

**Florida Bureau of Archaeological Research, Department of State
Archaeological Research Permit - 1A-32 Application**

Project Name:	Application Date:
Applicant Name:	Email Address:
Applicant Affiliation:	
Full Mailing Address:	

Principal Investigator (attach brief resume):	RPA
Project Contact Person:	Telephone:
Email Address:	

Site or Project Location (attach detailed map of project location):	
Florida Site File number(s):	
Property Manager Name/Position:	
Property Manager Email:	Phone:

Threats to Resource:	
Proposed Work (attach research design):	
Crew Size:	Estimated Project Cost:
Source of Funding:	
Proposed Field Start Date:	Proposed Field End Date:
Proposed Laboratory End Date:	
Proposed Report Date (including site forms and artifacts):	

Publication Outlet(s):
Curatorial Facility:

~~HRE4404-13~~

HRE4404-13

(Note: If underwater or wetlands excavations are involved, provide evidence that dredge and fill permits [DEP and COE] and consent to use state lands [DEP] have been obtained, or determined not necessary.)



RESEARCH DESIGN FOR ARCHAEOLOGICAL EXCAVATIONS AT SITES 8MD00321 AND 8SU00422, MADISON AND SUWANNEE COUNTIES, FLORIDA

SEARCH has been contracted by Gulf Power Company (GPC) to conduct archaeological excavations at sites 8MD00321 and 8SU00422 within the Twin Rivers State Forest in advance of anticipated construction impacts by the North Florida Resiliency Connection (NFRC) Transmission Line Project (Project). The two sites are situated on either bank of the Suwannee River within Madison and Suwannee counties, respectively, within the Project right-of-way (ROW) depicted in **Figure 1**. SEARCH (2020) reported on the results of a Phase I cultural resource assessment survey (CRAS) of the area of potential effects (APE) for the Project (Permit No. 1819.061; Florida Master Site File [FMSF] Manuscript No. 27105) and recommended either avoidance or additional investigations of sites 8MD00321 and 8SU00422 based on their National Register of Historic Places (NRHP) eligibility statuses. The Florida Division of Historical Resources (DHR) accepted the findings of SEARCH's (2020) report in a letter dated September 11, 2020 (DHR Project File No.: 2019-4593). GPC has determined that the Project cannot completely avoid sites 8MD00321 and 8SU00422 and currently proposes the installation of a total of three monopole structures within the previously recorded site boundaries.

The research design presented herein is consistent with that presented in the archaeological site testing and treatment plans attached to the Programmatic Agreement (PA) between GPC, DHR, and the US Army Corps of Engineers (USACE) for the Project's compliance with Section 106 of the National Historic Preservation Act (NRHP). The goal of the excavations is to ensure that the Project avoids, minimizes, or mitigates adverse effects to historic properties. Taking into consideration the size of the auger, caissons, and poles, each construction footprint is approximately 13 × 13 ft in size. Based on this information and the specific findings at each site during the Phase I survey, SEARCH is proposing total excavation of the proposed construction footprint at site 8MD00321 and partial excavation of the two construction footprints at site 8SU00422 as described in more detail below.

The field and analytical methods employed for this project will be consistent with the DHR *Module Three Guidelines for Use by Historic Preservation Professionals* as well as *Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines* (48 FR 44716–44740). The project will be overseen by Principal Investigator Lillian Azevedo, PhD, RPA and Project Manager William Werner, MA.

SITE BACKGROUND INFORMATION

The following section presents a more detailed discussion of sites 8MD00321 and 8SU00422, including previous research at each site, the specific findings that led to recommendations for additional excavation, the proximity of the currently proposed Project impacts to previous findings, and the anticipated level of effort to minimize or mitigate adverse effects.

