mobile and the multiple Choctaw and Creek towns upriver played an important role in cross-cultural interaction and exchange between the French and the Native population. Native cultures underwent significant change through increased contact with Europeans and European goods. However, they were also agents of change and proceeded to give those goods and interactions their own meaning in contributing to a complex and nuanced process of cultural transformation (Thomas 1987; Moussette 2002:143–145; Silvia 2002:26–33; Rubertone 2000).

By the early 1700s, present-day Alabama was populated mainly by the Upper Creeks (along the Coosa, Tallapoosa, and upper Alabama rivers), Choctaw (west of the lower Tombigbee River and in present-day southern Mississippi), and Chickasaw peoples (along the upper Tombigbee and in north-central Mississippi). Population density was higher inland along the major river basins, but indigenous people also occupied

sections of the lower delta regions. Some of the groups in the southern sections of Alabama and Mississippi included the Sixtowns (along the southwestern Pear River), Conchas (on the forks of the Tombigbee and Alabama rivers), and Chickasawhays (in the Mobile River delta), each of whom joined with the much larger Choctaw Confederacy during the first quarter of the eighteenth century (Galloway 1994:514; Ramsey 2002:47; Silvia 2002:27–29). European disease and manufactured goods had penetrated the region by the beginning of this period. Most of Alabama's indigenous population had little direct relations with the English until several decades into the eighteenth century. However, French fur traders often contacted Indigenous groups throughout the 1700s (Ramsey 2003:72).

During the historical period, one crucial transformation was the realignment of alliances between Indigenous people and the redrawing of Indigenous group boundaries through warfare, migration, and political group formation (Galloway 1994; 1995). Following the Tuscarora War of 1711–1713, for example, surviving members of a crushed Tuscarora nation left the southeast coast for the north and joined the Iroquois Confederacy (Perdue and Green 2001:215–216). In 1715, the Choctaws and Upper Creeks of Alabama joined a federation of southeastern nations to partake in a war against the colony of South Carolina. As the conflict later became known, the Yamasee War pitted nearly every nation in the southeast against the English and their Chickasaw allies and nearly destroyed the colony. Most of the Yamasees fled to Spanish Florida at the war's end and would eventually join with displaced members of the Lower Creeks to help form the Seminole Nation. The Upper Creeks remained in eastern Alabama and negotiated with the English colonists to define territorial boundaries, regulate prices in the deerskin trade, and end the colonists' trade in Native American enslaved people. For their part, the English pushed to take control of more land to the west as a buffer against future attacks (eventually creating the colony of Georgia in 1733) (Ramsey 2003; Perdue and Green 2001:218–219).

The Choctaws of southern Alabama and Mississippi were also the product of political and ethnic group formation brought on by the dramatic changes of the protohistoric and historic periods (Galloway 1995). By the late seventeenth and early eighteenth centuries, the Choctaws had become a powerful confederacy of chiefdoms held together by a system of "metaphorical kinship relations" that sometimes extended to outside ethnically related Indigenous groups (Galloway 1994:516). Although they tended to function as a diplomatic unit, especially in their dealings with Europeans, the Choctaws were nonhierarchical. Warfare and migration have always played important roles in shaping Native peoples' reality and influencing demographic change. However, the scale, frequency, and destruction of the fighting increased dramatically during the historical period and was coupled with the continued devastation of European-transferred diseases. While the process of their formation is complex, by the eighteenth century, the incentive of establishing and preserving favorable trade relations with the French and the safety in numbers afforded by the sheer size of the Confederacy (which had grown to number between 20,000 to 30,000 by the first quarter of the eighteenth century) provided pressure for the maintenance of the larger Choctaw group (Galloway 1994).

After the King William's War outbreak along the Saint Lawrence River and northeastern seaboard in 1689, struggles between the English and French over access to trade and resources across the North American continent spilled over into a drawn-out conflict known as the French and Indian Wars. The series of confrontations climaxed in the Seven Years' War of 1756-1763, which saw the victorious Great Britain expel the French from their posts east of the Mississippi River. The French then transferred their claims to Louisiana to the Spanish (Perdue and Green 2001:66–68). The French were an essential ally to many of the Native groups in the southeast prior to and during the French and Indian Wars and the Seven Years' War. France's expulsion solidified British and American dominance in the region and over Indigenous groups. After 1783, westward expansion by the United States into Georgia, Alabama, and Mississippi created a crisis for the region's Indigenous population that culminated in their forced removal in the 1830s. Native people

were significantly affected by intercolonial struggles, but they were by no means passive recipients of change. The Choctaw Confederacy wielded significant influence in the eighteenth century, and its large size allowed its chiefs to play competing colonial powers off each other. However, the removal of the French in 1763 and the weakening of the Spanish throughout the era severely narrowed its political and diplomatic options. At the same time, these factors opened the door for the British to move further west. In 1763, Choctaw leaders met in Mobile with French and British officials to learn of the outcome of the Seven Years' War. Two years later, a pro-British segment of the Confederacy organized talks to discuss a proposed treaty with the British over access to Choctaw territory along the Alabama and Mississippi coast (Choctaw Nation of Oklahoma Historic Preservation Department 2023; Galloway 1994:519–522).

Known as the Treaty of Mobile, the negotiations revealed the changing political dynamics in southern Alabama leading up to the American Revolution (Galloway 1994). The British wished to take control of what they considered "Choctaw land" west of the Mobile and Tombigbee Rivers, but no single Choctaw chief possessed the authority to grant the land by themselves. The land in question, moreover, was primarily utilized for hunting and grazing, and the Choctaws had no intention of relinquishing their rights to its future use (Carson 1997:5–8; Galloway 1994:524). They had instead gathered in Mobile to discuss normalizing diplomatic and trade relations with the British, which, as they understood it, would only grant the settlers the right to occupy trade posts. For the Choctaw, the talks primarily hinged upon the British understanding and accepting their role in the broader social and political world of "metaphorical kinship relations" and regular gift-giving ceremonies with all involved chiefs. Such ceremonies were grounded in reciprocity, were the basis of Choctaw diplomacy, and were crucial for maintaining and legitimizing the chiefs' political authority (Galloway 1994). The British consistently sidestepped the issue of "presents" during the congress, but pro-British Choctaws convinced the others that the settlers intended to uphold their end of the bargain. For these reasons, the Treaty of Mobile was signed on April 4, 1765 (Galloway 1994:526–529). The Choctaws viewed the Treaty as initiating a new reciprocal relationship, but the British used the Treaty as a legal document of land concession. As such, the British made only minimal efforts at gift-giving and did nothing to keep settlers from moving into the region. A couple of years after the Treaty was signed, the agreement was in shambles, and Choctaws began raiding British settlements near Mobile (Galloway 1994:529–530).

During the following decade, the American Revolution altered the political dynamic in the region once again and created tremendous pressure for American Western expansion. During this time, the Choctaws became increasingly concentrated west of Mobile in present-day Mississippi. The area around Mobile Bay was populated by members of the Creek Confederacy, who also continued to occupy land to the east in present-day Georgia (Lower Creeks) and northeast Alabama (Upper Creeks) (Ramsey 2003; Davis 2002). Native groups across the southeast fought against the newly independent United States with some success immediately after the Revolution. However, the organization of the United States Federal government in 1789 gave direction and teeth to a newly created "Indian Policy" and reoriented the dynamic once more in the settlers' favor (Perdue and Green 2001:72–79).

The United States Government organized the Indian Policy around the dual goals of purchasing ever-greater sections of Native-controlled land and "civilizing" and incorporating Native populations into the economy and culture of the new nation. In addition to satisfying expansionist pressure, both goals stemmed from misunderstanding and arrogance about Indigenous groups' social and cultural organization (Perdue and Green 2001:75–79). Nevertheless, many Indigenous people participated in commercial cotton agriculture, enslaved ownership, and animal husbandry. They were fully entrenched in the southeast's market economy by the last quarter of the eighteenth century (Davis 2002:613–616). This was particularly true for the Lower Creek towns near the mouth of Mobile River and along the coast. Many in the Upper Creek towns along the Coosa and Tallapoosa Rivers had long been integrated into regional market relations but strove to retain

greater cultural and territorial autonomy. Divisions within the Creek Nation by the end of the eighteenth century spilled over into civil war in 1813, as the Redstick faction of the Upper Creeks, pressured from the north and the east by westward expansion, struck out against members of their own nation in an attempt to control the Creeks' future (Davis 2002; Perdue and Green 2001:79–81). Beginning with the raid on the Tensaw settlement just north of Mobile Bay, the Creek War coincided with the War of 1812. It mobilized a young Andrew Jackson to invade the Upper Creek Nation with a group of Indigenous allies. Jackson's forces and Native warriors crushed the Redstick rebellion. They forced the Upper Creeks to cede approximately one-fourth of the entire nation's territory (Perdue and Green 2001:80). The Treaty of Fort Jackson cornered the Creek into tracts of land surrounded by white settlers and helped set the stage for Indian Removal two decades later.

In 1817, the former Mississippi Territory was reorganized into the states of Mississippi and Alabama. At the same time, the United States government supported the argument that Native groups should no longer be viewed as sovereign governments and, therefore, negotiations between Natives and Americans should cease (Perdue and Green 2001:80). Thus, if Native groups were not their own sovereign governments, then they were subject to the laws of American citizens, and their land could be allocated by the United States government (Perdue and Green 2001:80–81). Even though land within the southeast of Alabama was not viewed as favorable during this time, the removal of Native groups throughout the Coastal Plain and Gulf Coast persisted (McMakin et al. 1996).

The Treaty of Fort Jackson opened close to twenty million acres of Creek land to settlers, who poured into the region by the tens of thousands (Perdue and Green 2001:81). Baldwin County, initially established in 1809, became part of the newly organized Alabama Territory in 1817. Alabama was admitted into the Union two years later as the twenty-second state. As part of a trend among Indigenous nations towards centralization, the Creek formed a national government in 1817 and established a new legal code that attempted to prohibit the further sale of land (Perdue and Green 2001:85). But state representatives from Georgia and Alabama were clamoring for another cession. In 1825, Georgian delegates appointed by the US Secretary of War to negotiate the acquisition of Creek land signed the illegal Treaty of Indian Springs with the Lower Creek chief and wealthy cotton planter William McIntosh. In exchange for large bribes, McIntosh and a small group of associates signed away all Creek holdings in Georgia and Alabama except for a small tract of Upper Creek territory and accepted land in present-day Oklahoma to be used for the nation's resettlement.

By 1830, Andrew Jackson, now US President, enacted the Indian Removal Act. While the Treaty was worded to make removal appear voluntary, discriminatory laws or bad treatment by American settlers made life untenable for Native communities (Perdue and Green 2001:89–90). Many of the promises made within the Indian Removal Act to benefit indigenous groups were not enforced or were blatantly ignored. Between 1830 and 1850, Native tribes, including the Chickasaw, Choctaw, Cherokee, and Creek, were persuaded, tricked, and forcibly removed to land west of the Mississippian River without any support or compensation (Perdue and Green 2001:96–97). The removal of Indians from their homes resulted in the deaths of many and a significant impact on traditional Native culture.

The Creek of Alabama had already been granted land in Indian Territory after McIntosh's Treaty surrendered the nation's land in Georgia, and some began moving west in the late 1820s. Most wished to stay, and the Creek National Council attempted to secure a permanent space within the state. The US government, however, had begun to confront the Seminole Nation in Florida and press for their expulsion. Government officials viewed the possibility of a Creek-Seminole alliance as a significant threat to their plans, and, frustrated by Creek persistence, resorted to forced removal in the name of national security. In 1836 and 1837, most Creek in Alabama were driven from their homes without the slightest regard for the pretense of voluntary resettlement

(Perdue and Green 2001:86–94). Some Creek in the vicinity of the Tensaw River managed to stay and formed the basis of a community in the town of Poarch in present-day Escambia County, approximately 50 miles northeast of the City of Fairhope. The community remains in the area to this day as the only federally recognized tribe in the state (Poarch Creek Indians Nd).

