Environmental Assessment and Finding of No Significant Impact for the Proposed Special Use Permit for a Gulf Power Company Transmission Line,

Leon County, Florida • October 2020






Prepared for: FOREST SERVICE U S DEPARTMENT OF AGRICULTURE — Gulf Power®

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October 2020

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ACRONYMS AND ABBREVIATIONS

ANF	Apalachicola National Forest
APE	area of potential effect
BA	Biological Assessment
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COT	City of Tallahassee
e.g.	for example
EA	Environmental Assessment
ECT Inc.	Environmental Consulting & Technology, Inc.
EIS	Environmental Impact Statement
ESA	Endangered Species Act
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FERC	Federal Energy Regulatory Commission
FGT	Florida Gas Transmission Company, LLC
FGT FEIS	Final Environmental Impact Statement Phase VIII Expansion Project
FGT Project	Florida Gas Transmission Company, LLC, Phase VIII Expansion Project
FLPMA	Federal Land Policy and Management Act
FLUCCS	Florida Land Use, Cover, and Form Classification System
FNAI	Florida Natural Areas Inventory
FPL	Florida Power & Light Company
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information System
GPC	Gulf Power Company
i.e.	that is
I-10	Interstate 10
kV	kilovolt(s)
LA ROW	Limited Access Right-of-way
LRMP	Land and Resource Management Plan (for National Forests in Florida)
MA	management area
MBTA	Migratory Bird Treaty Act
MSA	Metropolitan Statistical Area
MW	megawatt(s)
NEPA	National Environmental Policy Act of 1969
NERC	North American Electric Reliability Corporation

Acronyms and Abbreviations, continued

NFRC	North Florida Resiliency Connection
NFS	National Forest System
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
O&M	operation and maintenance
project, the	North Florida Resiliency Connection Project
ROD	Record of Decision
ROW	right-of-way
SHPO	State Historic Preservation Officer
SMS	Scenery Management System
SR	State Road
SSURGO	Soil Survey Geographic
SUP	Special Use Permit
SWTL FEIS	Final Environmental Impact Statement for the City of Tallahassee Southwestern Transmission Line Project
SWTL Project	Southwestern Transmission Line Project
T&E	threatened and endangered
TMDL	total maximum daily load
UAM	Utility Accommodation Manual
UMAM	Uniform Mitigation Assessment Method
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDA Forest Service	United States Department of Agriculture, Forest Service
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMP	Vegetation Management Plan

1 INTRODUCTION

This section describes the purpose of this project and provides background on the overall North Florida Resiliency Connection (NFRC) project (referred to herein as the NFRC Project or 'the overall project'), relevant United States Department of Agriculture, Forest Service (USDA Forest Service) regulations and decision-making procedures, and public involvement efforts.

1.1 PROJECT PURPOSE AND NEED

Gulf Power Company (GPC) proposes to construct, operate, and maintain a 161-kilovolt (kV) transmission line connecting the existing GPC Sinai Cemetery Substation in Jackson County, Florida, to Florida Power & Light Company's (FPL) Raven Substation in Columbia County, Florida. The total transmission line is approximately 176 miles and would provide the first direct interconnection between the GPC transmission system and the FPL transmission system. This larger project is known as the NFRC Project; more information and maps are provided below.

GPC has applied to the USDA Forest Service for a Special Use Permit (SUP) authorizing GPC to construct, operate, and maintain an electric power transmission line easement (11 miles) that would traverse the Apalachicola National Forest (ANF) from south of Blountstown Highway (State Road [SR] 20) southeast around Tallahassee to Woodville Highway (Figure 1.1-1). The proposed route would collocate the transmission line with the existing City of Tallahassee (COT) transmission corridor and be adjacent to the existing Florida Gas Transmission (FGT) Company, LLC's natural gas corridor through the ANF.

The Energy Policy Act of 2005 directs federal agencies to establish procedures to ensure that corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land are identified and designated as necessary. The Act also directs federal agencies to expedite applications to construct or modify such pipelines and facilities within such corridors:

> "…(1) ensure that additional corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on Federal land are promptly identified and designated as necessary; and (2) expedite applications to construct or modify oil, gas and hydrogen pipelines and electricity transmission and distribution facilities within such corridors, taking into account the designation of such corridors. (d) Considerations—In carrying out this section, the Secretaries shall take into account the need for upgraded and new electricity transmission and distribution facilities to (1) improve reliability; (2) relieve congestions; and (3) enhance the capability of the national grid to deliver electricity…" (Public Law 109-58, Section 368, August 8, 2005)

However, expedited consideration of applications may not bypass procedural or substantive requirements of other federal laws that regulate use of National Forest System (NFS) lands, nor does it dictate the outcome of the decision-making process.

This Environmental Assessment (EA) is being prepared through a third-party agreement with the United States Department of Agriculture, Forest Service (USDA Forest Service) and GPC to evaluate and inform a decision on a SUP application for the electric transmission line. This EA has been prepared in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508) as well as the USDA Forest Service NEPA Regulations (36 CFR 220). All

references to the CEQ regulations for implementing NEPA (40 CFR 1500-1508) within this EA are referring to the version issued in 1978 and amended in 1986 and 2005. The updated regulations that appeared in the *Federal Register* on July 16, 2020, and take effect on September 14, 2020, do not apply to documents under development at the time the final rule was issued.

Path: M:\Tallahassee\NorthAreaTransmission\Maps\MXD\Report\EA_August_2020\Figure 1-1-1_Regional_Location .mxd 8/6/2020

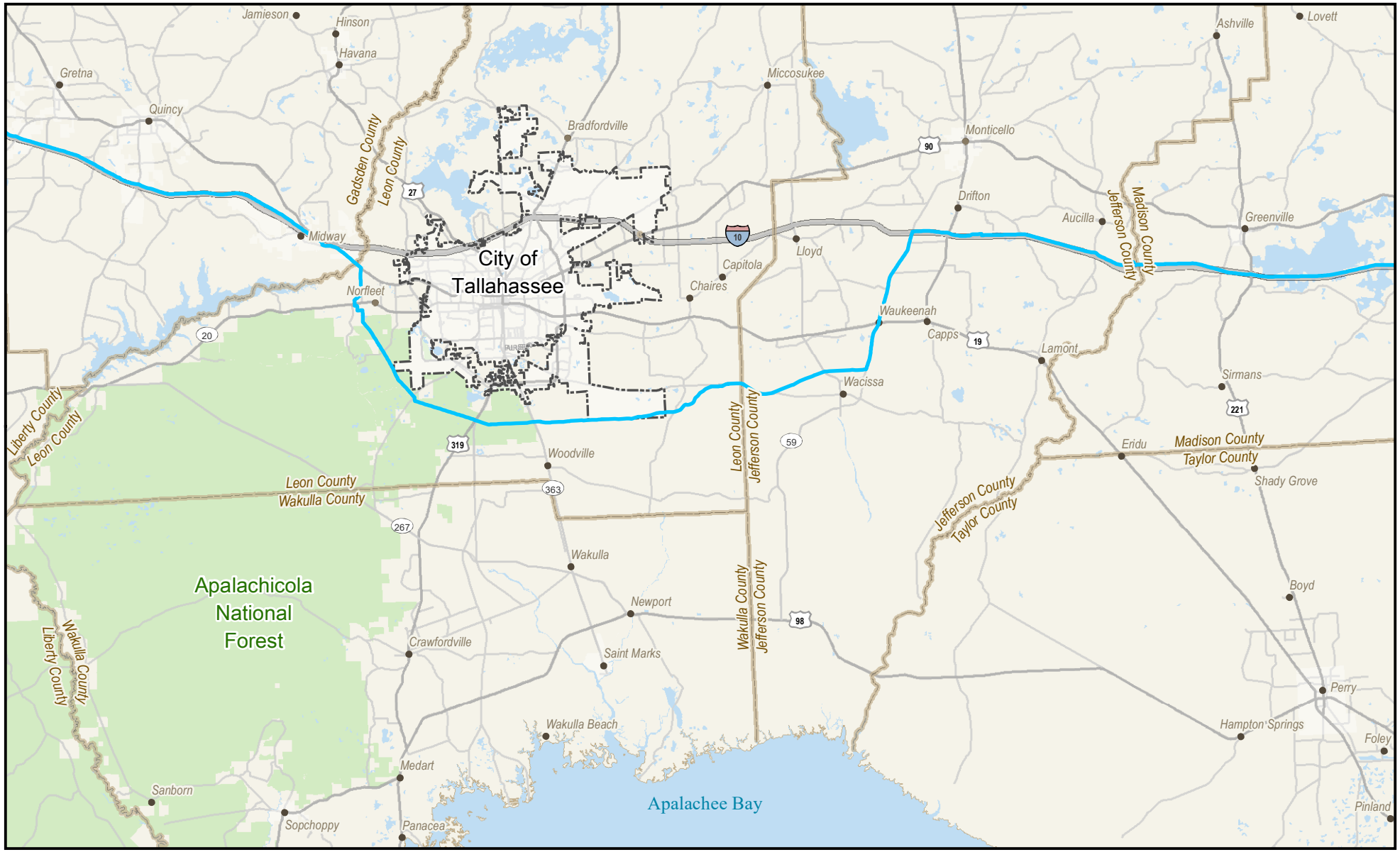

Figure 1.1-1
Regional Location

- Proposed Action
- Raven Substation
- Sinai Cemetery Substation
- City of Tallahassee Limits
- County Boundary
- Apalachicola National Forest

Miles
0 2 4 8

ecology and environment, inc.
Member of WSP

Sources: ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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NEPA requires federal agencies to integrate environmental values in their decision-making processes by considering the environmental impacts of, and reasonable alternatives to, their proposed activities. For actions occurring on federal land, NEPA requires the lead agency to analyze the potential for adverse impacts on the environment. NFS land would be utilized and potentially impacted if the proposed transmission line is authorized; therefore, the USDA Forest Service is the lead agency for this EA. However, the USDA Forest Service is not the decision-making authority for the entire project and, therefore, the scope of this analysis is limited to the 11-mile segment of the transmission line that would directly affect NFS land and not the entire 176-mile NFRC Project.

1.2 NFRC Background

GPC has concluded that there is a benefit for a direct transmission interconnection between the GPC and FPL transmission networks to create transfer capability between the two utilities in a reliable manner consistent with the North American Electric Reliability Corporation (NERC) and other applicable transmission system standards. Additional information on transmission lines and GPC's rationale and justification for construction of the entire NFRC Project is included in Appendix A.

1.3 Decision-Making Procedures

This section summarizes the principal federal regulations affecting the permitting process and the required environmental documentation for the Proposed Action. The USDA Forest Service will consider the effects of the proposed special use on multiple federally protected resources. The Proposed Action, and thereby the Forest Supervisor's decision, must comply with the following relevant laws and regulations:

- Endangered Species Act (ESA) of 1973;
- Clean Water Act, as amended in 1972;
- Archaeological Resource Protection Act;
- Native American Graves Protection and Repatriation Act;
- National Environmental Policy Act (NEPA) of 1969;
- Energy Policy Act of 2005;
- Rangeland Renewable Resources Planning Act of 1974;
- Multiple Use Sustained Yield Act of 1960;
- Section 106 of the National Historic Preservation Act (NHPA);
- National Forest Management Act; and
- Federal Land Policy and Management Act (FLPMA), as amended in 1976.

In addition to compliance with the above laws and regulations, any action taken by the Forest Supervisor must be consistent with the objectives of the "Land and Resource Management Plan for National Forests in Florida" and amendments (USDA Forest Service 1999). The environmental analysis and decision-making process will be conducted in accordance with CEQ and USDA Forest Service regulations for implementing NEPA (40 CFR 1500 et seq., 36 CFR 218 and 220), which includes compliance with other laws within their procedures.

1.3.1 Federal Land Policy and Management Act

The FLPMA of 1976 governs how certain public lands are managed, including rights-of-way (ROWs) on NFS lands. GPC has applied to the USDA Forest Service for a SUP authorizing GPC to construct, operate, and maintain an electric power transmission line, which would traverse a portion of the ANF. The Forest Supervisor for the National Forests in Florida has authority to approve or deny certain special uses within the ANF and would determine whether to issue a SUP for the proposed GPC transmission line in accordance with the FLPMA , as amended in 1976. Specifically, §1761 of FLPMA authorizes the Secretary of Agriculture to grant, issue or renew ROWs over NFS land for "systems for generation, transmission, and distribution of electric energy" (43 United States Code 1761(a)(4)).

The FLPMA directs that in order to minimize adverse environmental impacts and the proliferation of separate ROWs, the utilization of ROWs in common shall be required to the extent practical:

> "In order to minimize adverse environmental impacts and the proliferation of separate rights-of-way, the utilization of rights-of-way in common shall be required to the extent practical, and each right-of-way or permit shall reserve to the Secretary concerned the right to grant additional rights-of-way or permits for compatible uses on or adjacent to rights-of-way granted pursuant to this Act. In designating right-of-way corridors and in determining whether to require that rights-of-way be confined to them, the Secretary concerned shall take into consideration national and State land use policies, environmental quality, economic efficiency, national security, safety, and good engineering and technological practices. The Secretary concerned shall issue regulations containing the criteria and procedures he will use in designating such corridors. Any existing transportation and utility corridors may be designated as transportation and utility corridors pursuant to this subsection without further review." (Pub. L. 94–579, title V, §503, Oct. 21, 1976, 90 Stat. 2778.)

The USDA Forest Service manages over 192 million acres of national forests and grasslands that comprise the NFS. To implement the FLPMA, the USDA Forest Service authorizes uses on NFS land that provide a benefit to the general public and protect public and natural resources values. The USDA Forest Service receives applications for authorization for use of NFS land for activities such as granting utility ROWs. These authorizations are in the form of SUPs. The USDA Forest Service carefully reviews each application to determine how the request affects protected resources and the continued multiple use of NFS land. An authorization is a legal document, such as a permit, term permit, lease, or easement, which allows occupancy, use, rights, or privileges of NFS land. The authorization is granted for a specific use of the land for a specific period of time. Regulations on SUPs on national forests are published at 36 CFR 251.

1.3.2 Land and Resource Management Plan

The USDA Forest Service is considering this application for use of NFS lands and will determine if the SUP for the GPC transmission line is "in the public interest" and appropriate, based on the ANF Land and Resource Management Plan (LRMP) and other applicable policies, regulations and laws. The Forest Supervisor for the National Forests in Florida is the responsible official for this decision, and will use the EA and other supplementary materials to determine the following: 1) whether to issue a SUP under the FLPMA; 2) the selection of an alternative or modified Proposed Action; 3) any need to amend the Forest Plan to accommodate the action; and 4) what specific terms and conditions should apply if a SUP is issued.

The USDA Forest Service prepared the LRMP to guide all natural resource management activities and set management standards for national forests in Florida. The Proposed Action will be evaluated to determine compliance with the following LRMP standards:

- **LA-8.** Evaluate special use applications to see if they are in the public interest. At a minimum, these proposals should:
  - Be consistent with management area (MA) objectives as identified in the LRMP standards, and desired future conditions;
  - Be consistent with other applicable federal, state, and local statutes and regulations; and
  - Not be undertaken on national forest land if they can be reasonably accommodated on private land.
- **LA-9.** Designate existing transportation and utility routes and ROWs capable of accommodating these facilities as ROW corridors. Subsequent ROW grants will, to the extent practicable, be confined to designated corridors. Transportation and utility route proposals for crossing national forest land will be evaluated initially on a NFS policy basis. Purpose, need, surrounding issues, Forest Plan-desired future conditions, public values for national forests, and alternative locations off national forests will be reviewed in detail.

Compliance with the LRMP is generally an initial filter for SUP proposals; if a use meets these standards then it may be considered through the USDA Forest Service special uses and NEPA procedures.

1.4 PUBLIC INVOLVEMENT

In order to provide the public with information on this project, the USDA Forest Service developed a project website (www.nfrcea.ene.com) that will be maintained throughout the decision-making process. The website provides project documents, public notices, public involvement information, scoping meeting displays and handouts, and an online comment form that was available for use during the public scoping period. Other information, such as project description, anticipated project schedule, and associated maps/figures are also available on the website.

Disclosing the environmental effects of federal actions and considering public comments are among the primary goals of the NEPA. In general, USDA Forest Service regulations for implementing NEPA and the Administrative Procedure Act (36 CFR 218 and 220) require multiple formal opportunities for public involvement on the Proposed Action considered with an EA.

- Scoping is the first opportunity for public involvement, during which the agency requests comments from potentially interested or affected parties regarding a broad range of issues related to the project, including effects of the Proposed Action. Scoping methods may be formal (i.e., a designated comment period) or informal and are selected according to project complexity and level of public interest. The results of scoping are used to clarify public involvement methods, refine issues, select an interdisciplinary team, establish analysis criteria, and explore possible alternatives and their probable environmental effects. The methods and degree of the scoping effort undertaken for a given project vary depending on scope and complexity of the project.

- When a draft EA is available, the USDA Forest Service announces a 30-day notice and comment period during which the public is invited to provide comments on the Proposed Action. Specifically, the agency requests specific written comments that are within the scope of the project and address project procedures or analysis in the draft EA.
- When a draft decision is available, the USDA Forest Service announces a 45-day objection period during which the public may formally express concerns regarding the project analysis and decision. Eligibility to object is granted by previous submission of specific written comments during a designated comment period (i.e., scoping or the 30-day comment period for the draft EA), unless the focus of the objection is information not available at earlier stages of the project.

The first two steps are described below, and more detailed information about the objection process will be provided when a draft decision is available. Additionally, the USDA Forest Service regulations for NEPA and related public involvement procedures are available on the project website.

1.4.1 Scoping

The USDA Forest Service provided a formal public scoping period from December 9, 2019, to January 7, 2020, to identify community interests and local issues to be addressed in the EA. Scoping, as defined by NEPA, is the process by which lead agencies solicit input from the public and interested agencies on the nature and extent of issues and impacts to be evaluated and the appropriate level of analysis. The scoping process also provided opportunity for the public and agencies to learn about and comment on the Proposed Action and alternatives. Federal, state, and local agencies and interested persons were encouraged to provide comments to help identify specific issues or topics of environmental concern that should be addressed in the EA.

The USDA Forest Service compiled a mailing list of government officials; federal and state agencies; Native American tribes; utility providers; non-governmental organizations, corporations, and citizen groups; and potentially impacted property owners. On December 2, 2019, the USDA Forest Service mailed a notification letter announcing the scoping period, as well as the date, time, location, and purpose of the scoping meeting; methods to comment; general project information; and instruction on how to obtain additional information.

Additionally, a notice was published in the *Tallahassee Democrat* newspaper on December 8, 2019, announcing the opening of the formal scoping period, as well as the date, time, location, and purpose of the scoping meeting.

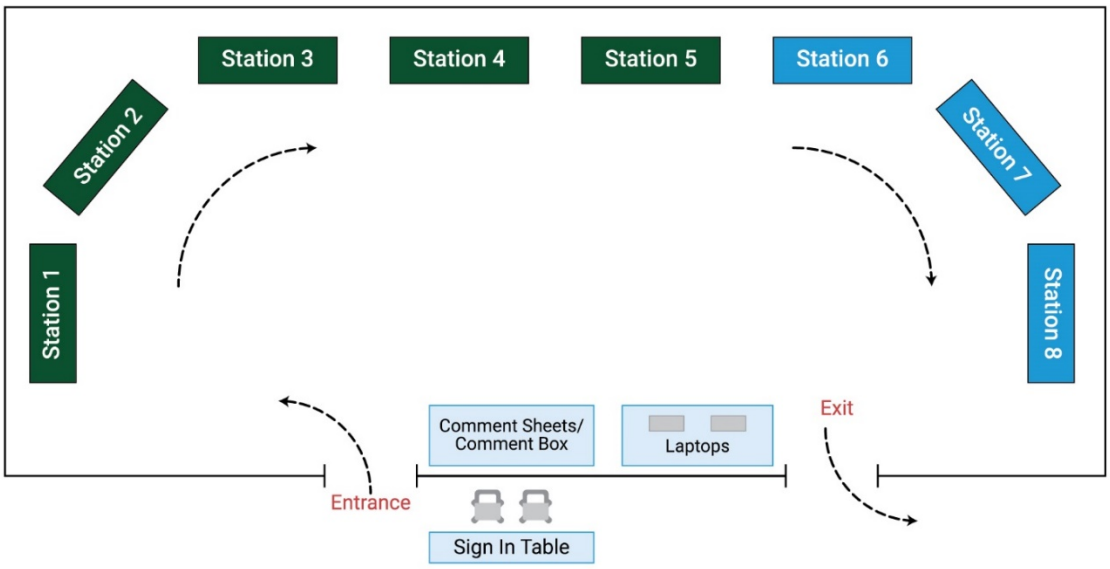
On December 10, 2019, the USDA Forest Service conducted a scoping meeting at the Days Inn & Suites by Wyndham, Tallahassee Conference Center from 5:00 to 8:00 p.m. The goals of this meeting were to introduce the community to the EA process, provide available project information, answer questions from community members, and solicit public input on important issues and concerns. The public was offered the opportunity to provide comments during the scoping period via a number of methods, including submitting a comment form at the scoping meeting, email, mail, and the public website. Table 1.4-1 summarizes the details of the public scoping meeting.

Table 1.4-1 Public Scoping Meeting Details

Meeting Date	Location	Time	Attendance
December 10, 2019	Days Inn & Suites by Wyndham, Tallahassee Conference Center, 2900 North Monroe Street, Tallahassee, FL 32303	5:00 – 8:00 p.m.	75

The public scoping meeting was presented as an "open house," a format that was specifically designed to create a personable and informative atmosphere. Using this format, public participants could speak individually with USDA Forest Service and GPC personnel and other members of the project team. The meeting format consisted of a sign-in table at the meeting room entrance and five information stations, each staffed by knowledgeable USDA Forest Service personnel and/or other members of the project team to provide technical expertise in their subject matter area (Figure 1.4-1). The green stations in Figure 1.4-1 represent those manned by the USDA Forest Service. Information station topics included NEPA and public involvement, background information, Proposed Action, alternatives, and environmental analysis. Similarly, a multi-page fact sheet/newsletter provided supplementary information for each information station. Note that GPC also had three information stations set up in the same room (blue stations in Figure 1.4-1).

Figure 1.4-1 Scoping Meeting Room Layout



A total of 68 comments were received during the public scoping period, as listed in Table 1.4-2.

Table 1.4-2 Comments Received During the Public Scoping Period

Comment Method	Number of Comments Received
Scoping Meeting	42
Mail	2
Email	5
Website	19
Totals	68

A large percentage of commenters (79 percent) expressed support for the Proposed Action; however, a variety of issues were identified in the comments received during the scoping period. Many of these issues were also voiced during the public scoping meetings to project team members. Based on comments heard and received in writing, the most pressing concerns about the portion of the NFRC Project within the ANF include the following:

- Visual impacts to and encroachment on the ANF;
- Impacts to biological resources in the ANF, particularly the frosted elfin butterfly (*Callophrys irus*) and its habitat;
- Impacts from use of herbicides to maintain the proposed transmission ROW, should such maintenance methods be considered;
- Impacts to Rivers Road just west of existing COT utility easement that leads to a trail head (note that Rivers Road does not intersect the proposed route and is, therefore, not specifically discussed in this EA. Impacts to transportation resources can be found in Section 3.3);
- Consideration of alternatives, i.e., the NFRC Project could be collocated within existing major corridors outside of the ANF;
- Impacts to wetlands and connecting Waters of the U.S. in or near the ROW;
- Delivery of a full analysis of affected habitats and the ecological integrity of existing habitats.
- Impacts to high-quality sandhill habitat supporting rare species;
- Preparation of a Vegetation Management Plan (VMP), addressing how the ROW will be maintained without the use of herbicides;
- Use of mitigation funds for prescribed burning and rare plant and animal management along the ROW (e.g., propagating and planting sundial lupine *Lupinus perennis* for the benefit of the frosted elfin butterfly);
- Impacts to recreation;
- Minimize soil disturbance and mitigate through planting or seeding;
- Analysis of direct and indirect impacts to rare plants and animals in ROW and surrounding areas; and
- Impacts to personal, real property (outside of the ANF) that is outside the scope of the USDA Forest Service and this EA.

The USDA Forest Service will consider the input from the public and interested agencies comments when evaluating the extent of issues and impacts to be addressed in the EA and the methods by which they will be evaluated.

The following are additional efforts conducted by the USDA Forest Service and GPC to inform the public of the Proposed Action or the overall NFRC Project:

- The Proposed SUP for a GPC Transmission Line project was listed on the USDA Forest Service Current Projects Under Analysis at https://www.fs.usda.gov/projects/florida/landmanagement/projects.

- GPC developed a project website (www.GulfPower.com/NFRC) for the overall NFRC project that provides project information and other information, such as quick facts, environmental considerations, and frequently asked questions.
- GPC has continued to communicate in good faith with community leaders, property owners, and the public as the NEPA and permit applications were developed. GPC representatives have been in contact with stakeholders throughout the overall project area since February 2019 in a variety of different ways that have included, among others, the following:
    - Delivered six presentations at public meetings of city and county governmental bodies (e.g., Madison County, Jefferson County, COT, etc.);
    - Attended over 100 meetings, either individually or in small group settings, with elected officials and community stakeholders across the full proposed route;
    - Held dozens of meetings and/or phone calls with property owners along the proposed transmission line route and potential alternate routes;
    - Engaged in face-to-face and remote negotiations with approximately 95% of the landowners along the proposed NFRC route;
    - Met on numerous occasions with county and/or city staff employees, including staff from Columbia County, Columbia County School Board, Madison County, the City of Live Oak, Gadsden County, Leon County, and the COT, to discuss the NFRC Project and answer questions regarding the project; and
    - Working closely with Suwannee River Water Management District to secure easement rights over their fee owned property in Suwannee, Jefferson and Madison Counties.
- GPC held an informational open house on June 4, 2019, at the North Florida Fair Grounds in Tallahassee, Florida, for property owners in the greater Tallahassee area; the open house was advertised in the *Tallahassee Democrat* and was open to all interested parties. Approximately 100 people attended the open house.

1.4.2 Public Comment on the Draft EA

The USDA Forest Service requested comments on the draft EA pursuant to agency regulations (36 CFR 218, subparts A and B, available on the project website). The comment period was initiated on September 2, 2020, with the publication of a legal notice in the *Tallahassee Democrat* newspaper. A notification letter with comment period information was also sent to interested parties on the project mailing list. The USDA Forest Service requested specific written comments that were within the scope of the project and addressed project procedures or analysis in the draft EA.

A total of 1 comment was received during the public scoping period, as listed in Table 1.4-3.

Table 1.4-3 Comments Received During the Public Comment Period

Comment Method	Number of Comments Received
Mail	0
Email	1
Website	0
Totals	1

The comment received expressed the following concerns with the portion of the NFRC Project within the ANF. A response is also provided for each component.

- Suggestion that an Environmental Impact Statement (EIS) should have been prepared, rather than an Environmental Assessment (EA);
    - The determination that an EIS should be prepared is based on identification of significant effects resulting from implementing the Proposed Action. For this project, a thorough analysis of direct, indirect, and cumulative impacts was conducted and a Finding of No Significant Impact was prepared based on the evaluation of those effects in relation to their context and intensity. Because this type of activity is not among the actions that requires an EIS, and the effects were determined to not be significant, an EA is the appropriate format for disclosing effects.
- The cumulative impacts associated with further widening of the utility corridor were not properly analyzed;
    - Cumulative impacts are discussed in Sections 1.5, 3.1, and within each relevant resource area in Chapter 3.
- The Proposed Action does not clearly explain the corridor widening or acreage impacts within each segment of the proposed transmission line;
    - The three corridor segments, their lengths, the proposed corridor widening (if any), structures installed, and the acreage impacted by various activities are discussed in Section 2.4.2.
- The impacts associated with the proposed project traversing rare sandhill communities were not properly analyzed;
    - The Munson Sandhills region of the ANF and its value as habitat for various species are discussed in Section 3.5.
- The impacts associated with the birds flying into the transmission line were not properly analyzed;
    - Potential impacts of birds flying into the transmission line, as well as potential mitigation measures, are discussed in Section 3.5.
- The impacts to certain species from habitat fragmentation due to the additional widening of the corridor were not properly analyzed; and

  - Potential impacts of habitat loss/fragmentation/degradation and the creation of barriers to movement for various species are discussed in Section 3.5 in the context of overall ecological integrity of the area surrounding the proposed corridor.

- Corridor restoration, mitigation, and maintenance activities should be determined and overseen by the USDA Forest Service and paid for by GPC. All activities should be outlined in the operations plan.
  - Specific mitigation measures, restoration practices, and operations and maintenance activities would be finalized between the USDA Forest Service and GPC before issuance of a SUP. The final operations plan outlining these requirements would be agreed upon and signed as part of the SUP issuance process.

1.5 Related Projects and Environmental Documentation

Under the Proposed Action, the 11 miles of the proposed transmission line that traverses the ANF would be collocated with the previously cleared ROW for the FGT Phase VIII Expansion Project (referred to herein as the FGT Project) and/or the previously cleared ROW for the COT Southwestern Transmission Line Project (referred to herein as the SWTL Project).

On October 31, 2008, FGT filed an application with the Federal Energy Regulatory Commission (FERC) under the Natural Gas Act and, in September 2009, FERC staff prepared the "Final Environmental Impact Statement (FEIS) Phase VIII Expansion Project" (referred herein to as the FGT FEIS) to assess the construction of 482.8 miles of pipeline in portions of Florida and Alabama. On January 11, 2010, the USDA Forest Service signed a Record of Decision (ROD) to authorize the portion of the FGT Project that crosses the ANF (FERC 2009).

On October 14, 2010, USDA Forest Service published a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the Federal Register for the SWTL Project. The FEIS and ROD for the SWTL Project (referred herein to as the SWTL FEIS) to issue a special use authorization for the construction, occupancy, and the use of NFS land for a 230-kV electric transmission line was issued on April 2, 2012.

For those portions of the Proposed Action that would be collocated within the project area for the FGT FEIS and/or the SWTL FEIS, this EA incorporates the environmental analysis from those related environmental documents, where appropriate. These documents can be found on the project website (www.nfrcea.ene.com).

Past projects, including the FGT and COT SWTL projects and other linear utility projects created cleared corridors with which to collocate future linear projects. As a result, this minimized the need to widen the ROW and the amount of clearing required for implementation of the Proposed Action. Various past, present, and reasonably foreseeable actions that overlap in time or space with the Proposed Action are potentially relevant to the environmental impact analysis in this EA. The projects identified in Table 1.5-1 have been considered or incorporated into the environmental analysis for this EA.

Table 1.5-1 Past, Present, and Reasonably Foreseeable Actions Potentially Relevant to Cumulative Impacts

Project	Proponent	Description and Location
Florida Gas Transmission Company, LLC (FGT) Phase VIII Expansion Project (2010-2011)	Federal Energy Regulatory Commission (FERC)	FGT Project for the construction, operation, and maintenance of a natural gas pipeline in portions of the Apalachicola National Forest (ANF) requiring a USDA Forest Service Special Use Permit (SUP) for 80-foot-wide utility right-of-way (ROW).
City of Tallahassee (COT) Southwestern Transmission Line (SWTL) (2012 – 2013)	COT	COT project for the construction, operation, and maintenance of a 230-kilovolt transmission line in portions of the ANF requiring a USDA Forest Service SUP for 60-foot-wide utility ROW.
ANF Prescribed Burning	United States Department of Agriculture (USDA) Forest Service	Ongoing prescribed burning for habitat improvement and fuels reduction.
Sensitive species recovery and habitat improvement	USDA Forest Service	Ongoing projects to monitor sensitive species and improve habitat to aid in species recovery. Species include, but are not limited to, frosted elfin butterfly, gopher tortoise, and striped newt.
Gulf Power Company (GPC) North Florida Resiliency Connection (NFRC) Transmission line	GPC and FPL	Portion of the NFRC transmission line that is planned for outside of the ANF. The Transmission line is approximately 165 miles outside the ANF connecting GPC's Sinai Cemetery Substation in Jackson County, Florida, to FPL's Raven Substation in Columbia County, Florida.
COT SWTL Second Circuit	COT	COT plans to add a second circuit to the SWTL through the ANF in the future.

2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section provides a description of the Proposed Action (Section 2.1), presents a detailed description of the alternatives identification process (Section 2.2), identifies alternatives that were eliminated from further consideration (Section 2.3), and describes the alternatives that are evaluated in this EA (Section 2.4).

2.1 DESCRIPTION OF THE PROPOSED ACTION

The USDA Forest Service's Proposed Action is to process and make a decision on a SUP application for the construction, occupancy, and use of NFS land for a 161- kV electric transmission line. The transmission line, as currently designed, would be capable of transmitting up to 850 megawatts (MW) of power. GPC is proposing to build the new transmission line to maintain electric reliability for electric utility customers in the north and northwest area of the state of Florida. The proposed transmission line would connect GPC's Sinai Cemetery Substation in Jackson County, Florida, to the FPL's Raven Substation in Columbia County, Florida. The total transmission line is approximately 176 miles and would provide the first direct interconnection between the GPC transmission system and the FPL transmission system (Figure 2.1-1).