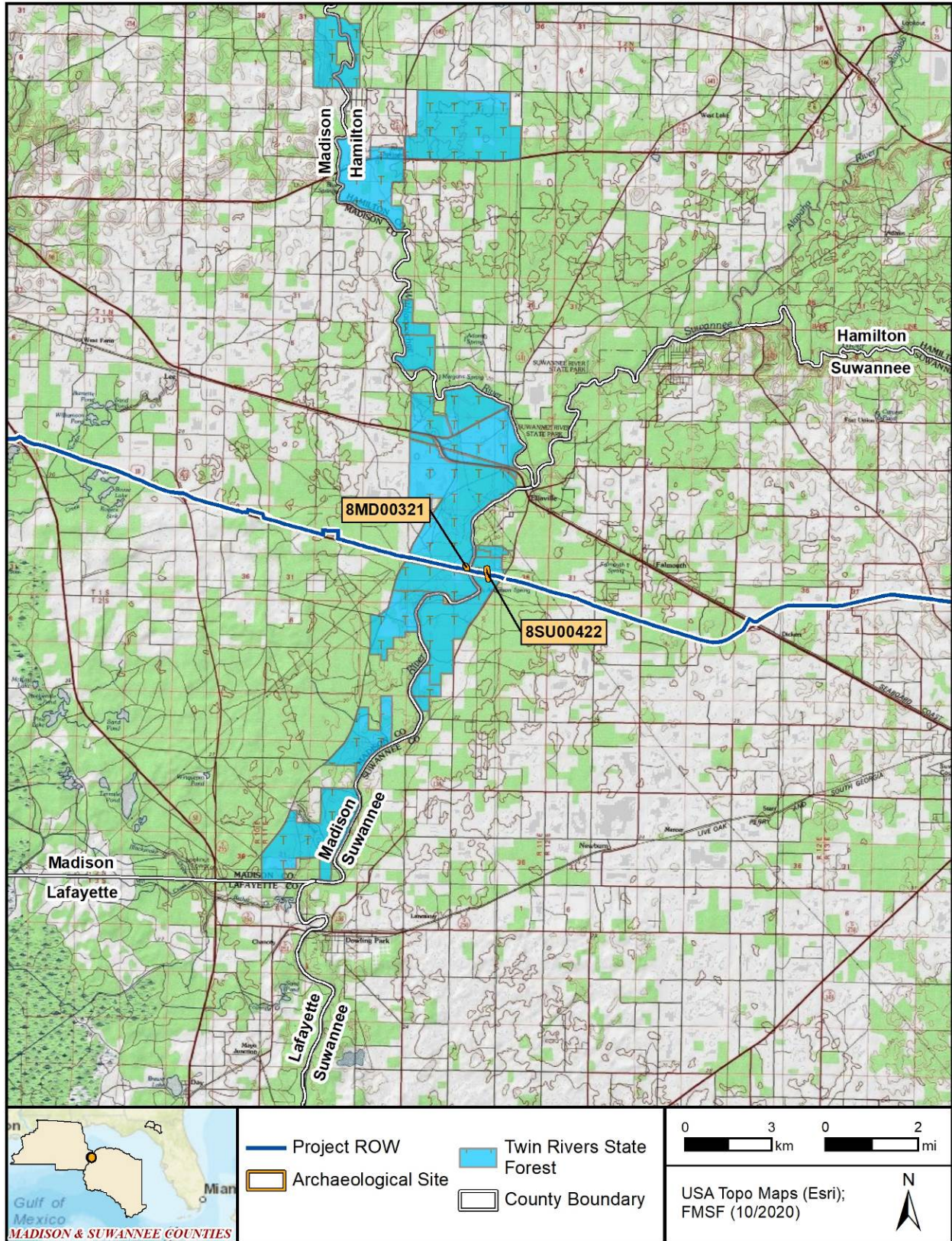


Figure 1. Location of sites 8MD00321 and 8SU00422 along the Project ROW.



Site 8MD00321

Table 1. Summary of Site 8MD0321.

Eligibility Status	Recommended eligible
Max. Depth of Known Deposits	120 cm
Basis for Eligibility	Diagnostic artifacts of numerous periods from the Late Archaic to Mission/Colonial; midden layers; human burials
Proposed Impacts	One 4 × 4 m pole installation footprint (Structure No. 601)
Proposed Work	Excavate the entirety of the 16 m ² pole installation footprint.

Cardno Entrix identified site 8MD00321 in 2014 as a result of the Phase I survey for the Sabal Trail Transmission Project (FMSF No. 24475). The survey team excavated 45 shovel tests placed judgmentally and at 15 m intervals, 20 of which were positive. A total of 50 pottery sherds (grit, sand, grog, and fiber tempered, with Prairie Fabric Impressed and Cord Marked, Fig Springs Roughened, Mission Red Filmed, Lamar Complicated Stamped, and Swift Creek Complicated Stamped), one core, one Bradford projectile point, several bifaces, and 1,770 pieces of debitage were recovered. A 1 × 2 m test unit identified human remains from a secondary burial, together with midden features. The site was recommended as eligible for listing in the NRHP, but no further work was conducted because the Sabal Trail project was redesigned to avoid the site.