Between 1820 and 1868, the town of Blakeley served as the Baldwin County seat. Blakeley once rivaled Mobile as a center of commercial activity and reportedly had close to 4,000 inhabitants by the end of the 1820s (Albers 1928:44). During the 1830s, however, Blakeley's regional significance began to decline, and as Alabama's population and cotton economy grew and the city of Mobile became an increasingly important commercial port, Baldwin County remained relatively undeveloped during the antebellum years (Harris 1977:63–65; Albers 1928:44–45). Baldwin's economy was also one of the least developed in Alabama, with agricultural activity primarily centered around subsistence farming and small-scale commercial production of vegetables (especially potatoes), rice, dairy, and livestock for local markets and nearby Mobile (DeBow 1853:429–433).

During the Civil War, the Union Navy implemented a naval blockade throughout the South to prevent the Confederacy from exporting cotton and to limit the importation of munitions. Mobile had been the Gulf Coast's second most important port in the pre-war years and was connected to the interior southeast by several railroad lines. When the Federals took New Orleans in May of 1862, controlling traffic in Mobile Bay and in and out of the city's port became crucial for the Rebels. With Confederate forces garrisoned at the mouth of the bay in forts Morgan, Gaines, and Powell, Mobile Bay was an important center of "blockade running" from 1863 to the middle of 1864, as smaller, more agile boats attempted to evade US Navy gunboats on their way to and from the city's docks.

Several decades after the war ended, Baldwin County began attracting several groups who purchased land and attempted to settle in the region (Albers 1928:68–91). Germans, French, Scandinavians, Amish, Quakers, and others moved from other sections of the country to the eastern shores of Mobile Bay and made Baldwin their home. The City of Fairhope was the second of these "colonies" to be established in the late nineteenth century and was founded by a small group from Des Moines, Iowa, who adhered to the political and economic philosophy of Henry George (Albers 1928:71–74; Alyea and Alyea 1956). The Philadelphia-born George began his public career as an anti-monopolist journalist but became prominent after his famous 1879 work *Progress and Poverty* was released. George's ideas attempted to make sense of the concentration of poverty, particularly in northern cities, and the volatile nature of the nation's market economy in the face of rapid industrialization and dramatic technological progress. Although his anti-protectionism did not mix well with some trade unionists, George found a home in the emergent radical labor movement of northern cities like New York, where a mix of European socialism, Irish nationalism, and the radical egalitarianism of the Knights of Labor propelled his ideas to forefront of the city's politics in the 1880s (George 1879 [1926] and 1886 [1911]; Alyea and Alyea 1956; Beckert 1993:273–304). George ran several insurgent campaigns for political office. However, after the collapse of the Knights of Labor coalition in 1886-1887, he no longer posed a viable threat to the city's political institutions (Beckert 1993:273–304).

In late 1893 and early 1894, a group of "single taxers'' in Des Moines, Iowa, decided to establish a colony based on George's ideas. Through the newly created journal, the *Fairhope Courier*, the city's first newspaper, the group discussed, voted, and decided upon the eastern shores of Mobile Bay as the location of their experiment (Albers 1928:72). Members of the group arrived in southern Alabama in November of 1894 to investigate the area. In December of the same year, they purchased 150 acres along the shoreline and another 200 acres of inland land (Albers 1928:72–73). Just over a decade later, the Fairhope Single Tax Corporation owned 4,000 acres and had 500 people living and working on its land, and in 1908, the City of Fairhope was incorporated (Alyea and Alyea 1956:84–85).

LITERATURE AND DOCUMENT REVIEW

Before conducting the fieldwork, TerraX performed a literature and document search in order to gather pertinent background information regarding the subject property and its surroundings. This research included inspections of the Alabama State Archaeological Site File (ASASF) (Alabama Cultural Online Resource Database [ACORD] 2024), the Alabama Register of Landmarks and Heritage (ARLH) (Alabama Historical Commission [AHC] 2024), the NRHP (National Park Service [NPS] 2024), and various historic maps and aerial images (USGS 2024a and 2024b; Nationwide Environmental Title Research [NETR] 2024).

Alabama State Archaeological Site File: Research of the ASASF (ACORD 2024) identified one previously recorded archaeological site (1BA209) within a 1 mi radius of the proposed survey area (Figure 9). This previously recorded archaeological site is summarized below.

Site 1BA209. Site 1BA209 is a shell-midden of unknown cultural affiliation identified by the Archaeological Research Association of Alabama Inc. and the University of Alabama in 1971 (Curren and Stowe 1971). The shell midden was documented by Curren and Stowe (1971) as having pottery and bone visible during low tide; however, the site was determined to be almost completely eroded. As such, Site 1BA209 was determined to be ineligible for inclusion on the NRHP (Curren and Stowe 1971:51). Site 1BA209 was revisited by HDR Environmental, Operations and Construction, Inc. (HDR) in 2014 as part of their *Archaeological Investigations in Support of the MC252 (Deepwater Horizon) Oil Spill Response in the State of Alabama* (Ostahowski and Hanlon 2014). During this survey, HDR conducted visual inspections of the approximately 100-x-56 m site area. Residential development was noted, and no artifacts were observed (Ostahowski and Hanlon 2014:197). As such, HDR recommended Site 1BA209 be deemed undetermined for inclusion on the NRHP (Ostahowski and Hanlon 2014:197); however, based on Ostahowski and Hanlon's (2014) map overlay compared against Curren and Stowe's (1971) description of the site, it appears the site may be plotted further northeast in the ACORD database, resulting in Ostahowski and Hanlon (2014) not identifying the site. This previously recorded archaeological site does not intersect with the proposed project area.

Alabama Register of Landmarks and Heritage: Examinations of the ARLH (AHC 2024) did not identify any previously recorded historic resources within the 1 mi search radius of the project area (see Figure 9).

National Register of Historic Places: Inspections of the NRHP (NPS 2024) did not identify any previously listed historic properties within the 1 mi search radius of the project area (see Figure 9).

Find a Grave: Examinations of Find a Grave (2024), topographic maps, and visual inspections of Google Earth (2024) did not identify any cemeteries within a 1 mi search radius of the project area (see Figure 9).

Historic Map Review: A review of historic maps and aerial photographs was conducted for evidence of previous historic structures or other historic features located within the proposed survey area. Maps inspected include the 1921 (1921 and 1936 ed.) Point Clear, Alabama USGS 1:62,500 series topographic quadrangles, the 1941 (1965 and 1976 eds.) and 1943 (1943 and 1950 ed.) Weeks Bay, Alabama USGS 1:62,500 series topographic quadrangles, and the 1956 (1956 and 1986 eds.) of the Point Clear, Alabama USGS 1:24,000 series topographic quadrangles (Figures 10–14) (NETR 2024).

The 1921 (1921 and 1937 eds.) Point Clear, Alabama USGS 1:62,500 series topographic quadrangles do not depict any residences or structures within the survey area or the surrounding vicinity. These topographic quadrangles depict the project area and its surroundings as wetlands. The 1943 (1943 and 1950 ed.) Weeks Bay, Alabama USGS 1:62,500 series topographic quadrangles show that some development has occurred to