GPC has applied to the USDA Forest Service for a SUP authorizing GPC to construct, operate, and maintain an electric power transmission line crossing portions of the ANF. This EA will consider effects of the 11-mile segment of the proposed transmission line easement that would traverse the ANF from south of Blountstown Highway (SR 20) southeast around Tallahassee to Woodville Highway. The preferred route would collocate the transmission line with the existing COT transmission corridor and be adjacent to the existing FGT's natural gas corridor through the ANF. A Memorandum of Understanding concerning this collocation was approved by the Tallahassee City Commission on June 5, 2019, that allowed for continued negotiation towards a final agreement. The final collocation agreement is included as Appendix B. The primary objective of the collocation agreement with the COT is to minimize land clearing within the ANF. Based on GPC's collocation agreement with the COT, the Proposed Action would rebuild the COT transmission line and construct the GPC power transmission line adjacent to the rebuilt COT transmission line within the same ROW. The design features outlined below (Section 2.1.1) pertain only to the GPC transmission line. The COT rebuild line would be completed in accordance with the details previously presented in the COT SWTL FEIS and SUP issued by the USDA Forest Service for that project (available on the project website at www.nfrcea.ene.com).

2.1.1 Transmission Design/Facilities Description

Structures

The placement of overhead structures (in this document, the terms 'structures' and 'poles' are used interchangeably) for a transmission line takes into consideration a number of factors, including the technical feasibility of installing the structure in different terrains; the space available for the footprint of the structure; engineering and aesthetic concerns; ecological, social, cultural and natural resources in the project area; land use including location of residential and commercial development, schools, airports, parks, natural resource areas, sensitive habitats, and special land uses; long-range area planning; costs; and construction and operational safety.

Path: M:\Tallahassee\NorthAreaTransmission\Maps\MXD\Report\EA_August_2020\Figure 2-1-1 North Florida Resiliency Connection Project.mxd 8/6/2020

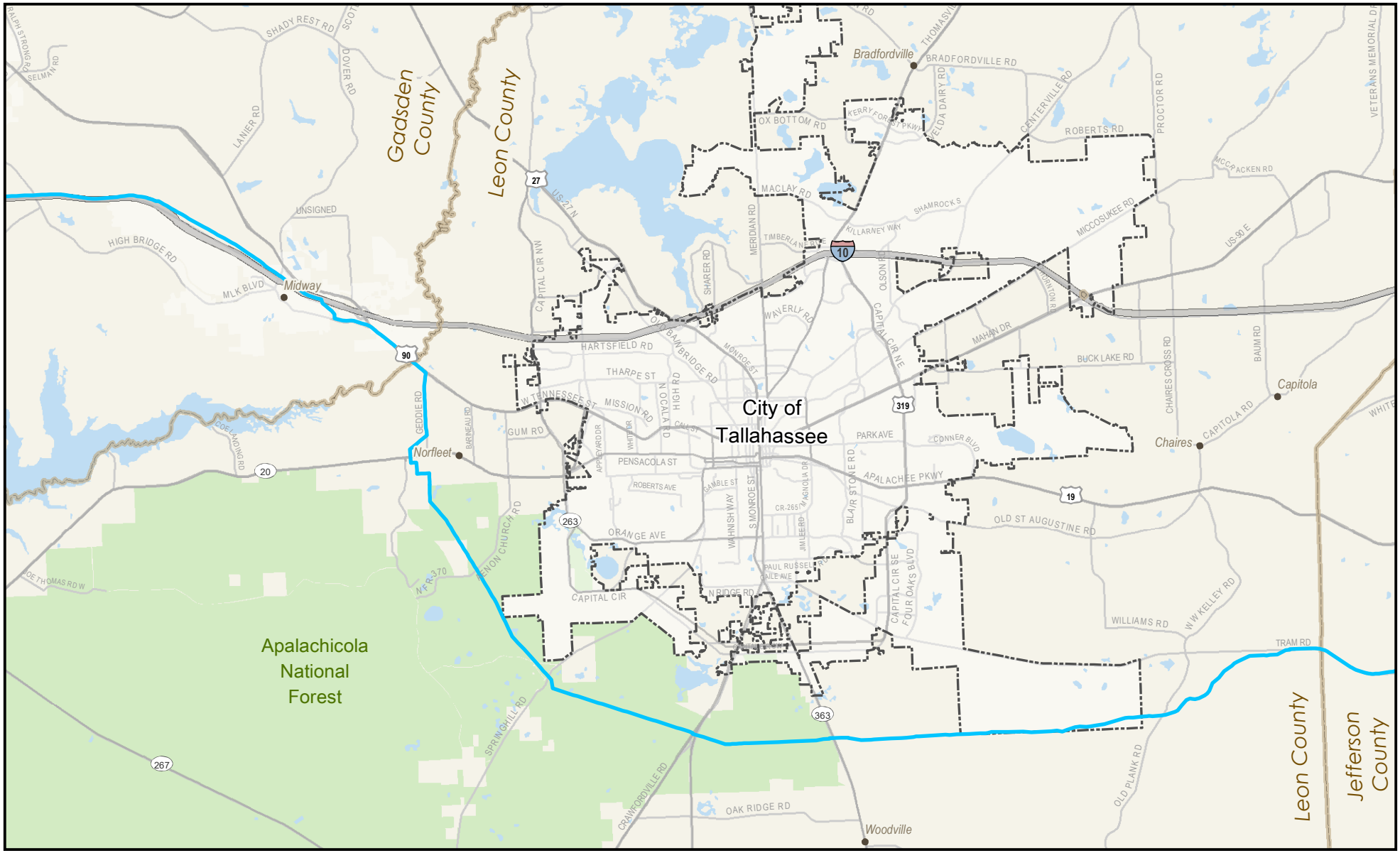


Figure 2.1-1
North Florida Resiliency Connection Project

- Proposed Action
- Raven Substation
- Sinai Cemetery Substation
- City of Tallahassee Limits
- County Boundary
- Apalachicola National Forest

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Sources: ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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Given this, structure height for this project would range from 75 to 110 feet, with higher structures being utilized to cross existing infrastructure, to accommodate a wider span, or to avoid other features. While distances between structures would vary depending upon terrain and configuration, structures would typically be erected with a span of 400 to 600 feet.

The project would be constructed using monopole structures (poles) to reduce footprint. Poles would be either spun concrete or steel. Concrete poles would be approximately 3 to 4 feet in diameter and would be direct embedded. Steel poles would require cast-in-place foundations and would vary in diameter from 4 to 8 feet.

Conductors

Transmission conductors are wires that carry the electrical current and typically consist of many aluminum wires wrapped around a steel core for reinforcement. These lines are strung along the transmission structures, connecting generation facilities, substations, and distribution stations to electricity consumers. To achieve the required ampacity, the single circuit transmission line will utilize a two-conductor per phase configuration for a total of six conductors. The Proposed Action would utilize "Pheasant" 1272 kcmil aluminum-conductor steel-reinforced cables, two cables per phase, and a single 0.646 inch, Single Mode Fiber, Optical Ground Wire shield wire with heights of no less than 26 feet above ground level.

Circuits and Configurations

Transmission lines consist of multiple conductors along which the electrical current flows; these are called circuits. Alternating current power transmission lines generally use a three-phase system for each circuit. The three-phase system consists of three conductors that carry electric current at the same frequency and different time cycles. Transmission structures can be designed to support either single circuits or double circuits. For the Proposed Action, single or double circuits with either single or bundled conductors will be utilized.

Access Roads and Temporary Work Space

The project would be designed to utilize existing roads, ROW, and other previously cleared areas for access to the greatest extent possible to minimize disturbance associated with construction of new access roads. The specific design and location of all access roads would be determined during final project design. Temporary roads may at times be used depending on site-specific situations. The contractor may employ either matting or geotextile fabric covered with temporary fill. There will be approximately five temporary work areas used during the construction. None of the temporary areas will be located within the ANF. The temporary areas will be used for contractor trailers and staging of materials such as the poles, wire, and insulators. Portions of the temporary work areas may also be designated for temporary storage of timber that is removed from within ROWs, as needed. All construction would be conducted within the permitted corridor within the ANF.

2.1.2 Construction Procedures

If the SUP is authorized, GPC would begin preparing the ROW for construction activities in coordination with landowners. Construction phases will consist of ROW clearing, access road construction (where necessary), line construction, and ROW restoration. Underground utilities would be identified to minimize any conflicts with existing infrastructure. Transmission structures are generally delivered to the site using semi-trucks with open trailers and are assembled on site. Staging areas would be established within the ROW for temporary storage of materials and equipment consistent with local, state, and federal regulations and permit requirements. Staging areas would be of sufficient size to lay down materials and

assemble some structural components or hardware, and to store conductors and the equipment necessary for stringing operations. All land clearing, tree and vegetation removal, erosion control, tree protection and maintenance practices would be conducted in accordance with approved VMP standard, except as restricted by the SUP; USDA Forest Service regulations; and local, state, and federal regulations and permit requirements. It is anticipated that only moderate ROW clearing will be required considering the location of much of the preferred corridor is along previously disturbed areas and the expectation of collocation to the existing linear facilities ROW. Minimal amount of clearing and mowing may be required for the installation of anchors for guyed structures and removal of conflict timber that poses a danger of falling into transmission line conductors. Equipment used for construction will typically include light trucks, trailers, auger digger, bulldozers, cranes, shearing machinery, specialized mowing equipment, chainsaws, and other support vehicles.

Once the ROW is cleared, an approximate 50-foot by 50-foot workspace, plus an additional area of 10-foot in width by the length of pole, would be required at each pole location to stage equipment used for erecting structures, to lay down the pole structure, and to drill and pour pole foundations. The typical construction sequence for erecting poles and stringing the line is as follows:

- Structures and insulator assemblies are typically assembled on the ground then raised into position.
- Tangent monopoles would be directly imbedded into augered holes (approximately 18 to 25 feet deep), lifted into place by a large crane, and the holes would then be backfilled with crushed rock or concrete.
- Large angle and dead-end monopoles would have a concrete, drilled pier foundation utilizing large auger equipment to excavate a circular hole of the appropriate diameter and depth; reinforcing steel and anchor bolts would then be set into position using cranes and other support equipment and then concrete would be placed in the excavation.
- Once the structures are set, wire-pulling equipment will be used to install the conductors and overhead ground wire.
- Once conductors are strung, they would be tightened at pulling sites and would terminate at the appropriate substation.

Construction will be performed so as to minimize disturbance to natural ground cover. Construction mats and low-pressure, rubber-tired or non-tracked vehicles will be used, when appropriate, to minimize the potential for erosion. Turbidity screens, erosion control devices, and other best management practices (BMPs) will be utilized to minimize impacts to wetlands and water bodies to control the quality of runoff.

2.1.3 Restoration Procedures

Upon completion of construction activities, the ROW would be cleared of all signs of construction as quickly as practical, including, but not limited to removing all temporary facilities, staging and laydown areas, equipment, construction materials, and debris.

Post-construction reclamation activities would restore groundcover to a mix of native grass and herbaceous species. Restoration activities within the ANF would utilize a native seed mix that would be collected on the ANF in accordance with the SUP operating plan for this project. Restoration would include the protection of slopes subject to rapid erosion, as necessary. Restoration would be accomplished by native seeding and mulching, sod replacement, or sprigging, where appropriate. In areas where native seeding and

mulching would not prevent erosion, additional measures such as water control humps, thatch, sprigging, or sodding would be used.

Following completion of construction activities, existing access roads would be repaired as necessary. Temporary roads required on off-Forest Service property would be reclaimed and erosion control measures installed, land re-graded, areas reseeded, etc.

2.1.4 Operation and Maintenance Activities

GPC has extensive in-house experience operating and maintaining GPC's transmission system in a reliable manner. GPC's subject matter experts use processes, internal controls, and management systems to assist with the operation and maintenance (O&M) of GPC's transmission system in a safe and reliable manner. GPC operating personnel have real-time monitoring and operating tools, including contingency analysis, to monitor and take corrective action to ensure the reliable operation of GPC's transmission system meets NERC Reliability Standards. Similarly, GPC's maintenance personnel use sophisticated diagnostic and tracking systems to target and complete needed testing and maintenance as required by the NERC Reliability Standards, such as PRC-005 (Testing and Maintenance of Protection Equipment). Routine inspections and maintenance activities would be conducted in a manner consistent with local, state, and federal regulations and permits.

O&M for the first 10 years will be limited to route patrols (ground or aerial) and vegetation management. On the 11th year, the line will be inspected on a 10-year cycle. Vegetation management activities will include patrols (two per year), implementation of a mowing and spraying program (every three years), and annual trimming, as required. Appendix C outlines GPC's vegetation management Program.

ROW maintenance would be conducted to control vegetation that may interfere with the O&M of the transmission line and tap station structures. Appendix D provides GPC's specifications and instructions for ROW preparation and maintenance. All O&M conducted on USDA Forest Service property would be conducted in accordance with the SUP for that portion of the route.

2.1.5 Decommissioning

GPC is requesting an initial 50-year authorization of the SUP; however, with proper maintenance, the expected lifespan for the project is much greater than 50 years. If the project was decommissioned, transmission structures and other line components would be removed. Without vegetation management along the transmission ROW, surrounding vegetation would reclaim the area. Decommissioning on USDA Forest Service lands would occur as outlined in the SUP operating plan and would require reforestation to native trees and groundcover.

2.2 Alternatives Identification Process

Alternatives were identified through early routing studies by GPC; the NEPA scoping process; consistent collaboration between GPC, FPL, and the USDA Forest Service; and through supplemental studies and consultations conducted by the GPC and the USDA Forest Service, as part of the environmental review process.

Factors evaluated in the routing review included, where appropriate, ecological, social, cultural and natural resources in the project area; land use including location of residential and commercial development, schools, airports, parks, natural resource areas, sensitive habitats, and special land uses; long range area planning; costs; construction and operational safety; and engineering and construction feasibility. Locations within or adjacent to existing linear ROWs and easements such as roads, railroads, pipelines, canals and

other utilities' existing transmission and distribution lines were reviewed and considered. Property ownership boundaries and constraints, such as pinch points or lack of available space within existing ROWs, busy commercial highways, existing utilities, wildlife and aquatic resources, protected species, wetlands, and water bodies, and areas of dense or proximate residential development, were also studied and evaluated. Consideration of all of these factors led to the selection of the current Proposed Action. Each of the alternative routes considered would include the typical transmission system components, as detailed in Section 2.1, with slight variations in engineering to accommodate changes in terrain and existing infrastructure.

2.3 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL

The following routes were considered in the alternative identification process by GPC to address the purpose of and need for the overall NFRC Project. However, these alternatives were eliminated from detailed analysis because they have constraints that make the alternative unreasonable, have increased environmental impacts, or they are not feasible for economic or other reasons. Two of the alternatives below that were not evaluated in detail would not affect NFS land and, therefore, would not be subject to USDA Forest Service procedures. Therefore, in the context of this project, these off-forest routes are among the possibilities within the no-action alternative. Figure 2.3-1 illustrates these routes considered but not evaluated in detail.

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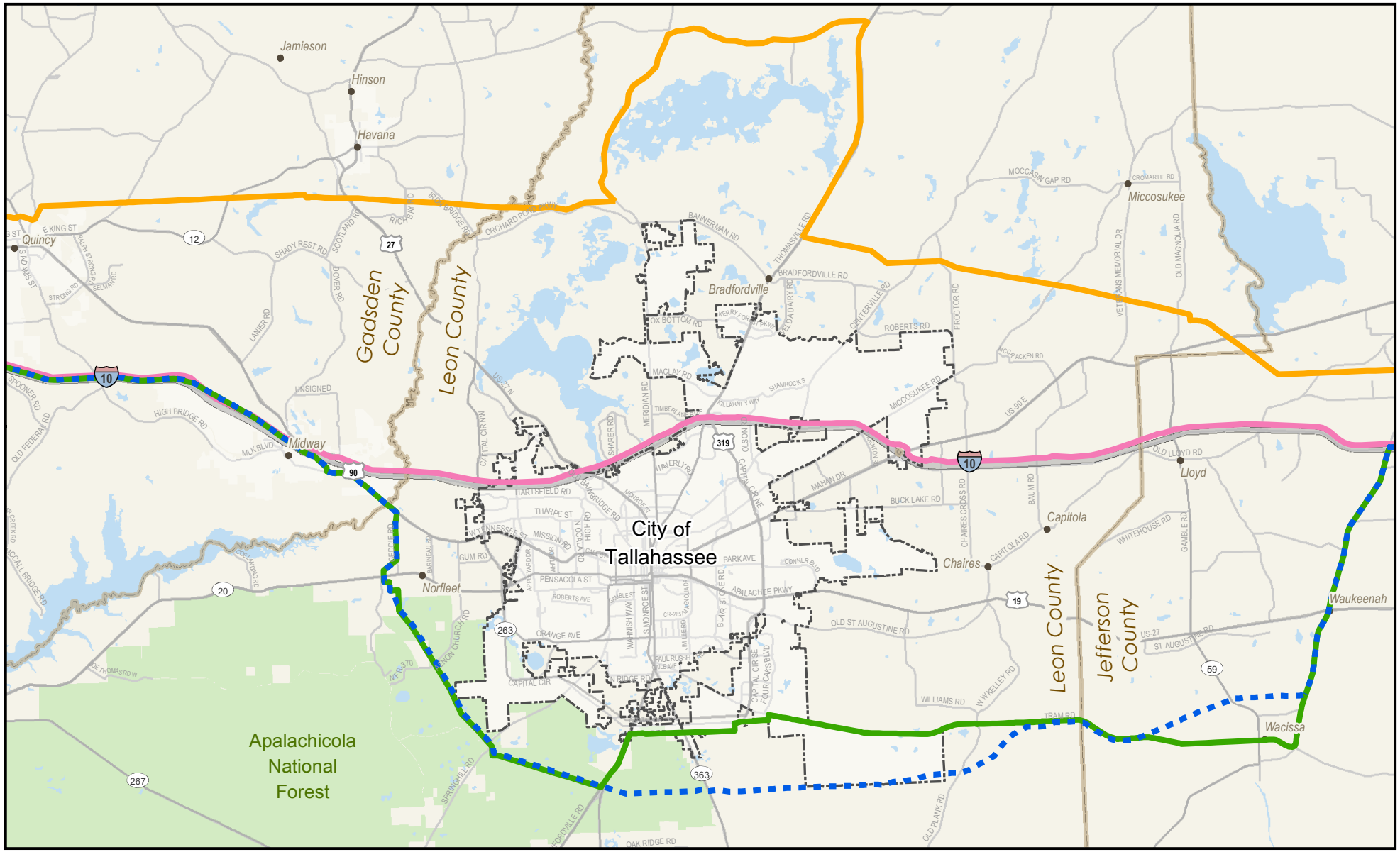

Figure 2.3-1
Alternatives Considered but not Evaluated in Detail

- Conceptual I-10 Alternative
- Conceptual North of Tallahassee Alternative
- Conceptual ANF Alternative 1
- Conceptual ANF Alternative 2
- Raven Substation
- Sinai Cemetery Substation
- City of Tallahassee Limits
- County Boundary
- Apalachicola National Forest

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Sources: ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

2.3.1 Route Along Interstate 10

During the route selection process, it became evident that the Interstate 10 (I-10) corridor theoretically provides an almost direct path between the Sinai Cemetery substation in Jackson County and the Lake City area. GPC met with the Florida Department of Transportation (FDOT) Districts 2 and 3 offices in February 2019 to discuss the project, including whether there would be any collocation opportunities or ability to use the existing I-10 FDOT Limited Access Right-of-way (LA ROW) for construction and maintenance for the project. Specifically, GPC asked about the feasibility of either constructing portions of the transmission line within the FDOT LA ROW along I-10, and/or maintaining the line (constructed on adjacent private property) from within the FDOT LA ROW. GPC was advised that these alternatives were inconsistent with FDOT Utility Accommodation Manual (UAM) provisions.

The UAM regulates the location and manner for installation and adjustment of utility facilities on any FDOT ROW. The UAM is adopted by FDOT as Chapter 14-46, Florida Administrative Code (F.A.C.) (current version adopted July 30, 2017). The UAM is adopted pursuant to Section 334.044(2), Florida Statutes, and implements the provisions of Chapter 337, Florida Statutes (F.S.) Specifically, Section 337.401(9) requires all work in FDOT ROW to comply with the UAM.

Section 4 of the UAM regulates placement of linear utilities in the LA ROW. Section 4.1 of the UAM limits the right to install, operate, and maintain utility lines longitudinally within LA ROW to those that exclusively serve FDOT, unless an alternative to this requirement is approved in accordance with UAM Section 6. Alternatives may only be approved if it is shown that either:

1. Compliance with the UAM requirements is not practicable or would create an unreasonable hardship for the utility owner, and that the utility owner's alternative would not unreasonably interfere with the safety, operation, maintenance, future improvement, or expansion of the transportation facility, or,
2. The alternate provides a benefit to the safety, operation, maintenance, future improvement, expansion of the transportation facility, or other benefit to FDOT.

Based on direction from FDOT in the February 2019 meetings, it was determined that GPC could not meet either requirement, and that use of the FDOT LA ROW along I-10 was not a viable option. Moreover, using the public road ROW to locate transmission lines is generally avoided by GPC because of the potential relocation expense if the road is improved in the future, and the corresponding need to obtain private vegetation maintenance easements on properties adjoining the road. As a result, much of the route parallel to I-10 would have to be located on private easements immediately adjacent to the I-10 corridor.

GPC's team conducted visual inspections of the I-10 corridor through Tallahassee where possible and reviewed Leon County Property Appraiser website information pertaining to parcels abutting the FDOT LA ROW. Given the existing development and congestion through this area and applying the route selection factors established by Florida law, attempting to obtain private easements in this area was not a practical or preferable route.

The COT has approximately 12 miles of transmission lines already collocated within (or located immediately adjacent to) the I-10 LA ROW in an area from near the US 90 interchange east of Tallahassee to the Capital Circle interchange west of the city. Siting an additional transmission line in this area would not be practicable on the same side of the highway as the COT transmission lines due to electrical clearances that would be required between the two utilities. These clearances would require an even wider private easement acquisition by GPC, extending deeper into adjacent private properties. Further, based on a desktop review, looking to the opposite side of the I-10 corridor, development and congestion in this area made it

likely that dozens of existing single-family, multi-family, and commercial structures would be impacted by such a route. Finally, attempting to locate the route on private easements adjacent to the I-10 corridor in this area would present extremely difficult access issues from the standpoint of constructing and maintaining the line. For all of these reasons, the NFRC cannot be reasonably accommodated along the I-10 corridor.

2.3.2 Route North of Tallahassee

As part of the alternative route analysis, a potential northern route was identified (Figure 2.3-1). This northern alternative left I-10 to the east of Tallahassee, and would have gone to the northeast and north of Tallahassee.

The length of this alternative from the I-10/U.S. Route 19 interchange to the Sinai Cemetery Substation was approximately 62.6 miles. In one version of this alternative, the vast majority of the route would have been collocated within existing non-GPC transmission line ROW. The remaining length would have been located adjacent and parallel to FDOT, county, and local road ROWs. In another version of this alternative, the same route was considered with a new corridor immediately adjacent to the existing non-GPC transmission line ROW, rather than collocating. Finally, a version adding an approximately 20-mile route deviation, following existing roadways further to the north of Tallahassee, was also reviewed.

The collocation approach was not pursued upon the conclusion that GPC would not receive consent from the other utilities for allowing collocation fully within their ROWs. Collocating the transmission line with the existing ROW therefore is not feasible. The version that added a new transmission corridor adjacent to the existing non-GPC transmission ROW would not be practicable north and northeast of Tallahassee, based on a number of factors including the presence of dense development, predominantly residential, on both sides of the existing non-GPC transmission ROW. In these areas, acquisition of a new corridor adjacent to the existing ROW would result in approximately 92 structures being located within the easement area, many of which would have to be removed.

At that juncture, an approximate 20-mile route deviation was considered in an attempt to reduce conflict with dense development, following existing roadways further to the north of Tallahassee and away from the existing transmission ROW. This roughly 82.5-mile route also encountered proximate residential development and associated routing constraints.

Both the northern alternative around Tallahassee and the 20-mile route deviation would have to cross through multiple conservation lands and wetlands. Further, United States Fish and Wildlife Service (USFWS) National Wetland Inventory data indicated that this route alternative would incur approximately twice the wetland impacts (both forested and non-forested wetlands), as opposed to the in-forest alternatives, in terms of distance through wetlands.

In sum, because of numerous constraints, a route to the north of Tallahassee cannot be reasonably accommodated; therefore, after review and consideration, the northern route alternative and the 20-mile deviation were dropped from further consideration.

2.3.3 Other Routes within the Apalachicola National Forest

Several other routes for traversing the ANF were considered (Figure 2.3-1). Most proposed to follow at least segments of the Proposed Action, but with slight deviations. However, these routes would require at least a new 42-foot-wide corridor be established through the ANF where the routes do not follow the existing ROW. Therefore, these routes would require substantially more ground disturbance and ROW vegetation clearing, as well as approval to overlap the FGT corridor. Considering such constraints, and the above-described LRMP direction for locating utility ROWs, these routes were not viable as alternatives.

2.4 Alternatives Considered in the Environmental Assessment

The No Action Alternative and the Proposed Action are carried forward for analysis in this EA. These alternatives are detailed in this section.

2.4.1 No Action Alternative

Evaluation of the No Action Alternative is a requirement of NEPA and its associated implementing regulations (40 CFR 1502.14[d]) to allow federal decision-makers (in this case, the USDA Forest Service) to compare the impacts of the Proposed Action and its alternatives with the impacts of not constructing the project. The No Action Alternative considers the environmental impacts if the Proposed Action was not authorized by the USDA Forest Service. The USDA Forest Service only has authority to authorize a SUP for the construction and maintenance of the proposed transmission line on NFS lands. Under the No Action Alternative, the SUP would not be granted, and an electric transmission line would not be constructed in the ANF. The NFRC Project would either not be constructed or an alternative route outside the ANF would be utilized.

2.4.2 Proposed Action

The proposed transmission line would enter the ANF west of Tallahassee and south of Blountstown Highway (SR 20) and continue south and east to Woodville Highway, collocated with the existing COT transmission corridor and adjacent to the existing FGT natural gas corridor until the route exits the eastern boundary of the ANF at Woodville Highway (Figure 2.4-1). There are three distinct segments within the proposed route, totaling approximately 11 miles. See Appendix E for a full cross section illustration of each segment.

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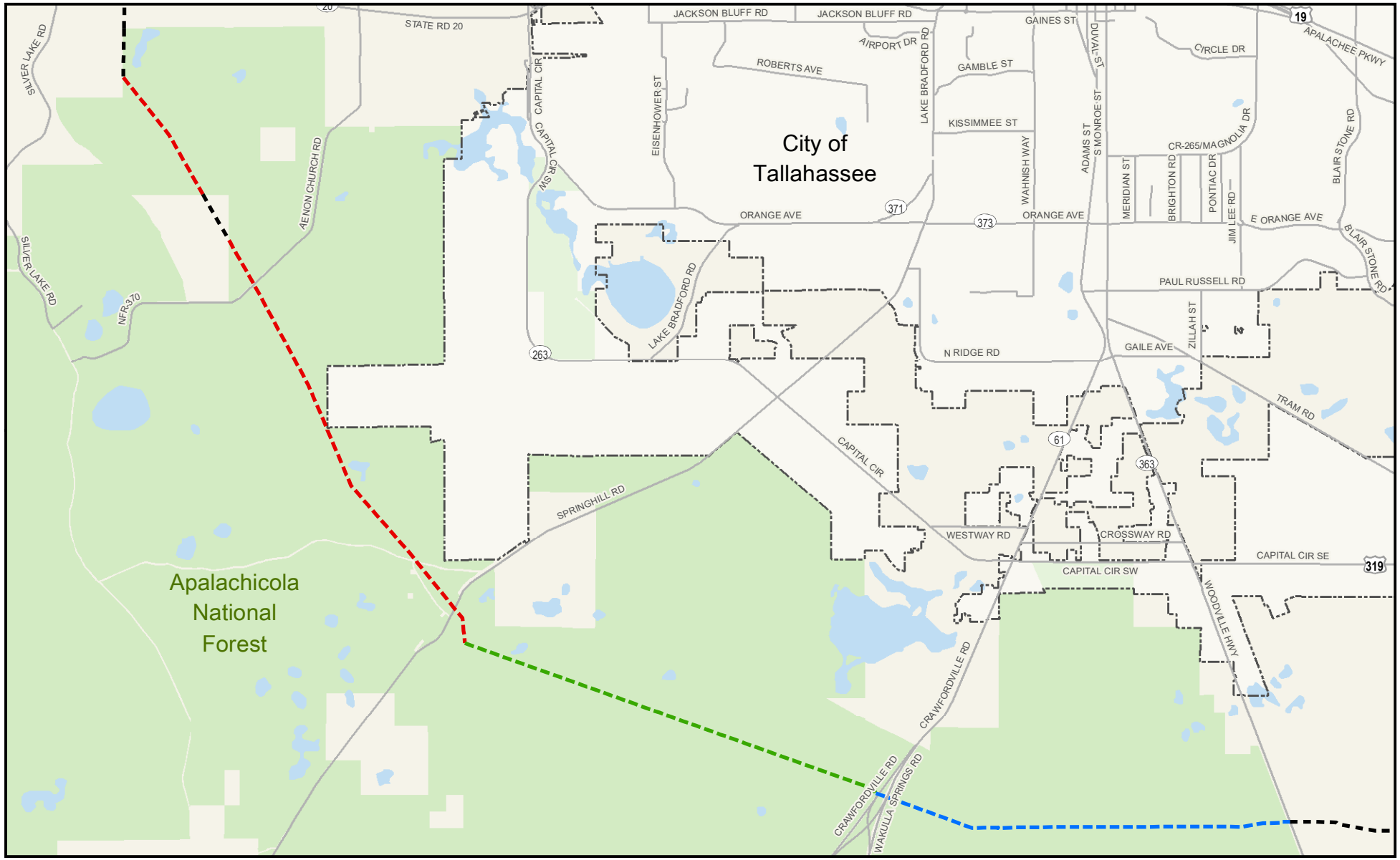

Figure 2.4-1
Proposed Action

Proposed Action

- Segment 1 Through ANF
- Segment 2 Through ANF
- Segment 3 Through ANF
- Segment Not in ANF
- City of Tallahassee Limits
- Apalachicola National Forest

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Sources: ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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Segment 1 begins where the COT utility corridor enters the ANF at Blountstown Highway and continues south and east to the COT Substation 32. In this segment, the COT has a 100-foot-wide corridor. Based on GPC's collocation agreement with COT, the Proposed Action would rebuild the COT transmission line and construct the GPC power transmission line adjacent to the rebuilt COT transmission line. The rebuilt line would be designed to accommodate a future COT second circuit (Figure 2.4-2). Overall, no expansion of the COT 100-foot corridor is expected in this segment; however, a minor deviation from the existing corridor is necessary to navigate around Substation 32. This deviation was discussed and approved by the USDA Forest Service during the planning process. Information on this deviation at Substation 32 is available in Appendix E. This segment is approximately 4.9 miles, which includes non-ANF lands of approximately 0.3 miles. Segment 1 would include the installation of approximately 87 structures with a footprint of 0.1 acres. Temporary workspaces to accommodate the construction of the structures would require 7.19 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minimal clearing would be required for construction within this segment. Approximately 3.1 acres of existing vegetation would be cleared in targeted areas within the existing 100-foot corridor. This acreage is within the existing corridor and was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Additionally, 2.82 acres of new clearing would be needed outside of the current corridor around Substation 32. Photos 1, 2, and 3 are representative of the existing condition within Segment 1.

Photo 1: Segment 1 near northwest boundary of ANF

Photo 2: Segment 1 approximately 1 mile north of Aenon Church Rd.

Photo 3: Segment 1 just south of Springhill Rd.