The Physical APE for the adjacent to the previously recorded boundary for 8MD00321. SEARCH (2020) conducted Phase I survey within the Physical APE adjacent to the previously recorded boundary of 8MD00321 and recommended expanding the site boundary to encompass three positive shovel tests (**Figure 3**). The three positive shovel tests yielded a total of 29 artifacts, of which 26 were from ST-01, located closest to the Suwannee River. A potential midden containing fiber-tempered Late Archaic pottery was identified in this shovel test from about 35 to 50 cm below the surface. The dark grayish-brown midden deposit was not identified within the other two positive shovel tests, which each yielded one or two artifacts from relatively shallow depths. The Project proposes to install one pole (Structure No. 601) within the updated boundary for 8MD00321. This pole is within approximately 10 m of Late Archaic midden layer in ST 01 and approximately 50 m southeast of the location where Cardno Entrix encountered a Native American grave.

Proposed Excavations

Site 8MD00321 was not previously evaluated for NRHP eligibility by the State Historic Preservation Officer (SHPO); SEARCH (2020) recommended the site eligible based on the findings of the background research and Phase I survey. Based on this information, SEARCH will excavate the entirety of the 4 × 4 m proposed pole footprint to ensure the Project construction will not impact Native American graves or other archaeologically significant remains.

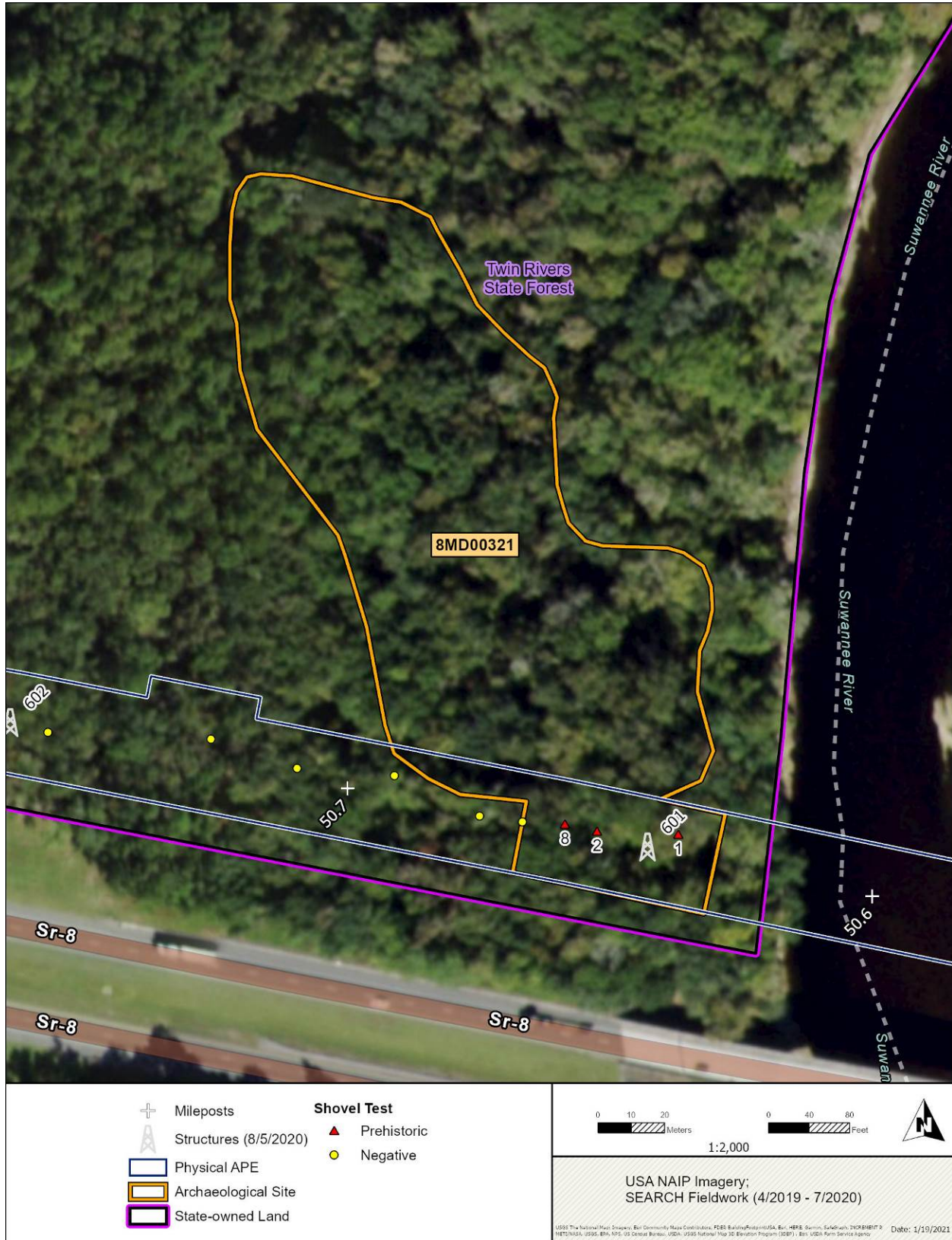


Figure 2. Site 8MD00321 showing results of SEARCH’s (2020) Phase I survey, proposed pole structure location, and State land boundaries.



Site 8SU00422

Table 2. Summary of Site 8SU00422.

Eligibility Status	Unevaluated
Max. Depth of Known Deposits	120 cm
Basis for Eligibility	Previously reported historic diagnostic artifacts; possibility for deeply buried deposits
Proposed Impacts	Two 4 × 4 m pole installation footprints (Structure Nos. 576 and 577)
Proposed Work	Excavate 6 m ² of test units.