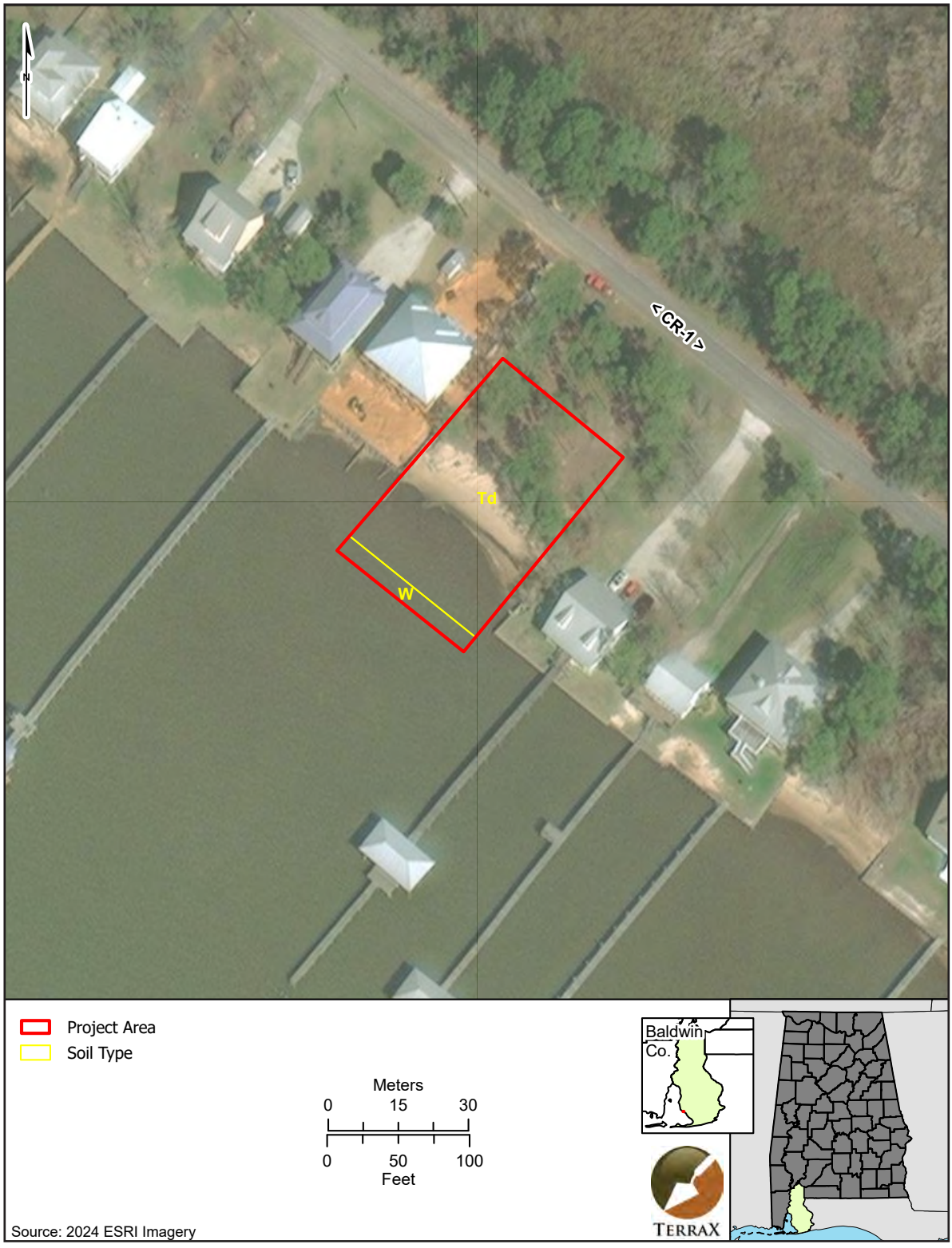


Figure 8. *Aerial map depicting soil types within the project area.*

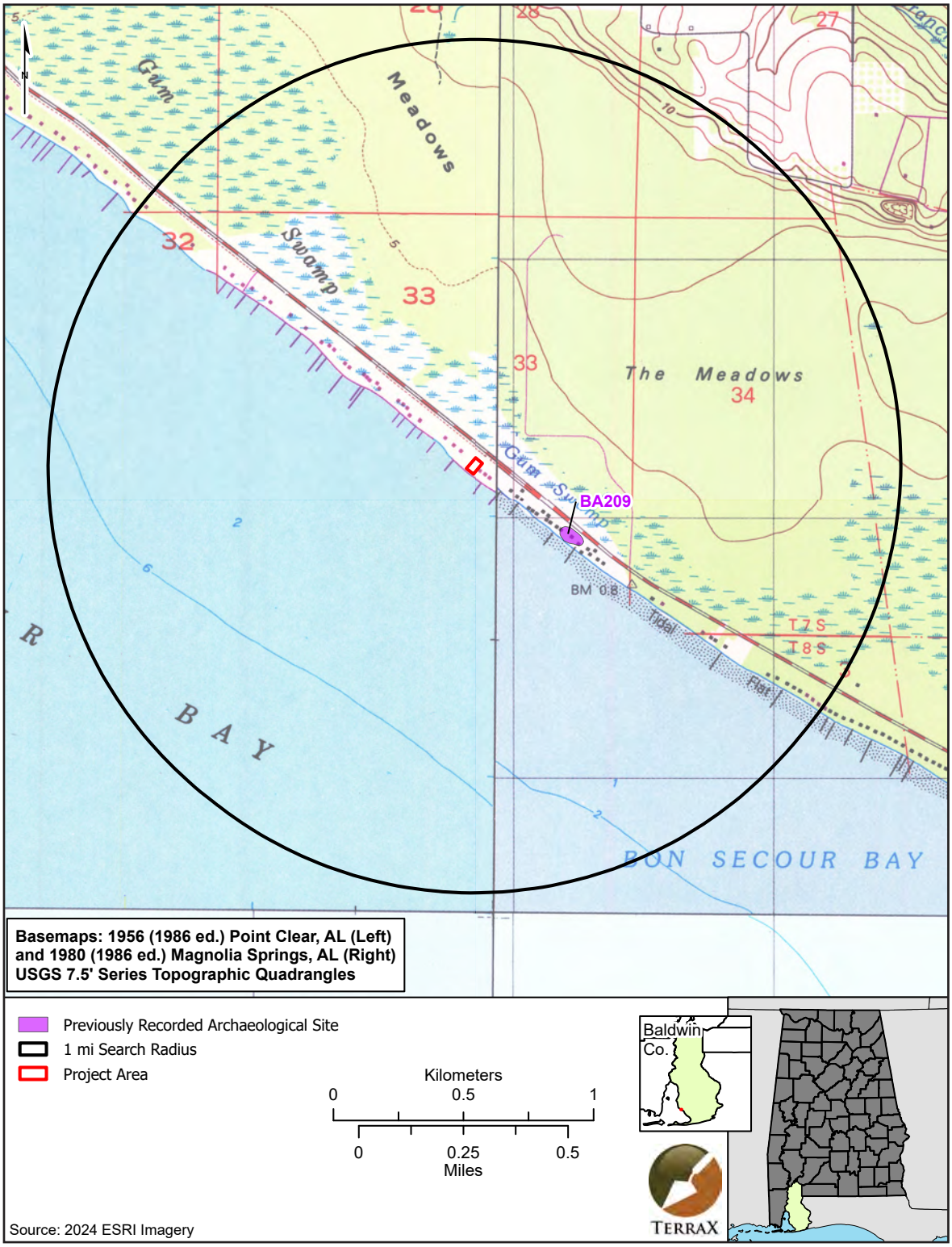


Figure 9. *Topographic map depicting a previously recorded archaeological site within a 1 mi search radius of the project area.*

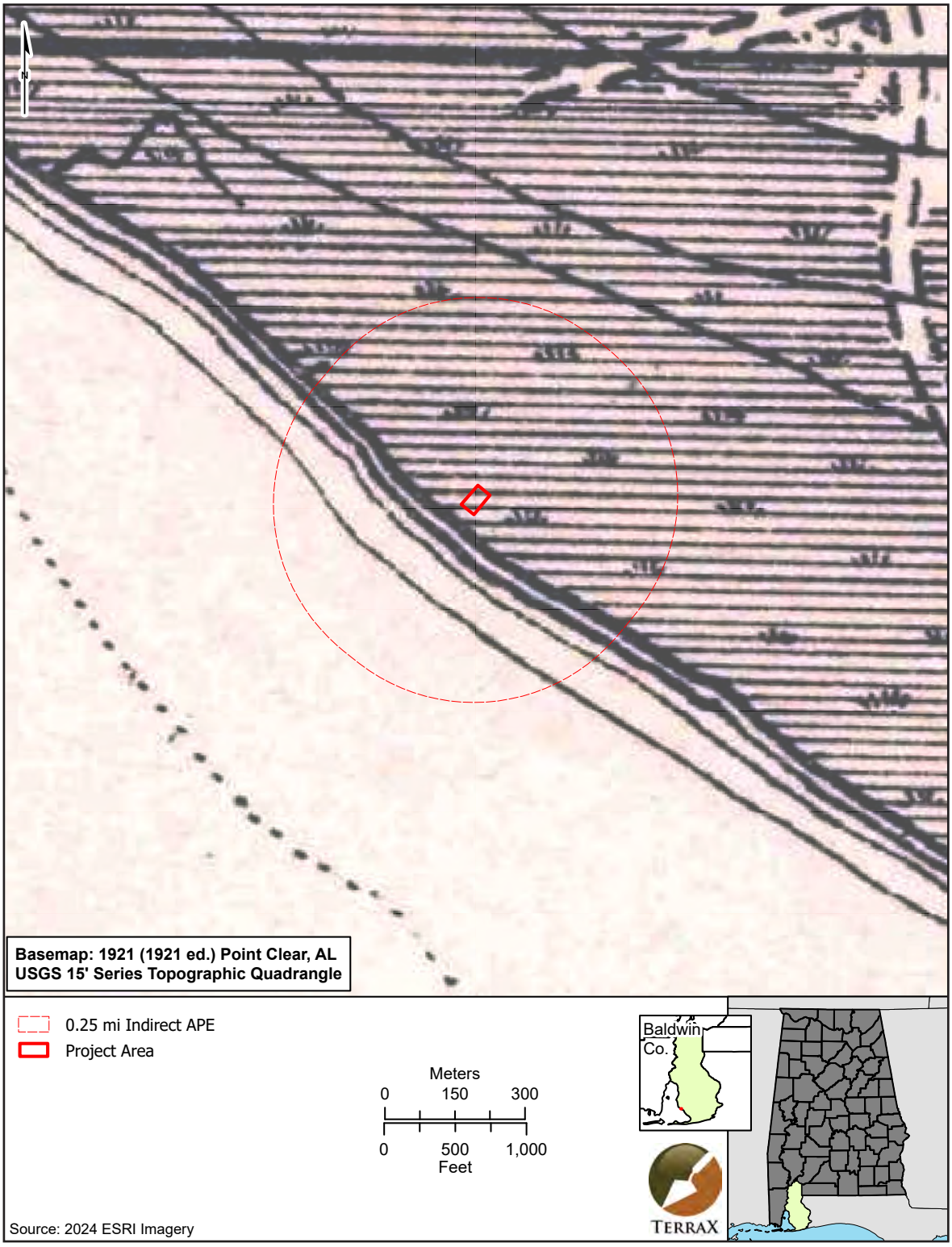


Figure 10. *Historic 1921 (1921 ed.) Point Clear, Alabama USGS 15' series topographic quadrangle depicting the project area and 0.25 mi indirect APE.*

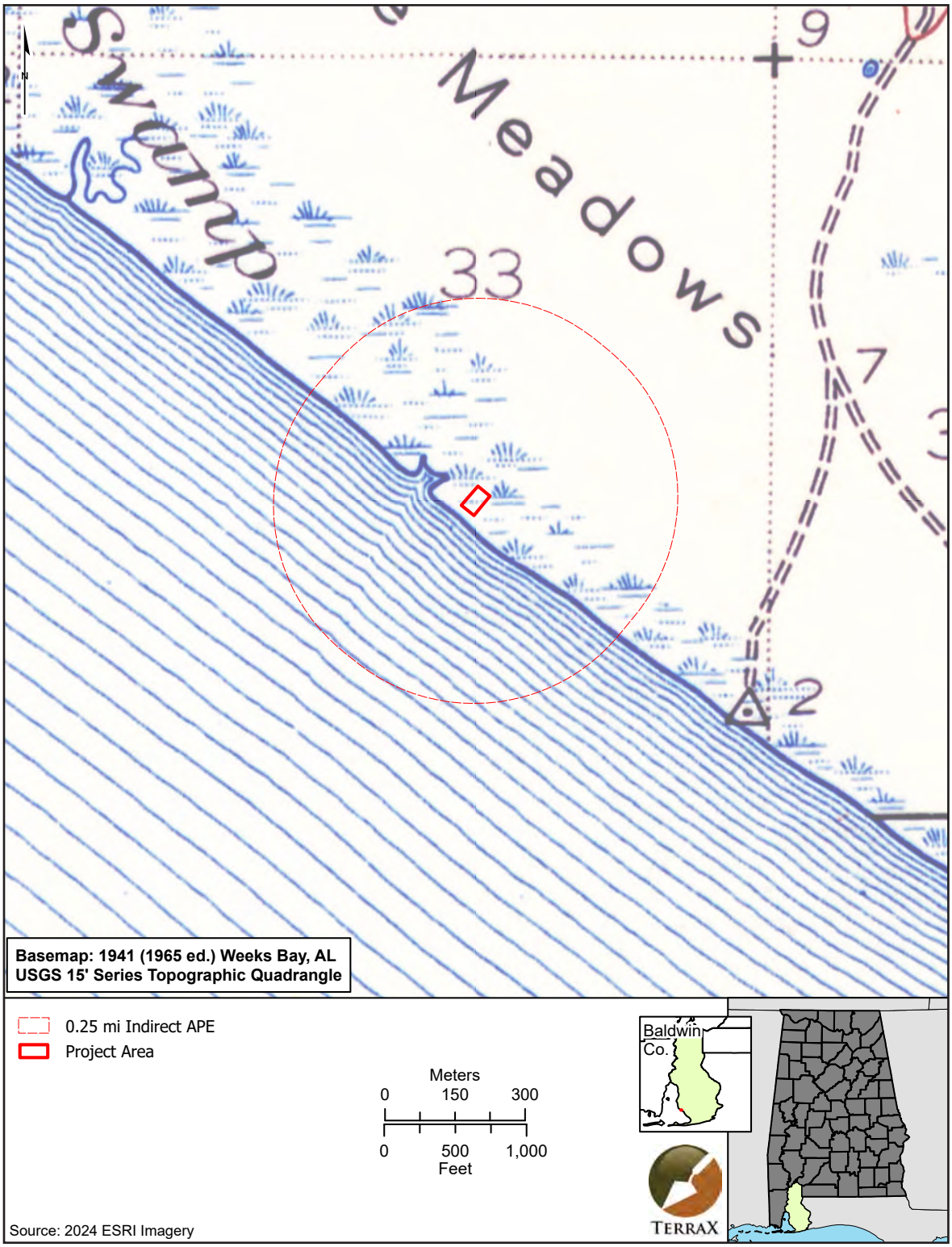


Figure 11. *Historic 1941 (1965 ed.) Weeks Bay, Alabama USGS 15' series topographic quadrangle depicting the project area and 0.25 mi indirect APE.*