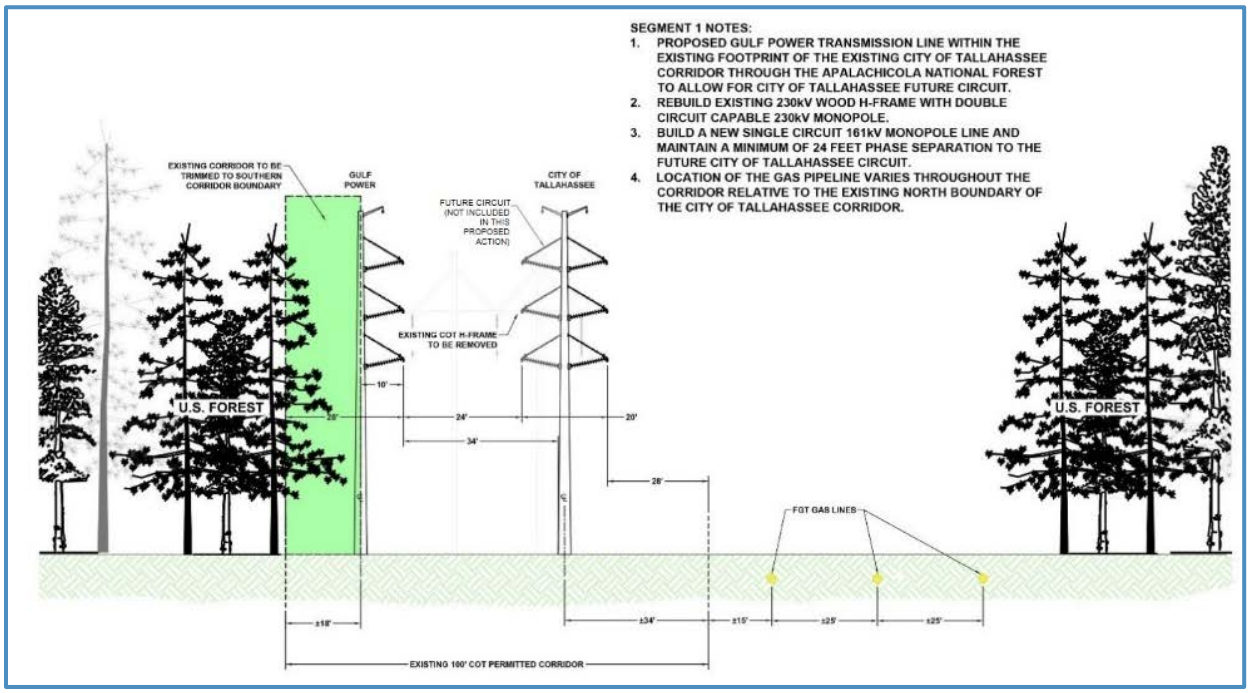

Figure 2.4-2 Segment 1 Corridor Cross Section Looking Northwest

Segment 2 begins at the COT Substation 32 and continues east to Crawfordville Road. In this segment, the COT transmission line is within a 60-foot-wide corridor. Based on GPC's collocation agreement with COT, the Proposed Action would rebuild the COT transmission line. The rebuilt line would be designed to accommodate a future COT second circuit (Figure 2.4-3). The new GPC transmission line would be built adjacent to the COT transmission line on the south side. Due to required safe spacing between structures and wires, space required for conductor "blowout" and the COT requirement to maintain space for a second circuit, this segment would require up to 18 feet of clearing to widen the current corridor on the south side of the COT 60-foot corridor. This segment is approximately 3.3 miles. Segment 2 would include the installation of approximately 92 structures with a footprint of 0.11 acres. Temporary workspaces to accommodate the construction activities would require 7.6 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minor clearing is required for construction within this segment. Approximately 0.72 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot corridor and 7.06 acres would be cleared as part of the up-to-18-foot corridor expansion and the minor deviation from the existing ROW to navigate around Substation 32. Information on this deviation at Substation 32 is available in Appendix E. Vegetation clearance within the additional 18-foot corridor expansion would involve cutting trees, but not removing herbaceous vegetation. The acreage to be cleared within the existing corridor was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Photos 4, 5, and 6 are representative of the existing condition within Segment 2.

Photo 4: Segment 2 just east of Substation 32.

Photo 5: Segment 2 approximately 1.5 miles east of Springhill Rd.

Photo 6: Segment 2 approximately 1.5 miles west of Crawfordville Rd.

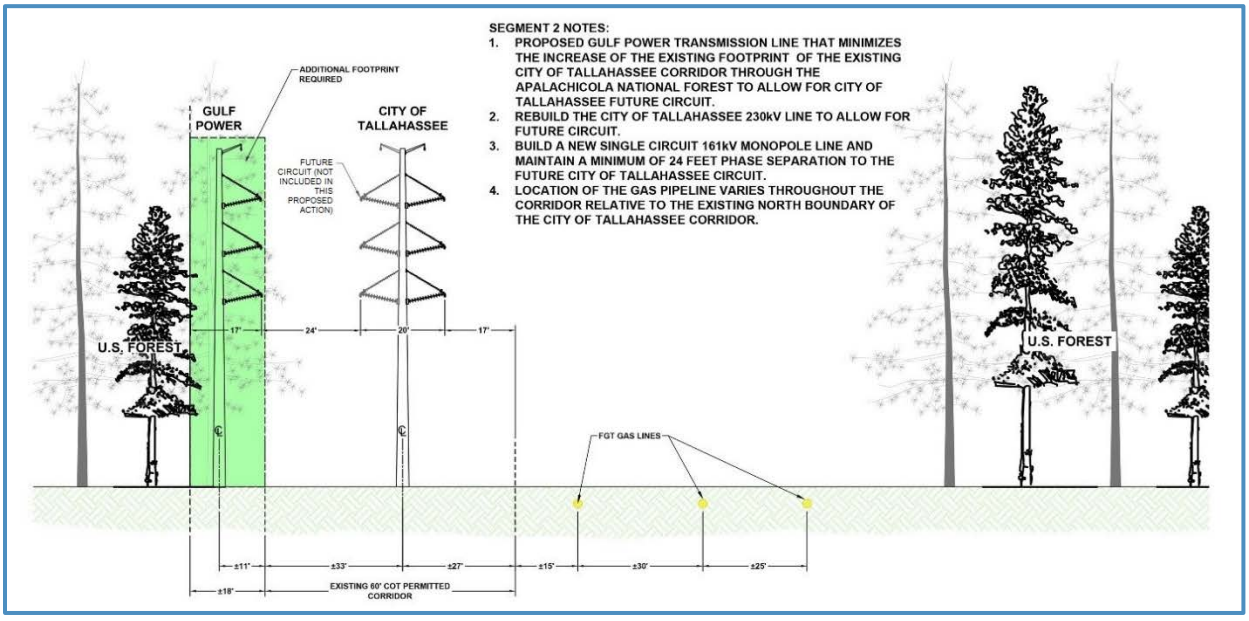

Figure 2.4-3 Segment 2 Corridor Cross Section Looking Northwest

Segment 3 begins at Crawfordville Road and continues east until the route exits the ANF at Woodville Highway. In this segment, the COT transmission line is within a 60-foot-wide corridor. Based on GPC's collocation agreement with COT, the Proposed Action would rebuild the COT transmission line. The line would be rebuilt to allow for a COT second circuit designed in a stacked configuration. The new GPC transmission line would be constructed adjacent to the COT transmission line on the south side (Figure 2.4-4). Due to required safe spacing between structures and wires, space required for conductor "blowout" and the COT requirement to maintain space for a COT second circuit, this segment would require up to 7 feet of clearing to widen the current corridor on the south side of the COT 60-foot corridor. This segment is approximately 3.1 miles. Segment 3 would include the installation of approximately 92 structures with a footprint of 0.11 acres. Temporary workspaces to accommodate the construction activities would require 7.6 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minimal clearing is required for construction within this segment. Approximately 1.11 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot corridor and 1.55 acres would be cleared as part of the up to 7-foot corridor expansion. Vegetation clearance within the additional 7-foot corridor expansion would involve cutting trees, but not removing herbaceous vegetation. The acreage to be cleared within the existing corridor was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Photos 7, 8 and 9 are representative of the existing condition within Segment 3.

Photo 7: Segment 3 just east of Crawfordville Rd.

Photo 8: Segment 3 approximately halfway between Crawfordville Rd and Woodville Hwy.

Photo 9: Segment 3 approximately 1.5 miles west of Woodville Hwy.

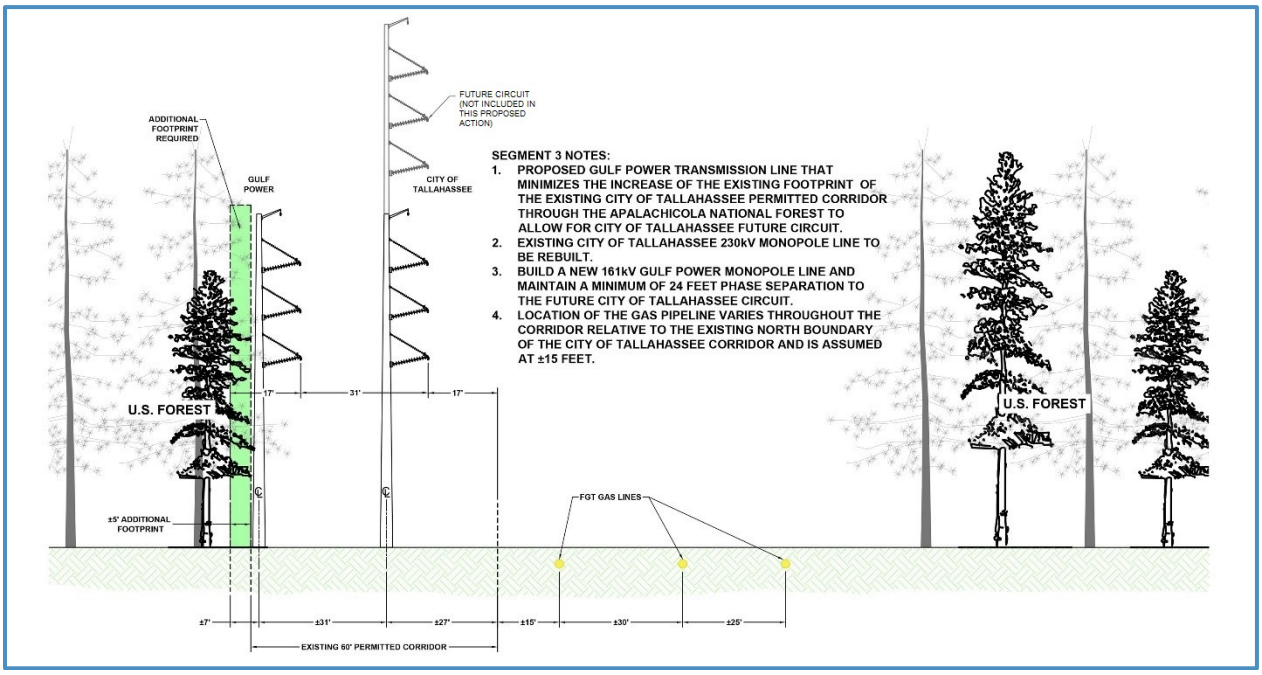

Figure 2.4-4 Segment 3 Corridor Cross Section Looking West

3 AFFECTED ENVIRONMENT, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

3.1 INTRODUCTION

This section describes the existing environment and evaluates the potential environmental impacts of the Proposed Action. Direct and indirect impacts are evaluated for the Proposed Action. Direct impacts are those that would occur within or immediately adjacent to the proposed transmission line ROW during construction or during approved ROW maintenance activities, as described in an O&M plan accompanying the SUP, and would have an immediate effect on the resource being evaluated. Generally, direct impacts would be confined to the existing ROW for collocation. Indirect impacts are those that would occur after construction or in an area adjacent to construction activities or outside the existing ROW. Based on these direct and indirect effects, considered in the context of ongoing or reasonably foreseeable future activities, cumulative impacts are also discussed.

The CEQ regulations for implementing NEPA define a cumulative impact as:

> "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 1508.7)

Cumulative impacts can result from individually minor, but collectively significant, actions that take place over time. Accordingly, a cumulative impacts analysis identifies and defines the scope of other actions and their interrelationship with the Proposed Action, if their effects may overlap in space and time. The cumulative impacts analysis presented in this document is based on the potential effects of issuing a SUP to allow the GPC NFRC Project through the ANF when added to impacts from other past, present, and reasonably foreseeable future actions in the relevant area around the ANF. The potential effects are evaluated both for the period of project construction (anticipated to be up to 8 to 10 months) and for the post-construction (operation) period of the project. The other actions considered for this analysis are discussed in Table 1.5-1.

This section also describes the mitigation measures to reduce or eliminate anticipated direct and indirect impacts identified for each resource area.

3.1.1 Regional Setting and Scope of the Analysis

Implementation of the Proposed Action would involve standard utility construction activities along the 11.3 miles within the ANF that includes previously disturbed lands within the existing FGT and COT utility ROWs, which are mostly cleared and flat. The proposed route would be located within the region of the Gulf Coastal Lowlands physiographic province known as the Woodville Karst Plain, which extends from the southern edge of Tallahassee, Florida, to the Gulf of Mexico. Construction activities would include limited excavation during augering, clearing, and grading during removal and replacement of existing COT utility structures and the construction of the new utility structure within each of the line segments (discussed in Section 2.4.2). Those activities would be largely surficial and limited to the top few feet of ground

surface. Clearing and grading during construction would not impact any geologic features, such as spring zones, karst features, or sinkholes. Geotechnical test borings will be conducted during construction to ensure that specific ground conditions are appropriate for the installation of a transmission pole. A mitigation plan will be developed for any voids encountered during construction. Compliance with the conditions and requirements of the Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System Generic Permit for Stormwater Discharge from Large and Small Construction Activities (Rule 62-621.300(4), F.A.C.), as well as implementation of BMPs and mitigation measures would help minimize impacts to both topography and geological resources during and after construction.

The land cover types within the ANF along the route of the Proposed Action, as well as the area within each category, potentially impacted by short and long-term aspects of the Proposed Action are outlined in Table 3.1-1. The majority of the Proposed Action would occur within the utilities land cover type. Forested land makes up the second largest land cover category.

Table 3.1-1 Temporary and Permanent Land Cover Impacts

Land Cover	Segment 1		Segment 2		Segment 3	
	Temporary Workspace Areas	Permanent Structures	Temporary Workspace Areas	Permanent Structures	Temporary Workspace Areas	Permanent Structures
Forested	6.41	0.01	15.97	0.05	7.26	0.04
Grassland/ shrubland	0	0	0	0	.22	< 0.01
Recreational	0	0	0	0	0.10	0
Roads and Highways	0.29	0	0.26	0	0.29	0
Industrial	0	0	0	0	0.24	0
Utilities	63.09	0.09	17.61	0.05	16.07	0.06
Wetlands Forests	0.16	0	0	0	0.28	< 0.01
Total	69.95	0.10	33.84	0.10	24.81	0.11

As shown in Table 3.1-2, the majority of the proposed transmission line would traverse federal land in the ANF or an existing public ROW. Approximately 0.4 miles of the Proposed Action would be located on private land.

Table 3.1-2 Proposed Action Land Ownership (Miles)

Land Cover	Segment 1	Segment 2	Segment 3
Federal (National Forest)	4.55	3.33	3.06
Public (Right-of-way)	0.07	0.02	0.05
Private	0.43	0	0
Total	5.05	3.35	3.11

Approximately 0.11 acres of forested and grassland/shrubland land cover within the ANF would be permanently converted for the ROW of the Proposed Action. The ROW would be located adjacent to an existing transmission line ROW and would be maintained with a mix of native grasses and herbaceous species. The Proposed Action would traverse a land MA within the ANF that is designated MA 9.2 (USDA Forest Service 1999). Land uses associated with MA 9.2 include conservation, timber production, and recreation, among other compatible uses. The Proposed Action would be consistent with ANF management objectives for MA 9.2 and LRMP Standard LA-9, which directs the USDA Forest Service to confine, to the extent practicable, ROW approvals to existing utility routes or corridors designated for this purpose (USDA Forest Service 1999).

The impacts discussed throughout Section 3 were estimated using the total length and width of the ROW for all three Segments of the GPC proposed transmission line through the ANF, as discussed in Section 2.4.2. The Proposed Action would be completely collocated through the ANF along an existing utility ROW. The Proposed Action would include only minimal expansion of the existing ROW in specific locations. Furthermore, any disturbance associated with the Proposed Action would not impact the entire existing COT corridor, but rather impacts would be limited to only the areas where the existing COT transmission structures are removed and replaced, the areas where the new GPC utility structures are constructed, and the portions on the south side of the ROW where the corridor is expanded.

Additionally, construction-related disturbance for the Proposed Action within the ANF would be minimized due to the entire ROW having been previously cleared and graded by the FGT Project and previously disturbed lands associated with the current COT's 230-kV SWTL transmission line ROW. An existing, designated travel lane currently used by the USDA Forest Service, recreational users, COT, and FGT would also be used by GPC during the construction of the Proposed Action. Finally, some clearance and ground disturbance occurring within the existing ROW has already been examined as part of the SWTL EIS. GPC would clear some vegetation that was analyzed as part of the SWTL EIS, but was never actually cleared by the COT as their transmission line was constructed. For these reasons, new ground disturbance within the ANF during construction would be substantially reduced due to the collocation.

Effects of clearing and maintaining the existing ROW have been extensively analyzed in past NEPA documents for the FGT and SWTL projects. Because the effects have been considered and the activities have already been authorized, this EA focuses on the effects resulting from the construction and maintenance of the GPC transmission line and associated activities that have not been previously analyzed. The effects analyses for those past activities are available on the project website, and the findings are incorporated by reference here.

Several alternatives are briefly discussed above; however, the only acceptable route for the GPC transmission line that would require USDA Forest Service authorization is the Proposed Action. USDA Forest Service NEPA regulations state that when there are no unresolved conflicts regarding alternatives, an EA is only required to consider the Proposed Action (36 CFR 220.7(b)(2)(ii)). Specifically, the analysis of the Proposed Action should serve to inform interested parties and should briefly provide sufficient evidence for the decision-maker to determine whether to prepare an EIS or a finding of no significant impact (40 CFR 1508.9).

3.1.2 Resource Areas Not Carried Forward for Detailed Analysis

This EA evaluates the reasonably foreseeable environmental impacts of the Proposed Action. Several resource areas are not carried forward for detailed analysis in this EA because potential impacts from the Proposed Action are not expected to occur or would be considered negligible, consistent with CEQ regulations (40 CFR 1501.7). Resources not analyzed further in this EA are described below.

Noise

Construction of the Proposed Action would generate noise due to the use of heavy construction equipment. The temporary construction noise from the Proposed Action would not be expected to have any effects on human receptors due to the distance of these receptors from the ANF portion of the proposed transmission line. The nearest residence from the Proposed Action would be located on Woodville Highway, a distance of 240 feet from the route. Given the short-term nature of the construction work, the distance, and the natural vegetation buffer between the construction site and the residential areas, the overall impact would be temporary and minor. In addition, construction would take place during daylight hours (sunrise to sunset) when higher noise levels are less noticeable. There are no sensitive receptors such as hospitals, schools, libraries, or places of worship in the vicinity of the Proposed Action.

Noise may have a minimal temporary effect on noise receptors (people and wildlife) in the construction area. There would not be any permanent effects on noise receptors due to construction noise in the ANF. The following mitigation measures would be utilized:

- Limit work to daytime hours;
- Notify the closest residents in advance of construction work;
- Ensure that construction equipment has standard noise control devices such as mufflers, silencers, and engine enclosures and that the equipment is in good working order;
- Minimize idling of construction equipment and vehicles during construction; and
- Monitor field noise levels if necessary.

Construction of the Proposed Action will comply with any federal, state, and local noise guidelines and ordinances during construction, maintenance, and operation of the transmission line. Overall impacts to the ambient noise environment from the Proposed Action would not be significant, and further analysis of the impacts to the noise environment is not warranted.

Air Quality

Minor, short-term air emissions would result from construction of the Proposed Action. Construction emissions would consist of fugitive dust from service road travel and ground disturbances and exhaust from equipment. Maintenance emissions would consist of equipment exhaust from periodic maintenance activities and fugitive dust from road travel. There would be no air emissions from operation of the Proposed Action. Mitigation measures, such as a dust control plan, would be developed to minimize fugitive dust emission. Land clearing within the ANF would be minimal and restoring the ground surface of cleared areas after construction would help to minimize fugitive dust during maintenance activity.

The Proposed Action will comply with all federal, state, and local air quality rules and regulations. All construction equipment used will comply with United States Environmental Protection Agency (USEPA) emission standards for engines. The General Conformity Rule, which ensures that federal actions do not contribute or cause new violations to ambient air quality standards, do not apply to the Proposed Action since the county which the project would occur (Leon County) is considered in attainment for all criteria pollutants.

The FDEP has jurisdiction over air permitting within the state. Air emissions from the Proposed Action would not be significant and would be below the *de minimis* levels necessary to obtain a construction and/or operation permit. Further analysis of the impacts to the air environment is not warranted.

Cultural Resources

Section 106 of the NHPA, as amended, requires that federal agencies take into account the effect of their undertakings on properties listed, or eligible for listing, on the National Register of Historic Places (NRHP), as well as to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking.

In order to assess the potential for effects to historic properties, an area of potential effect (APE) must be defined. An APE consists of the geographic area within which an undertaking may directly or indirectly affect historic properties. For the Proposed Action, the direct effects APE is defined as a corridor measuring 100 feet in width and centered around the proposed project easement within the ANF. The proximity effects APE is defined as a corridor measuring 328 feet centered on the proposed project easement within the ANF. This allows for consideration of both aboveground and belowground resources.

Previous surveys conducted as part of the environmental work for the FGT Project and for GPC identified recorded archaeological sites and isolated finds within the direct effects APE (FERC 2009; SEARCH 2019). Among these cultural resources, three archaeological sites are considered for this assessment due to their NRHP-status. Per communication with the USDA Forest Service, one archaeological site has been determined to be eligible for the NRHP, and one has been determined potentially eligible for the NRHP. Where the transmission line would cross, only one of these two sites is located within the ANF; the other is located on adjacent private land (Repp 2020). A third archaeological site is located within the direct effects APE and has not been evaluated for the NRHP (SEARCH 2019). There are no standing structures or buildings within the proximity effects APE defined for this project.

The USDA Forest Service consulted with the Kialegee Tribal Town, the Muscogee (Creek) Nation, the Poarch Creek Tribe of Alabama, and the Seminole Tribe of Florida concerning the Proposed Action. The USDA Forest Service sent letters to the Tribes on October 21, 2019. The Seminole Tribe of Florida responded on November 19, 2019, and indicated that they had no objections to the project and requested that they be notified of any discoveries of archaeological, historical, or burial resources that are inadvertently found.

Under the Proposed Action, the project has been intentionally designed to avoid potential impacts to the two identified historic properties and the unevaluated archaeological site. The transmission poles would be constructed outside of the boundaries of the archaeological sites. The transmission lines would run between the poles, thereby spanning the sites. Because the sites would be avoided, the USDA Forest Service determined that the Proposed Action would not affect the two historic properties and the unevaluated archaeological site within the direct effects APE.

In the unlikely event that unanticipated archaeological deposits or other cultural remains are encountered during construction, then construction activities in the vicinity of the discovery would stop. A qualified archaeologist would then determine the nature and potential significance of the find. For unanticipated discoveries within the ANF, the USDA Forest Service archaeologist would be contacted to ensure procedures for addressing the discovery are consistent with USDA Forest Service policies and guidance. This also would include additional outreach to federally recognized Native American Tribes.

The USDA Forest Service, in meeting its obligations under Section 106 of the NHPA and its implementing regulations in 36 CFR 800, provided its determination for a finding of no effect to historic properties to the Florida State Historic Preservation Officer (SHPO) on October 18, 2019, for the portion of the transmission line covered by this SUP. The SHPO concurred with their finding on November 25, 2019.

Since November 2019, GPC has revised their project corridor; this required altering both the direct effects and proximity effects APEs. Notification on this revision was submitted to the USDA Forest Service via email on April 28, 2020. This additional consultation has determined that no additional historic properties are present in this new portion of the APE. As these new areas had previously been subject to archaeological investigations, no additional testing was requested by the USDA Forest Service. The USDA Forest Service provided a compliance review on May 14, 2020, to the Florida SHPO and the Tribes noting the change in the project and reiterating their determination that no historic properties would be affected by the Proposed Action.

The Florida SHPO responded on June 11, 2020, noting their concurrence with the finding of no effect on historic properties. On July 1, 2020, the Muscogee (Creek) Nation concurred that there would be no effects to known historic properties. They requested that that they be notified of inadvertent discoveries of human remains and related Native American Graves Protection and Repatriation Act items, and that all work cease in the case of such a find. The Muscogee (Creek) Nation further requested that if any changes to the scope of work were to occur for the project, that plans be resubmitted for evaluation and approval prior to the initiation of work. The Seminole Tribe of Florida responded on July 7, 2020, that the undertaking was not located within their area of interest and, thereby, they had no objectives to the project. However, they requested that they be notified of any archaeological, historical, or burial resources inadvertently discovered as part of the project implementation. The USDA Forest Service did not receive responses from the Kialegee Tribal Town and the Poarch Creek Tribe of Alabama.

As the Proposed Action would avoid known historic properties and the unevaluated archaeological site by spanning over them, no effects to these resources would be anticipated to occur. Therefore, no further analysis is warranted in this EA.

3.2 RECREATION

This section describes impacts to existing recreation near the Proposed Action and the potential impacts of the action, as well as the No Action Alternative, on those resources, and potential mitigation measures to reduce or eliminate those potential impacts. The Proposed Action would traverse federal and private lands between the northern boundary of the ANF and Woodville Highway, south of the COT (Figure 2.4-1). Data presented in this section were obtained from state land use data, aerial photography, and planning documents.

3.2.1 No Action Alternative

Under the No Action Alternative, the project would not be constructed within the ANF and, therefore, no effect would occur to recreation. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects on recreation.

3.2.2 Proposed Action

Recreational activities within the ANF include bicycling, camping, fishing, hiking, horseback riding, hunting, nature viewing, off highway vehicle riding, picnicking, and other activities (USDA Forest Service n.d.). Designated activities near the Proposed Action include picnicking and a number of trails dedicated to off-highway vehicles and biking. Segment 1 would cross the ANF motorcycle trail at three locations and Segment 2 would cross the Equestrian Trail – Main Loop at two locations. Segment 3 traverses the Munson Hills Mountain Bike Trail System at two locations and parallels an approximately 0.25-mile portion of the trail where it would cross the trail in an additional three locations (Figure 3.2-1). The ANF motorcycle trail allows for motorized vehicles such as dirt bikes, while the Equestrian Trail –

Main Loop and Munson Hills Mountain Bike Trail System are for non-motorized uses. Hiking, bicycling, and horseback riding is allowed on the ANF motorcycle trail, Equestrian Trail – Main Loop as well as the Munson Hills Mountain Bike Trail.

Path: M:\Tallahassee\NorthAreaTransmission\Maps\MXD\Report\EA_June_2020\Figure 3-2-1 Recreation Areas ANF.mxd 6/11/2020

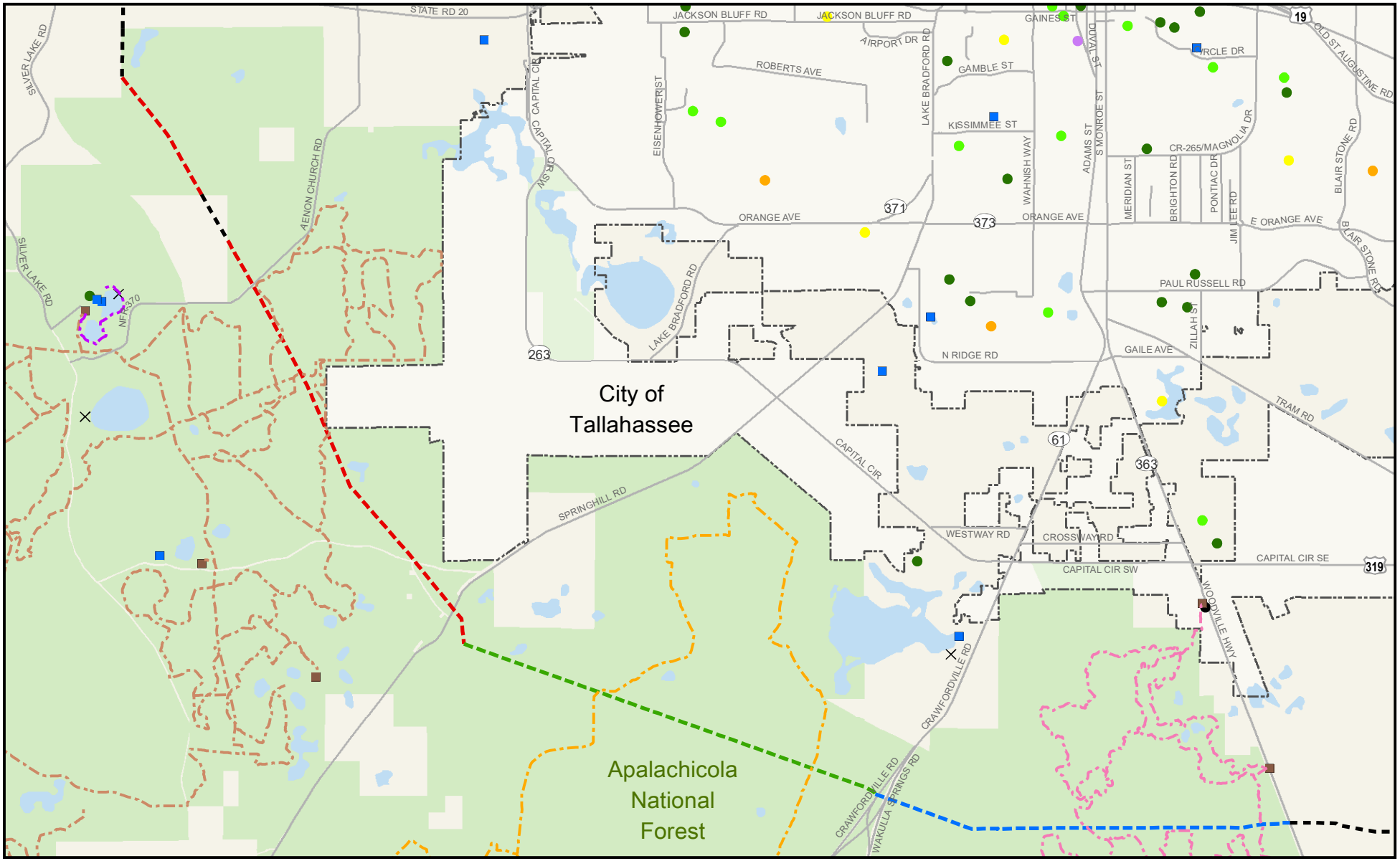

Figure 3.2-1
Recreation Areas
Near the Proposed Action

ecology and environment, inc.
Member of WSP

Miles
0 0.5 1

Parks and Recreational Facilities
- Boat Ramp
- Multi-Use Traihead
- Water Access
- Golf Course
- Neighborhood Park
- Open Space
- Playground
- Walking Path
- State Park Entrance

Proposed Action
- Segment 1 Through ANF
- Segment 2 Through ANF
- Segment 3 Through ANF
- Segment Not in ANF

Trails
- Bicycle
- Hiking
- Horseback Riding
- Off-Highway Vehicle

- City of Tallahassee Limits
- Apalachicola National Forest

Sources: ESRI 2017; FGDL 2019; Florida Department of Environmental Protection, Office of Greenways and Trails, 2019; Ecology and Environment, Inc. 2020

Approximately 0.11 acres of forested and grassland/shrubland land cover within the ANF would be permanently converted for the ROW of the Proposed Action. The ROW would be located adjacent to an existing transmission line ROW and would be maintained with a mix of native grasses and herbaceous species. The Proposed Action would traverse a land MA within the ANF that is designated MA 9.2 (USDA Forest Service1999). Land uses associated with MA 9.2 include conservation, timber production, and recreation, among other compatible uses. The Proposed Action would be consistent with ANF management objectives for MA 9.2 and LRMP Standard LA-9 which directs the USDA Forest Service, to the extent practicable, to confine ROW approvals to existing utility routes or corridors designated for this purpose (USDA Forest Service 1999).

Construction of the Proposed Action could result in minor temporary disruptions of recreational activities. Segment 1 of the Proposed Action would cross the ANF motorcycle trail at three locations. Segment 2 would cross the Equestrian Trail – Main Loop at two locations and Segment 3 traverses the Munson Hills Mountain Bike Trail System at two locations, and parallels the trail for 0.25 miles where it partially crosses the trail at three locations. Crossing of these recreational trails may result in temporary closures associated with wire-pulling. Construction equipment would be visible near these recreation areas, which could temporarily detract from the enjoyment of some visitors. The presence of construction equipment and noise generated during construction could startle or stress horses being used on trails. Construction activities at trail crossings would occur for short periods of time and would not limit the use of similar recreational activities located nearby.

3.2.3 Mitigation Measures for Land Use and Recreation

If the Proposed Action is implemented, GPC will implement the following mitigation measures to avoid or minimize impacts on the existing resources:

- Utilize previously disturbed lands within the existing ROWs to support construction and maintenance of the transmission line;
- Temporarily close/detour roadways or trails in the interest of public safety; and
- Maintain ROW restriction measures, such as fences and gates, where appropriate.
- Utilize construction matting to limit the formation of deep sand along recreational trails.
- Following completion of construction activities, the two sections of the Munson Hills Mountain Bike Trail System that cross the ROW will be reconstructed with standard methods and materials used for building safe, long-term trail beds for bike trails that cross deep sand. This would most likely consist of excavating four short sections where the access roads cross the trail, followed by placement of matting or geotextile and sufficient fill to stabilize the surface.
- Relocate the 0.25-mile segment of the Munson Hills Mountain Bike Trail System that is within the area proposed to be cleared.
- Utilize signage to notify trails users, including horseback riders, of construction near trails.