Site 8SU00422 was originally identified in 2007 by the Bureau of Archaeological Research (BAR) as a scatter of non-Native American artifacts dating from the eighteenth through twentieth centuries (FMSF Manuscript No. 19410). SEARCH (2020) did not observe additional artifacts from these historic time periods within the Physical APE; however, lithic artifacts were encountered within 10 positive shovel tests that significantly expanded the site boundary to the west (**Figure 2**). The 10 positive shovel tests yielded a total of 39 pieces of lithic debitage. The assemblage consists of flakes and flake fragments of Coastal Plain chert, of which four pieces were thermally altered. No tools or diagnostic artifacts were recovered. While the lithic material that was recovered is limited to non-diagnostic debitage and found in variable densities, it was found at depths up to 120 cm below the surface, suggesting there may be deeply buried deposits present throughout the site.

The Project proposes to install two poles within the previously recorded site boundary. Pole No. 576 is within 25 m of three shovel tests, two of which were negative while the third contained a single lithic flake. Structure No. 577 is flanked by two positive shovel tests to the east and west. One piece of lithic debitage was recovered from ST 11, 30 m to the east. Five prehistoric lithics were recovered from ST 15, 30 m to the east.

Proposed Excavations

Site 8SU00422 was not previously evaluated for NRHP eligibility; SEARCH (2020) recommended additional work at the site based on the potentially for buried, intact diagnostic components. SEARCH will excavate up to 6 m² of test units. One 1 × 2 m unit will be placed over the shovel test containing the highest density of artifacts from the Phase I survey, and two additional 1 × 2 m units will be placed in the proposed pole footprints. If the results of the test units indicate that the proposed impacts to the site may affect archaeologically significant deposits, SEARCH will consult with GPC, DHR, and USACE to determine if additional excavations are necessary to resolve adverse effects to the site.