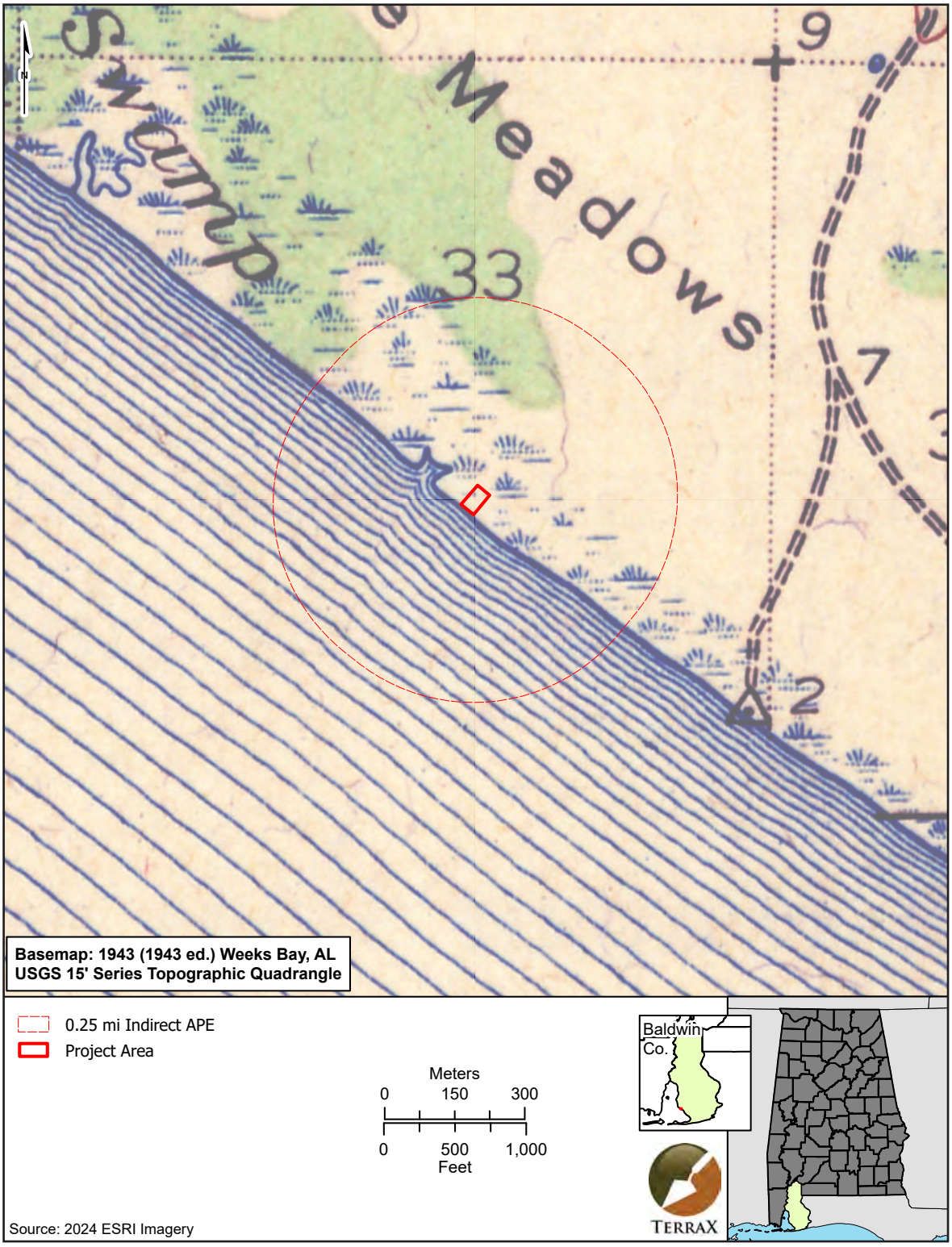


Figure 12. *Historic 1943 (1943 ed.) Weeks Bay, Alabama USGS 15' series topographic quadrangle depicting the project area and 0.25 mi indirect APE.*

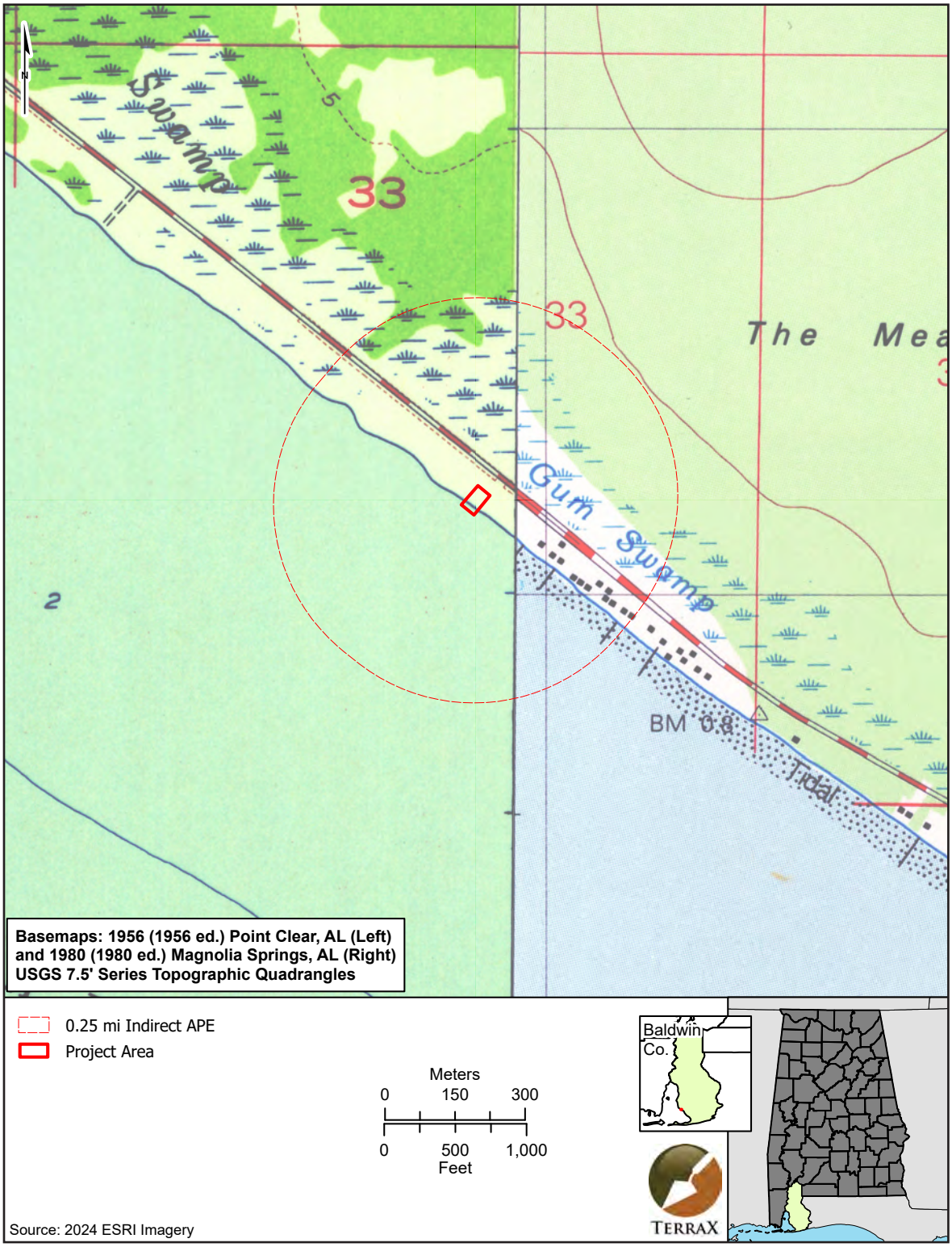


Figure 13. *Historic 1956 (1956 ed.) Point Clear, Alabama and 1980 (1980 ed.) Magnolia Springs, Alabama USGS 7.5 series topographic quadrangles depicting the project area and 0.25 mi indirect APE.*

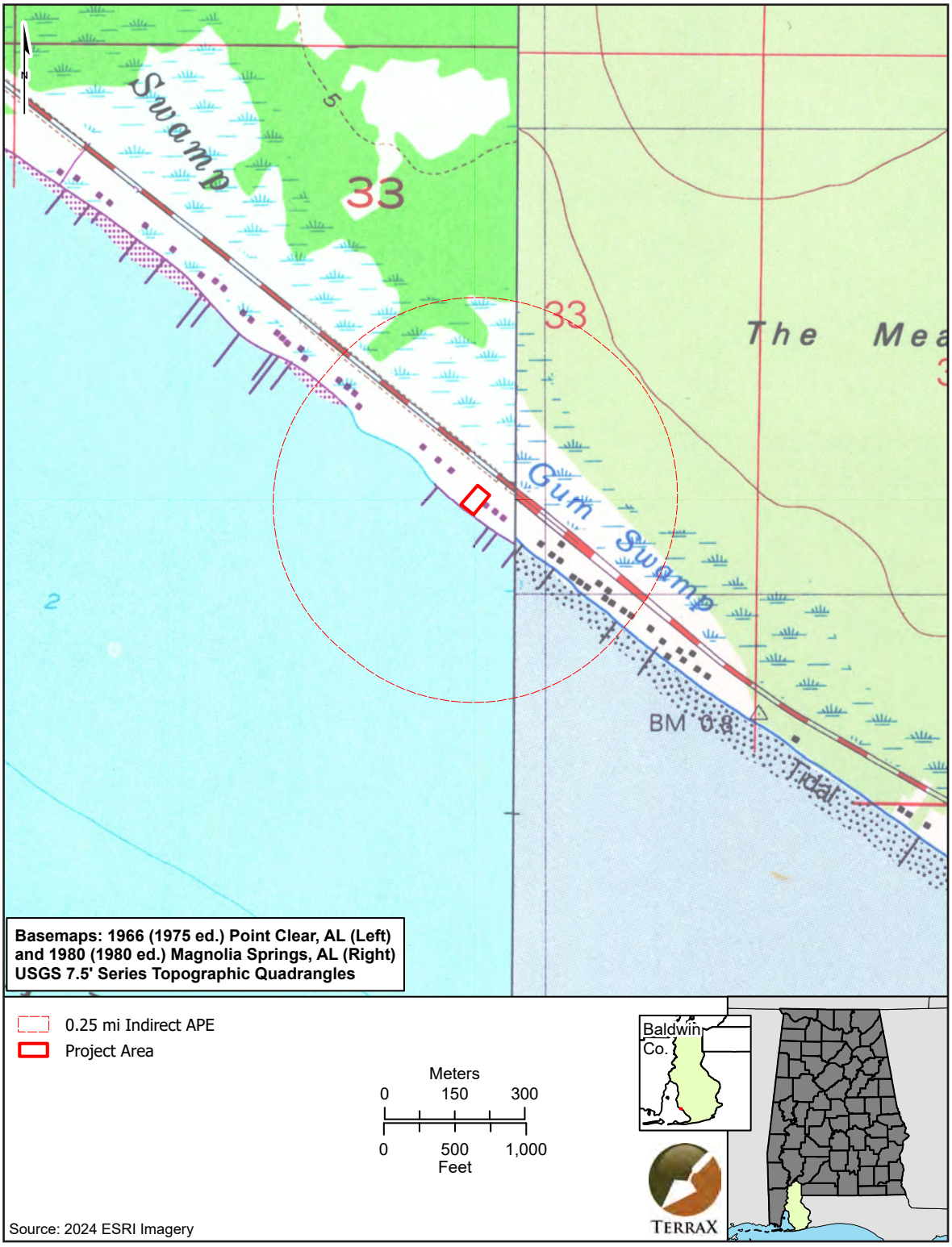


Figure 14. *Historic 1966 (1975 ed.) Point Clear, Alabama and 1980 (1980 ed.) Magnolia Springs, Alabama USGS 7.5 series topographic quadrangles depicting the project area and 0.25 mi indirect APE.*

the north of the project area, but the project area is noted as wetlands labeled "Gum Swamp". County Road 1 appears first on the 1956 (1956 ed.) Pointe Clear, Alabama topographic map, but the immediate vicinity of the project area remains undeveloped until 1956 (1986 ed.) Pointe Clear, Alabama topographic map. On this edition of the topographic map, primary structures have been constructed south of County Road 1, along the beach of the Mobile Bay.