3.3 Transportation, Utilities, and Infrastructure

This section describes potential impacts to roadways and other transportation facilities and utilities and infrastructure in the vicinity of the Proposed Action and the potential impacts of the action, as well as the No Action Alternative, on those resources, and potential mitigation measures to reduce or eliminate

those potential impacts. Certain infrastructure and utility components would not be affected by the Proposed Action and, therefore, are not discussed in this section. Data presented in this section were obtained from previous environmental documents (Section 1.5), communication with GPC, and field reconnaissance. Geographic Information System (GIS) data and aerial photography were also analyzed.

3.3.1 No Action Alternative

Under the No Action Alternative, the project would not be constructed and there would be no direct impacts to existing transportation system and utilities and infrastructure. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects on the transportation system and utilities and infrastructure.

3.3.2 Proposed Action

Transportation

The region is served by a network of highways and local roads primarily concentrated in the city of Tallahassee. The Proposed Action is located entirely within the ANF which is crossed by a number of public roads including SR 20 along the northern boundary of the ANF and U.S. Route 316 and SR 61 on the eastern side of the ANF. The Tallahassee International Airport is located just northeast of the ANF and would be adjacent to the Proposed Action. Springhill Road crosses the ANF just south of the Tallahassee International Airport. A number of access roads are located throughout the ANF, many of which are dirt roads that either limit or prohibit most vehicle traffic. The Proposed Action would cross a total of 13 public and private roads. Table 3.3-1 shows the number of roads crossed by each segment. Segment 3 would cross SR 363 at the eastern boundary of the ANF and U.S. Route 319 and SR 61, just north of where the collocated routes splits to become two separate highways. Daily traffic volumes on roads near the Proposed Action include 15,300 vehicles on SR 363; 7,700 to 15,100 vehicles on U.S. Route 319 and SR 61; and 4,500 vehicles on Springhill Road (FDOT n.d.).

Table 3.3-1 Roads Crossed by the Proposed Action

Land Cover	Segment 1	Segment 2	Segment 3
Federal Highway			1
State Highway			2
Local Road	4	1	
Access Road		5	1
Total	4	6	3*

Note:
U.S. Route 319 is collocated with SR 61

The Proposed Action is not considered a traffic-inducing land use and, therefore, would not impact existing roadways or traffic within the immediate area or on regional roadways. During construction of the Proposed Action, minor short-term impacts could result on transportation from an increase in traffic from construction vehicles and the presence of slow-moving construction vehicles accessing the ROW from public roads. However, impacts would be similar to those typically required for road construction projects and would not pose unique transportation considerations. The transportation of large pieces of equipment would be subject to U.S. Department of Transportation requirements, and to federal, state, and local regulations for vehicle lengths and weights on public roads. Specific lane closures, access, and continued

traffic movement along roads during construction would be addressed in a construction traffic management plan for the project site if required.

Additionally, wire-pulling activities at road crossings could require a temporary closure of roads. These construction activities could result in temporary localized traffic delays. The increase in construction vehicles relative to existing traffic volumes would be minor and would not be expected to result in significant traffic delays. The use of BMPs, such as flaggers, would allow for construction vehicles to safely enter and exit the ROW onto public roads. The Proposed Action would be located adjacent to an existing transmission line with similar tower heights near the Tallahassee Airport; therefore, impacts to air traffic would be negligible.

During O&M, a limited number of personnel would access the utility ROW periodically to perform activities, such as visual inspections, vegetation mowing/removal, and parts replacement. Potential impacts on traffic and transportation, as a result of construction and O&M activities, would be negligible and temporary.

Utilities and Infrastructure

The proposed GPC power transmission line would include a voltage interconnection between GPC's Sinai Cemetery Substation in Jackson County, Florida, to FPL's Raven Substation in Columbia County, Florida. Utility systems within the ANF associated with Proposed Action primarily include natural gas pipelines and electrical power lines including the COT's 230-kV transmission line described in the Proposed Action for collocation. Approximately 7 miles of Proposed Action would be collocated with a portion of the existing FGT natural gas pipeline corridor that extends through the ANF. Three pipelines of varying diameters (24-, 30-, and 36-inch) are associated with the FGT ROW. In addition, the Proposed Action would traverse three transmission line ROWs; two of which would traverse the ANF from north to south and the third is the 230-kV SWTL transmission line owned and operated by the COT, which the Proposed Action would be collocated with for approximately 11.3 miles. The existing electrical power lines within the ANF have both self-supported and tangent monopole structures (i.e., poles) with aluminum-conductor, steel-reinforced cables spanning the lengths. The self-supported structures have concrete pier foundation varying in diameter from 5 to 7 feet and 15 to 30 feet deep, dependent upon location. The tangent monopoles are directly embedded into the ground with concrete footers.

The Proposed Action would be collocated entirely with established utility corridors within the ANF. The proposed GPC route would cross two existing COT 115-kV transmission lines and be collocated with the existing FGT pipeline and the COT's 230-kV transmission line. The Proposed Action would include the removal and rebuilding of the existing COT's 230-kV structures and the construction of the proposed power transmission line adjacent to the rebuilt COT transmission line. The rebuilt line would be designed to allow space for COT to build an adjacent second circuit in the future, which would increase electrical capacity. A total of approximately 271 structures will be installed ranging from 75 to 110 feet, with higher structures being utilized to cross existing infrastructure, to accommodate a wider span, or to avoid other features. While distances between structures would vary depending upon terrain and configuration, structures would typically be erected with a span of 400 to 600 feet.

GPC would comply with applicable local, state, and federal requirements for the safe separation and/or crossing of utility lines. Underground utilities would be identified to minimize any conflicts with existing infrastructure. Communication and coordination are also ongoing with FGT to ensure that the potential for inadvertent impacts to the FGT pipeline are minimized through the use of mitigation measures. Planned outages on the COT 230-kV transmission line may occur, as needed, during the construction process. All other utilities are expected to remain in service during the construction. The Proposed Action

would have short-term, minor impacts on existing utilities and infrastructure resources due to temporary outages during COT line tear down and rebuild activities. Long-term impacts will be positive as the project is expected to improve electrical system reliability, capacity, and resiliency of service to reduce the risk of future blackouts to current and new residents of North Florida.

GPC is requesting an initial 50-year authorization of the SUP; however, with proper maintenance, the expected lifespan for the project is much greater than 50 years. If the project was decommissioned, transmission structures and other line components would be removed.

3.3.3 Mitigation Measures for Utilities and Infrastructure

If the Proposed Action is implemented, GPC will implement the following mitigation measures to avoid or minimize impacts on the existing systems:

- Utilize existing utility line corridors within existing easements ROWs; and
- Disseminate public information about potential outages and/or road closures.

3.4 AESTHETICS AND VISUAL QUALITY

This section describes the aesthetics and visual quality and the potential impacts of the Proposed Action and the No Action Alternative, on those qualities, and potential mitigation measures that would substantially reduce or eliminate those potential impacts.

The USDA Forest Service has developed the Scenery Management System (SMS) to serve as "a systematic approach for determining the relative value and importance of scenery in a national forest" and to "ensure high-quality scenery for future generations" (USDA Forest Service 1995). The SMS considers landscape character, scenic integrity, constituent information, and landscape visibility as key elements for managing aesthetics and visual quality on national forest lands and assessing impacts of proposed projects on these lands. The SMS has not been adopted yet on the ANF and, therefore, the base data typically developed by the USDA Forest Service for specific forest lands are not available for assessing aesthetics and visual quality impacts for this action (USDA Forest Service 1999; E & E 2012). In the absence of these data and specific scenery management objectives for lands crossed by the Proposed Action, this analysis relies on a more generalized approach that considers the key elements identified in the SMS for assessing aesthetic and visual impacts of the Proposed Action on the ANF. This analysis describes the general landscape character and integrity of the affected environment of the project, constituent information regarding potential viewer activities and concern levels, and potential visibility of the Proposed Action by travelers through, and users of, the ANF.

Potential impacts of the Proposed Action would result from the project degrading the scenic integrity of the forest for views by sensitive viewers with a generally high awareness of, or concern for, aesthetics and visual quality. For the ANF, sensitive viewers consist of people engaging in recreation activities on or near the forest and people traveling through the ANF for leisure or recreation. Elements of this action that could degrade scenic integrity and produce aesthetic and visual impacts include construction activities (e.g., the presence of construction equipment, vehicles, or materials; grading; clearing vegetation; adding light sources, and constructing foundations and structures), widened linear corridors due to cleared vegetation, and adding structural elements that increase contrast due to form, line, color, or texture or that produce glare. Mitigation measures that would help to reduce or eliminate aesthetic and visual impacts would help blend the project with its surroundings and, thus, help it be less noticeable to sensitive viewers.

3.4.1 No Action Alternative

Under the No Action Alternative, there would be no direct or indirect impacts to existing visual and scenic resources. This alternative would not introduce new transmission structures and lines into the landscape, trees and other vegetation would not be cleared, and no other construction activities would take place. The existing COT transmission line would remain in place and the utility corridor would continue to be maintained. Recreationists and travelers using the ANF would continue to view the aesthetic and visual resources in the current manner and the scenic integrity of the ANF in the vicinity of the existing COT transmission line corridor would not change. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects on aesthetics and visual quality.

3.4.2 Proposed Action

The terrain in the region and project area is generally flat. Vegetation in the portion of the ANF crossed by the Proposed Action consists primarily of fairly dense mixed hardwood forests, coniferous forests, and coniferous plantations (E & E 2012). The visual character of the project area in the ANF is predominantly natural. However, the project alignment parallels the existing COT transmission line for its full distance through the ANF and, for a portion, the existing FGT pipeline corridor, both of which occupy cleared corridors of widths of 60 feet and 100 feet, respectively. The visual character of the landscape along the proposed project alignment is, therefore, altered by the presence of the cleared corridor and existing transmission line occupying a portion of the cleared corridor through the ANF. The visual character along the proposed project alignment can, therefore, be described as natural with dominant visual intrusions of the cleared linear utility lines and structures.

Scenic integrity of the portion of the ANF crossed by the Proposed Action is generally high due to the dense vegetative cover and intactness of the forest. However, major road corridors and the existing linear corridors containing the COT and FGT utilities are substantial intrusions that have altered the forest intactness. These existing intrusions reduce the scenic integrity of the immediate areas they occupy within the ANF to low or very low due to their linear forms, straight lines, vertical edges, and vertical structures that contrast in color and form with the natural vegetative forms and colors of the surrounding forest.

The Proposed Action through the ANF crosses several major arterial roads and highways, several minor forest roads, and portions of recreation trails. Major roads and arterials crossed by the Proposed Action that run through or adjacent to the ANF include Crawfordville Road (U.S. Route 319), Wakulla Springs Road (SR 61), Springhill Road, Aenon Church Road, and Woodville Highway (SR 363). Important recreation trails crossed by the proposed project include the Tallahassee-St. Marks Historic Railroad Trail and the Munson Hills Mountain Bike Trail System. The Tallahassee-St. Marks Historic Railroad Trail, which consists of both a paved trail and unpaved equestrian trail, runs north-south along the eastern edge of the ANF and parallel to the Woodville Highway. The Munson Hills Mountain Bike Trail System, which consists of approximately 21 miles of unpaved trails, occupies a broad area in the eastern portion of the ANF. The proposed project would cross the Munson Hills Mountain Bike Trail System in multiple locations and is likely to be visible from other portions of the trails. In addition, various informal trails are scattered throughout the ANF and dispersed recreation activities, including primitive camping, hiking, horseback riding, hunting, bird watching, and nature study occur throughout the forest.

The proposed project would potentially be visible by recreationists engaged in dispersed recreation activities and from informal trails throughout portions of the ANF near the proposed ROW. Due to the dense forest and flat terrain, the project would generally only be visible from roads and trails that run close

to or cross the project corridor; however, these views of the Proposed Action would be extensive, consisting of long linear cleared corridors and multiple transmission structures and lines.

Environmental impacts on aesthetic and visual quality are described below for construction and operation of the Proposed Action. Aesthetic and visual impacts for operation are described for each of the three segments through the ANF.

During construction, activities and elements that could produce aesthetic and visual impacts include views by travelers and recreationists of construction equipment, vehicles, and materials; grading; clearing vegetation; adding sources of light and glare; and constructing foundations and structures. No staging areas would be located in the ANF, and laydown areas would be within the ROW and short-term and temporary. Because most construction activities would be temporary, fairly short in duration, and intermittent in any specific location along the corridor, they would not substantially reduce overall scenic integrity for sensitive viewers. For these reasons, aesthetic and visual impacts during construction would be low. Although impacts during construction would be low, implementing BMPs, or mitigation measures identified below, would help reduce aesthetic and visual impacts of the Proposed Action and help maintain or improve scenic integrity of the ANF in the vicinity of proposed ROW.

Segment 1 of the Proposed Action runs from the northwestern boundary of the ANF approximately 4.9 miles to an existing substation located east of Springhill Road on the east side of Bice Road. Through Segment 1, the proposed project would occupy the existing 100-foot-wide FGT natural gas pipeline ROW. The existing COT transmission line also occupies this corridor. The COT transmission line through this segment consists of wood H-frame structures. In this segment, the proposed project crosses the Aenon Church Road, Springhill Road, and several unpaved minor forest roads and parallels the unpaved Sable Creek Road for a portion of the alignment. Minimal clearing of the ROW would occur in this segment with some additional clearing occurring just west and north of the existing substation.

For Segment 1, the new monopole structures associated with the NFRC line would contrast substantially with the existing COT wood H-frame structures in form, line, and color. However, because the H-frame structures are being rebuilt as monopoles as part of the Proposed Action, and because they would be mostly placed adjacent to the new NFRC monopoles to match spans, the visual complexity and clutter would be reduced. In addition, new conductors would replace the current conductors that are weathered and have a dull finish, causing them to be more reflective of sunlight and highly noticeable for sensitive viewers. However, these new conductors would also weather and dull over time. Although the new transmission line would be visible from the major road crossings for large numbers of travelers, the line would cross perpendicular to the roadways and views of the proposed ROW by travelers would generally be brief. With the exception of paralleling a portion of Sable Creek Road, the proposed ROW would also generally cross perpendicular to most minor forest roads. From these locations, the new transmission line would be visible to a moderate number of travelers and recreationists using these roads and views would be longer in duration. Views would also be longer in duration for recreationists using trails or engaging in dispersed activities in the vicinity of the Proposed Action. Vegetation clearing to widen the ROW along portions of this segment would exacerbate the vertical edges of the cleared corridor and somewhat reduce the scenic integrity of views for sensitive viewers. For these reasons, aesthetic and visual impacts for Segment 1 would be moderate for sensitive viewers in the ANF. Implementing BMPs, or mitigation measures identified below, would help reduce impacts of the Proposed Action and maintain or improve scenic integrity of the ANF in the vicinity of proposed ROW.

Segment 2 of the Proposed Action runs along the existing COT corridor from the existing substation on the east side of Bice Road approximately 3.3 miles to the west side of Crawfordville Road. Through Segment 2, the Proposed Action would expand the existing 60-foot-wide COT corridor by up to 18 feet to

approximately 78 feet wide. Through this segment, the COT transmission line consists of monopole structures. The Proposed Action does not cross any major roads in this segment but would be visible to travelers from Crawfordville Road. In addition, it crosses or runs adjacent to several unpaved minor forest roads used by recreationists.

In this segment, the Proposed Action's monopole structures would be similar in form, line, and color to the existing COT monopole structures and be mostly placed adjacent to the existing structures to match spans. Although similar in appearance to the existing structures, the new transmission structures would produce some contrast due to the addition of structures and conductors, thereby adding to the visual complexity and clutter to views along the corridor. In addition, new conductors would replace the current conductors that are weathered and have a dull finish, causing them to be more reflective of sunlight and highly noticeable for sensitive viewers. However, these new conductors would also weather and dull over time. Although the new transmission line would be visible from Crawfordville Road for large numbers of travelers, it would cross perpendicular to the roadway and views of the proposed project by travelers would generally be brief. The new transmission line would also be visible to a moderate number of travelers and recreationists using minor forest roads and trails; however, views from these roads and trails would be longer in duration due to the slower rates of travel. Widening the ROW in this segment would require clearing up to an additional 18 feet of vegetation along its southwestern edge and a larger area along the south side of the existing substation. Vegetation clearing along this segment would exacerbate the vertical edges of the cleared corridor and the additional structures would further increase contrast, which, in combination, would somewhat reduce scenic integrity for views by sensitive viewers. For these reasons, aesthetic and visual impacts for Segment 2 would be moderate for sensitive viewers in the ANF. Implementing BMPs, or mitigation measures identified below, would help reduce impacts of the Proposed Action and maintain or improve scenic integrity of the ANF in the vicinity of the proposed ROW.

Segment 3 of the Proposed Action runs along the existing COT corridor from Crawfordville Road approximately 3.1 miles to the eastern boundary of the ANF. Through Segment 3, the Proposed Action would expand the existing 60-foot-wide COT corridor by up to 7 feet to approximately 67 feet wide. Through this segment, the existing COT consists of monopole structures. In this segment, the Proposed Action crosses Crawfordville Road, Wakulla Springs Road, and several unpaved minor forest roads and would be visible to travelers from the Woodville Highway. The proposed ROW would also be visible from the Tallahassee-St. Marks Historic Railroad Trail and Munson Hills Mountain Bike Trail System. The project would be visible from each of these trails and roads by travelers and recreationists.

In this segment, the rebuilt COT structures would be monopole structures similar in form, line, and color to the new NFRC monopole structures and be mostly placed adjacent to the existing structures to match spans. Although similar in appearance to the existing structures, the new transmission structures would produce some contrast due to the addition of structures and conductors, thereby adding to the visual complexity and clutter for views along the corridor. In addition, new conductors would replace the current conductors that are weathered and have a dull finish, causing them to be more reflective of sunlight and highly noticeable for sensitive viewers. However, these new conductors would also weather and dull over time. Although the new transmission line would be visible to large numbers of travelers from Crawfordville Road, Wakulla Springs Road, and Woodville Highway, it would cross generally perpendicular to these roadways and views of the Proposed Action by travelers on these roads would generally be brief. The new transmission line would also be visible to a moderate number of travelers and recreationists using minor forest roads and trails; however, views from these roads and trails would be longer in duration due to the slower rates of travel. Similarly, views of the proposed ROW by recreationists using the Tallahassee-St. Marks Historic Railroad Trail and the Munson Hills Off-Road Bicycle Trails would be longer in duration due to the slower rates of travel. Views from the Tallahassee-St. Marks Historic Railroad Trail would be

by a large number of recreationists and views from the Munson Hills Mountain Bike Trail System and other informal trails on the ANF would be by a smaller number of recreationists.

Widening the ROW in this segment would require clearing an additional 7 feet of vegetation along its southern edge and a larger area adjacent to the Tallahassee-St. Marks Historic Railroad Trail. Vegetation clearing along this segment would exacerbate the vertical edges of the cleared corridor and the additional structures would further increase contrast, which, in combination, would somewhat reduce scenic integrity for views by sensitive viewers. For these reasons, aesthetic and visual impacts for Segment 3 would be moderate for sensitive viewers in the ANF. Implementing BMPs, or mitigation measures identified below, would help reduce impacts of the Proposed Action and maintain or improve scenic integrity of the ANF in the vicinity of proposed ROW.

The proposed addition of a second circuit to the COT's SWTL would add additional changes in form, line, and color; however, their placement would be expected to be on existing poles in order to reduce visual complexity and clutter. Given the limited nature of the visual changes associated with the Proposed Action and, when taken into consideration with the other past, present, and reasonably foreseeable future actions, the cumulative aesthetic and visual impacts would be moderate for sensitive viewers in the ANF. Implementing BMPs, or mitigation measures identified in Section 3.4.3, would help reduce impacts of the Proposed Action and maintain or improve scenic integrity of the ANF in the vicinity of proposed ROW which would prevent cumulative impacts from being significant.

3.4.3 Mitigation Measures for Aesthetics and Visual Quality

Although aesthetic and visual impacts would be low during construction and moderate for operation of the proposed project for sensitive viewers in the ANF, implementing BMPs, or mitigation measures, would help minimize and reduce these impacts and help maintain or improve scenic integrity of the ANF in the vicinity of the Proposed Action. Mitigation measures that would help minimize and reduce impacts are identified below.

- Shield or downcast construction lighting to reduce glare during any necessary nighttime construction activities.
- Minimize clearing and ground disturbance and restore all disturbed areas to pre-project conditions.
- Maintain clean work areas during construction by keeping all construction activities as clean and inconspicuous as practical.

3.5 Biological Resources

This section describes the biological resources that would be affected by the Proposed Action, and potential mitigation measures to reduce or eliminate those potential impacts. The No Action Alternative will also be briefly discussed.

Biological characteristics of the areas affected by the Proposed Action, including upland vegetative cover and noxious weeds and wildlife species, are described in the following sections. The wildlife species discussed are limited to bird species protected under the Migratory Bird Treaty Act (MBTA), species that are listed in both the USDA Forest Service Sensitive Species list and the Florida Natural Areas Inventory (FNAI) report for the project area, and ESA candidate species. Potential impacts to ESA-listed species known to occur within the project area (eastern indigo snake [*Drymarchon corais couperi*], wood stork [*Mycteria americana*], and red-cockaded woodpecker [*Picoides borealis*]) are addressed in detail in the

USDA Forest Service Biological Assessment (BA) (USDA Forest Service 2020; see Appendix F). Wetlands are discussed separately in the Water Resources section (Section 3.7). No additional habitat classification surveys were conducted in preparing this document. Land cover types within the ROW were obtained by reviewing the Florida Land Use, Cover, and Form Classification System (FLUCCS) maps (FWC 2018).

General wildlife information was obtained from the USDA Forest Service and the FNAI Biodiversity Matrix Query (FNAI 2020). Species that were on both the Regional Forester's Sensitive Species List (Updated 2018; Trager 2020), as well as the FNAI Inventory, are included in this report. A gopher tortoise (*Gopherus polyphemus*) survey was also conducted in January 2020 for the purposes of preparing this document.

Existing information regarding the habitats and ranges for species presented herein was reviewed and evaluated. This review included GIS analyses and a May 2020 FNAI Biodiversity Matrix Query, which were obtained and evaluated to determine historical, documented element occurrences and to confirm the presence or absence of potential habitat for species along the alternative ROWs. The term "element occurrence" is defined by the FNAI as a documented occurrence of species or natural communities. Element occurrences should not be interpreted as a legal determination of presence or absence of species; however, the FNAI is the single most comprehensive source of information available on the locations of protected species in the state of Florida.

3.5.1 No Action Alternative

Under the No Action Alternative, no land disturbance or upland vegetation clearing would take place. Thus, there would be no short or long-term impacts to, loss of, or changes in the existing upland vegetation communities within the proposed ROW. This alternative also would not result in increased land erosion or spread of noxious weeds within the project ROWs. The existing acreage of upland cover types would remain unchanged under this alternative.

The No Action Alternative would not result in any injuries to or deaths of migratory birds caused by utility pole or power-line strikes. This alternative would also not result in any disruption or displacement of existing wildlife populations caused by clearing forested habitat or by human activity and noise associated with transmission line construction and maintenance activities. The existing diversity and abundance of wildlife populations would not be affected by this alternative.

Under the No Action Alternative, no plant communities would be disturbed, no wildlife habitat would be lost, and no protected species or USDA Forest Service sensitive species would be impacted within the ANF. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects from increased land erosion or spread of noxious weeds, injury or death of migratory birds, and/or disruption or displacement of wildlife.

3.5.2 Proposed Action

Land Cover Types and Noxious Weeds

The following descriptions of cover types (Table 3.5-1) within the Proposed Action ROW were classified using the habitat type descriptions in the FLUCCS published by Florida Fish and Wildlife Conservation Commission (FWC; 2018). The text provides a summary of potential impacts on upland vegetation cover types associated with each alternative, as well as mitigating measures that would be used to avoid and minimize these potential impacts.

The Proposed Action route would affect the land cover types shown in Table 3.5-1.

Transportation and Utilities

Approximately 83.91 acres of the Proposed Action would be located within the previously disturbed ROW. The existing ROW is primarily for LA ROWs, service facilities, and power generating facilities. (FWC 2018).

Tree Plantations

The Proposed Action would be collocated with an existing COT transmission line that traverses cleared coniferous plantations interspersed with even-age stands (averaging 60 feet tall) of planted slash pines (*Pinus elliottii*). Typical understory species associated with coniferous plantations include saw palmetto (*Serenoa repens*), wax myrtle (*Morella cerifera*), and gallberry (*Ilex glabra*). Coniferous plantations are almost exclusively pine forests artificially generated by planting seedling stock or seeds. These stands are characterized by high numbers of trees per acre, low species diversity, and their uniform appearance. Row patterns often stand out unless the stand is the result of aerial seeding (FWC 2018; FDOT 1999). Approximately 10.75 acres of land within the Proposed Action consists of tree plantations.

Upland Coniferous Forest

Approximately 15.11 acres of land of the Proposed Action consists of upland coniferous forest with sand/clay substrate, which is described as any natural forest stand whose canopy is at least 66 percent dominated by coniferous species (FWC 2018; FDOT 1999).

Other Upland Forest

Approximately 1.42 acres of land of the Proposed Action consists of upland hardwood forest and upland mixed forest. Conditions for upland hardwood forest typically consist of a crown canopy with at least a 66 percent dominance by hardwood tree species. Upland mixed forest is defined as a forest in which no single species or species group appears to achieve a 66 percent dominance in the canopy. This class of hardwoods includes any combination of large and small hardwood tree species, none of which can be identified as dominant in the canopy (FWC 2018; FDOT 1999).

Rangeland

Approximately 0.58 acres of land of the Proposed Action consists of herbaceous (dry prairie) and mixed upland non-forested lands. This category includes upland prairie grasses which occur on non-hydric soils but may be occasionally inundated by water. These grasslands are generally treeless with a variety of vegetation types dominated by grasses, sedges, rushes, and other herbs including wiregrass and saw palmetto present (FWC 2018; FDOT 1999).

Wetlands

Approximately 0.38 acres of land of the Proposed Action consists of wetland hardwood forest, wetland forested mixed, and wetland coniferous forest. General conditions are typically dominated by a mix of hydrophytic hardwood trees, and the stand must be 66 percent or more dominated by wetland hardwood species, either salt or freshwater. Wetland coniferous forest includes mixed wetland forest communities in which neither hardwoods nor conifers achieve a 66 percent dominance of the crown canopy composition. (FWC 2018; FDOT 1999).

Slough

Approximately 0.06 acres of slough is within the Proposed Action. Conditions typically consist of broad shallow channels of slow-moving water in the coastal marshland. (FWC 2018; FDOT 1999).

Table 3.5-1 Summary of Overall Land Cover Types along Proposed Action Route

Facility	FLUCCS Community Type	Acres
Right-of-way	Transportation and Utilities	83.91
	Tree Plantation	10.75
	Upland Coniferous Forest	15.11
	Other Upland Forest	1.42
	Rangeland	0.58
	Wetlands	0.38
	Slough	0.06
	Total	112.21

Key:
FLUCCS = Florida Land Use, Cover, and Form Classification System.
Source: FWC 2018

Construction of the Proposed Action would result in both short- and long-term direct impacts to upland vegetation communities (Table 3.5-2). The two types of impacts are expected with the Proposed Action are:

- Short-term or temporary impacts: Temporary vegetative disturbance associated with construction activities, such as clearing of woody vegetation and grading. These impacts will occur within the current ROW where the area will be maintained as-is under current permit approvals.
- Long-term or new, permanent impacts: Vegetative impacts associated with the widening of the existing ROW, in which forested areas will be cleared and converted to ROW.

Table 3.5-2 Proposed Action Summary of Short- and Long-Term Land Cover Impacts

Land Cover	FLUCCS Community Type	Disturbance (acres)		Cumulative Impact (acres)
		Short-Term	Long-Term	
Transportation/Utilities	Transportation and Utilities	2.26	1.36	3.62
Vegetation	Tree Plantation	0.91	4.17	5.08
	Upland Coniferous Forest	1.53	5.14	6.67
	Other Upland Forest	0.24	0.60	0.84
	Rangeland	0.02	0.12	0.14
	Wetlands	0.09	0.10	0.19
Vegetation Sub Total		2.79	10.13	12.92
Water	Slough	0.006	0.004	0.01
	Land Cover Totals	5.05	11.50	16.55

Note:
The Wetland and Slough acreages are based on FLUCCS codes and not field-delineated efforts.
Key:
FLUCCS = Florida Land Use, Cover, and Form Classification System.
Source: FWC 2018.

The short-term, temporary impacts on 5.05 acres affect only previously cleared areas where the Proposed Action is collocated with the existing ROW (Table 3.5-2). Approximately 2.79 acres of the total 5.05 acres are vegetated. In these areas, the herbaceous cover is disturbed, or woody vegetation is cleared and the land subsequently graded for construction of the Proposed Action. Once construction is complete, contours would be restored, as necessary; the ROW would be reseeded; and herbaceous vegetation would be managed as part of the transmission ROW for the life of the permit. Short-term vegetative disturbance of previously cleared land does not impact the entire ROW and likely would be limited to only the areas where transmission structures are erected, where construction and contractor vehicles would travel on the ROW during construction, and within staging areas that would be located within the ROW. In the short-term, minimal impacts from habitat fragmentation could occur. The tree plantation clearing totaling 0.91 acres, as shown in Table 3.5-2, also is a maximum (i.e., worst-case scenario calculation), as some portions of this area have been previously clear-cut and, as a result, are not covered by a mature canopy.

Long-term or new, permanent impact will occur in areas where the ROW is going to be widened based on the Proposed Action. This Proposed Action results in the conversion of 11.50 acres of land to non-forested condition, including the footprint of the transmission line poles at an estimated 271 pole locations. A total 10.14 acres of this impacted area consists of tree plantations, upland coniferous forest, other upland forests, rangeland, wetlands, and slough waters. Once the area has been cleared, it will be maintained in a non-forested condition, as part of the ROW, for the life of the permit. Habitat fragmentation and the long-term impacts to the overall ecological integrity of the area are expected to be minimal due to the small acreage being converted to a non-forested condition. Clearance activities would not have a detrimental effect to any land cover type or habitat.

GPC developed a Wetland and Waterbody Access Construction Criteria Manual as a guide to minimize impacts for the protection of environmentally sensitive areas. The manual will help minimize the extent and duration of disturbances, maintain existing overland flow patterns, install temporary erosion control measures, and establish an effective inspection and maintenance program. (GPC 2020). Measures to reduce the likelihood of impacts to cover types are presented in Section 3.5.3.

Combining the impacts associated with the Proposed Action to past projects creates negligible cumulative impacts to vegetative cover in the ANF. No future projects are expected to clear land or change the land cover type.

Species Listed as Threatened or Endangered Under the Endangered Species Act

The effects of the Proposed Action were evaluated in a BA (Appendix F) that was provided to the USFWS in compliance with ESA requirements for interagency cooperation. USDA Forest Service biologists made the following determinations of effects for ESA-listed species that are known to occur or may occur in the project vicinity:

- The Proposed Action would have no effect on Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), purple bankclimber (*Elliptoideus sloatianus*), shinyrayed pocketbook (*Lampsilis subangulata*) or Godfrey's butterwort (*Pinguicula ionantha*), based on their absence from the area and no reasonable connection to indirect effects.
- The Proposed Action may affect, but is not likely to adversely affect the eastern indigo snake, wood stork, or red-cockaded woodpecker. These species are known to occur or may occur in the affected area, and a reasonable connection may be made between project activities and potential minor and short-term disturbance. However, the impacts

of the proposed activities are not reasonably certain to result in take of individuals and are considered to be insignificant or discountable.

These determinations were made based on an analysis that assumed standard resource protection measures would be applied during project implementation; the relevant mitigation measures are listed in the BA.

MBTA Species, Federal Candidate Species, FNAI Species, and USDA Forest Service Sensitive Species

This section describes the potential impacts of the Proposed Action and the No Action Alternative on bird species protected under the MBTA, federal candidate species, and species that are on both the USDA Forest Service Sensitive Species list and in the FNAI report (Table 3.5-3), and which are known to occur in the vicinity of the Proposed Action. This modified analysis was implemented with approval from the USDA Forest Service under the justification that: 1) all state-listed species have been identified and described in previous EIS reports (FERC 2009; E & E 2012) for the same ROW, 2) the federally listed species are discussed in detail in the USFS BA (USFS 2020; Appendix F), and 3) there is presumably no habitat present in the project area for ANF sensitive species that are not listed in the FNAI report. Proposed mitigating measures to avoid or minimize these potential impacts are further discussed in Section 3.5.3.