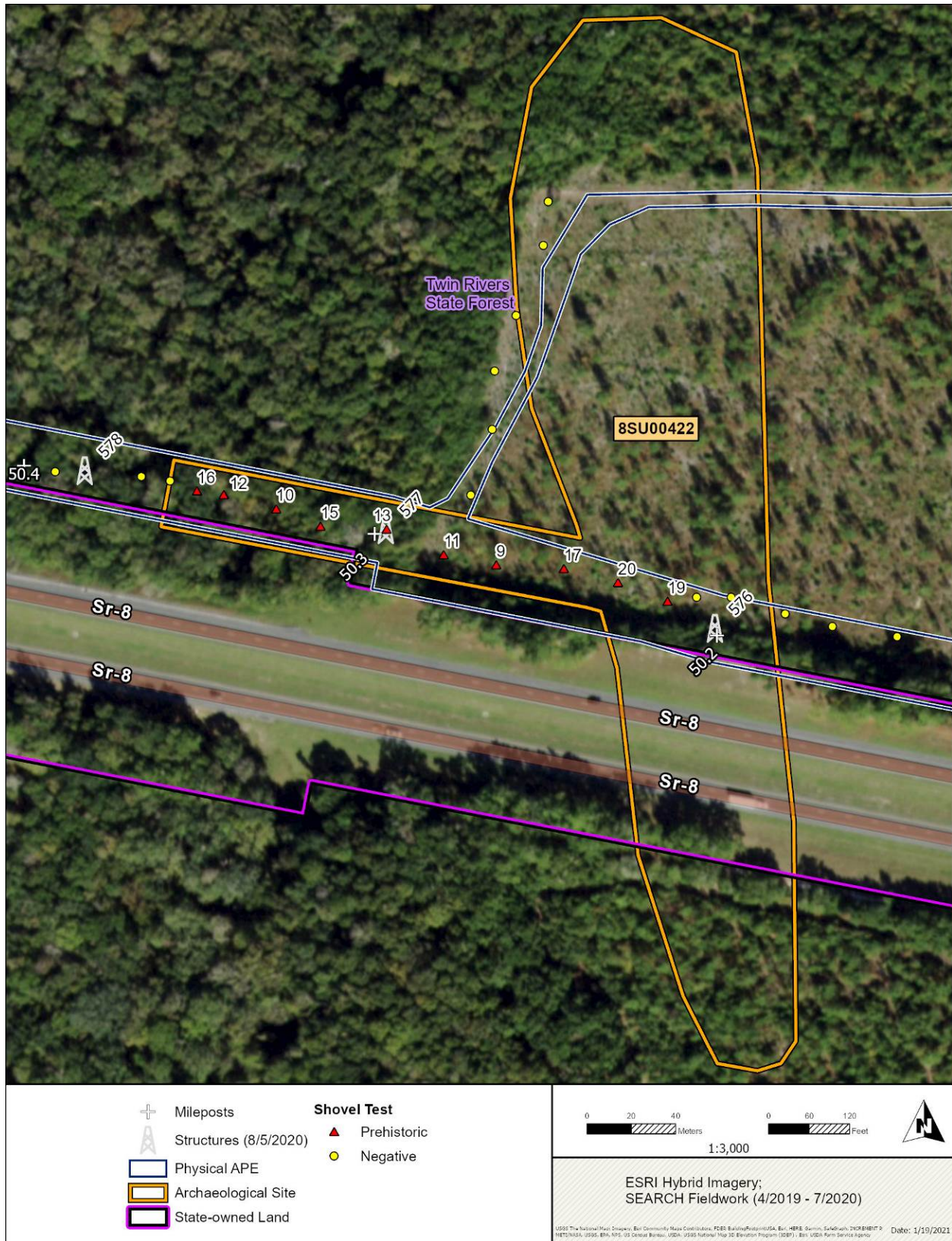


Figure 3. Site 8SU00422 showing results of SEARCH’s (2020) Phase I survey, proposed pole structure locations, and State land boundaries.



METHODS

Mapping and Spatial Control

Site mapping will be achieved with a combination of hand-drawn sketch maps and an EOS Arrow Gold GPS unit with sub-10 cm accuracy. Site maps will focus on the proposed pole footprints, showing them in relation to excavation units and topographical or cultural features observed on the surface. A GPS point will be recorded on the southwest corner of each excavation unit.

Excavation Methods

Excavations will be conducted in units typically measuring 1 × 2 m or 2 × 2 m. Regardless of unit size, separate proveniences will be maintained for sediments and artifacts removed from each 1 × 1 m section within a unit. All excavations will be conducted by hand tools in vertical increments not exceeding 10 cm within natural strata. Excavated sediments will be screened utilizing 1/4-in hardware cloth. The cultural content, soil strata and texture, predominant Munsell color, and environmental setting will be recorded on field forms. Depths will be measured from a datum line attached to a unit datum stake that is placed at the highest corner of the unit. The datum line is secured 10 cm above the ground surface, and the position of the datum stake will be recorded via GPS.

When excavation is complete for a given unit, a wall profile that best represents the stratigraphic environment the unit is placed in will be documented with a profile sketch and photographs. If the stratigraphy of a unit is not uniform across all unit walls, sketches and photographs of more than one wall profile will be documented to show this inconsistency. Unit walls where features are present will also be documented with sketches and photographs.

Artifact and Soil Sample Collection

Artifacts will be bagged by unit, level, and stratum. Within 1 × 2 m and 2 × 2 m units, artifacts from each 1 × 1 m section will be bagged separately. Bags and bag tags will be filled out for each provenience that produces cultural material. A bag tag will be placed within its own bag prior to placing the tag into the artifact bag to ensure the bag tag is not destroyed by moisture. This includes tags for soil and carbon samples. If faunal or floral remains or ceramics that are in a poor state of preservation are recovered, these will be bagged separately into sub-bags or wrapped in aluminum foil.