The earliest available aerial photographs (1954 and 1955) show an unfinished County Road 1, ending very close to the project area. The project area appears to be partially sandy and partially wooded. By the 1976 aerial, a structure and piers had been constructed to the south of County Road 1. The lot to the immediate southeast was developed by 1976. The lot to the northwest was not developed until the 1986 aerial. The project area appears to have been left undeveloped and unimproved throughout all of the available topographic maps and aerial photographs.

FIELD METHODS

The Phase I survey was guided by procedural standards created by the Alabama Council of Professional Archaeologists in concurrence with the Alabama Historical Commission's (2006) specifications as outlined in the *Policy for Archaeological Surveying and Testing in Alabama*. Full land coverage requirements were achieved through visual inspections and systematic subsurface testing of the entire survey area. While conducting visual inspections, any exposed surfaces were carefully examined for cultural material.

Subsurface testing was performed within the survey area along transects comprised of shovel tests spaced 30 meters (m) apart. Standard shovel tests consisted of 30 cm diameter cylindrical holes that were excavated to a depth of at least 30 to 50 centimeters below surface (cmbs) or until an impenetrable substrate (i.e., bedrock or clay), known culturally sterile subsoil, or the water table was reached. Soils from each test were screened through 0.25-inch (0.64 cm) hardware cloth for the purpose of recovering any cultural material that may exist at that location. Shovel tests falling in areas containing an impenetrable surface (e.g., pavement or gravel) were offset up to 5 m and dug, if possible. If an obstruction was still encountered after offsetting the test location, the shovel test result was considered a "No Dig." When cultural material was encountered, the material was sorted by provenience and placed into bags labeled with the pertinent excavation information before being transported to TerraX's laboratory. Any archaeological locus identified within the survey area during transecting was further examined to better define its horizontal and vertical limits. Delineations were conducted by establishing a datum within the area of the initial find. From the datum, close-interval shovel testing (5 to 10 m intervals) was conducted in a cruciform pattern in cardinal directions until at least two consecutive negative tests were encountered in each direction or until shovel tests extended beyond the boundaries of the survey area limits. A hand-held Garmin GPS unit was used to record the location, and a sketch map was been drawn by compass and pace and plotted to scale. Digital photographs were taken for any recorded archaeological locus as well as for the survey area.

LABORATORY METHODS AND COLLECTION CURATION

If cultural material had been recovered during the survey, it would have been delivered to TerraX's laboratory in Tuscaloosa, Alabama for processing. Here, materials are sorted by provenience, cleaned, and analyzed. Along with the cultural material, all project records, photographs, and maps produced while conducting the investigation will be transported for curation at the Archaeological Research Center, Troy University, Troy, Alabama.

ARCHITECTURAL METHODS

Due to the nature of the project and the surrounding environment, a 100-meter visual effects APE was utilized to determine the presence of any historic architectural resources. Prior to commencing fieldwork, the NRHP and Alabama Historical Commission (AHC) databases and available historic maps and aerial photographs were reviewed to identify any resources aged 50 years and older within the APE (NPS 2024; AHC 2024; NETR 2024; USGS 2024a, 2024b). This search did not yield any previously recorded resources within the indirect APE listed within the AHC or NRHP databases (see Figure 9) (AHC 2024; NPS 2024). The available aerials dated to 1954, 1955, 1969, 1971, 1972, 1974, 1975,1976, 1979, 1981, 1986, 1987, 1997, 2004, 2006, 2009, 2011, 2013, 2015, 2017, 2019, and 2021 (USGS 2024a; NETR 2024). The available topographic maps dated to 1921, 1936, 1943, 1950, 1956, 1959, 1960, 1965, 1967, 1973, 1975, 1976, 1979, 1980, 1986, 2011, 2014, 2018, 2020, 2024 (USGS 2024b).

A windshield-level survey was conducted on September 4, 2024 to photograph the resource from the public Right-of-Way (ROW) and, thus visibility was occasionally limited while documenting each resource. Due to lack of historical significance under any criteria the 14 resources are described and evaluated in Appendix A.

NRHP EVALUATION OF CULTURAL RESOURCES

According to the Alabama Guidelines, an archaeological site must be at least 50 years old and is characterized by either of the following criteria:

- A surface locus containing at least five artifacts and/or an intact feature within an area no greater than 30-x-30 m or

- A subsurface locus with a minimum of five artifacts from one or more shovel tests where the positive shovel tests are no more than 30 m apart.

In contrast to archaeological sites, isolated finds are defined as no more than four artifacts found within a 30 m radius and are not assigned a state trinomial.

Outlined within 36 CFR 60.4 are four criteria by which cultural resources should be evaluated to determine their eligibility for the NRHP. Properties may be eligible for NRHP when the quality of significance in American history, architecture, archaeology, and/or culture is present in districts, sites, buildings, structures, and objects that meet at least one of the four criteria listed below. These properties are either:

a) associated with events that have made a significant contribution to the broad pattern of our history,

b) associated with the lives of persons significant in our past,

c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction,

d) have yielded or may be likely to yield, information important in prehistory or history.

Criteria A, B, and C are most commonly applied to buildings, structures, districts, or non-archaeological sites. Although cultural resources or properties nominated under these criteria may have archaeological deposits,

individual archaeological sites are most frequently evaluated and considered eligible specifically under Criterion D, though they must be evaluated under all Criteria. Importantly, properties eligible under Criterion D are only required to contain the potential to yield important information in history or prehistory. Because theoretical orientations shift, new techniques become available, and new information is discovered over time, there are no objective criteria that define what may be considered "important information." However, cultural resource management practitioners generally agree that important information should be defined by the site's ability to contribute to local, state (i.e., regional), or national research themes, with local and state research themes being the most common analytical frame of reference (Little et al. 2000).

Additionally, NRHP-eligible properties must possess integrity, defined as "the ability of a property to convey its significance" (NPS 1995). Evaluations of integrity must always be made with respect to the physical features of a property and how they relate to the property's significance (Little et al. 2000:35). Formally outlined, the categories of integrity include:

- Location—The place where the historic property was constructed or the place where the historic event occurred.

- Design—The combination of elements that create the form, plan, space, structure, and style of property.

- Setting—The physical environment of a historic property. Setting includes elements such as topographic features, open space, viewshed, landscape, vegetation, and artificial features.

- Materials—The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

- Workmanship—The physical evidence of the labor and skill of a particular culture or people during any given period in history or prehistory.

- Feeling—A property's expression of the aesthetic or historic sense of a particular period of time.

- Association—The direct link between an important historic event or person and a historic property.

Under Criterion D, integrity is measured by the strength of association between data and important research questions (NPS 1995; Little et al. 2000:36).

While not all of these qualities are required for eligibility, "to retain historic integrity a property will always possess several, and usually most, of the aspects" listed above (NPS 1995). Little et al. (2000:35) note that the importance of the seven aspects of integrity will vary according to the nature of the property and under which Criterion or Criteria the property is being considered. Under Criterion D, for example, the aspects of location, design, materials, and association are perhaps most relevant (Little et al. 2000:36; NPS 1995). Integrity is frequently used by archaeologists to refer to "the level of preservation or quality of information contained within a district, site, or excavated assemblage. A property with good archaeological integrity has archaeological deposits that are relatively intact and complete" (Little et al. 2000:36). Though careful to acknowledge that relevant aspects of integrity are directly related to a site's ability to contribute to research themes and will vary accordingly, Little et al. (2000:37) provide examples of general qualities of sites that demonstrate integrity such as surface or subsurface spatial patterning of artifacts or features and the absence of serious disturbance to the archaeological deposits. These attributes do not constitute a comprehensive representation of integrity but are referred to here for illustrative purposes. Importantly, site integrity alone

does not constitute eligibility, nor can it be used as a screen for significance; assessments of integrity must follow assessments of significance (Little et al. 2000; NPS 1995).

ARCHAEOLOGICAL SURVEY RESULTS

This Phase I investigation included the placement of five shovel tests along 3 transects though the total project area of 0.45 ac (0.18 ha) (Figure 15). Of the four shovel tests, two shovel tests were negative (sterile, containing no cultural material), and two fell within the water of Mobile Bay. Shovel testing within the survey area typically exposed 0 to 36 cmbs of light brown (7.5YR 6/4) sand over a 36 to 50 cmbs layer of reddish brown (5YR 5/4) very compact sand overlying red (2.5 YR 4/6) sand dug to a depth of 89 cmbs (Figure 16).

Historic and modern maps and aerial photographs were inspected in order to document the presence or absence of built features in the survey area through time (NETR 2024, USGS 204a and 2024b). This review showed that the immediate vicinity of the project area was located in a wetland area called Gum Swamp until the area was developed in the mid-twentieth century. By the late 1970s, County Road 1, houses, and piers had been constructed along the beaches of Mobile Bay. The project area, however, has not been developed and appears unimproved. This remains the same as seen through the available aerial photographs.

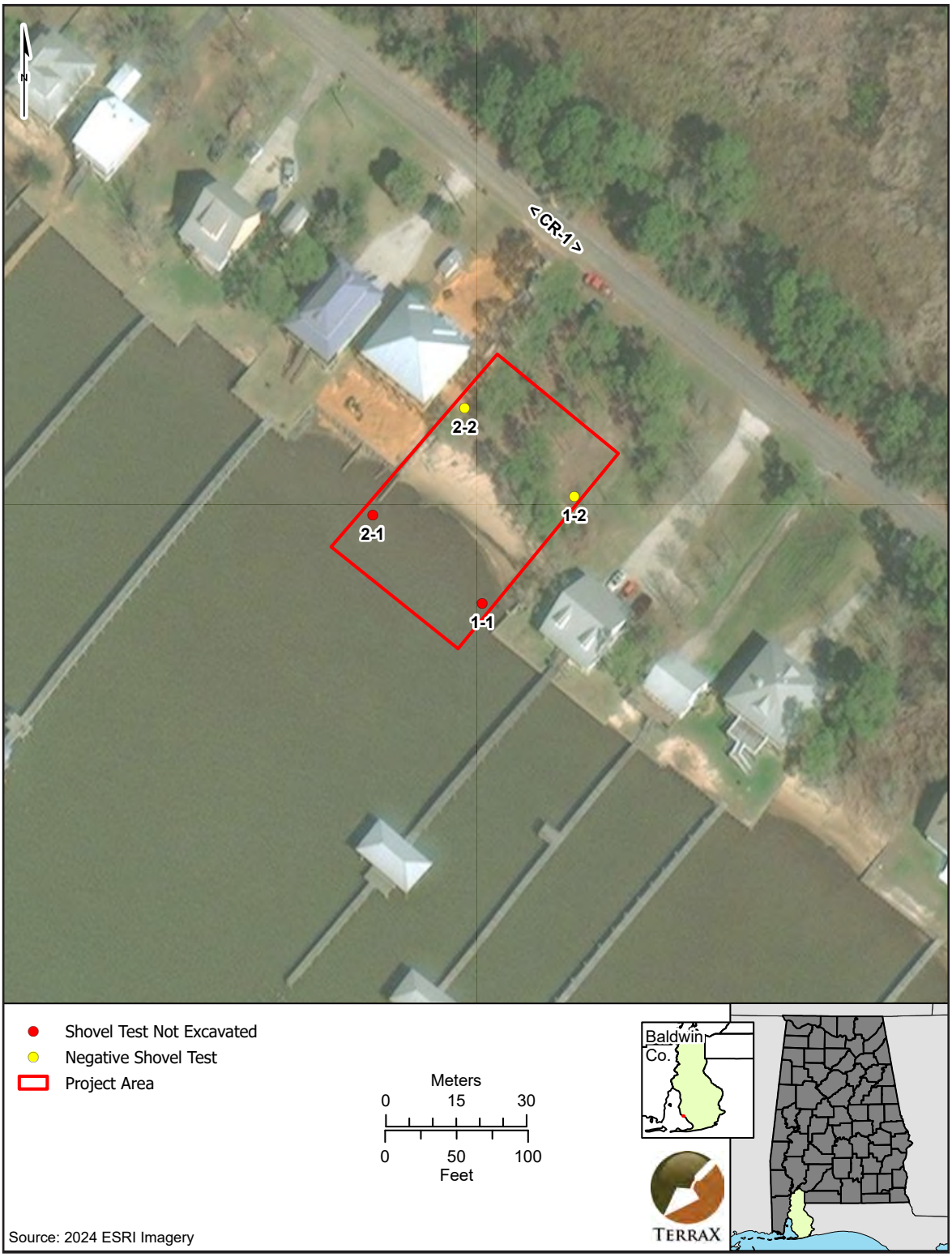


Figure 15. *Aerial map depicting shovel tests results within the project area.*

Figure 16. *View of typical shovel test within the project area.*

The investigation did not recover any archaeological material or discovery of any archaeological sites. As such, TerraX recommends that the future undertaking be allowed to proceed regarding cultural resource concerns.