Table 3.5-3 Wildlife Species Protected by MBTA, Listed as Federal Candidate Species, or Listed in the FNAI Report and the USDA Forest Service Sensitive Species List Potentially Occurring in the Vicinity of Proposed Action

Classification	Scientific Name	Status
Mammals		
Rafinesque's Big-Eared Bat	*Corynorhinus rafinesquii*	Not Listed
Southeastern Bat	*Myotis austroriparius*	Not Listed
Birds		
Bachman's Sparrow	*Peucaea aestivalis*	Not Listed
Bald Eagle	*Haliaeetus leucocephalus*	Not Listed
Amphibians and Reptiles		
Eastern Diamondback Rattlesnake	*Crotalus adamanteus*	Not Listed
Apalachicola Dusky salamander	*Desmognathus apalachicolae*	Not Listed
Southern Hognose Snake	*Heterodon simus*	Not Listed
Gopher Tortoise	*Gopherus Polyphemus*	FC/ST
Gopher Frog	*Lithobates capito*	SSC
Striped Newt	*Notophthalamus perstriatus*	Not Listed
Insects		
Frosted Elfin Butterfly	*Callophrys irus*	Not Listed
Plants		
Southern Milkweed	*Asclepias viridula*	ST
Chapman's Sedge	*Carex chapmanii*	ST
Wiregrass Gentian	*Gentiana pennelliana*	SE
West's Flax	*Linum westii*	SE
Pondspice	*Litsea aestivalis*	SE
Curtiss' Loosestrife	*Lythrum curtissii*	SE
Ashe's Magnolia	*Magnolia ashei*	SE
Florida Beargrass	*Nolina atopocarpa*	ST
Pineland false Sunflower	*Phoebanthus tenuifolius*	ST
Apalachicola Dragon-Head	*Physostegia godfreyi*	ST
Zigzag Silkgrass	*Pityopsis flexuosa*	SE
Yellow Fringeless Orchid	*Platanthera integra*	SE
Small-Flowered Meadowbeauty	*Rhexia parviflora*	SE
Panhandle Meadowbeauty	*Rhexia salicifolia*	ST
Florida Flame Azalea	*Rhododendron austrinum*	SE
Nightflowering Wild Petunia	*Ruellia noctiflora*	SE
Kral's Yellow-Eyed Grass	*Xyris longisepala*	SE
Harper's Yellow-Eyed Grass	*Xyris scabrifolia*	ST

Key:
FC = Federal Candidate Species
SE = State-Listed Endangered
SSC = State-Listed Species of Special Concern
ST = State-Listed Threatened

Migratory Bird Species. MBTA of 1918 establishes federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. The MBTA makes it illegal for people to "take" migratory birds, their eggs, feathers or nests. "Take" is defined in the MBTA to include, by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof. The Bald and Golden Eagle Protection Act affords additional protection to all bald and golden eagles. In total, 836 bird species are protected by the MBTA, 58 of which are currently legally hunted as game birds. A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle.

The Proposed Action would utilize the existing ROW, but would require approximately 13 acres of additional clearing of vegetated land cover habitat within the ANF along the existing corridor. Therefore, the Proposed Action may have minimal and localized effects on the breeding bird population.

Other potential occasional impacts to birds from implementation of the Proposed Action could include injuries or deaths caused by birds striking the utility poles or power lines while in flight. As detailed in Section 2.1.1, transmission line poles would vary in height from 75 to 110 feet and would be spaced at a distance of 400 to 600 feet. Because the transmission wires for the proposed project will be at or near the same height as the top of the forest canopy, implementation of the Proposed Action should not have any measurable negative impacts on songbirds or other breeding bird species that occupy the ANF along the proposed ROW. Sub-canopy bird species that primarily live in the forest understory will fly beneath the transmission line wires and around the poles, just as they fly around tree trunks in the forest. Super-canopy bird species, such as soaring raptors, will primarily fly above the transmission wires. Mitigation measures for avoiding/minimizing impacts from bird strikes are provided in Section 3.5.3.

The construction of the Proposed Action would result in the long-term conversion of woody vegetation communities to herbaceous habitat, thereby displacing general wildlife species requiring forested habitat. However, this impact is expected to be negligible given that these species would likely move to adjacent undisturbed habitat. General wildlife species would be disturbed and displaced by human activity and noise during the construction process. However, these impacts would be primarily short-term during construction. Following construction, wildlife utilizing herbaceous habitats would be expected to reoccupy the restored transmission ROW. Human activity associated with long-term maintenance of the ROW would result in periodic, temporary displacement of wildlife, especially songbirds, in adjacent habitats. However, this impact would be short in duration, occurring only when maintenance vehicles traverse the ROW. After the maintenance vehicles leave the ROW, displaced wildlife would likely return to their previously occupied habitats.

The implementation of the Proposed Action would increase the permanent non-forested width along Segments 2 and 3 of the ROW through the ANF from the present 60 feet to up to 78 feet and 67 feet, respectively. No widening will occur along Segment 1. However, with the implementation of the mitigating measures for avoiding/minimizing potential impacts to wildlife populations described in Section 3.5.3, construction of the Proposed Action is not expected to result in measurable impacts to the diversity and abundance of the amphibian populations or the general wildlife community in the vicinity of the Proposed Action.

Bald Eagle (*Haliaeetus leucocephalus*). The bald eagle was state-listed in Florida as a threatened species, but was delisted by the FWC in 2008. Bald eagles also were delisted by the USFWS in 2007 due to the documented recovery of the population. Although bald eagles are no longer on the federal threatened and endangered (T&E) species list, they are still protected under both the Bald and Golden Eagle Protection Act and the MBTA.

Bald eagles are large diurnal raptors distributed throughout much of North America. The species has the potential to occur anywhere in Florida, which has the largest breeding population of any state besides Alaska, but eagles are much less common in Florida's western Panhandle. Their nesting season is defined as October 1 to May 15 (FWC 2020).

During its 2008 to 2009 nesting surveys, FGT documented that an active bald eagle nest (i.e., nest LN009) was reported by the USDA Forest Service approximately 330 feet north of the ROW near proposed structure 5064 (Figure 3.5-1). The FNAI Standard Data Report also confirmed a documented element occurrence of the same nest. A bald eagle nesting pair was observed in nest in November 2019 (E & E 2020).

Direct mortality of adult bald eagles is highly unlikely, but could occur due to impact with vehicles or equipment. Bald eagles are occasionally known to feed on carrion, including roadkill, and are, therefore, at higher risk of impact from increased vehicle traffic than many other birds. However, during both construction and maintenance activities, only existing roadways would be used and a construction workforce of limited personnel would be utilized, resulting in negligible increases in vehicle traffic.

Because the 660-foot primary buffer zone for bald eagle nest LN009 overlaps with the Proposed Action ROW, mitigating measures will be implemented, as described in Section 3.5.3, to avoid/minimize potential impacts to adult bald eagles and their young, including constructing outside the primary bald eagle nesting season (October 1 to May 15), or obtaining a Bald Eagle Disturbance Permit from the FWC, if it is determined that construction would need to occur during the bald eagle nesting season. Implementation of the Proposed Action may impact individuals, but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for the bald eagle.

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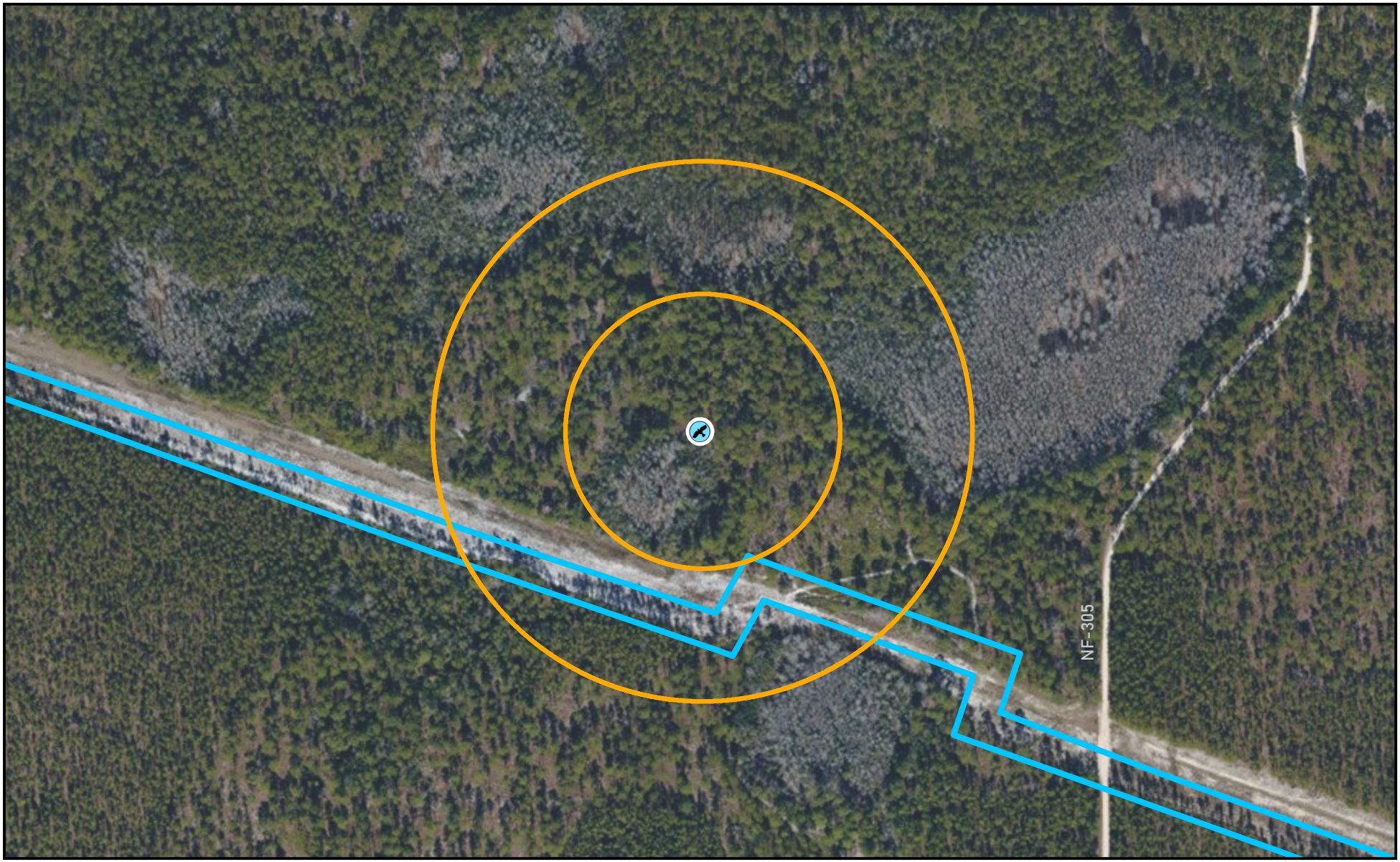
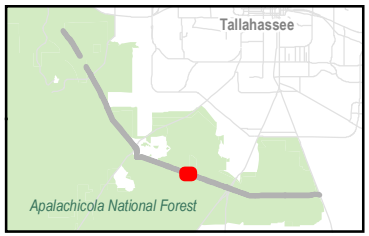


Figure 3.5-1
Bald Eagle Nest Location

ecology and environment, inc.
Member of WSP

Feet
0 200 400

Location Along the Proposed Action



Proposed Permitted Corridor
Bald Eagle Nest
330 and 660 Foot Buffer

Sources: ESRI 2017; FGDL 2019; USFWS 2020; Ecology and Environment, Inc. 2020

FPL_029751
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Gopher Tortoise (*Gopherus polyphemus*). The gopher tortoise is a federal candidate species and was listed as state-threatened by the FWC in 2007 (FWC 2012). The gopher tortoise is a relatively large terrestrial turtle with a domed carapace, short hind legs, shovel-like forelimbs, angular projection from the anterior plastron, and a short tail. The anterior surface of the flattened forelimb is covered with seven to eight rows of large scales. Often the surface of the carapace is quite smooth in adults, reflecting the abrasion it receives as an individual repeatedly enters or exits its burrow.

The gopher tortoise is a resident, non-migratory reptile in Florida that feeds primarily on grasses and other herbaceous plants. It most often lives on well-drained sandy soils in transitional (forest and grassy) areas. It is commonly associated with a pine overstory and an open understory with a grass and forb (non-woody) groundcover and sunny areas for nesting. Gopher tortoises can sometimes be found in more marginal habitats such as roadsides, ditch banks, utility and pipeline ROWs, pastures, and even marginal wetland habitat, especially if their preferred habitat has been lost.

Area reduction (habitat loss and fragmentation) and habitat degradation are two of the greatest threats on the gopher tortoise. Any development that fragments a population and/or creates a barrier to the natural movement of gopher tortoises would likely negatively impact that population. Other threats to this species include hunting and trapping, and mortality from traffic on roads.

A 100 percent gopher tortoise survey was conducted in January 2020 to identify individuals and burrows present within the footprint of the Proposed Action (see the project website for the full report). Of the 67 gopher tortoise burrows identified during the surveys, 11 were found within the work limits of the Proposed Action, 35 were outside the project work limits but within the survey corridor, and 21 burrows were found outside of the survey corridor. Overall, 49 of the 67 burrows were determined to be potentially active and 18 were classified as abandoned. Burrows were observed throughout the ROW, but the highest density of burrows occurred along Segment 3 of the ROW.

Potential direct effects on the gopher tortoise include temporary displacement from otherwise suitable foraging or nesting habitats during construction activities. However, long-term implementation of the Proposed Action would result in the maintenance of good quality habitat within the utility corridor since the gopher tortoise prefers open ground conditions.

Additionally, if construction occurs during the active nesting season, noise and activity from construction could potentially disturb or disrupt any nearby nests. Direct mortality of adults could occur due to impact with vehicles or equipment. Gopher tortoises may attempt to move from the construction area by crossing roads and would be at higher risk of impact from increased vehicle traffic. Because tortoises are slow-moving, they are at risk from impact with construction vehicles and equipment within the project construction area. However, as existing roadways will be used, any increase in vehicular traffic would be minimal. Employees would be instructed that they are prohibited from intentionally harming any wildlife, including gopher tortoises.

As required in the FWC's Gopher Tortoise Permitting Guidelines, appropriate gopher tortoise permits would be obtained from the FWC prior to the start of construction (FWC 2017). Reasonable and prudent measures would be employed to avoid harm to gopher tortoises during project construction by either of the following: by avoiding all construction-related activity within 25 feet of the mouths of gopher tortoise burrows; by relocating gopher tortoises from burrows that cannot be avoided during construction or by structure placement; or by relocating gopher tortoises out of the active work areas to suitable habitats where they would be released unharmed, if necessary. An Authorized Agent would be on site during relocation and construction activities. Any mortality of gopher tortoises during relocation and construction activities would be recorded and monthly reports would be submitted to the appropriate USFWS and/or

USDA Forest Service offices during the relocation and construction period. A final project report would be submitted to the USDA Forest Service and FWC once all gopher tortoise relocation and construction activities are completed. All activities associated with the handling and/or relocation of gopher tortoises would be in accordance to the FWC's Gopher Tortoise Permitting Guidelines (FWC 2017).

The mitigating measures described in Section 3.5.3 are designed to avoid and minimize potential impacts to gopher tortoise habitat and individuals. Therefore, the implementation of the Proposed Action is not likely to jeopardize this species or adversely modify proposed critical habitat for the gopher tortoise.

Rafinesque's Big-Eared Bat (*Corynorhinus rafinesquii*) and Southeastern Bat (*Myotis austroriparius*). Rafinesque's big-eared bat is primarily found along Florida's Gulf Coast and, as a result, would be only an infrequent visitor to the areas in the vicinity of the Proposed Action. It is a mid-story flyer, therefore, if it is occasionally found in the vicinity of the Proposed Action ROW, the transmission line should have no effect on the species.

The southeastern bat primarily roosts in caves and forages over creeks, rivers, lakes, and in flatwoods along the edges of hammocks.

The FNAI Standard Data Report does not show any documented element occurrences of the either species within or adjacent to the Proposed Action ROW. Implementation of the Proposed Action would have no impact on the Rafinesque's big-eared bat or the southeastern bat.

Bachman's sparrow (*Peucaea aestivalis*). Bachman's sparrow is a shy and secretive sparrow of the dry prairie, inhabiting the fire-maintained open pine flatwoods of the ANF. This sparrow is endemic to the southeastern United States, with the densest breeding habitats in Florida and south-central Alabama. The breeding season lasts from early April to late July, with most pairs raising two or three broods in small ground nest depressions lined with animal hair and grass.

The FNAI Standard Data Report lists no documented element occurrences of the Bachman's sparrow within at least 1 mile of the Proposed Action. However, the Bachman's sparrow is known to breed in the Munson Sandhills region of ANF and it is possible that they could experience temporary disturbance and minor habitat loss from construction activities (Brown 2012). Implementation of the Proposed Action may impact individuals but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for the Bachman's sparrow.

Eastern Diamondback Rattlesnake (*Crotalus adamanteus*) and Southern Hognose Snake (*Heterodon simus*). The eastern diamondback rattlesnake inhabits a broad range of habitats, but is mostly commonly associated with pines, sandhills, flatwoods, upland pine forests, and rarely scrub. This species commonly uses gopher tortoise burrows and root holes for refuge.

The preferred habitat of the southern hognose snake is xeric sandy uplands, especially sandhill, scrub, xeric hammock, and derived oldfields. Frogs and toads make up a large portion of the southern hognose snake's diet, and the snake is often associated with the ephemeral wetlands where its prey breeds. The southern hognose snake is the smallest of the hognose snakes with a maximum size of 23.8 inches.

The FNAI Standard Data Report does not show any documented element occurrences of either species within or adjacent to the Proposed Action, but as discussed further in the gopher tortoise section below, a total of 67 gopher tortoise burrows were found during surveys conducted in January 2020. If the snakes are utilizing any of the burrows and are, therefore, present within the ROW, then construction activities could impact the species. Direct mortality is highly unlikely but could occur due to increased vehicle traffic. However, care will be taken during construction activities to avoid snakes crossing or sunning on roadways, and employees would be instructed that they are prohibited from intentionally

harming any wildlife, including snakes. Implementation of the Proposed Action may impact individuals but is not likely to jeopardize the eastern diamondback rattlesnake or the southern hognose snake.

Apalachicola Dusky Salamander (*Desmognathus apalachicolae*). The Apalachicola dusky salamander is locally abundant within its range which is restricted to the streams and tributaries of the Apalachicola/Chipola and Ochlockonee rivers. The preferred habitat of the Apalachicola dusky salamander is the edges of small seepage streams located in ravines with mixed hardwood forest present along the slopes. This species does not migrate in order to breed.

The FNAI Standard Data Report does not show any documented element occurrences of the Apalachicola dusky salamander within or adjacent to the Proposed Action. Considering its very restricted habitat requirements, implementation of the Proposed Action would have no impact on the Apalachicola dusky salamander.

Florida Gopher Frog (*Lithobates capito*). The Florida gopher frog is listed by the FWC as a Species of Special Concern in the eastern Panhandle and peninsula of Florida, and a sensitive species within the ANF due to the desirable habitat within the protected and managed lands of the ANF. The dry flatwoods, sandhill, and scrub areas provide the necessary upland habitat, and the ephemeral ponds provide breeding habitat during the October through April breeding migration for Florida gopher frogs. Daytime habitat of the Florida gopher frog often includes gopher tortoise burrows.

The FNAI Standard Data Report shows several documented element occurrences of the Florida gopher frog within 0.5 miles of the Proposed Action. The construction and long-term maintenance of the Proposed Action would increase the permanent non-forested width of the ROW along Segments 2 and 3 from the present 60 feet to up to 78 feet and 67 feet, respectively. This permanently maintained non-forested ROW could potentially become a barrier to Florida gopher frogs moving between their upland habitats and their ephemeral breeding ponds. This could potentially result in some overall reduction in the number of Florida gopher frogs currently living in the vicinity of the proposed ROW. However, the guidelines, commitments, and mitigation measures described above for avoiding impacts to the gopher tortoise burrows would also protect the Florida gopher frog. Implementation of the Proposed Action may impact individuals, but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for the Florida gopher frog.

Striped Newt (*Notophthalmus perstriatus*). The striped newt is considered rare in Florida by the Special Committee on Amphibians and Reptiles (Florida Committee on Rare and Endangered Plants and Animals) and is no longer listed as a candidate for federal listing by the USFWS as of December 2018.

The striped newt is known to occur only from southeast Georgia and northern Florida, west to Tallahassee and south to Orlando. Striped newts are found discontinuously throughout this range and are restricted in occurrence to two types of isolated ephemeral ponds without predatory fish. The first type is sinkhole ponds (ephemeral ponds) in high pine (i.e., sandhills). The second type is cypress and bay ponds in pine flatwoods. In the northern peninsula of Florida, the striped newt is found in seasonal ponds and cypress bay heads.

The terrestrial stage of the striped newt is considered a typical resident of the high pine community but is rarely observed except during fall and winter rains when it moves to and from its breeding ponds. Eggs are laid in March, hatchlings appear in April, but can be found as late as December.

Striped newt conservation efforts were initiated by the Coastal Plains Institute in 2013 to reintroduce the species in the Munson Sandhills region within the ANF (USFWS 2018). Several ephemeral wetlands adjacent to the ROW were selected for repatriation, three of which had a rubber lining installed to help with water retention during drought conditions (Ponds 18, 75, and 182). The installation of the

rubber lining was part of the mitigation efforts associated with the previous ROW expansion. The striped newt populations in two of the three lined wetlands, Ponds 18 and 75 (Figure 3.5-2) are closely monitored each year by the Coastal Plains Institute. Prior to the start of the conservation efforts, the most recent account of striped newts in ANF occurred in 2007, and the last evidence of breeding was recorded in 1998. The conservation program has been successful in re-establishing native breeding populations, with the first observations of native striped newts in ANF since 1998 occurring at Pond 18 in 2016. More recent data have not been published, but social media accounts indicate that breeding populations are present in Pond 18 and viable populations have also been documented in Pond 75 (Coastal Plains Institute 2020[a], 2020[b]). Pond 18 is considered to be the most successful repatriation pond to date because it has the highest recruitment of released individuals into the uplands, the most adults returning from the uplands to breed, and the only sustained breeding population of the striped newts in the project (Coastal Plains Institute 2020[c]).

Existing guidance recommends that no impact should occur within 500 meters of a known striped newt pond. Pond 75 is approximately 760 meters from the ROW, but Pond 18 is located within 400 meters of proposed clearing along the southern side of the ROW. Mitigation measures will be taken to avoid directly impacting any individuals, including the installation of construction style fencing along the edges of the ROW and having a biologist present to provide oversight during construction. To reduce impacts to the upland habitat of striped newts, any clearing conducted along Segment 3 will be limited to the tree canopy only and no ground clearing will occur.

Due to the proximity of the ROW to Pond 18 and limited habitat availability for this species, the Proposed Action may impact individuals and the upland habitat of striped newts. Additional mitigation measures may be necessary in order to reduce impacts to the striped newt.

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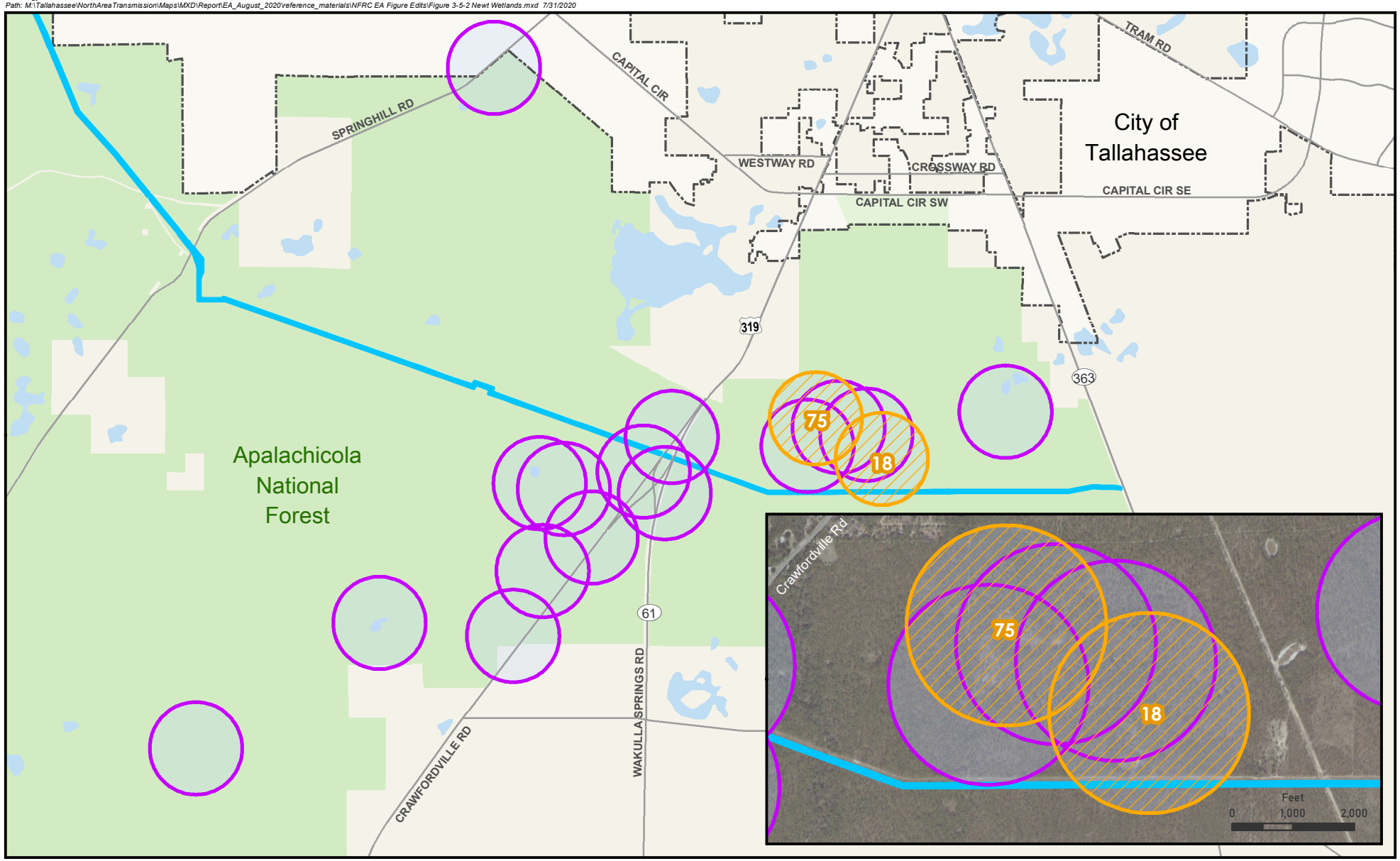

Figure 3.5-2
Historic and Repatriated Striped Newt Wetlands

ecology and environment, inc.
Member of WSP

Miles
0 0.5 1

Historic Striped Newt Wetlands (500 meter buffer)
Repatriated Striped Newt Wetlands (500 meter buffer)
Proposed Permitted Corridor
City of Tallahassee Limits
Apalachicola National Forest

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

Frosted Elfin Butterfly (*Callophrys irus*). The frosted elfin is a small butterfly with a wingspan of 1 to 1.25 inches. The upper-sides of the wings are dark brown and the undersides are frosted with white scales, with a black spot above the tail. Frosted elfin habitat includes open woods, forest edges, or scrub in which their larval hostplant, sundial lupine (*Lupinus perennis*), grows. This species requires fire management to ensure the presence of host plant populations.

One of the largest and most well-documented populations of the frosted elfin occurs along the existing utility ROW between Woodville Highway and Crawfordville Road. The existing ROW is directly adjacent to a number of survey sites that are known to contain frosted elfins and their preferred habitat. The Proposed Action would directly impact portions of seven of these survey sites along the southern edge of the ROW (Figure 3.5-3). General mitigation measures will be taken to avoid directly impacting any individuals, including using existing roadways and limiting construction workforce personnel. To reduce impacts to important sundial lupine habitat, any clearing conducted along Segment 3 will be limited to the tree canopy only and no ground clearing will occur.

Additionally, frosted elfin researchers have proposed several studies that would help better understand this species and assure its survival. The proposed research includes studies on frosted elfin dispersal distances, surveying for currently unknown sundial lupine habitat, and development of propagation techniques for successful establishment of new patches of sundial lupine (Meyer et al. 2020). Mitigation funding may be provided to support these research projects.

Due to the proximity of known frosted elfin populations to the ROW it is determined that the Proposed Action may impact individual frosted elfin butterflies. However, mitigation measures will be implemented to prevent any adverse impacts to the frosted elfin population and avoid any decline in important habitat.

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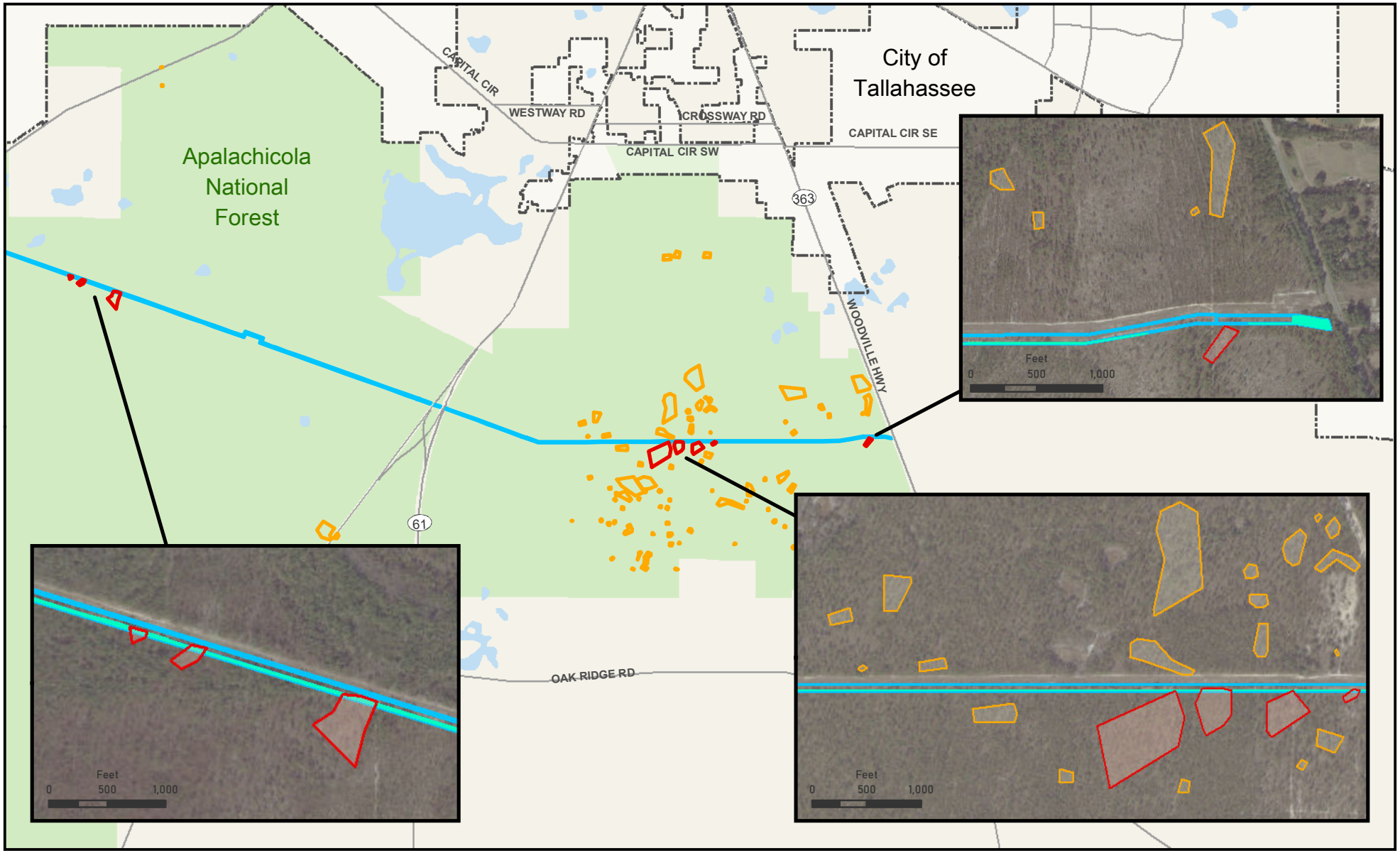

Figure 3.5-3
Frosted Elfin Butterfly
Survey Sites

ecology and environment, inc.
Member of WSP

Miles
0 0.5 1

Potentially Impacted Survey Sites
Frosted Elfin Survey Sites
Proposed Permitted Corridor
Clearing Limits
Apalachicola National Forest
City of Tallahassee Limits

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

Southern Milkweed (*Asclepias viridula*), Chapman's Sedge (*Carex chapmanii*), Wiregrass Gentian (*Gentiana pennelliana*), West's Flax (*Linum westii),* Pondspice (*Litsea aestivalis*), Curtiss' Loosestrife (*Lythrum curtissii*), Ashe's Magnolia (*Magnolia ashei*), Florida Beargrass (*Nolina atopocarpa*), Pineland False Sunflower *(Phoebanthus tenuifolius)*, Apalachicola Dragon-head *(Physostegia godfreyi)*, Zigzag Silkgrass (*Pityopsis flexuosa*), Yellow Fringeless Orchid (*Platanthera integra*), Small-flowered Meadowbeauty (*Rhexia parviflora*), Florida Flame Azalea (*Rhododendron austrinum*), Nightflowering Wild Petunia *(Ruellia noctiflora*), Harper's Yellow-Eyed Grass (*Xyris scabrifolia*). According to information provided by the FNAI Standard Data Report, these species have the potential to occur within the ROW, but the Proposed Action would not traverse any known populations. Implementation of the Proposed Action may impact individuals, but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for these species.