Feature Documentation

If an archaeological feature is encountered, a feature form will be completed and the plan view of the feature will be documented in sketch and by photography. Features will then be bisected to further investigate the feature context and reveal its shape in profile. Bisection will be



performed by drawing an axis across the middle of the feature area and excavating one side of the feature in 5 cm levels. Feature soil will be screened using $\frac{1}{8}$ in mesh. A sufficient area around the portion of the feature that was bisected will also be excavated to create a window through which the feature can be viewed in profile. The team will excavate the window soil in the same 5 cm levels, but this soil will be screened separately and treated as matrix (not feature) soil. Once the entirety of a feature is exposed in profile, the profile will be documented in sketch and using photography.

Observations and interpretations of the feature will be recorded on the feature form, including the depth that the feature first appeared, the depth it terminated, its shape in plan and profile, and associated photo and sketch numbers. If suitable sample material that could be used for dating techniques (floral or faunal remains, or carbon) is recovered when excavating the feature or its surrounding context, it will be collected and bagged appropriately. Carbon samples will be wrapped in clean aluminum foil before being placed in an artifact bag. Bulk flotation samples will be taken from feature soil.

Laboratory Methods

Artifacts collected during the archaeological survey will be transported to a SEARCH laboratory facility for cleaning, processing, and analysis. SEARCH laboratory technicians will remove remnant soil from each artifact and will allow for sufficient time for washed artifacts to air dry prior to sorting and identification. Technicians will then inventory material by provenience and artifact type and will prepare it for permanent curation. Material will be inventoried with SEARCH's Microsoft Access database analytical system, which uses coded attributes to facilitate analysis with efficient observation and interpretation of data patterns.

Lithic Artifact Analysis

Using Andrefsky (1998) and Odell (2003) as guides, lithic artifacts will be sorted into: (1) tools or tool fragments, (2) debitage or waste flakes, and (3) fire-cracked rock or thermal shatter. Lithic raw material type, the presence/absence of cortex, and thermal alteration will be recorded, as well as technological attributes such as platform type, platform facet count, and flake scar count. The following list provides an inventory of the stone artifacts types observed or anticipated to occur:

Flake: debitage removed from a tool through percussion or pressure that displays a striking platform and bulb of percussion. Proximal flake fragments are partial flakes that retain the striking platform. Medial-distal fragments are flake fragments that do not retain the striking platform.

Shatter, angular: debitage exhibiting a blocky and angular form or flake fragments that cannot be assigned to proximal, medial or distal categories.



Shatter, thermal: small fragments of rock that detached from a larger rock due to direct exposure to heat or fire. A potlid is an example of thermal shatter.

Tested pebble/cobble: natural lithic pebbles/cobbles possessing evidence of flake removals intended to determine the suitability of the stone for tool manufacture but showing no evidence to suggest that it was intended as a tool or core.

Core: a nucleus or mass of rock that functioned primarily as a source of flakes, with flake removal scars on one or more faces.

Biface: a tool with evidence of reduction to two opposing surfaces to form a single edge that circumscribes the tool. May be hafted or unhafted.

Projectile point/knife (PP/K): a bifacial tool possessing a hafting area at its proximal end that potentially functioned as either a projectile point or hafted knife, or both. PP/Ks are typically identified by hafting method, which can include a contracting stem, expanded stem, or straight stem, and by other morphometric attributes such as basal shape (pointed, rounded, incurvate, excurvate, straight), hafting type (auriculated, side notched, corner notched, basal notched); blade shape (straight, excurvate, incurvate, parallel, recurvate, etc.), blade edge type (serrated, beveled, notched, ground), distal end characteristics (acute, acuminate, obtuse, broad, etc.), shoulder characteristics (horizontal, tapered, rounded, barbed, expanded), cross section shape (biconvex, rhomboid, plano-convex, flattened, median ridged, fluted), stem features (thinned, beveled, ground), and flaking method (collateral, horizontal transverse, oblique transverse, random). Standard references will be consulted to determine whether a PP/K is associated with a type recognized to have a distinct temporal or spatial distribution in the region (Bullen 1975; Cambron and Hulse 1975; Farr 2006).

PP/K fragment: an incomplete hafted biface tool with identifiable characteristics indicating usage as a projectile point or knife, including hafting method and other morphometric base, stem, shoulder, blade, distal end, cross section, and flaking attributes.

PP/K preform: a bifacial tool possessing a hafting area at its proximal end. Early stage preforms (sometimes called blanks) are roughly finished past the point of late stage biface but are not completed to form a functional PP/K.