ARCHITECTURAL SURVEY RESULTS

In compliance with Section 106 of the National Historic Preservation Act of 1966 (36 CFR Part 800), TerraX conducted a historic resource survey to identify resources that are listed or may be eligible for inclusion in the NRHP within and around the project area for the proposed Half Acre at Mobile Bay Residential Development Project in Baldwin County, Alabama.

The project consists of the construction and development on a parcel along County (Co.) Road 1 in Baldwin County near the city of Fairhope, Alabama. The project area consists of 0.46 acres; the boundaries of adjacent lot 19 (parcel 56-08-33-0-000-060.003) and 20 (parcel 56-08-33-0-000-060) The area surrounding the project area consists of historic and non-historic residences, densely wooded parcels, and the Bay of Mobile.

The architectural survey resulted in the identification of fourteen resources (Ba00001–Ba00014) within the proposed Half Acre at Mobile Bay Residential Development Project's indirect area of potential effect (APE) (Figure 17). The resources consist of fourteen residential buildings. It is the opinion of TerraX that the resources surveyed lack the historical significance and/or architectural or engineering distinction necessary for listing in the NRHP and are therefore not eligible, either individually or as contributors to a historic district, within the APE.

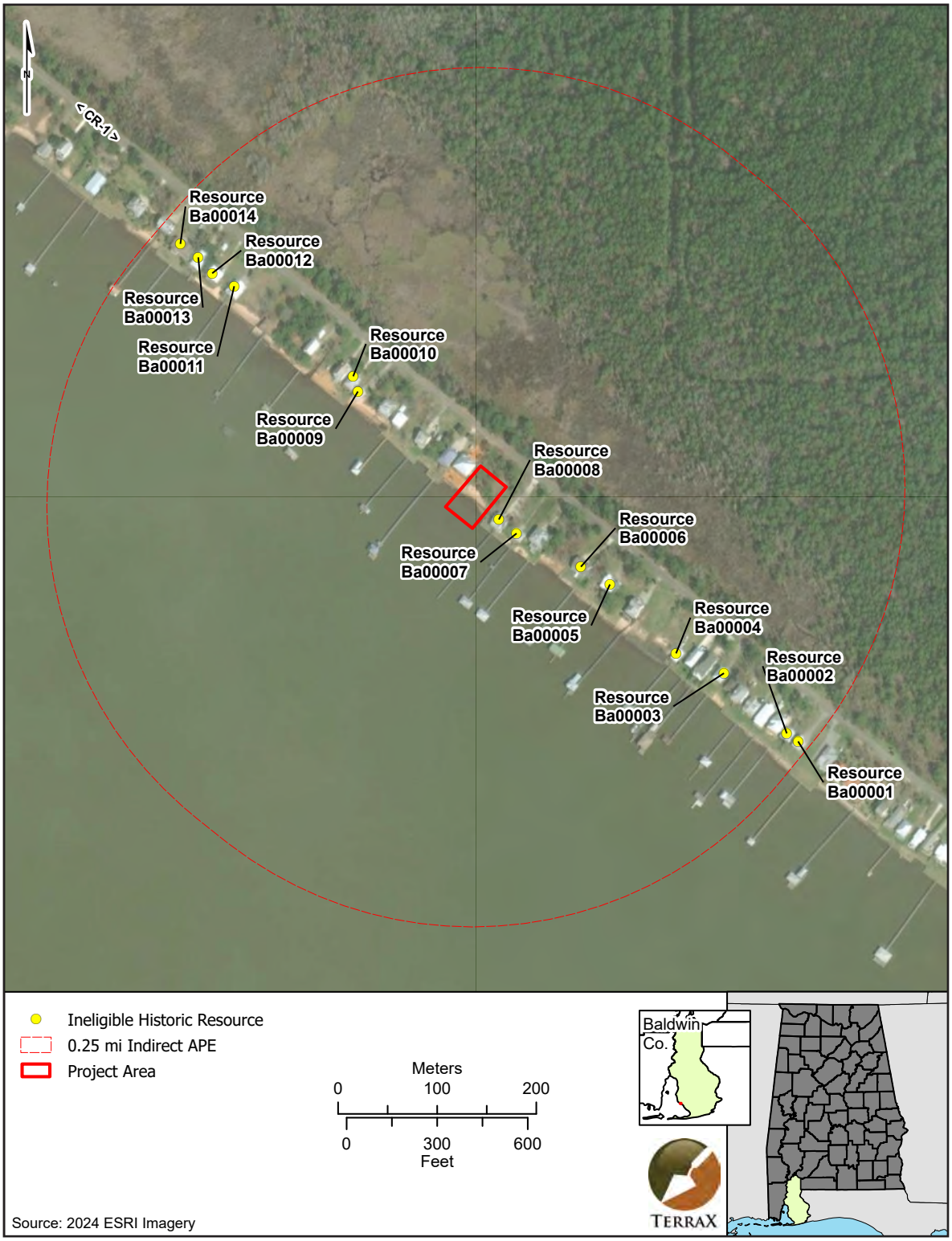


Figure 17. *Aerial map depicting above-ground historic resources within the 0.25 mi indirect APE of the project area.*

CONCLUSIONS AND RECOMMENDATIONS

TerraX was contracted by TTL of Montgomery, Alabama on behalf of Claremont Property Co. of Bonita Springs, Florida to conduct a cultural resources survey for the proposed Half Acre at Mobile Bay Residential Development Project in Baldwin County, Alabama. The Phase I survey was performed on September 4, 2024. Emma Jackson Pepperman served as the Principal Investigator and was assisted in the field by Kevin Rolph and Cat Strader.

The project area is located in a residential area along the coast of Mobile Bay, south-southeast of the city of Barnwell, Alabama, and west-southwest of Yupon, Alabama, 1.81 miles (mi) (2.91 kilometers [km]) west of Weeks Bay. The project area consists of one 0.45-acre (ac) parcel. The archaeological survey did not result in the recovery any archaeological material or discovery of any archaeological sites. The architectural survey resulted in the identification of fourteen resources (Ba00001–Ba00014) within the proposed Half Acre at Mobile Bay Residential Development Project's indirect area of potential effect (APE). The resources consist of fourteen residential buildings. It is the opinion of TerraX that the resources surveyed lack the historical significance and/or architectural or engineering distinction necessary for listing in the NRHP, and they are, therefore not eligible, either individually or as a contributor to a historic district, within the APE. The architectural survey was completed by SOI-qualified Architectural Historian, Sarah Knauer MHP and reviewed by SOI-qualified Architectural Historian Samuel Johnson, MHP.

There is always the possibility of undetected cultural resources such as graves or other cultural features not discovered through standard survey methods. There are significant historic and archaeological sites in Alabama located under pavement, railroad beds, and buildings. All work should be halted in the unlikely event that burials or cultural features are revealed during the proposed project. If human remains are located, the county coroner or sheriff should be contacted immediately. The coroner or local law enforcement will determine if the remains are forensic or archaeological. The Alabama Historical Commission should be alerted of any discovery.

REFERENCES

Alabama Cultural Online Resource Database (ACORD). 2024. Database information compiled by The University of Alabama. Electronic document, http://appserver.oas.ua.edu/assf/Login.jsp, accessed August 27, 2024.

Alabama Historical Commission (AHC). 2006. Alabama Historical Commission Policy for Archaeological Survey and Testing in Alabama. Alabama Historical Commission. State Historic Preservation Office (ALSHPO), Montgomery, Alabama.

Alabama Historical Commission (AHC). 2024. Alabama Register of Landmarks and Heritage (ARLH). Electronic document, https://ahc.alabama.gov/alabamaregister.aspx, accessed August 27, 2024.

Alabama State Archaeological Site File (ASASF). 2024. Database information compiled by The University of Alabama. Electronic document, http://oar.museums.ua.eud/services/alabama, accessed August 27, 2024.

Albers, Martha M. 1928. *A Brief History of Baldwin County*. Baldwin County Historical Society, Fairhope.

Alyea, Paul E., and Blanche R. Alyea. 1956. *Fairhope, 1894-1954: Story of a Single Tax Colony*. University of Alabama Press.

Anderson, David G. 1990. Paleoindian Colonization of Eastern North America: A View from the Southeastern United States. In *Early Paleoindian Economies of Eastern North America*, edited by Kenneth Tankersley and Barry Isaac, pp. 163–216, JAI Press, Greenwich.

1994. *The Savannah River Chiefdoms: Political Change in the Late Prehistoric Southeast*. The University of Alabama Press, Tuscaloosa.

Anderson, David G. 1996. Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *The Paleoindian and Early Archaic Southeast*, edited By David G. Anderson and Kenneth E. Sassaman, pp. 29–57. The University of Alabama Press, Tuscaloosa.

Anderson, David G., Ashley M. Smallwood, and D. Shane Miller. 2015. Pleistocene Human Settlement in the Southeastern United States: Current Evidence and Future Directions. *Paleoamerica* 1(1):7–51.

Anderson, David G. and Kenneth E. Sassaman. 2012. *Recent Developments in Southeastern Archaeology: From Colonization to Complexity*. Society for the American Archaeology Press, Washington D.C.

Anderson, David G., and Robert C. Mainfort, Jr.
2002. An Introduction to Woodland Archaeology in the Southeast. In *The Woodland Southeast*, edited by David G. Anderson and Robert C. Mainfort, Jr., pp. 1–19. University of Alabama Press, Tuscaloosa.

Beckert, Sven. 1993. *Monied Metropolis: New York City and the Consolidation of the American Bourgeoisie, 1850-1896*. Cambridge University Press, Cambridge.

Braje, Todd J., Jon M. Erlandson, Torben C. Rick, Loren Davis, Tom Dillehay,Daryl W. Fedje, Duane Froese, Amy Gusick, Quentin Mackie, Duncan McLaren, Bonnie Pitblado, Jennifer Raff, Leslie Reeder-Myers, and Michael R. Waters. 2020. "Fladmark + 40: What Have We Learned about a Potential Pacific Coast Peopling of the Americas?," *American Antiquity,* Vol. 85, No. 1.