Zigzag Silkgrass (*Pityopsis flexuosa*). Zigzag silkgrass also known as Florida goldenaster, is listed as endangered in the state of Florida.. Zigzag silkgrass is endemic to Florida and is found in deep sands near the coast, usually in clearings amongst sand pine, slash pine, and/or longleaf pine.

According to information provided by the FNAI Standard Data Report, there are three confirmed occurrences of zigzag silkgrass present within 0.5 miles of the proposed ROW. Implementation of the Proposed Action may impact individuals, but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for the zigzag silkgrass.

Kral's Yellow-Eyed Grass (*Xyris longisepala*). Kral's yellow-eyed grass is listed as endangered in the state of Florida. Kral's yelloweyed grass occurs in the Florida Panhandle and in two counties in southern Alabama.

According to information provided by the FNAI Standard Data Report, there has been a confirmed documented historic occurrence within 0.5 miles of the proposed ROW. Implementation of the Proposed Action may impact individuals, but is not likely to cause a trend impacting a species' federal listing status or a loss of viability for the Kral's yelloweyed grass.

The summary determinations of effects shown in Table 3.5-4 are based on the potential direct and indirect adverse impacts on each species and their preferred habitat, classified as either No Effect, Not Likely to Adversely Affect, or Not Likely to Jeopardize Proposed Species or Adversely Modify Proposed Critical Habitat.

Table 3.5-4 Summary of Wildlife Species Protected by MBTA, Listed as Federal Candidate Species, or Listed in the FNAI Report and the USDA Forest Service Sensitive Species List Potentially Occurring in the Vicinity of Proposed Action Right-of-way

Common Name	Summary Finding	Comments
Mammals		
Rafinesque's Big-Eared Bat	NE	No element occurrences; no impacts to preferred habitat
Southeastern Bat	NE	No element occurrences; no impacts to preferred habitat
Birds		
Bachman's Sparrow	NE	Mitigating measures will reduce or avoid impacts
Bald Eagle	NLJ	Mitigating measures will reduce or avoid impacts
Amphibians and Reptiles		
Gopher Tortoise	NLJ	Mitigating measures will reduce or avoid impacts
Eastern Diamondback Rattlesnake	NLJ	Mitigating measures will reduce or avoid impacts
Apalachicola Dusky Salamander	NE	No element occurrences; no impacts to preferred habitat
Southern Hognose Snake	NLJ	Mitigating measures will reduce or avoid impacts
Gopher Frog	NLJ	Mitigating measures will reduce or avoid impacts
Striped Newt	ME	Additional mitigating measures may be needed
Insects		
Frosted Elfin Butterfly	NLJ	Additional mitigating measures will reduce impacts
Plants		
Southern Milkweed	NLAA	No element occurrences; mitigating measures will avoid impacts
Chapman's Sedge	NLAA	No element occurrences; mitigating measures will avoid impacts
Wiregrass Gentian	NLJ	No element occurrences; mitigating measures will avoid impacts
West's Flax	NLAA	No element occurrences; mitigating measures will avoid impacts
Pondspice	NLAA	No element occurrences; mitigating measures will avoid impacts
Curtiss' Loosestrife	NLAA	No element occurrences; mitigating measures will avoid impacts
Ashe's Magnolia	NLAA	No element occurrences; mitigating measures will avoid impacts
Florida Beargrass	NLAA	No element occurrences; mitigating measures will avoid impacts
Pineland false Sunflower	NE	No element occurrences; no impacts to preferred habitat
Apalachicola Dragon-Head	NLAA	No element occurrences; mitigating measures will avoid impacts
Zigzag Silkgrass	NLJ	Mitigating measures will avoid impacts
Yellow Fringeless Orchid	NLAA	No element occurrences; mitigating measures will avoid impacts
Small-Flowered Meadowbeauty	NLAA	No element occurrences; mitigating measures will avoid impacts
Panhandle Meadowbeauty	NLAA	No element occurrences; mitigating measures will avoid impacts
Florida Flame Azalea	NLAA	No element occurrences; mitigating measures will avoid impacts
Nightflowering Wild Petunia	NLAA	No element occurrences; mitigating measures will avoid impacts
Kral's Yellow-Eyed Grass	NLJ	Mitigating measures will avoid impacts
Harper's Yellow-Eyed Grass	NLAA	No element occurrences; mitigating measures will avoid impacts

Key:
ME = May Effect.
NE = No Effect.
NLAA = Not Likely to Adversely Affect.
NLJ = Not Likely to Jeopardize Proposed Species or Adversely Modify Proposed Critical Habitat.

Construction of the Proposed Action may result in impacts associated with temporary displacement from foraging or nesting habitats, creating a temporary barrier that could potentially block the migratory movements of protected or USDA Forest Service sensitive amphibians, such as Florida gopher frogs, between their upland habitat and their ephemeral breeding ponds, or cause direct mortality from vehicle strikes. These impacts are expected to be short-term and mainly during construction activities, and mitigation measures would be implemented to avoid and minimize potential habitat fragmentation and impacts on species diversity and the overall ecological integrity of the area. Any impacts that are not mitigated are not anticipated to be significant, nor are they expected to create a trend impacting a species' federal listing status, adversely modify critical habitat, or jeopardize the viability of the species. However, to be conservative, it is assumed that the impacts associated with the Proposed Action, when taken into consideration with other actions, may have the potential to contribute to cumulative impacts on certain species.

3.5.3 Mitigation Measures for Biological Resources

If the Proposed Action is implemented, the following mitigation measures will be implemented to avoid or minimize potential adverse impacts on upland vegetation:

- Ensure that ROW boundaries are clearly located and marked prior to construction to minimize the potential for inadvertent off-ROW impacts by clearing or grading crews.
- Install temporary construction fencing to ensure minimal disturbance of vegetation within ecologically sensitive areas.
- Educate all construction personnel on the methodology used (e.g., colored flags or stakes) for identifying the boundaries of all work areas and the ROW boundary.
- Fell all timber requiring clearing onto the ROW to minimize damaging adjacent trees and to avoid off-ROW impacts.
- Comply with the upland clearing, erosion control, restoration, and maintenance methods per USDA Forest Service regulations; and local, state, and federal regulations and permit requirements.
- Appropriately dispose of cut or downed vegetation. If burning is selected as the proposed vegetation disposal method, burning will occur only after the appropriate burn permit or authorizations are obtained from local or state agencies and the USDA Forest Service. In addition, all burning activities will be conducted in conformance with all appropriate regulations and in accordance with obtained authorizations. Burning will be contained to the permitted ROW width or on private property with landowner permission. Burn piles will also be located at appropriate distances from live vegetation so as not to cause damage to off-ROW vegetation.
- To further minimize occurrences of inadvertent fires caused by construction-related activities, all lit materials will be properly disposed of, and fire hazard and weather patterns will be monitored and considered in determining what acceptable activities may occur during specific construction periods. When conditions indicate a high fire hazard, construction activities may be temporarily suspended until conditions are deemed suitable and safe to continue.
- Minimize grading activities to only those locations where a safe, stable ROW surface must be created.

- Install and maintain erosion control barriers (e.g., silt fencing and/or straw bales) where exposed soils have the potential to contribute to sedimentation of wetland and waterbodies or other sensitive features within or adjacent to the ROW. The use of hay for erosion control barriers is not allowed by the USDA Forest Service on NFS lands.
- Restore pre-construction contours to the extent practicable.
- Break up compacted upland soils, if necessary, by ripping, tilling, or scarifying before reseeding.
- Seed all disturbed areas as soon as possible with certified noxious-weed-free seed (as certified by the state) to stabilize the disturbed ROW.
- Observe the ROW post-construction for revegetation success during periodic ground inspections and implement contingency measures, as necessary, to avoid long-term erosion and sedimentation problems associated with exposed soils in unvegetated areas.

To minimize the abundance, introduction, or distribution of invasive, non-native species within the permanent ROW, the following BMPs will be utilized:

- Prepare and implement a Noxious Weed Management Plan for the project.
- Visually inspect construction equipment and personal vehicles, if necessary, prior to entering the construction ROW or before leaving known infested areas. Equipment will be considered free of soil, seeds, vegetative matter, and other debris when a visual inspection does not disclose such material. If necessary, equipment will be manually brushed or wiped free of indicated material. Neither disassembly of equipment components nor specialized cleaning methods are anticipated to be necessary for this project.
- Use weed-free materials such as weed-free straw bales for erosion control practices. The use of hay for erosion control barriers is not allowed by the USDA Forest Service on NFS lands.
- Seed all disturbed areas as soon as possible with certified noxious-weed-free seed (as certified by the state) to stabilize the disturbed ROW.
- Observe the ROW, post-construction, for revegetation success during periodic ground inspections and implement contingency measures, as necessary, to eradicate noxious weed problems as necessary.

Prior to construction, GPC will complete any required species consultations with the USFWS, USDA Forest Service, and FWC and will file the results of these consultations, including revised plans (if needed), with the appropriate agencies. If the Proposed Action is implemented, the following mitigation measures will be implemented to avoid or minimize potential adverse impacts on wildlife species/populations:

- Provide “avian-safe” transmission structures, which are defined as structures that provide adequate clearances between energized and grounded parts to accommodate large birds.
- Reseed any temporarily disturbed areas with a native seed mix acclimated to the project elevation and climate to avoid habitat alterations that could adversely affect prey availability.

- Install temporary construction fencing to ensure minimal disturbance to wildlife in ecologically sensitive areas.
- Ensure that biological oversight is provided by experienced biological personnel during construction.
- Avoid intentional harm to and professionally remove (using experienced biological personnel) individual wildlife species that are encountered during construction, if necessary. If required for a particular species, the project biologist will possess the required handling permits or authorizations to handle said species.
- Implement a "no-kill" policy, especially with regard to snakes, to avoid the inadvertent take of the Florida pine snake (*Pituophis melanoleucus*).
- Acquire lands with a vegetative community similar to those impacted, to be added to the ANF to compensate for the long-term impact of removing 10.14 acres of various cover types from the ANF which could be used by general wildlife.

An active bald eagle nest (i.e., nest LN009) has been identified within the 660-foot buffer zone of the Proposed Action. Because the bald eagle is protected by the federal MBTA, no "take" can be issued for this species. To avoid/minimize potential impacts to the bald eagle and its habitat, the following mitigating measures are required:

- Make every attempt to schedule construction outside the primary nesting season, which occurs from October 1 to May 15. If construction must occur during this timeframe, a Bald Eagle Disturbance Permit from the FWC must be obtained prior to the start of any construction activities.
- Work from the outer edge of the 660-foot buffer of an active nest, first on the approach side, and continue inward toward the closer areas and then out the other side of the buffer.
- Conduct no work within the 330-foot buffer of an active nest during the nesting season, although equipment may travel through this buffer (without stopping) to reach the other side of the proposed linear corridor and resume work outside the 330-foot buffer.
- Minimize, to the extent possible, equipment residence time within the 660-foot buffer zone of an active nest.
- Limit personnel on the ground outside vehicles within the 660-foot buffer zone of an active nest to those personnel and activities that require work outside a vehicle.
- Report nest abandonment to the USFWS and/or FWC Regional Biologist in a timely manner to allow rescue/salvage of eggs or eaglets for use in captive/release programs, as appropriate.
- Use only existing roadways so that the potential of direct mortality of bald eagles from vehicular traffic will be minimal.

To avoid/minimize potential impacts to the gopher tortoise and its habitat, the following mitigating measures are required:

- Conduct gopher tortoise surveys prior to the start of construction to identify all gopher tortoise burrows that may be impacted by the project. Survey methodology will be in accordance with the FWC's Gopher Tortoise Permitting Guidelines (June 2017) and conducted by an Authorized Agent.
- Wherever possible, avoid construction-related activity within 25 feet of the mouth of active gopher tortoise burrows.
- Where avoidance of gopher tortoise burrows is not possible, obtain the appropriate gopher tortoise permits from the FWC prior to the start of construction. Follow FWC's guidelines for excavating and relocating gopher tortoise individuals, and vertebrate commensal species, that may be impacted during construction to suitable adjacent habitat. This work will be completed using an FWC-approved Authorized Agent. Excavated burrows will be collapsed and/or filled subsequent to the capture of individuals. Gopher tortoises relocated to adjacent areas shall be precluded from returning to the ROW during construction by the use of temporary fencing in the relocation area which will be removed upon the completion of construction and after the ROW has been restored.
- Record all mortality of gopher tortoises during construction and relocation activities and submit monthly reports to the appropriate FWC and/or USDA Forest Service offices during the relocation and construction period.
- Prepare and submit a final project report to the USDA Forest Service and the FWC after all gopher tortoise activities during the construction period are complete.
- Use only existing roadways so that the potential of direct mortality of gopher tortoises from vehicular traffic will be minimal.

To avoid/minimize potential impacts to the Bachman's sparrow and its habitat, the following mitigating measures are required:

- Make every attempt to schedule construction outside the primary nesting season, which occurs from May to June.
- Minimize, to the extent possible, proximity of work areas within an active nest.
- Use only existing roadways so that the potential of direct mortality from vehicular traffic will be minimal.

To avoid/minimize potential impacts to the striped newt and its habitat, the following mitigating measures are required:

- Use only existing roadways so that the potential of direct mortality of striped newts from vehicular traffic will be minimal.
- Limit personnel on the ground outside vehicles within the 500-meter buffer zone of Pond 18 to those personnel and activities that require work outside a vehicle.
- Install temporary construction fencing along the edges of the Proposed Action ROW.

- Ensure a biologist is present to provide oversight during all construction activities.
- Limit any clearing conducted along Segment 3 of the Proposed Action ROW (between Woodville Highway and Crawfordville Road) to the tree canopy only and ensure no ground clearing will occur whenever possible.
- Aid in the funding of installing additional rubber liners to modify isolated wetlands used by breeding amphibians, including the striped newt, in order to extend the hydroperiod, making the wetlands suitable for repatriation.
- Prior to construction, complete consultation with the USFWS and the ANF regarding any further mitigating measures that may be required to avoid/minimize impacts to the striped newt.

To avoid/minimize potential impacts to the eastern diamondback rattlesnake, Florida gopher frog, southern hognose snake, and their respective habitat, the following mitigating measures are required:

- Conduct pre-construction surveys for gopher tortoise burrows (see first bullet under gopher tortoise above) to identify the potential location of commensal burrow species.
- Wherever possible, avoid disturbing active gopher tortoise burrows.
- Specify in the bid documents that equipment refueling and fuel storage is prohibited on the construction ROW.

To avoid/minimize potential impacts to the frosted elfin butterfly and its habitat, the following mitigating measures may be required if a population is found to be present within the vicinity of the Proposed Action (additional data pending):

- Use only existing roadways so that the potential of damaging host plant populations and the direct mortality of frosted elfin butterflies from vehicular traffic will be minimal.
- Limit foot traffic to only personnel conducting activities that require work outside a vehicle.
- Limit any clearing conducted along Segment 3 of the Proposed Action ROW (between Woodville Road and Crawfordville Highway) to the tree canopy only and ensure no ground clearing will occur whenever possible.
- Aid in the funding of sundial lupine surveys within the ANF.
- Aid in the funding of research projects and studies that will help ensure the stability of frosted elfin populations and important habitat.

To avoid/minimize potential impacts to the southern milkweed, Chapman's sedge, wiregrass gentian, West's flax, pondspice, Curtiss' loosestrife, Ashe's magnolia, Florida beargrass, Apalachicola dragon-head, zigzag silkgrass, yellow fringeless orchid, small-flowered meadowbeauty, panhandle meadowbeauty, Florida flame azalea, nightflowering wild petunia, Kral's yellow-eyed grass, Harper's yellow-eyed grass, and their respective habitat, the following mitigating measures are required:

- Conduct pre-construction T&E surveys to identify any known locations.
- Wherever possible, avoid disturbing areas that have confirmed species' presence.
- Use fencing or staking the habitat area to prevent accidental intrusion to the site.

- Conduct restoration to mitigate impacts to desirable T&E habitats.
- Consider off-site compensation to mitigate unavoidable impacts.

3.6 SOILS

This section describes the soil resources in the vicinity of the Proposed Action, the potential impacts of the alternatives, as well as the No Action Alternative, on those resources, and the potential mitigation measures to reduce or eliminate those potential impacts. Soil Survey Geographic (SSURGO) soil maps and database for Leon County, Florida, were used to characterize soil types and characteristics. The SSURGO soils maps and descriptions are general and describe large soil series complexes across the landscape.

3.6.1 No Action Alternative

Under the No Action Alternative, no soil-related impacts would occur because the ground surface would not be disturbed, and no new construction activity would occur. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects to soils.

3.6.2 Proposed Action

The Proposed Action would be located within a region of the Gulf Coastal Lowlands physiographic province known as the Woodville Karst Plain, which extends from the southern boundary of Tallahassee, Florida, to the Gulf of Mexico. The Woodville Karst Plain is characterized by a thin veneer of unconsolidated and undifferentiated Pleistocene quartz sand and shell beds overlying a thick sequence of relatively horizontal carbonates within the Lower Miocene St. Marks Formation at or near the surface. The majority of soils in the Gulf Coastal Lowlands consist of nearly level to gently sloping sands and sandy loams. These soils drain quickly and can be highly erodible. The Proposed Action would be located in or adjacent to existing utility ROW surfaces within the ANF, which are mostly cleared, pre-disturbed, barren, and flat land.

Table 3.6-1 provides the predominant soil types for the Proposed Action, as classified by the SSURGO database for Leon County, Florida, along with the amount of each soil type crossed by the GPC proposed transmission line and the erosion potential of each soil type.

Table 3.6-1 Soil Classifications and Erosion Potential within the Proposed GPC Transmission Right-of-way

Soil Name	Description [a]	Wind Erodibility [b]	Acres Traversed
Alpin sand, 0-5% slopes	Nearly level to gently sloping excessively drained sand.	Extremely erodible	36.39
Kershaw sand, 0-5% slopes	Nearly level to gently sloping excessively drained sand.	Extremely erodible	39.89
Kershaw sand, 5-8% slopes	Nearly level to gently undulating sloping excessively drained sand.	Extremely erodible	7.52
Ortega sand,0-5% slopes	Nearly level to gently sloping moderately well drained sand.	Extremely erodible	21.93
Blanton fine sand, 0-5% slopes	Nearly level to gently sloping moderately well drained fine sand and sandy loam.	Extremely erodible	0.73
Dorovan mucky peat	Nearly level very poorly drained mucky peat, muck and sand.	Not susceptible to wind erosion	2.58

Table 3.6-1 Soil Classifications and Erosion Potential within the Proposed GPC Transmission Right-of-way

Soil Name	Description [a]	Wind Erodibility [b]	Acres Traversed
Foxworth sand, 0-5% slopes	- Nearly level moderately well to somewhat excessively drained, rapid to very rapid permeable soils on broad uplands and side slopes.	Extremely erodible	0.39
Chipley fine sand, 0-2% slopes	Nearly level somewhat poorly drained fine sand.	Extremely erodible	0.68
Pickney, occasionally flooded	Nearly level poorly drained loamy fine sand.	Very highly erodible	1.36
Plummer fine sand	Nearly level poorly drained fine sand and sandy loam.	Extremely erodible	0.63
Albany loamy sand 0-2% slopes	Nearly level somewhat poorly drained loamy sand and sandy loam.	Very highly erodible	0.11
		Total	112.21

Notes:
(a) Soil descriptions from SSURGO Database (USDA 2020).
(b) SSURGO wind erodibility group classification (USDA 2020).

As detailed in Section 2.4.2, implementation of Proposed Action would involve standard utility construction activities along the 11.3 miles within each of the route segments within the ANF that includes previously disturbed soils within the existing FGT and COT utility ROWs. Construction would include some excavation, earthmoving, clearing, and grading based on the final site design and transmission pole placement. Increased potential for erosion and sedimentation due to excavation, grading, removal of vegetation, and exposure of soil during removal and replacement of existing structures and the construction of the new utility structure, are considered to have short-term, minor adverse effects. Soil disturbance would not be required across the entire existing 60-foot or 100-foot ROWs and likely would be limited to only the areas where the existing transmission structures are removed and replaced, the new GPC utility structures are placed, and where construction vehicles would travel on the ROW during construction and within temporary workspaces that would be located within the ROW.

No ROW expansion of the COT 100-foot corridor is expected along the 4.9 miles of Segment 1. Minimal clearing within the existing 100-foot ROW is required for construction within Segment 1. Approximately 3.1 acres of existing vegetation would be cleared in targeted areas within the existing corridor. Therefore, short-term soil disturbance within the ANF primarily would be limited to the estimated 87 pole locations encompassing 0.1 acres. Segment 2 would require up to an additional 18 feet of clearing to extend the current 60-foot ROW on the south side of the COT corridor. Approximately 0.72 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot ROW and 7.06 acres would be cleared as part of the 18-foot ROW expansion. Short-term soil disturbance within the ANF along Segment 2 would be limited to the estimated 92 pole locations encompassing 0.1 acres. Segment 3 would require an additional 7 feet of clearing to extend the current 60-foot ROW on the south side of the COT corridor. Approximately 1.11 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot ROW and 1.55 acres would be cleared as part of the 7-foot ROW expansion. Short-term soil disturbance within the ANF along Segment 2 would be limited to the estimated 92 pole locations encompassing 0.11 acres. Total temporary workspaces within existing ROW to accommodate the construction activities within all three segments would require 124.87 acres. Construction activities within the ROW would result in the exposure of existing soils to rain, possibly resulting in erosion. Structure holes would be augered for each structure to embed the footings or poles. Soil from these augered holes would be piled and then used for backfilling the holes once the footings are in place. The piles of exposed soil could erode during rain and susceptible to wind erosion, if exposed. Short-term effects on soil would be

minimized by the appropriate use of BMPs for controlling runoff, erosion, and sedimentation. Compliance with the conditions and requirements of the Generic Permit for Stormwater Discharge from Construction Activities, as well as implementation of BMPs and mitigation measures, would help minimize impacts from soil erosion both during and after construction. Geotechnical test borings will be conducted during construction to verify the erosion potential of soils and will be used in designs to minimize direct and cumulative erosion and sedimentation issues. Short-term, negative impacts including soil disturbance and sediment runoff would occur to soil resources at the project site during construction activities. However, these impacts would be minor due to the implementation of appropriate mitigation measures identified in Section 3.6.3. No long-term or operational impacts to soils are anticipated.

3.6.3 Mitigation Measures for Soils

The following mitigation measures have been identified to avoid or reduce potential adverse soils impacts if the Proposed Action is implemented:

- Prepare and implement a Storm Water Pollution Prevention Plan.
- Follow all applicable soil conservation measures listed in the relevant USDA Forest Service Handbook on NFS land.
- Save topsoil removed for structure construction and use on site for restoration activities to promote regrowth from the native seed bank in the topsoil.
- Bentonite slurry will be used during the structure foundation installation process, which effectively seals the augered hole and, used in combination with water and proper drilling technique, keeps the hole open and prevents sloughing of the surrounding ground.
- Cover any exposed piles of soil (or use other erosion control measures) to reduce erosion potential when there is a threat of rain.
- Install sediment barriers and other suitable erosion and runoff control devices prior to ground-disturbing activities at construction sites, as necessary, to minimize off-site sediment movement.
- Revegetate or seed all disturbed areas as soon as possible after construction is completed to promote revegetation that would hold soil in place. All revegetation within USDA Forest Service lands would follow the Operating Plan of the SUP and with the applicable provisions of the established codes, standards, and/or organizations, such as FDEP, Florida Department of Agriculture and Consumers Service and Florida Turfgrass Association.
- Appointing a professional geologist to oversee all Geotech work during construction.
- Monitor erosion control BMPs during construction to ensure proper function and nominal erosion levels.
- Monitor reseeding efforts for adequate growth and implement contingency measures, as necessary.
- Develop and implement spill prevention and response procedures.

3.7 WATER RESOURCES

This section describes the surface waters and jurisdictional wetlands within the ROW that will be impacted as part of the Proposed Action. Waterbodies are defined as natural streams, rivers, creeks, canals, or drainages and other permanent waterbodies such as ponds and lakes; wetlands are considered to be "…areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils," per the United States Army Corps of Engineers (USACE) (Federal Register 1982), USEPA (Federal Register 1980), and F.S. Section 373.019 (25)).

In addition to identifying and describing these water resources, potential impacts of this route and possible mitigation measures to reduce or eliminate those potential impacts will also be discussed. The No Action Alternative will be addressed in this section as well.

The proposed ROW was delineated for surface water bodies and jurisdictional wetlands within (and adjacent to) the proposed project area. Consequently, a desktop review was conducted using the following:

- USFWS National Wetlands Inventory database for land use/land cover;
- FLUCCS map;
- United States Geological Survey (USGS) National Hydrographic Dataset;
- USGS 7.5-minute topographic quadrangle maps;
- Recent aerial photographs;
- COT GIS;
- Federal Emergency Management Agency's floodplain maps; and
- Leon County GIS floodplain mapping system.

Wetlands identified within the ROW are based on the survey by Golder Associates Inc. (2019) and Environmental Consulting & Technology, Inc (ECT Inc.; Dawson 2020), and delineated based on the federal and state wetland criteria as set forth by the *USACE 1987 Wetland Delineation Manual* and Chapter 62-340, F.A.C., criteria set forth by the FDEP. Specifically, the area was examined for the presence of hydrophytic vegetation, hydric soils, and hydrologic indicators, by which the landward extent of jurisdictional wetlands may be delineated.

Based on the evaluation of the environmental survey area, wetland impacts associated with the Proposed Action include: pole placement, clearing of new ROW, work areas, and trampling/access in the existing ROW. Although the exact alignment and pole placement have yet to be determined, permits and mitigation measures will be discussed in the event of an impact.

3.7.1 No Action Alternative

Under the No Action Alternative, no wetlands or streams would be crossed or disturbed. Consequently, there would be no impacts to water resources from this alternative. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects on wetlands and surface waters.

3.7.2 Proposed Action

Although the proposed transmission line has been sited through an existing utility corridor to minimize any potential impacts to surface waters and wetland systems, the Proposed Action would traverse seven wetlands and Munson Slough, as well as an unnamed tributary/wetland adjacent to Munson Slough (Table 3.7-1 and Figure 3.7-1).

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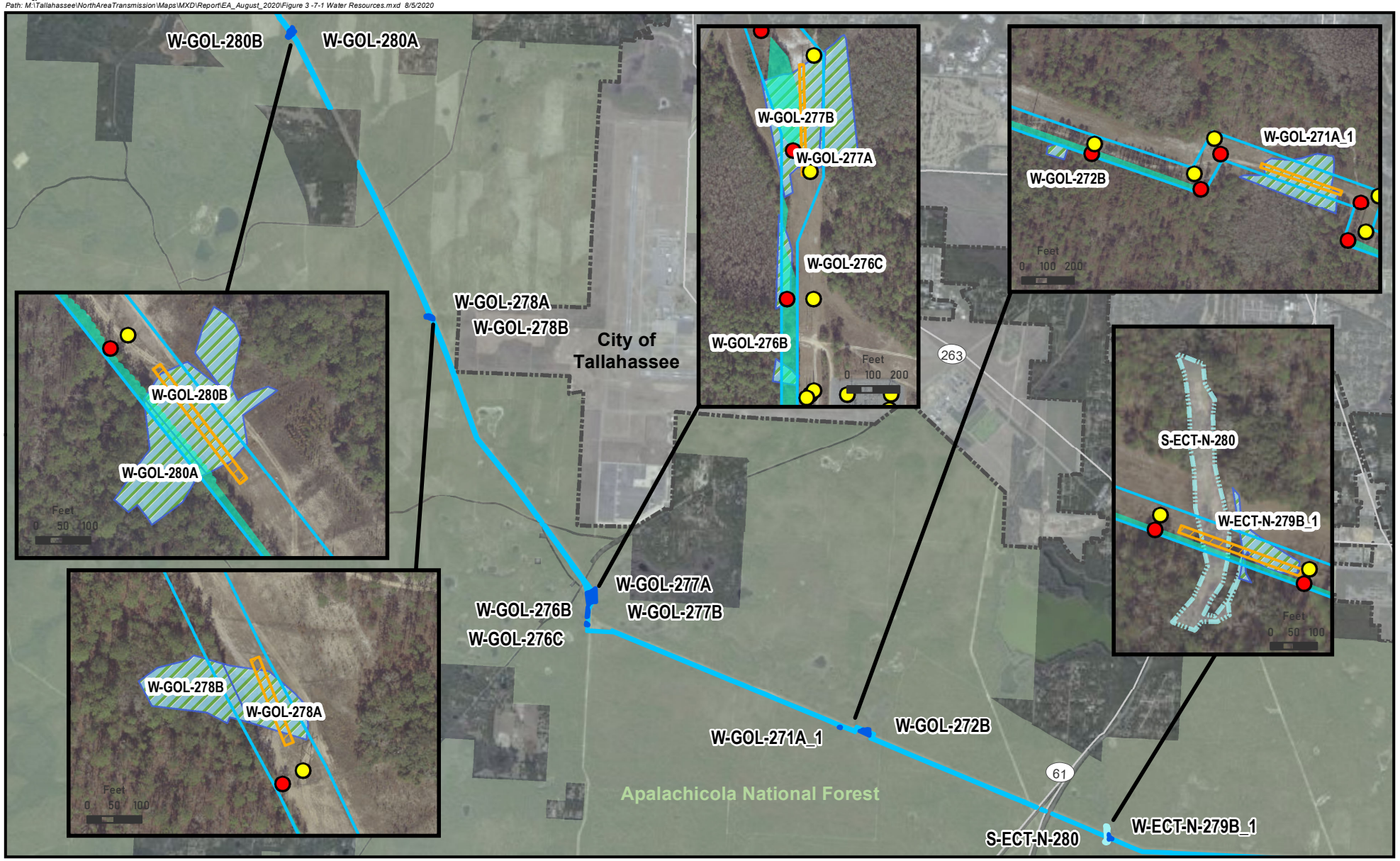

Figure 3.7-1
Water Resources

Proposed Permitted Corridor
Temporary Matting
Clearing Limits
Stream
Wetland
City of Tallahassee Limits
Apalachicola National Forest
Existing COT Structures
Proposed Structures

ecology and environment, inc.
Member of WSP

Miles
0 0.5 1

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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20210015-EI

Descriptions of water resource features and potential impacts to them associated with the Proposed Action are described in the following sections. Wetland and waterway locations were derived from the Golder and ECT reports.

Table 3.7-1 Water Resources Affected by the Proposed Action

Feature	Feature ID	Shape File	Center Point per ECT shape file:	
			Latitude	Longitude
Wetlands	W-GOL-280	W-GOL-280A	30.422751°	-84.398767°
		W-GOL-280B	30.422883°	-84.398732°
	W-GOL-278	W-GOL-278A	30.395639°	-84.381080°
		W-GOL-278B	30.395708°	-84.381291°
	W-GOL-277	W-GOL-277A	30.368700°	-84.361256°
		W-GOL-277B	30.368950°	-84.361485°
	W-GOL-276C	W-GOL-276C	30.367539°	-84.361687°
	W-GOL-276B	W-GOL-276B	30.366311°	-84.361652°
	W-GOL-272B	W-GOL-272B	30.357582°	-84.332444°
	W-GOL-271A_1	W-GOL-271A_1	30.357250°	-84.329534°
	W-ECT-N-279B_1[(a)]	W-ECT-N-279B_1	30.347989°	-84.301239°
Stream	S-ECT-N-280	S-ECT-N-280	30.348069°	-84.301614°

Note:
(a) Unnamed wetland/tributary adjacent to Munson Slough.
Key:
S = Stream.
W = Wetland.

Under the Proposed Action, a total of 3.54 acres of water resources (3.44 acres of wetlands and 0.09 acres of streams) across 1786 linear feet will be impacted. The total impact is the result of two types of activities in the Proposed Action ROW:

- New, permanent impacts—areas which will be cleared and converted to ROW and areas where new utility poles will be placed.
- Temporary impacts—areas within the existing utility corridor that will become part of the Proposed Action ROW.