Drill: a thick, narrow bifacial tool possessing a bit used in a rotary motion.

Groundstone: a tool manufactured through mechanisms of grinding, abrasion, or polish, or, are themselves used to grind, abrade, or polish.

Pitted or nutting stone: exhibits one or more very distinct small depressions. Use from nut cracking or spinning a bow drill can only be identified microscopically. Bow drill depressions are conical and have a smoothed interior; whereas, nutting depressions are rougher and tend to exhibit more impact fractures.



Ceramic Artifacts

Ceramics will be analyzed to determine type based on paste, temper, surface treatment, and vessel form. Paste, temper, and surface treatment will be examined macroscopically and microscopically. Microscopic analysis will be conducted at low magnification under white light with a stereo microscope. When necessary, a small piece of each sherd will be removed to expose fresh surfaces for paste and temper characterizations. Temper types common in the survey region include sand, grit, grog (clay), and crushed quartz. Particle size for sand and grit temper categories is based on the Wentworth grain size classification system (Wentworth 1922). Temper sizes in this system include very fine sand (< 0.125 mm), fine sand (0.125–0.25 mm), medium sand (0.25–0.5 mm), coarse sand (0.5–1 mm), very coarse sand (grit) (1–2 mm), granule (2–4 mm), and pebble (> 4 mm). Surfaces of ceramic sherds will be examined for treatments such as stamping, incising, cord or fabric impressions, fingernail marks, pinching, brushing, or roughening. Surface treatment also includes plain or burnished ceramics. Diagnostic cultural and temporal attributes will be identified using standard typologies for the region (Willey 1949, Scarry 1985).

Historic Artifacts

Based on the findings of the Phase I surveys, significant historic artifacts are not anticipated for the currently proposed work at sites 8MD00321 and 8SU0422. However, historic artifacts that are recovered will be sorted into the following groups: architecture, clothing, furniture, kitchen, personal, arms, tobacco, and activities. Evidence of functional, cultural, or temporal association will be recorded based on attributes such as raw material, manufacturing technique, decoration, use wear, and maker's marks.

Faunal Analysis

Bone

Vertebrate remains will be sorted from the general collection for zooarchaeological analysis. Skeletal elements will be identified to the lowest taxonomic level with the use of SEARCH's comparative faunal collection. Lab analysis procedures will consist of counting the Number of Identified Specimens (NISP) for each taxon, recording bone weight, identifying individual elements, and calculating the minimum number of individuals (MNI), which estimates how many individuals of each taxon are represented by the remains. The calculation of MNI is accomplished by counting unique anatomical elements, taking into consideration their size and the side of the body from which they come. The spatial relationships within and between the samples in adjacent collection areas are also considered in the determination of MNI (Reitz and Wing 1999).

Cultural modifications to the bones, such as butchering or burning, will be noted when present. Mammal long bones will be examined to determine the level of epiphyseal fusion, which occurs



at predictable times in an animal's development and can allow for an estimation of the age of death for some species. Bird bones will be examined for the presence of medullary, which occurs in reproductive females and is an indicator of sex. Any secondary uses of the bones (e.g., drilling, grinding, polishing, or incising) will be described to identify them as tools or decorative items.

Shell

Large quantities of shell are not anticipated; however, freshwater shell may be recovered in small amounts. Invertebrate remains will be sorted from the general collection for zooarchaeological analysis. Before analysis, shells will be further cleaned of dirt and concreted deposits that may have remained after processing. Shell will be subjected to taxonomic identification using standard references (Abbot and Morris 1995; Williams et al. 2014).

As with vertebrates, the invertebrates will be counted to determine the NISP, and weighed. The MNI for bivalves will be determined based on the presence of left and right hinges. Final MNI counts accounted for abutting or superimposed contexts. Shells also will be examined for evidence of cultural modification such as cutting or drilling, use wear, burning or polishing.

Curation

Upon completion of analysis, artifacts from 8MD00321 and 8SU00422 will be prepared for curation at the BAR in accordance with DHR's 1A-32 Permit, Collection and Curation Guidelines. Associated records, including field forms, notes, photographs, maps, and GIS data will also be submitted to the BAR for curation. Curation and records for the remaining sites, located on privately owned land, will be determined in consultation with the landowners and GPC.

Human Remains

If human remains or suspected human remains are encountered at any time during the excavation and testing, the provisions of the *Unanticipated Discoveries Plan for Cultural Resources and Human Remains: North Florida Resiliency Connection 161 kV Transmission Line Corridor, Columbia to Jackson County, Florida* will be followed.