Blanton, Dennis B., William Childress, Jonathan Danz, Leslie Mitchell, Joseph Schuldenrein, and Jesse Zinn. 1994. *Archaeological Assessment of Sites 44PY7, 44PY43, and 44PY152 at Leesville Lake, Pittsylvania County, Virginia*. Report Submitted to the Virginia Department of Historical Resources, Richmond.

Carson, James Taylor. 1997. "Native Americans, the Market Revolution, and Culture Change: The Choctaw Cattle Economy, 1690-1830." *Agricultural History* 71(1):1-18.

Choctaw Nation of Oklahoma Historic Preservation Department. 2023. https://storymaps.arcgis.com/stories/9429ee47e1194c3c9c0fca9374fce7ff, accessed September 25, 2024.

Coe, Joffre Lanning. 1964. The Formative Cultures of the Carolina Piedmont. Transactions of the American *Philosophical Society* 54(5), Philadelphia.

Custer, Jay F., and Edith B. Wallace. 1982. Patterns of Resource Distribution and Archaeological Settlement Patterns in the Piedmont Uplands of the Middle Atlantic Region. *North American Archaeologist* 3(2):139–172.

Curren Jr., Cailup B., and Noel R. Stowe. 1971. *An Archaeological Site Survey of South Alabama.* Prepared by the Archaeological Research Association of Alabama Inc. and the University of South Alabama. ASASF Report No. 4071772.

Daniel, I. Randolph, Jr. 2021. Time, Typology, and Point Traditions in *North Carolina Archaeology*. University of Alabama Press, Tuscaloosa.

Daniel, I. Randolph Jr., and Christopher R. Moore. 2011 Current Research into the Paleoindian and Archaic Periods in the North Carolina Coastal Plain. In *The Archaeology of North Carolina: Three Archaeological Symposia*, edited by C. R. Ewen, T. Whyte, and R. P. S. Davis Jr., pp. 93–117. North Carolina Archaeological Council Publication No. 30. Chapel Hill.

Davis, Karl. 2002. "'Remember Fort Mims:' Reinterpreting the Origins of the Creek War." *Journal of the Early Republic* 22(4):611-636.

DeBow, J.D.B. 1853. "Debow's Review: Agricultural, Commercial, Industrial Progress and Resources, Volume 14." *American periodical series,* 1800-1850.

Dent, Richard J. 1995. *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York.

Dunbar, James S. 2016. *Paleoindian Societies of the Coastal Southeast*. University Press of Florida, Gainesville.

Faught, Michael K. 2008. Archaeological Roots of Human Diversity in the New World: A Compilation of Accurate and Precise Radiocarbon Ages from Earliest Sites. *American Antiquity* 73(4):670–698.

Futato, Eugene M. 1989. An Archaeological Overview of the Tombigbee River Basin, Alabama and Mississippi. Report of Investigations 59. Tuscaloosa: Office of Archaeological Research, University of Alabama.

Galloway, Patricia. 1994. "'So Many Little Republics': British Negotiations with the Choctaw Confederacy, 1765." *Ethnohistory* 41(4):513-537.

1995. *Choctaw Gensis, 1500-1700*. University of Nebraska Press, Lincoln and London.

George, Henry.
1879 (1926). *Progress and Poverty: An Inquiry into the Cause of Industrial Depression and of Increase of Want with Increase of Wealth*. Doubleday, Page and Co., New York.

1886 (1911). *Protection or Free Trade: An Examination of the tariff Question, with Especial Regard to the Interests of Labor*. Doubleday, Page and Co., New York.

Griffith, G.E., Omernik, J.M., Comstock, J.A., Lawrence, S., Martin, G., Goddard, A., Hulcher, V.J., and Foster, T., 2001, Ecoregions of Alabama and Georgia, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,700,000).

Harris, W. Stuart. 1977. *Dead Towns of Alabama*. University of Alabama Press.

Halligan,Jessi J., Michael R. Waters, Angelina Perrotti, Ivy J. Owens, Joshua M. Feinberg, Mark D. Bourne, Brendan Fenerty, Barbara Winsborough, David Carlson, Daniel C. Fisher, Thomas W. Stafford Jr., and James S. Dunbar. 2016. "Pre-Clovis Occupation 14,550 years ago at the Page-Ladson site, Florida, and the Peopling of the Americas." Science Advances. Vol. 10, Issue 18.

Heldman, Donald P. 1973. "Fort Toulouse of the Alabamas and the Eighteenth-Century Indian Trade." *World Archaeology* 5(2):163-169.

Hudson, Charles. 1999. *The Southeastern Indians*. The University Press of Tennessee, Knoxville.

Kidder, Tristam R. 2006. Climate Change and the Archaic to Woodland Transition (3000-2600 cal. B.P.) in the Mississippi River Basin. *American Antiquity* 71:195-231.

Little, Barbara, Erika M. Seibert, Jan Townsend, John H. Sprinkle, Jr., and John Knoerl. 2000. Guidelines for Evaluating and Registering Archeological Properties. National Register Bulletin No. 36. U.S. Department of the Interior, National Park Service, Washington, D.C.

McMakin, Todd, Bruce G. Harvey and Eric C. Poplin. 1996. US Army Aviation Center and Fort Rucker Historic Preservation Plan Cultural Overview. Brockington and Associates, Inc. Prepared for the United States Army Corps of Engineers, Mobile District and the United States Army Aviation Center and Fort Rucker, Fort Rucker, Alabama.

Moussette, Marcel. 2002. "Towards an Archaeology of the French in America." *Historical Archaeology* 36(1):143-148.

National Park Service (NPS).
1995. How to Apply the National Register Criteria for Evaluation. National Register Bulletin No. 15. U.S. Department of the Interior, Washington, D.C.

2018. Old Mobile Site. https://www.nps.gov/subjects/nationalhistoriclandmarks/old-mobile-site.htm, accessed March 19, 2024.

2024. National Register of Historic Places. Electronic document, https://www.nps.gov/subjects/nationalregister/index.htm, accessed August 27, 2024.

Nationwide Environmental Title Research (NETR). 2024. Historic Aerials. Electronic document, https://www.historicaerials.com, accessed August 27, 2024.

Ostahowski, Brian and Alison Hanlon. 2014. *Archaeological Investigations in Support of the MC252 (Deepwater Horizon) Oil Spill Response in the State of Alabama.* Prepared for Gulf Coast Incident Management Team. Prepared by HDR Environmental, Operations and Construction, Inc., New Orleans, Louisiana. ASASF Report No. 4076892.

Perdue, Theda and Michael D. Green. 2001. *The Columbia Guide to American Indians of the Southeast*. Columbia University Press, New York.

Pitblado, Bonnie L. 2011. A Tale of Two Migrations: Reconciling Recent Biological and Archaeological Evidence for the Pleistocene Peopling of the Americas. *Journal of Archaeological Research* 19(4):327–375.

Poarch Creek Indians. Nd. Poarch Creek Indians History, https://pci-nsn.gov/about/history/, accessed March 29, 2024.

Ramsey, William L. 2003. "'Something Cloudy in Their Looks': The Origins of the Yamasee War Reconsidered." *The Journal of American History* 90(1):44-75.

Regnier, Amanda Leigh. 2001. Stylistic Analysis of Burial Urns from the Protohistoric Period in Central Alabama. Master's Thesis for the University of Alabama, Tuscaloosa, Alabama.

Rubertone, Patricia E. 2000. "The Historical Archaeology of Native Americans." *Annual Review of Anthropology* 29:425-446.

Sassaman, Kenneth E. 2010. *The Eastern Archaic, Historicized*. AtlaMira Press, Lanham, Maryland.

Smallwood, Ashley M. 2012. Clovis Technology and Settlement in the American Southeast: Using Biface Analysis to Evaluate Dispersal Models. *American Antiquity* 77(4):689–713.

Steponaitis, Vincas P. 1986. Prehistoric Archaeology in the Southeastern United States, 1970-1985. *Annual Review of Anthropology*, 15:363-404.

Silvia, Diane E. 2002. "Native American and French Cultural Dynamics on the Gulf Coast." *Historical Archaeology* 36(1): 26-35.

Smith, Marvin T. 1987. *Archaeology of Aboriginal Culture Change in the Interior Southeast: Depopulation During the Early Historic Period*. University Press of Florida, Gainesville.

Thomas, Daniel H. 1987. *Fort Toulouse: The French Outpost at the Alabamas on the Coosa*. University of Alabama Press, Tuscaloosa.

United States Department of Agriculture (USDA).
2024a. Web Soil Survey. Electronic document, https:/websoilsurvey.nrcs.usda.gov/app/WebSoilSurveyaspx, accessed August 27, 2024.

2024b. Tidewater Series. Electronic document, https://soilseries.sc.egov.usda.gov/OSD_Docs/T/TIDEWATER.html#:~:text=The%20Tidewater%20series%20consists%20of,Coast%20of%20northern%20peninsular%20Florida., accessed August 29, 2024.

United States Geological Survey (USGS).
2024a. EarthExplorer. Electronic document, https://earthexplorer usgs.gov/, accessed August 29, 2024.

2024b. topoView. Electronic document, https://ngmdb.usgs.gov/topoview/viewer, accessed August 29, 2024.

University of Alabama (UA). 2024. Air Photo Archive – Baldwin County. Electronic document, https://alabamamaps.ua.edu/aerials/Counties/Baldwin/Baldwin.html, accessed September 1, 2024.

Walthall, John A. 1980. *Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South*. University of Alabama Press, Tuscaloosa.

Walthall, John A., and Ned J. Jenkins. 1976. The Gulf Formational Stage in Southeastern Prehistory. *Southeastern Archaeological Conference* Bulletin 19:43-49.

Ward, H.T., and R.P. Stephen Davis, Jr. 1999. *Time Before History: The Archaeology of North Carolina.* The University of North Carolina Press, Chapel Hill.

Weinstein, Richard and Ashley Dumas. 2008. "The Spread Of Shell-Tempered Ceramics Along The Northern Coast Of The Gulf Of Mexico," *Southeastern Archaeology* 27(2) Winter 2008.

Williams, Mark and Gary Shapiro (eds.). 1990. *Lamar Archaeology: Mississippian Chiefdoms in the Deep South*. University of Alabama Press, Tuscaloosa.