In total, 73 percent (2.59 acres) of the impacted water features are located within the existing utility corridor previously disturbed by the FGT and COT projects; these areas will be incorporated into the ROW and will be subject to long-term maintenance including tree trimming and mowing. A small additional area of water features (0.95 acres) will need to be cleared as part of the Proposed Action and will continue to be maintained as part of the ROW long-term (Table 3.7-3). This results in a total of 3.44 acres of wetland impact, most of which will be temporary and minor.

Based on the current configuration of utility pole placement, only two poles are expected to be placed within a wetland while a third pole will be at the edge of wetland W-GOL-277; a FDEP individual permit and USACE Permit 12 will likely be required for proposed pole locations that will potentially

permanently impact wetland sites. The final placement of the poles may differ slightly depending on the degree of impact and construction requirements. In the two wetlands (W-GOL-277B, W-GOL-276C) where utility poles are sited to be placed, permanent impacts associated with the utility pole footprint, as well as filling associated with its placement are expected.

Impacts to the only stream located within the Proposed Action ROW (Munson Slough) would be minimal; only 5 feet of the stream is located outside of the existing utility corridor and would require additional vegetation clearing. Consequently, within the overall impact footprint of Munson Slough (0.09 acres), only 0.02 acres would have new, permanent impacts (Table 3.7-2); the other 0.07 acres are already being maintained as part of the current ROW. There are no transmission poles within this stream area under the Proposed Action.

The use of temporary matting will be used to cross wetlands where access is not possible though adjacent upland areas within the Proposed Action ROW. Temporary matting is anticipated to be placed in 5 wetlands to eliminate rutting during vehicle and equipment crossings (Table 3.7-2). Temporary matting is also anticipated to be used to cross Munson Slough where it transects the Proposed Action ROW. When used in waterbody crossings, temporary matting maintains water flow and, in conjunction with appropriate turbidity and erosion control measures, downstream water quality (GPC 2020).

Although minimal, clearing could lead to conversion impacts on the wetlands and stream. The Proposed Action is minimizing fill and/or construction activities within waterbodies to help prevent fragmentation and maintain the quality of the wetland at or near its current level.

Figures 3.7-2 to 3.7-9 highlight the location of wetlands and surface water features with the proposed ROW, current and proposed utility pole locations, and temporary matting locations associated with the Proposed Action.

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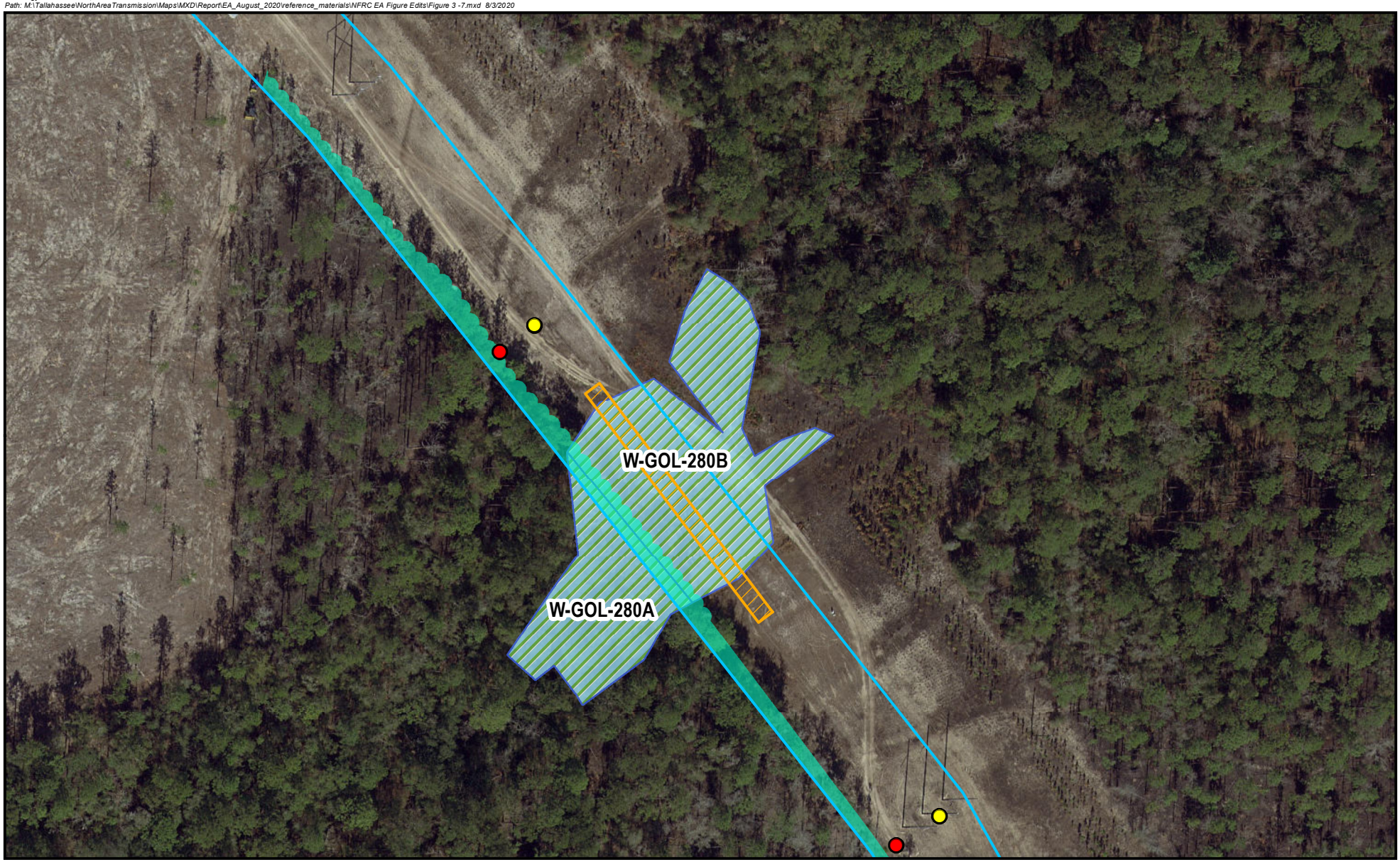
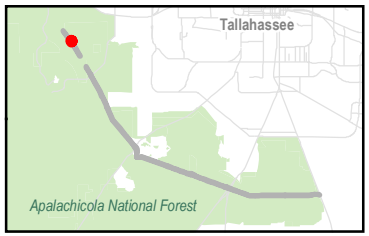


Figure 3.7-2
W-GOL-280 Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action



Proposed Permitted Corridor
Temporary Matting
Clearing Limits
Wetland
Existing COT Structures
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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Figure 3.7-3
W-GOL-278 Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action

Proposed Permitted Corridor
Temporary Matting
Clearing Limits
Wetland
Existing COT Structures
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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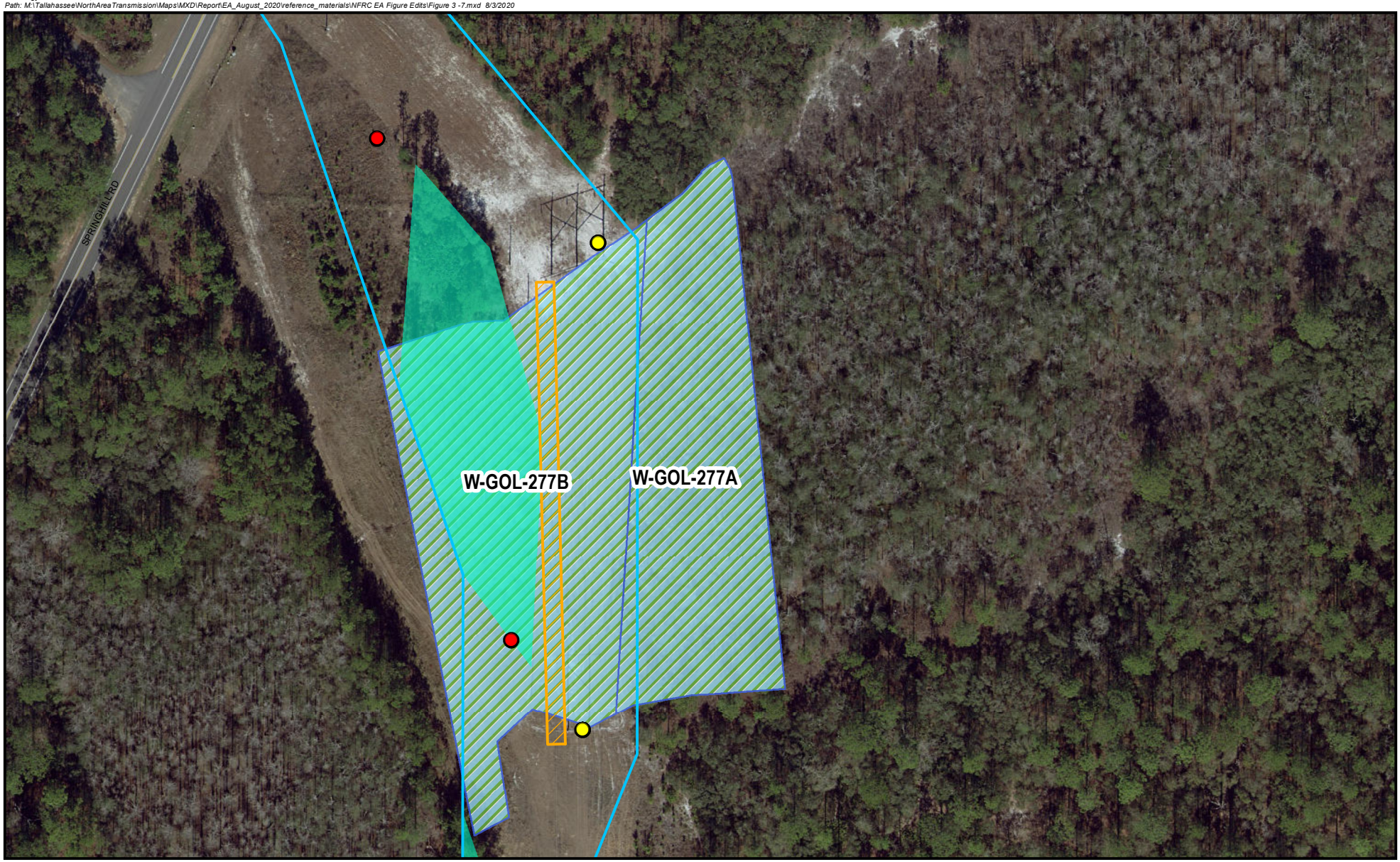

Figure 3.7-4
W-GOL-277 Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action

Proposed Permitted Corridor
Temporary Matting
Clearing Limits
Wetland
Existing COT Structures
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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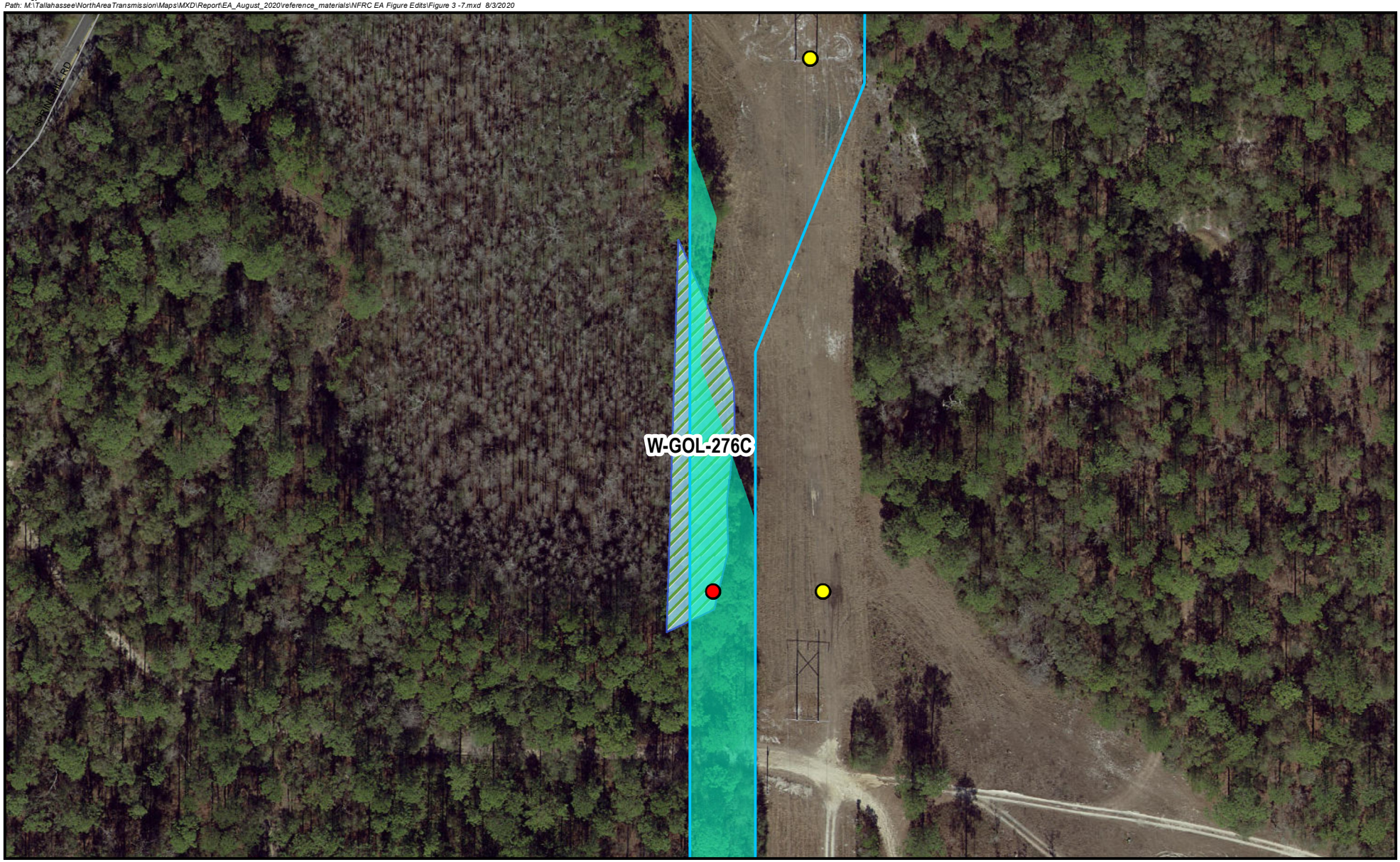

Figure 3.7-5
W-GOL-276C Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action

Proposed Permitted Corridor
Clearing Limits
Existing COT Structures
Wetland
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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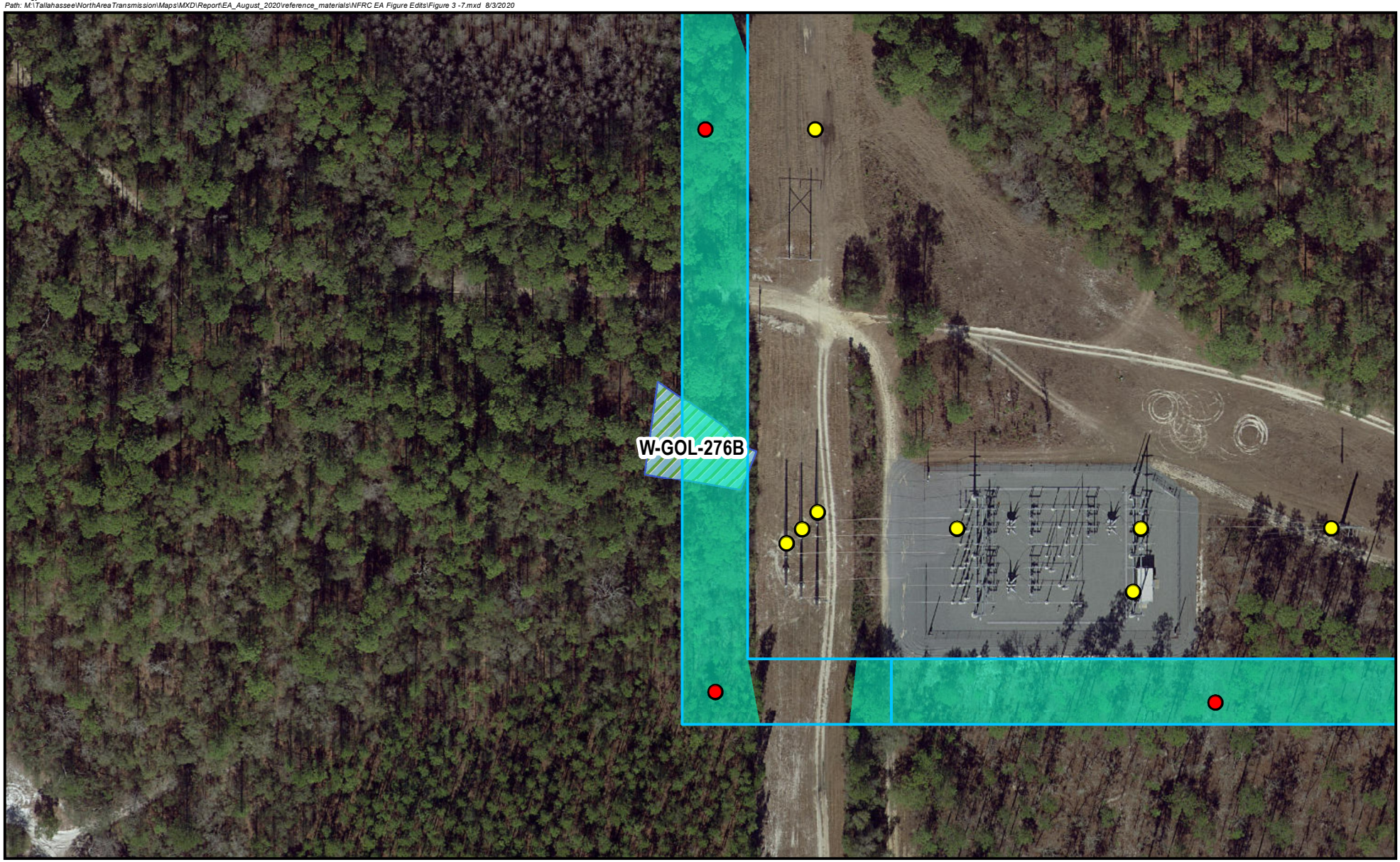
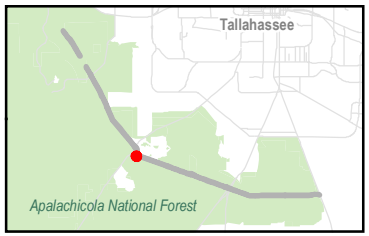


Figure 3.7-6
W-GOL-276B Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action



Proposed Permitted Corridor
Clearing Limits
Existing COT Structures
Wetland
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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Figure 3.7-7
W-GOL-272B Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action

Proposed Permitted Corridor
Clearing Limits
Existing COT Structures
Wetland
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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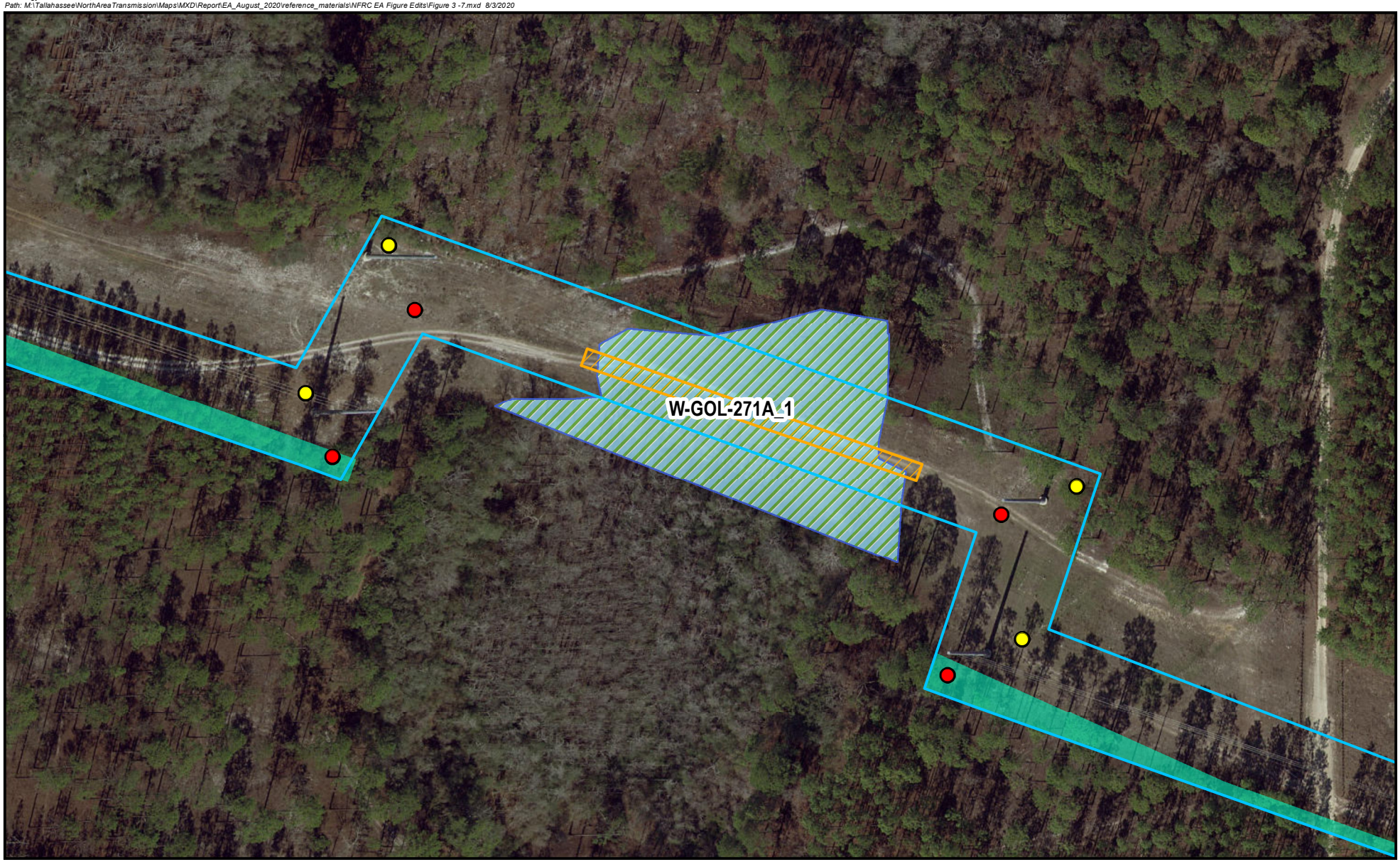

Figure 3.7-8
W-GOL-271A_1 Wetland Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action

Proposed Permitted Corridor
Temporary Matting
Clearing Limits
Wetland
Existing COT Structures
Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

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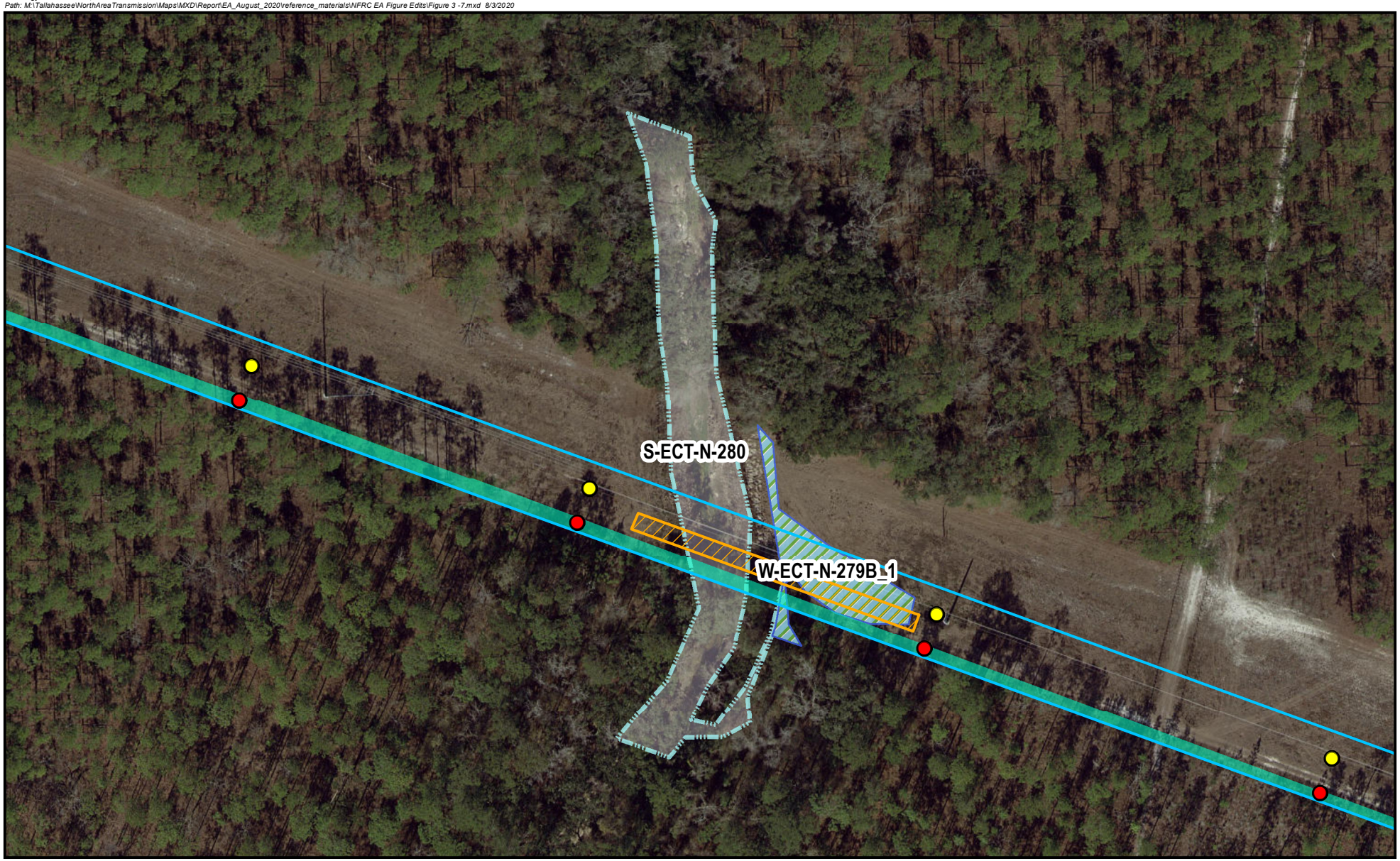
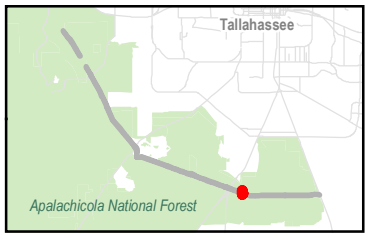


Figure 3.7-9
W-ECT-N-279B_1 Wetland and S-ECT-N-280 Surface Water Impacts

ecology and environment, inc.
Member of WSP

Feet
0 50 100

Location Along the Proposed Action



- Proposed Permitted Corridor
- Temporary Matting
- Clearing Limits
- Stream
- Wetland
- Existing COT Structures
- Proposed Structures

Sources: Gulf Power 2020, ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

Table 3.7-2 Potential Impacts to Water Resources

Feature	Feature ID	Shape File	Clearing Length on ROW (feet)	New Permanent Impact (acres)	Total Impact (acres)	Potential Impacts of Proposed Action
Wetland	W-GOL-280	W-GOL-280A	164.6	0.04251	0.0425	Forest clearing; long-term maintenance
		W-GOL-280B	216.0	0.0408	0.3993	Forest clearing; temporary matting; long-term maintenance
	W-GOL-278	W-GOL-278A	0	0	0.2451	Temporary matting; long-term maintenance
		W-GOL-278B	0	0	0.0560	Long-term maintenance
	W-GOL-277	W-GOL-277A	0	0	0.0704	Long-term maintenance
		W-GOL-277B	652.8	0.5905	1.658	Forest clearing; permanent impact by 1 pole (1446); temporary matting; long-term maintenance
	W-GOL-276B	W-GOL-276B	98.01	0.0791	0.0791	Forest clearing; long-term maintenance
	W-GOL-276C	W-GOL-276C	468.3	0.1758	0.2212	Forest clearing; permanent impact by 1 pole (1445); long-term maintenance
	W-GOL-272B	W-GOL-272B	43.70	0.0044	0.0044	Forest clearing; long-term maintenance
	W-GOL-271A_1	W-GOL-271A_1	0	0	0.5363	Temporary matting; long-term maintenance
	W-ECT-N-279B_1	W-ECT-N-279B_1	31.46	0.0018	0.1322	Forest clearing; temporary matting; long-term maintenance
		Subtotal	1674	0.9349	3.4441	
Stream	S-ECT-N-280	S-ECT-N-280	112	0.0154	0.0945	Forest clearing; temporary matting; long-term maintenance
		Subtotal	112	0.0154	0.0945	
		TOTAL	1786	0.9503	3.539	

Notes:
Acreages are based on field-delineated efforts and not Florida Land Use, Cover, and Form Classification System (FLUCCS) codes.
Total Impact area is a sum of New Permanent Impact areas and Temporary Impact areas.
Key:
ROW = Right-of-way
S = Stream
W = Wetland

Table 3.7-3 provides a summary description of the water features impacted by the Proposed Action; it includes discrete wetland and waterway acreages, associated land cover types (FLUCCS Codes), pre-impact Uniform Mitigation Assessment Method (UMAM) scores, and anticipated post-impact UMAM scores. Pre-impact UMAM scores reflect the current quality of wetlands within the Proposed Action ROW; scores are calculated to reflect wetland location and landscape support, water environment, and vegetation community structure. Post-impact UMAM scores reflect the anticipated wetland quality post construction. UMAM scoring and datasheets are located in the Golder and ECT reports.

Table 3.7-3 Proposed Action Right-of-way Water Feature Summary

Wetland ID	Shape File	Size (acres)	FLUCCS	Pre-Impact UMAM score	Post-Impact UMAM score
W-GOL-280	W-GOL-280A	0.0425	630	0.73	0.53
	W-GOL-280B	0.3993	641	0.73	0.73
W-GOL-278	W-GOL-278A	0.2451	641	0.73	Not Available
	W-GOL-278B	0.0560	630	0.73	Not Available
W-GOL-277	W-GOL-277A	0.0704	621	0.77	0.57
	W-GOL-277B	1.658	641	0.77	0[(a)]
W-GOL-276B	W-GOL-276B	0.0791	630	0.73	0.53
W-GOL-276C	W-GOL-276C	0.2212	641	0.73	0[(a)]
W-GOL-272B	W-GOL-272B	0.0044	621	0.77	0.57
W-GOL-271A_1	W-GOL-271A_1	0.5363	641	0.80	0.80
W-ECT-N-279B_1	W-ECT-N-279B_1	0.1322	643	0.80	Not Available
S-ECT-N-280	S-ECT-N-280	0.0945	511	NA	NA

Note:
(a) Post-impact score reported as 0 on UMAM indicate that wetland will be partially filled for pole placement.
Key:
FLUCCS = Florida Land Use, Cover and Forms Classification System
S = Stream
UMAM = Uniform Mitigation Assessment Method
W =Wetland

The two main types of wetlands encountered within the Proposed Action ROW are marshes (Freshwater Marshes) and forested wetlands (Mixed Forested Wetlands or Cypress) (Table 3.7-2). Within the Proposed Action ROW five wetlands (W-GOL-280B, W-GOL-278A, W-GOL-277B, W-GOL-276C, W-GOL-271A_1) are classified as Freshwater Marshes (FLUCCS Code 641). Freshwater Marshes generally have a longer hydroperiod than other vegetated, non-forested wetlands and are predominated by one or more of the following hydrophytic vegetation: sawgrass (*Cladium jamaicensis)*, cattail (*Typha* spp.), arrowhead (*Sagittaria* sp.), maidencane (*Panicum hemitomon)*, buttonbush (*Cephalanthus occidentalis)*, cordgrass (*Spartina bakeri)*, giant cutgrass (*Zizaniopsis miliacea)*, switchgrass (*Panicum virgatum)*, bulrush (*Scirpus spp.)*, needlerush (*Juncus effuses)*, common reed (*Phragmites communis/Phragmites australis)*, or arrowroot *(Thalia dealbata/Thalia geniculata)* (FDOT 1999).

Three wetlands (W-GOL-280A, W-GOL-276B, W-GOL-278B) are classified as Mixed Forested Wetlands (FLUCC Code 630). Mixed Forested Wetlands are defined as "…mixed wetlands forest communities in which neither hardwoods or conifers achieve a 66 percent dominance of the crown canopy

composition." These wetlands are comprised primarily of red maple (*Acer rubrum*), sweet-bay (*Magnolia virginiana*), slash pine (*Pinus elliottii*) and bald cypress (*Taxodium distichum*). The shrub layer in these wetlands is dominated by sweet-bay, slash pine, highbush blueberry (*Vaccinium corymbosum*) and in some instances wax myrtle (*Morella cerifera)* and saw palmetto (*Serenoa repens*); ground cover species include Virginia chain fern (*Woodwardia virginica*), flatsedge (*Cyperus odoratus*), greenbrier (*Smilax rotundifolia*), dogfennel (*Eupatorium capillifolium*), yelloweyed grass (*Xyris* spp.), and cinnamon fern (*Osmunda cinnamomea*), among others.