REFERENCES CITED

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SEARCH

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2014 *Freshwater Mussels of Florida*. University of Alabama Press, Tuscaloosa.

Lillian Azevedo, PhD, RPA

Principal Investigator

Lillian Azevedo, PhD, RPA, joined SEARCH in 2015 and has 12 years of professional experience in maritime and terrestrial archaeology. She received her PhD in Maritime Archaeology from the University of Southampton in 2014 while a Jack Kent Cooke Graduate Scholar and her BA from the University of the South in 2005 (*summa cum laude*). She is a member of Phi Beta Kappa and has conducted archaeological research in the United Kingdom, France, Spain, Denmark, Caribbean, and southeastern United States. Her research interests include grass-roots heritage management initiatives and tourism in the Lesser Antilles and Bermuda. Dr. Azevedo is an AAUS diver and certified PADI SCUBA instructor qualified to teach deep, night, navigation and heritage awareness diver course, as well as CPR, First Aid/AED and O2 Administration. She has supported USACE, FERC, and GSA projects; completed training courses in Anti-Terrorism Awareness and unexploded ordinance; and has experience with Sections 106 and 110 of the NHPA, as well as NEPA and NAGPRA. Dr. Azevedo's qualifications exceed those set forth by the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716-42).

EDUCATION

PhD	2014	Archaeology. University of Southampton.
MA	2007	Maritime Archaeology. University of Southampton.
BA	2005	Cultural Anthropology. Sewanee: The University of the South.

PROFESSIONAL EXPERIENCE

2015–present	Principal Investigator, SEARCH
2014–present	Adjunct Professor of Archaeology and Maritime Archaeology, Flagler College
2013–present	Consultant, Brimstone Hill Fortress World Heritage Site, St. Kitts and Nevis, Lesser Antilles
2014–2015	Field Archaeologist, LG ² Environmental Solutions, Inc.
2012–2014	PADI Specialty SCUBA Instructor, Squalo Divers, Miami, Florida
2009–2012	Researcher and Heritage Spokeswoman, Anguilla Archaeological and Historical Society
2005–2014	Jack Cooke Kent Graduate Scholar
2002	Underwater Archaeologist, Institute of Nautical Archaeology

PROFESSIONAL REGISTRATIONS AND ASSOCIATIONS

Phi Beta Kappa	Professional Association of Diving Instructors
Society of Historical Archaeology	Lighthouse Archaeological Maritime Program
Archaeological Institute of America	Florida Anthropological Society
Anguilla Heritage, President 2011-2012	Museums Association of the Caribbean
Emergency First Responder Adult CPR/First Aid/AED	Archaeological Society of Virginia

SELECT PROJECT EXPERIENCE

- 2018: Principal Investigator.** Cultural Resource Assessment Survey for the Seacoast Palatka Lateral Pipe Construction Project, Putnam County, Florida. Florida Master Site File Report No. 25494. On file, Florida Division of Historical Resources, Tallahassee, Florida.
- 2018: Principal Investigator.** Phase I Cultural Resource Assessment Survey for the Sweetbay Solar Center, Martin County, Florida. Florida Master Site File Report No. 25501. On file, Florida Division of Historical Resources, Tallahassee, Florida.
- 2017: Project Archaeologist and Author (Archaeology).** Cultural Resource Assessment Survey of the NuTerra Biosolids Management Facility, Duval County, Florida. Conducted for NuTerra and NEFL Compost.
- 2016: Project Archaeologist and Author (Archaeology).** Cultural Resource Assessment Survey of the Loggerhead Solar Energy Center, St. Lucie County, Florida. Conducted for ECT and Florida Power & Light (FPL).
- 2016: Project Archaeologist and Author (Archaeology).** Phase I Cultural Resource Assessment Survey and Supplemental Testing of the AZ Ocala Ranch Property, Marion County, Florida. Conducted for Farner, Barley & Associates.
- 2016: Project Archaeologist and Author (Archaeology).** Phase II Archaeological Evaluation of the Anclote Power Plant North Site (8PA1237) and Documentation of the Anclote Missile Tracking Annex, Pasco County, Florida. Conducted for Duke Energy.
- 2016: Project Archaeologist and Author (Archaeology).** Phase I Cultural Resource Assessment Survey for the Perry Solar Plant, Taylor County, Florida. Conducted for NARENCO.