This page intentionally left blank

Appendix A
Historic Resources

Historic Resources within the Project APE

Ba00001

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1950
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11923 Co Rd 1
Owner: Private
Integrity: Low

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Square
Exterior Fabric: Vinyl siding
Stories: 2 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced; roof top deck removed c. 2020

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Shed/pent
Roof Material: Corrugated metal
Main Entry: Obscured
Porch(es): Side/rear, recessed and screened veranda
Windows: Double-hung vinyl-framed 1/1 with simulated lite, fixed octagonal vinyl-framed, four lite awning style aluminum-framed; two lite awning style aluminum-framed
Distinguishing Features: Pressure treated stairs; second story addition c. 1960
Ancillary Features: Maintained gravel driveway and lawn

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00002

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1973
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11257 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vertical board; wood shingle siding
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed c. 2023; piers replaced; boat house c. 1999

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Front gable
Roof Material: Corrugated metal
Main Entry: Metal-framed 2-panel 9 lite
Porch(es): Rear recessed veranda; fully enclosed first floor stair landing
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; rafter tails with fascia board; gable eave end bracket; paritally enclosed ground floor
Ancillary Features: Maintained gravel driveway and lawn; wood fence; wood-framed dock and boat launch/storage

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba00003

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1974
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11297 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vinyl siding; vertical board
Stories: 2 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced c. 2020; non-historic siding, piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Pyramidal
Roof Material: Corrugated metal
Main Entry: Obscured
Porch(es): Side, eave over hang and deck; rear recessed veranda
Windows: Double-hung aluminum-framed 2/2; double-hung aluminum-framed 1/1
Distinguishing Features: Pressure treated stairs; ground floor half-width fully enclosed
Ancillary Features: Maintained gravel driveway and lawn;

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00004

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1965
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11321 Co Rd 1
Owner: Private
Integrity: High

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Cedar board siding; vertical board
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed c. 2015; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Obscured
Porch(es): Rear, wrap around deck
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; rafter tails with fascia board
Ancillary Features: Maintained lawn; gravel driveway; wood-framed dock and boat launch/ storage

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba00005

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1974
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11345 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Clapboard
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Four-panel wood-framed with half moon lite
Porch(es): Front, two corner verandas; rear, screened and recessed veranda
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; picture window bump outs
Ancillary Features: Maintained driveway and lawn; dock with boat house

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00006

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1974
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11363 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Clapboard
Stories: 1.5 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; side addition c.1980; non-historic siding, doors, and windows installed c. 2015; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Six-panel wood-framed with wood-framed side lites
Porch(es): Front, and front full width recessed veranda
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; gable dormers; mechanical lift
Ancillary Features: Maintained gravel driveway and lawn; dock with boat house

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba00007

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1955
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11385 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Asbestos siding; vertical board
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; windows replaced c. 2000

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Obscured
Porch(es): Rear, deck
Windows: Double-hung vinyl-framed 1/1 with simulated lites
Distinguishing Features: Pressure treated stairs; rectangle gable end vent
Ancillary Features: Maintained driveway and lawn; wood fence; wood-framed dock and boat launch/ storage

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00008

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1955
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11397 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vertical board
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Non-historic six-panel
Porch(es): Side, partial width recessed veranda; rear, partial width screened and recessed veranda
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; triangular gable end vents
Ancillary Features: Maintained gravel driveway and lawn; wood-framed boat launch/storage

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba0009

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1973
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11461 Co Rd 1
Owner: Private
Integrity: Low

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vinyl siding
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced; first floor partially enclosed and screened

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Front gable
Roof Material: Corrugated metal
Main Entry: Six-panel, metal
Porch(es): First level, recessed and screened in veranda; eave over hang
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; octagonal gable end vent
Ancillary Features: Maintained gravel driveway and lawn; ground floor utility room

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00010

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1974
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11473 Co Rd 1
Owner: Private
Integrity: Low

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vinyl Siding
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Hipped
Roof Material: Corrugated metal
Main Entry: Six-panel metal
Porch(es): rear, recessed veranda and full width deck
Windows: Double-hung vinyl-framed 1/1 with simulated lite; double-hung aluminum-framed 2/2; vinyl-framed casement
Distinguishing Features: Pressure treated stairs;
Ancillary Features: Maintained driveway and lawn; abandoned boat house; ground floor utility room

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba00011

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1968
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11537 Co Rd 1
Owner: Private
Integrity: Medium

Style: Late 19th and early 20th Century American Movements
Sub-style: Front gable
Plan: Rectangle
Exterior Fabric: Clapboard
Stories: 1.5 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Cross gable
Roof Material: Corrugated metal
Main Entry: Two-panel, single lite with side lite, wood-framed
Porch(es): Facade, wrap around deck with central partial width hipped portico; rear, recessed screened veranda
Windows: Double-hung vinyl-framed 1/1; vinyl-framed paladin 1/1; vinyl-framed awning
Distinguishing Features: Pressure treated stairs; fish scale gable ends
Ancillary Features: Maintained driveway and lawn; ground floor utility rooms; dock with boathouse

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00012

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1965
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11541 Co Rd 1
Owner: Private
Integrity: Low

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vinyl siding
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; non-historic siding, doors, and windows installed; piers replaced

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Side gable
Roof Material: Corrugated metal
Main Entry: Two-panel, 9 lite metal-framed door
Porch(es): Facade, pressure treated landing, rear, pressure treated deck
Windows: Double-hung vinyl-framed 1/1 with simulated lites; vinyl-framed casement
Distinguishing Features: Pressure treated stairs; octagonal gable vent
Ancillary Features: Maintained driveway and lawn; wood-framed deck; wood-framed shed; dock; abandoned boat house

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Historic Resources within the Project APE

Ba00013

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1965
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11547 Co Rd 1
Owner: Private
Integrity: High

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric: Vertical board; metal siding
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; siding material replaced; piers replaced; non-historic door installed

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Front gable with hipped apron
Roof Material: Corrugated metal
Main Entry: Obscured
Porch(es): Rear, full width deck
Windows: Double-hung vinyl-framed 1/1
Distinguishing Features: Pressure treated stairs; lattice gable end vent
Ancillary Features: Maintained driveway and lawn; ground floor utility room; short wooden dock

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Ba00014

Name, Historic: _____
Name, Other: Residence
Newly Recorded ■ Previously Recorded ☐

US Quad Map: Point Clear, AL
Built: 1955
TRS: 63N.15E.33

City, County: Fairhope, Baldwin
Historic Use: Residential
Present Use: Residential
Relocated: No

Address: 11551 Co Rd 1
Owner: Private
Integrity: High

Style: Late 19th and early 20th Century American Movements
Sub-style: Bungalow
Plan: Rectangle
Exterior Fabric:Vertical board
Stories: 1 (Elevated)
Chimneys: 0
Non-Historic Alterations: Roof material replaced; siding material replaced; piers replaced; non-historic door installed

Foundation: Pier and slab
Foundation Material: Pressure treated wood and concrete slab
Roof: Cross gable with hipped apron
Roof Material: Asphalt shingle
Main Entry: Single full length lite, wood-framed
Porch(es): Facade, narrow portico with front gable; rear, recessed veranda
Windows: Double-hung aluminum-framed 1/1;
Distinguishing Features: Pressure treated stairs; wood-framed board and batten shutters
Ancillary Features: Maintained driveway and lawn; wood constructed dock; boathouse

☐ **Individually Eligible**

☐ **Contributing Resource**

Evaluation: Due to lack of sufficient historic significance and architectural distinction, the resource is ineligible for listing in the NRHP, either individually or as a contributing resource within a potential or existing historic district.

Appendix B
Curriculum Vitae of Principal Investigator

Principal Investigator

205.657.0391 • ejpepperman@terraxplorations.com

Emma Jackson Pepperman, M.A., has over eleven years of experience in the CRM field, most of which were served in the TerraX laboratory. Her interests as a historian lie in labor experience, New South violence, and how religion in the South is involved in both. She has experience processing, analyzing, and curating prehistoric and historic artifacts from every state in the Southeast, organizing data, creating displays, developing websites, writing proposals and reports, managing the office, and performing Phase I fieldwork. She is currently managing projects as a Principal Investigator, writing histories, and creating exhibits and displays for interested clients. Ms. Pepperman's responsibilities for TerraX include managing personnel, writing technical reports and journal articles, writing proposals and budgets, and building physical and online exhibits. Ms. Pepperman has an M.A. in History, a Museum's Certificate, and a Minor B.A. in Art from The University of Alabama.

Years of Experience/Years with Firm

5/11

Education

- **M.A. in History with a Museum Certificate, University of Alabama**
- **B.A. in History with a minor in Art, University of Alabama (magna cum laude)**

Certifications

- **International Association of Professions Career College Genealogist Certification**
- **Museum Studies Certification**

Areas of Expertise

- **Laborer's Experience**
- **New South Violence**
- **Southern Religion**
- **Exhibit display production**
- **Website development**
- **Genealogy**
- **Public education**
- **Podcast script writing**
- **In-person and digital archival research**

Selected Experience

TerraXplorations, Inc.

Principal Investigator/Historian
August 2021 to Present

Historian/Technical Writer
June 2021 to August 2021

University of Alabama Graduate School

Graduate Student
August 2019 to May 2021

TerraXplorations, Inc.

Laboratory Director
2014 to 2019

Archaeological Field Technician
Summer 2016 and 2018

Laboratory Technician
2012 to 2014

Selected Publications

2023

Phase I Cultural Resources Survey for ALDOT BR-0001(625) Bridge Replacement on SR-1 over Cheneyhatchee Creek (Bin 005230) & (Bin 008231) Barbour County, Alabama.
Authored by Emma Jackson Pepperman and David Dobbs. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for AECOM, Birmingham, Alabama.

A Phase I Cultural Resources Survey of Seven Acres of Land on East Railroad Street in Gulfport, Harrison County, Mississippi.
Authored by Emma Jackson Pepperman, Margaret Schultz, Sam Johnson, and Alexis Muschal. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for Covington Civil and Environmental, Gulfport, Mississippi.

Selected Publications (Continued)

A Phase I Archaeological Survey for the I-285 Eastside Express Lanes, DeKalb County, Georgia, PI No. 0013914.
Authored by Emma Jackson Pepperman, Elizabeth Southard, Margaret Schultz, Terry Barbour, Sharlene O'Donnell, Heather Draskovich, and Paul D. Jackson. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for Atkins North America, Atlanta, Georgia and the Georgia Department of Transportation, Atlanta, Georgia.

2022

A Phase I Cultural Resources Survey for the Kewanee Site Development Project in Lauderdale County, Mississippi.
Authored by Emma Jackson Pepperman and Paul D. Jackson. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for Engineering Plus, Inc., Meridian, Mississippi.

A Phase I Cultural Resources Survey for the Proposed NSU North Business Park in Natchitoches Parish, Louisiana.
Authored by Emma Jackson Pepperman and Paul D. Jackson. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for Cothren, Graff, Smoak Engineering, Inc., Shreveport, Louisiana.

A Phase I Cultural Resources Survey of the Dahlonega-Dawson Crossing 115kv Transmission Line Project, Lumpkin County, Georgia.
Authored by Emma Jackson Pepperman, Kenny Pearce, Margaret Shultz, and Briane Shane. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for Georgia Power Company, Atlanta, Georgia.

Brookhaven 10-Year History Project.
Authored by Emma Jackson Pepperman, Margaret Schultz, and Katie-Bryn Hubbard. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for the City of Brookhaven, Georgia.

2021

A Phase I Cultural Resources Survey for the West Central Alabama Highway Project, ALDOT Project No. RAED-069-000-040 Corridor Development to Design Build 4-Lanes from Fayette, AL to I-22, Marion and Fayette Counties, Alabama.
Authored by Emma Jackson Pepperman, Elizabeth Southard, and Briane Shane. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for AECOM, Dallas, Texas.

A Phase I Cultural Resources Survey for the Proposed Forkland, Alabama, Port Facility Project in Greene County, Alabama.
Authored by Emma Jackson Pepperman. Prepared by TerraXplorations, Inc., Tuscaloosa, Alabama. Prepared for TTL, Inc., Nashville, Tennessee.

A Phase I Cultural Resources Survey for the TGP 100-3 Line Pig Launcher in Washington County, Mississippi.
Authored by Emma Jackson Pepperman and Amy Carruth. Prepared by TerraXplorations, Inc., Baton Rouge, Louisiana. Prepared for Providence Group, LLC., Baton Rouge, Louisiana.

"George Russel v. The State: Crime and Violence in the Antebellum South."
Authored by Emma Jackson Pepperman, Margaret Schultz, and AnnMarie Shields. Online Scalar Project.

2020

A Phase III Archaeological Mitigation of the Point Pleasant Site (16IV199) in Iberville Parish, Louisiana.
Authored by Paul D. Jackson, Sharlene O'Donnell, Kevin Rolph, Emma Jackson Pepperman, Raychel Durdin, Brad Lanning, and Natalia Moonier. Prepared by TerraXplorations, Inc., Baton Rouge, Louisiana. Prepared for Shintech Louisiana, LLC, Plaquemine, Louisiana.