Two additional forested wetlands (W-GOL-272B, W-GOL-277A) are classified as Cypress (FLUCCS Code 621). Cypress wetlands are composed of pond cypress (*Taxodium ascendens*) or bald cypress which is either pure or predominant (FDOT 1999). Both wetlands W-GOL-272B and W-GOL-277A are characterized as cypress sloughs dominated by bald cypress.

One wetland (W-ECT-N-279B-1) is classified as a Wet Prairie (FLUCCS Code 643). Wet Prairies are comprised of grassy vegetation on wet soils and are usually distinguished from marshes by having less water and shorter herbaceous vegetation. Dominant vegetation in wet prairies normally includes sawgrass, maidencane, cordgrass (*Spartina* spp.), spikerushes (*Elocharis* spp.), St. John's wort (*Hypericum* spp.), spiderlily (*Hymenocallis* sp.), swamplily (*Crinum* spp.), yellow-eyed grass, and whitetop sedge (*Rhynchospora colorata*) (NWFWMD 2004).

The site where Munson Slough crosses the ROW is located downstream of Lake Munson and upstream of Eight Mile Pond. Within the ROW Munson Slough is approximately 30 feet wide and has an ordinary high-water mark showing an average depth less than 3 feet deep. Note that although this feature is defined as a ditch (FLUCCS Code 511), the conditions appear to be more reflective of a stream (Photo 10).

Photo 10: Overview of Munson Slough south of ROW.

Water quality for 2017 and 2018 suggest that Munson Slough meets nutrient thresholds for the East Panhandle Region (Leon County 2020). Nitrogen levels occasionally exceeded total maximum daily load (TMDL) levels in recent years, but overall, nitrogen levels appear to be decreasing. Total phosphorus has not exceeded the TMDL limit since 2016 and, like phosphorus, appears to be on a downward trend. While nutrient levels have decreased in recent years, elevated biochemical oxygen demand levels during some sampling events suggest that microbial activity appears to have been stimulated by elevated levels of nitrogen and phosphorus.

The overall cumulative permanent impact footprint of Munson Slough would be 0.02 acres (0.09 total acres, but the other 0.07 acres are already being maintained as part of the current ROW). The Proposed Action, when taken into consideration with other past, present, or reasonably foreseeable future actions, would likely contribute to cumulative impacts on water resources within adjacent wetlands and the Munson Slough stream. However, like the Proposed Action, all of these projects require the developers to obtain appropriate permits (e.g., Generic Permit for Stormwater Discharge from Construction Activities, USACE Nationwide Permit 12, or FDEP Environmental Resource Program permits). Compliance with the conditions and requirements of the permits, as well as implementation of BMPs, would decrease the magnitude of impacts on water quality from stormwater runoff and erosion, and would mitigate any direct stream or wetland habitat loss. Similarly, GPC and developers for other past, present, and future projects are required to use standard dewatering techniques, follow erosion and sediment control plans and BMPs that would prevent erosion, select an appropriate discharge location, remove sediment from collected water,

and preserve downgradient natural resources. Therefore, the Proposed Action, when taken into consideration with the other past, present, and reasonably foreseeable future actions, would not result in significant cumulative impacts on water resources.

3.7.3 Mitigation Measures for Water Resources

If the Proposed Action is implemented, BMPs will be implemented to minimize the extent and duration of project-related disturbances to wetlands. Where wetlands are impacted, the following mitigating measures will be implemented to avoid or minimize potential adverse impacts on surface water and wetlands. They are:

- Locate poles and ground disturbance outside of waterbodies and wetlands to the extent practicable. (Note: it is likely that an FDEP permit and USACE permit would be required in areas where a pole is going to be placed.)
- Minimize ground disturbance associated with the project to the extent possible.
- Site any necessary work space areas outside of, and a minimum of 100 feet from, any wetlands or streams.
- Designate 100-foot buffer zones on all sides of waterbodies and wetlands and install signage, fencing, tape, or other appropriate notification methods to clearly identify the locations and limits of buffer zones to construction crews prior to construction.
- Construction within buffer zones would be the minimum necessary to cut trees to ground level and remove downed vegetation from the construction ROW.
- Install and maintain appropriate erosion control barriers (e.g., matting, silt fencing and/or straw bales) across the ROW if any ground-disturbing activity will occur near the 100-foot buffer zone of all wetlands and waterways. In addition, erosion control measures would be installed and maintained throughout construction, in sloped or disturbed areas or in any other circumstances where construction related activities have the potential to cause sedimentation of wetlands and/or waterbodies located adjacent to the proposed ROW. The use of hay for erosion control barriers is not allowed by the USDA Forest Service on NFS land.
- Where use of access roads in upland areas cannot provide appropriate access to the construction ROW, all construction equipment may pass through the wetlands once. In areas of high soil saturation where rutting is likely to occur, use temporary matting on the travel lane within the wetland. Where matting is deemed necessary, all construction equipment would operate off the matting.
- Minimize grading activities to non-saturated wetland areas and only in those locations where a safe, stable ROW surface must be created. In areas where grading will be required, the wetland topsoil should be stripped and segregated from the underlying subsoil. Topsoil will be returned after grading activities have been completed, promoting quick reestablishment of wetland species by preserving the vegetative propagules (e.g., seeds, tubers, rhizomes, bulbs) in the topsoil. In wetlands where grading is not required, disturbance to the topsoil will be minimized to ensure quick revegetation of wetlands after construction is completed.

- Seed all disturbed upland areas as soon as possible with appropriate certified noxious weed-free seed in accordance with USDA Forest Service direction (as certified by the state) to stabilize upland areas and avoid sedimentation and erosion into nearby wetlands and waterbodies.
- Monitor post-construction re-vegetation success in wetlands during periodic ground inspections. Contingency measures would be implemented, as necessary.
- Specify in the bid documents that the storage of hazardous materials, chemicals, fuels, and lubricating oils is prohibited on the construction ROW. Specify in the bid documents that refueling of personal vehicles or construction equipment is prohibited on the construction ROW. Specify in the bid documents that overnight parking of personal vehicles or construction equipment within 100 feet of any waterbody or wetland is prohibited.
- Restore pre-construction contours as close to original grade as possible.
- Comply with the conditions of applicable authorizations relating to any work within wetlands, including the Environmental Management Permit issued by the Leon County Department of Development Support and Environmental Management.

3.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section describes the socioeconomic and environmental justice resources in the vicinity of the Proposed Action, the potential impacts of the alternatives, as well as the No Action Alternative, on those resources, and the potential mitigation measures to reduce or eliminate those potential impacts. Information from the American Community Survey (U.S. Census Bureau), the Florida Department of Economic Opportunity, the Florida Office of Economic and Demographic Research, and other local data sources were analyzed to determine the existing socioeconomic conditions within the effected vicinity of the Proposed Action.

3.8.1 No Action Alternative

Under the No Action Alternative, the project would not be constructed within the ANF and, therefore, the population, economy, or employment in Leon County would not be affected. In addition, there would be no environmental justice concerns related to the No Action alternative. To the extent that the No Action Alternative would result in construction of the transmission line outside of the ANF, there could be effects on socioeconomics or environmental justice concerns depending on where the project would be located.

3.8.2 Proposed Action

Socioeconomics

The Proposed Action (construction and operation of 11-miles of transmission line within the northeastern part of the ANF) would occur entirely on USDA Forest Service land, in Leon County, Florida, within Census Tract 27.01, Blocks 1, 2, and 3. The Proposed Action (including permanent and temporary construction areas, and staging areas) would be collocated with a COT transmission line and be adjacent to an existing FGT natural gas pipeline. The Proposed Action is a portion of construction of a 176-mile long transmission line construction that will travel from Columbia County, Florida, in the east to Jackson County in the west.

As shown in the following tables (Tables 3.8-1 through 3.8-5), the primary industries and employers in the project area include Public Administration, Education and Health Services, Professional and Business Services, and Retail Trade. Unemployment rates in Census Tract 27.01, Blocks 1, 2, and 3, vary from 2.4 to 4.1 percent (averaging 3.3 percent; 1,505 workers unemployed) which is similar to the county (3.3 percent; 145,442 workers unemployed) and state (3.4 percent) unemployment rates. Median household income in Census Tract 27.01, Blocks 1, 2, and 3, is slightly lower than the county and state median household incomes. Vacant housing rates within in Census Tract 27.01, Block 2 is high (38 percent), when compared to Blocks 1 and 3 (average 12 percent), the county (12 percent), and the state (18 percent).

Table 3.8-1 Nonagricultural Employment by Industrial Sector for the Tallahassee Metropolitan Statistical Area and Leon County, Florida

General Industry Categories	Tallahassee MSA March 2020	Leon County 2018	Leon County 2019	Leon County 2027
Construction	9,400	6,533	6,758	6,870
Manufacturing	3,200	1,953	1,888	1,931
Retail Trade, Transportation, Utilities	23,800	21,291	20,948	21,460
Information	3,100	2,688	2,738	2,740
Financial Activities	7,700	7,248	7,896	8,354
Professional and Business Services	22,200	18,704	20,990	23,142
Education and Health Services	25,100	22,444	23,013	26,929
Leisure and Hospitality	21,200	18,785	18,697	20,358
Other Services	9,200	5,702	7,250	7,594
Federal Government	2,100	6,792	7,250	7,594
State Government	46,800	34,846	39,469	40,227
Local Government	15,000	11,031	11,775	12,292
Total Labor Force	188,800	158,017	168,672	179,491
Unemployment Rate	4.2%	3.3%	3.1%	N/A

Key:
MSA = Metropolitan Statistical Area
Source: Florida Department of Economic Opportunity 2018[a], 2018[b].

Table 3.8-2 Labor Force Statistics for Census Blocks Impacted under Proposed Action

Geographic Area	2018 Total Population	2018 Labor Force	Employed	Unemployed
Census Tract 27.01, Block 1	1,750	1,055	987	68
Census Tract 27.01, Block 2	370	159	144	15
Census Tract 27.01, Block 3	989	398	374	24
Leon County	288,102	158,017	145,442	12,369
State of Florida	20,598,139	9,931,799	9,253,932	622,978

Source: Tallahassee Democrat 2018; Florida Department of Economic Opportunity. 2018[a], 2018[b].

Table 3.8-3 Unemployment Rates for Census Blocks Impacted under Proposed Action

Geographic Area	2018 Total Population	2018 Labor Force	Unemployment Rates			
			2018	March 2019	February 2020	March 2020
Census Tract 27.01, Block 1	1,750	1,055	3.9%	N/A	N/A	N/A
Census Tract 27.01, Block 2	370	159	4.1%	N/A	N/A	N/A
Census Tract 27.01, Block 3	989	398	2.4%	N/A	N/A	N/A
Leon County	288,102	158,017	3.3%	3.1%	2.8%	4.1%
State of Florida	20,598,139	9,931,799	3.4%	3.2%	2.8%	4.3%

Source: Tallahassee Democrat 2018; Florida Department of Economic Opportunity 2018[a], 2018[b].

Table 3.8-4 Income Characteristics for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Per Capita Income	Median Household Income	Percent Below Poverty Line
Census Tract 27.01, Block 1	N/A	$46,442	20.8%
Census Tract 27.01, Block 2	N/A	$46,278	18.4%
Census Tract 27.01, Block 3	N/A	$40,671	15.9%
Leon County	$29,754	$51,201	19.5%
State of Florida	$29,838	$53,267	14.5%

Source: Tallahassee Democrat 2018; Florida Department of Economic Opportunity 2018[a], 2018[b].

Table 3.8-5 Selected Housing Statistics for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Housing Units	Vacant Housing Units	Vacancy Rate	Median House Value
Census Tract 27.01, Block 1	596	81	14%	$57,500
Census Tract 27.01, Block 2	277	105	38%	$108,800
Census Tract 27.01, Block 3	563	55	10%	$112,800
Leon County	128,876	15,958	12%	$195,000
State of Florida	9,348,689	1,726,929	18%	$196,800

Source: Florida Legislature 2020; USA.com. 2020[a, 2020[b]; Tallahassee Democrat 2018.

The Proposed Action is expected to locally employ temporary construction workers; but no new long-term jobs would be created, and it would not contribute to long-term population impacts in the region. The overall 176-mile NFRC line is expected to create more than 200 temporary jobs; therefore, it is reasonable to expect roughly 6.3 percent of the jobs is attributable to the 11-mile segment describe in the Proposed Action. As a result of employing local temporary workers, local service industries (restaurants, hotels, stores, etc.) may see an increase in business. Also, the Proposed Action is expected to source services from local companies (i.e., lay hay bales for ROW protection, ready-mixed concrete for foundations, gravel, trash disposal, rentals, etc.). Employing local labor and utilizing local suppliers adds to the ripple effect that stimulates the economy through indirect spending effects. With the project, GPC customers are expected to benefit from increased transmission capacity and reliability. Also, 26 miles of transmission line in Leon

County are anticipated to generate approximately $11 million in property tax revenues (over the next 30 years) for the Leon County government. Therefore, it is reasonable to anticipate the approximately $4.7 million in property tax revenues (over the next 30 years) is attributable to the Proposed Action, with additional tax revenues generated from wage and salary expenditures, material procurement, taxes on the sale of electricity, and lease payments for ROWs on the public land. The Proposed Action, within the existing utility easement, would not require the acquisition or removal of any houses or other structures. It would not impact or disrupt public amenities provided on the federal lands (i.e., all-terrain vehicle, motorcycle, pedestrian and bicycle trails, recreation areas). In summary, the Proposed Action is not expected to have a negative or disproportionate environmental socioeconomic impact on the local and/or regional population, economy, or housing.

Environmental Justice

An Environmental Justice evaluation (impacts on minority and low-income populations) was conducted for the Proposed Action as required by EO 12898 and in accordance with CEQ, Environmental Justice Guidance under the NEPA (December 10, 1997). The CEQ Guidance describes the following criteria to determine environmental justice populations: "at least **one-half of the population (minority or low income - below poverty levels) in the project area** exceeds 50 percent of the total population, or the percentage is **at least 10 percentage points higher than a comparable geographic area**." Also, in accordance with EO 13045 "Protection of Children from Environmental Health Risks and Safety Risks," a similar analysis was conducted on children populations (under the age of 18).

Information from the American Community Survey (U.S. Census Bureau) was used to determine a potential for disproportionate impacts to minority, low-income, or child populations in the project area. These evaluations used county- and census block-level (Census Tract 27.01, Blocks 1, 2, 3) population data sets. As shown in the following tables (Tables 3.8-6 through 3.8-10), populations of individual minority race categories, Hispanic or Latino origin, total minority, or poverty/low-income status in the project area do not meet the criteria of an environmental justice population. Similarly, children under the age of 18 within the project area do not exceed 50 percent of the total population, or otherwise meet the criteria, as disproportionately impacted when compared to Leon County or the State of Florida children populations. Also, the Proposed Action, located on federal lands, would not be within proximity to homes, schools, daycares, or other areas where children congregate.

Table 3.8-6 Summary for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Population	% Population Minority	% Population Below Poverty	% Population Under Age 19
Census Tract 27.01 Block 1	1,750	42%	20.8%	21.7%
Census Tract 27.01 Block 2	370	14%	18.4%	27.0%
Census Tract 27.01 Block 3	989	14%	15.9%	17.3%
Leon County	288,102	35%	19.5%	24.5%
State of Florida	20,598,139	19%	14.5%	22.5%

Note:
As shown in Table 3.8-6, none of the population groups make up at least one-half of the total population in the project area, nor is the percentage of any population group at least 10 percentage points higher than the county percentages. While Block 1 (42%) has a higher percentage of minority populations when compared to the county (35%), it does not exceed the 10% higher threshold.
Source: Florida Legislature 2020; USA.com 2020[a], 2020[b]; Tallahassee Democrat 2018.

Table 3.8-7 Population Percentages for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Population	% Minority	% White Alone	% Black Alone	% Hispanic or Latino
Census Tract 27.01, Block 1	1,750	42%	55.1%	38.7%	3.3%
Census Tract 27.01, Block 2	370	14%	48.9%	13.8%	3.7%
Census Tract 27.01, Block 3	989	14%	78.8%	14.2%	3.1%
Leon County	288,102	35%	56.8%	31.0%	6.3%
State of Florida	20,598,139	19%	54.4%	16.1%	25.2%

Source: Tallahassee Democrat 2018.

Table 3.8-8 Population Group Characteristics for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Population	White	Black	American Indian	Asian	Pacific Islander	Other
Census Tract 27.01 Block 1	1,750	965	678	6	58	0	43
Census Tract 27.01 Block 2	370	181	51	0	0	0	138
Census Tract 27.01 Block 3	989	779	140	0	0	0	70
Leon County	288,102	177,852	89,444	578	10,107	81	10,040
State of Florida	20,598,139	15,529,098	3,316,376	58,118	559,168	12,887	1,122,492

Source: Tallahassee Democrat 2018.

Table 3.8-9 Percent Below Poverty Level for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Population	Below Poverty Level	% Below Poverty	White	Black	Indian	Asian	Pacific Islander	Other
Census Tract 27.01 Block 1	1,750	364	20.8%	N/A	N/A	N/A	N/A	N/A	N/A
Census Tract 27.01 Block 2	370	68	18.4%	N/A	N/A	N/A	N/A	N/A	N/A
Census Tract 27.01 Block 3	989	157	15.9%	N/A	N/A	N/A	N/A	N/A	N/A
Leon County	288,102	56,104	19.5%	9.4%	8.7%	0.0%	0.6%	0.0%	0.7%
State of Florida	20,598,139	2,983,851	14.5%	9.4%	3.6%	0.0%	0.3%	0.4%	0.6%

Source: Florida Legislature 2020; USA.com 2020[a], 2020[b]; Tallahassee Democrat 2018.

Table 3.8-10 Population of Children for Census Blocks Impacted under Proposed Action (2018)

Geographic Area	Total Population	Age				Total	% Population Under Age 19
		Under 5	5 - 9	10 - 14	15 - 19		
Census Tract 27.01 Block 1	1,750	55	112	51	162	380	21.7%
Census Tract 27.01 Block 2	370	0	4	96	0	100	27.0%
Census Tract 27.01 Block 3	989	52	0	90	29	171	17.3%
Leon County	288,102	14,957	14,656	15,211	25,901	70,725	24.5%
State of Florida	20,598,139	1,117,420	1,131,739	1,176,979	1,201,106	4,627,244	22.5%

Source: Tallahassee Democrat 2018.

Demographic and economic data for the census block groups adjacent to the proposed project route were compared to similar countywide demographic and economic data to determine whether the Proposed Action could have disproportionately high and adverse effects on minority or low-income populations. A minority population is identified as an area where the minority population of the affected area exceeds 50 percent or where the minority population percentage of the affected area is "meaningfully greater" than the minority population percentage in the general population or other appropriate unit of geographic analysis. In this analysis, "meaningfully greater" is defined as anything greater than the area of comparison, namely Leon County. The Proposed Action is not expected to have a disproportionate environmental impact on minority populations, low-income populations, or child populations.

3.8.3 Mitigation Measures for Socioeconomics and Environmental Justice

The following mitigation measures have been identified to avoid or reduce potential adverse impacts if the Proposed Action is implemented:

- Utilize existing utility line corridors within existing easements ROWs.

4 OTHER NEPA CONSIDERATIONS

4.1 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resources commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. The project construction would require the irretrievable commitment of non-recyclable building materials and fuel consumed by construction equipment.

Irretrievable commitments are those that are lost for a period such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line ROWs or road. Under the Proposed Action, the NFRC project would require the irretrievable commitment of some vegetation communities. Specifically, 10.13 acres of forested vegetation would be cleared and maintained in a non-forested condition. In total, approximately 16.5 acres within the ANF will be cleared as part of the Proposed Action. The long-term maintenance of the utility ROW would remove this acreage from forestry management for the life of the SUP. Following the termination of the SUP or decommissioning of the project, the area would be allowed to revert to forested cover.

4.2 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA requires consideration of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502.16). As declared by Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

Construction of the Proposed Action would have short-term impacts on environmental resources, primarily associated with installation of poles and conductors and the limited clearing of vegetation within the existing and expanded portions of the ROW. Temporary impacts from construction activities are detailed in Section 3. The SUP would require GPC to restore the ROW and other lands affected by project construction within the ANF. During the restoration process, GPC would be required to work with the USDA Forest Service to ensure that the restored ROW would provide useful and functional habitat for vegetation and wildlife.

The short-term use of environmental resources would result in increased electrical reliability for the region in which the project would be located. The project and associated facilities would remain operational for at least 50 years. The long-term impacts would include maintaining the up to 100-foot-wide, 78-foot-wide, and 67-foot-wide corridors for Segments 1, 2, and 3, respectively, in a non-forested condition for the life of the SUP. Following the termination of the permit, the area would be allowed to revert to a forested cover.

4.3 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse impacts would result from the implementation of the Proposed Action. These impacts would be short-term negative effects primarily associated with construction activities. Impacts of the Proposed Action would include periodic traffic delays, closure or disruption of trails or recreational opportunities, dispersion of wildlife, stormwater runoff and soil erosion, and fugitive dust emissions. However, these effects would be short-term and localized to the areas under construction.

Unavoidable, long-term, negative environmental effects include the conversion of approximately 16.5 acres of land within the ANF to a utility ROW. The clearing of land for the utility ROW decreases forested land available for recreation and species habitat. Increasing the cleared land within the ROW, as well as the utility structures themselves, also impacts visual resources. Some utility structures would occur within wetlands, causing conversion of the wetland to a different type of wetland or creating the necessity to fill a portion of the wetland.

These short- and long-term effects would be relatively minor on the scale of the ANF and in the context of the existing ROW. Additionally, other projected beneficial impacts associated with the Proposed Action, as well as mitigation measures, would offset or compensate for some negative effects.

5 FINDING OF NO SIGNIFICANT IMPACT

The CEQ NEPA regulations require considering the context and intensity of effects when determining the significance of a Proposed Action (40 CFR 1508.27). The analysis above and the evaluation of context and intensity factors below suggest that the Proposed Action to make a decision on a SUP application for the construction, occupancy, and use of NFS land for a 161-kV electric transmission line will not significantly impact the environment. Therefore, an EIS is not required for this project.

5.1 CONTEXT

The FLPMA of 1976 governs how certain public lands are managed, including ROWs on NFS lands. GPC has applied to the USDA Forest Service for a SUP authorizing GPC to construct, operate, and maintain an electric power transmission line, which would traverse a portion of the ANF. The Forest Supervisor for the National Forests in Florida has authority to approve or deny certain special uses within the ANF and would determine whether to issue a SUP for the proposed GPC transmission line in accordance with the FLPMA.

Implementation of the Proposed Action would involve standard utility construction activities along the 11.3 miles within the ANF that includes previously disturbed lands within the existing FGT and COT utility ROWs, which are mostly cleared and flat. Construction activities would include limited excavation during augering, clearing, and grading during removal and replacement of existing COT utility structures and the construction of the new utility structure within each of the line segments (discussed in Section 2.4.2). Those activities would be largely surficial and limited to the top 1 to 2 feet of ground surface. Clearing and grading during construction would not impact any geologic features, such as spring zones, karst features, or sinkholes.

As discussed in Section 3.1, the majority of the Proposed Action would occur within the utilities land cover. Forested land makes up the second largest land cover category. The ROW would be located adjacent to an existing transmission line ROW and would be maintained with a mix of native grasses and herbaceous species. The Proposed Action would traverse a land MA within the ANF that is designated MA 9.2 (USDA Forest Service 1999). Land uses associated with MA 9.2 include conservation, timber production, and recreation, among other compatible uses. The Proposed Action would be consistent with ANF management objectives for MA 9.2 and LRMP Standard LA-9 (see Section 1.3.2), which directs the USDA Forest Service to confine, to the extent practicable, ROW approvals to existing utility routes or corridors designated for this purpose (USDA Forest Service 1999).

5.2 INTENSITY

Intensity is a measure of the severity, extent, or quantity of effects, and is based on information from the analysis of this EA. The impacts of the Proposed Action have been considered with an analysis that meets requirements in USDA Forest Service NEPA regulations and is responsive to concerns and issues raised by the public. The USDA Forest Service has taken a hard look at the anticipated impacts of the Proposed Action using relevant scientific information and knowledge of site-specific conditions and management history. Per USDA Forest Service regulations, intensity of effects was considered for the following ten factors:

1. **Potential impacts of implementing the Proposed Action.** The impacts discussed throughout Sections 3 and 4 were estimated using the total length and width of the ROW for all three segments of the GPC proposed transmission line through the ANF, as discussed in Section 2.4.2. The Proposed Action would be completely collocated through the ANF along an existing utility ROW. The Proposed Action would include only minimal expansion of the existing ROW in specific locations. Furthermore, any disturbance associated with the Proposed Action would not impact the entire existing COT corridor, but rather impacts would be limited to only the areas where the existing COT transmission structures are removed and replaced, the areas where the new GPC utility structures are constructed, and the portions of the ROW where the corridor is expanded.

   Additionally, construction-related disturbance for the Proposed Action within the ANF would be minimized due to most of the ROW having been previously cleared and graded by the FGT Project and previously disturbed lands associated with the current COT's 230-kV SWTL transmission line ROW. An existing, designated travel lane currently used by the USDA Forest Service, recreational users, COT, and FGT would also be used by GPC during the construction of the Proposed Action. Finally, some clearance and ground disturbance occurring within the existing ROW has already been examined as part of the SWTL EIS. GPC would clear some vegetation that was analyzed as part of the SWTL EIS, but was never actually cleared by the COT as their transmission line was constructed. For these reasons, new ground disturbance within the ANF during construction would be substantially reduced due to the collocation.

   Effects of clearing and maintaining the existing ROW have been extensively analyzed in past NEPA documents for the FGT and SWTL projects. Because the effects have been considered and the activities have already been authorized, this EA focuses on the effects resulting from the construction and maintenance of the GPC transmission line and associated activities that have not been previously analyzed. The analysis in Sections 3 and 4 considered a wide range of effects on relevant resource areas, including both potential beneficial and negative effects of implementing the Proposed Action. Although implementation would follow guidance described here to reduce adverse effects and mitigation is proposed to benefit affected resources, the potential negative effects of the Proposed Action were fully considered in the determination that the impacts of the project are not significant.

2. **The degree to which the Proposed Action affects public health or safety.** Activities associated with implementation of the Proposed Action entail some level of risk. Construction activities utilizing heavy machinery and involving electricity can pose a safety risk to workers and members of the public utilizing the ANF. However, the Proposed Action would occur in a sparsely populated area that is not likely to see a large number of forest users. Signs and public advisories will be posted during construction activities. Therefore, public health and safety will not be adversely affected by the Proposed Action.

3. **Unique characteristics of the geographic area.** The ANF provides an excellent example of long-leaf pine habitat which creates a diverse and unique ecology. The ANF is home to many protected species that utilize habitat that is rare outside of the ANF. The striped newt and frosted elfin butterfly are two of these species. However, as discussed in Section 3.5, impacts are expected to be short-term and mainly during construction activities, and mitigation measures would be implemented to avoid and minimize potential habitat fragmentation and impacts on species diversity and the overall ecological integrity of the area. Any impacts that are not mitigated are not

anticipated to be significant, nor are they expected to create a trend impacting a species' federal listing status, adversely modify critical habitat, or jeopardize the viability of the species.

4. **The degree to which the effects on the human environment are likely to be highly controversial.** Public comments received during scoping (See Section 1.4) overwhelmingly (79 percent) expressed support for the Proposed Action; however, a variety of issues were identified. Many of these issues were also voiced during the public scoping meetings to project team members. These issues were incorporated into the analysis of this EA. Although some respondents disagree with the overall 176-mile NFRC project, controversy in NEPA is based on disagreement over analysis or effects, rather than simply based on the amount of opposition expressed by the public. The opinions expressed during scoping, and considered within this EA, did not disclose any significant adverse effects that would result from the Proposed Action on the quality of the human environment.

5. **The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.** Implementing the Proposed Action would not result in highly uncertain, unique, or unknown risks. All the activities of the Proposed Action have been previously conducted with the ANF. Section 1.5 highlights several previous actions similar to the Proposed Action. Additionally, GPC has significant experience designing, constructing, and implementing transmission line projects and is acquainted with the risks of such projects.

6. **The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.** Authorization of the SUP and implementation of the Proposed Action are unlikely to establish a precedent for future actions with significant effects. All future projects proposing ROW collocation, expansion, or creation would also undergo effects analysis and public involvement, including evaluation of potential significant effects.

7. **Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.** Other past, present, and reasonably foreseeable actions potentially relevant to cumulative impacts are outlined in Section 1.5. Environmental documentation of several of these actions has been incorporated in this analysis by reference. Cumulative impacts, where relevant, were analyzed as part of each resource in Chapter 3. Although some resource areas found the potential for cumulative impacts to occur, the impacts were not determined to be substantial or to collectively exceed any threshold that would result in significant effects.

8. **The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP, or may cause loss or destruction of significant scientific, cultural, or historical resources.** The USDA Forest Service, in meeting its obligations under Section 106 of the NHPA and its implementing regulations in 36 CFR 800, provided its determination for a finding of no effect to historic properties to the SHPO on October 18, 2019, for the portion of the transmission line covered by this SUP. The SHPO concurred with their finding on November 25, 2019. Subsequent to that determination, GPC revised their project corridor; this required altering both the direct effects and proximity effects APEs. Notification on this revision was submitted to the USDA Forest Service via email on April 28, 2020. The USDA Forest Service provided a compliance review on May 14, 2020, to the Florida SHPO, noting the change in the project and reiterating their determination that no historic properties

would be affected by the Proposed Action. The Florida SHPO responded on June 11, 2020, noting their concurrence with the finding of no effect on historic properties.

Additionally, the USDA Forest Service consulted with the Kialegee Tribal Town, the Muscogee (Creek) Nation, the Poarch Creek Tribe of Alabama, and the Seminole Tribe of Florida concerning the Proposed Action. The USDA Forest Service sent letters to the Tribes on October 21, 2019. The Seminole Tribe of Florida responded on November 19, 2019, and indicated that they had no objections to the project and requested that they be notified of any discoveries of archaeological, historical, or burial resources that are inadvertently found. The USDA Forest Service also provided a compliance review on May 14, 2020, to the tribes noting the change in the project. On July 1, 2020, the Muscogee (Creek) Nation concurred that there would be no effects to known historic properties. The Seminole Tribe of Florida responded on July 7, 2020, that the undertaking was not located within their area of interest and, thereby, they had no objectives to the project.

9. **The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.** The USDA Forest Service prepared a BA (Appendix F) analyzing the potential effects of the Proposed Action on species protected under the ESA of 1973. The BA determined:

    - The Proposed Action would have no effect on Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), purple bankclimber (*Elliptoideus sloatianus*), shinyrayed pocketbook (*Lampsilis subangulata*) or Godfrey's butterwort (*Pinguicula ionantha*), based on their absence from the area and no reasonable connection to indirect effects.
    - The Proposed Action may affect, but is not likely to adversely affect the eastern indigo snake (*Drymarchon corais couperi*), wood stork (*Mycteria americana*) or red-cockaded woodpecker (*Picoides borealis*). These species are known to occur or may occur in the affected area, and a reasonable connection may be made between project activities and potential minor and short-term disturbance. However, the impacts of the proposed activities are not reasonably certain to result in take of individuals and are considered to be insignificant or discountable.

The BA was provided to the USFWS on August 12, 2020, for Section 7 consultation. The USFWS acknowledged receipt of the BA and provided preliminary agreement with the determinations on August 14, 2020. A concurrence letter from the USFWS agreeing with these determinations and concluding ESA consultation was provided on September 9, 2020.

10. **Whether the action threatens a violation of federal, state, or local law or other requirements imposed for the protection of the environment.** All relevant laws, regulations, and requirements were analyzed in this EA. The Proposed Action would not violate federal, state, or local laws or requirements for the protection of the environment. Multiple federal and state agencies were provided an opportunity to review and comment on the EA. No comments were received during the scoping period, but the USDA Forest Service will continue to coordinate with any agencies that demonstrate interest in the project.

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Appendix A

North Florida Resiliency Connection Project Information

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Description of a Typical Transmission and Distribution System

A typical transmission and distribution system, as illustrated on Figure 1, is a process of moving electricity through power lines from the power-generating plants to the community's distribution system. A transmission system is made up of high-voltage lines that carry electric energy ranging from 69 kilovolts (kV) to 765 kV. Appliances and standard business equipment cannot use electricity at high transmission voltages, so the voltages must eventually be reduced and delivered to a distribution system for use in homes and businesses.

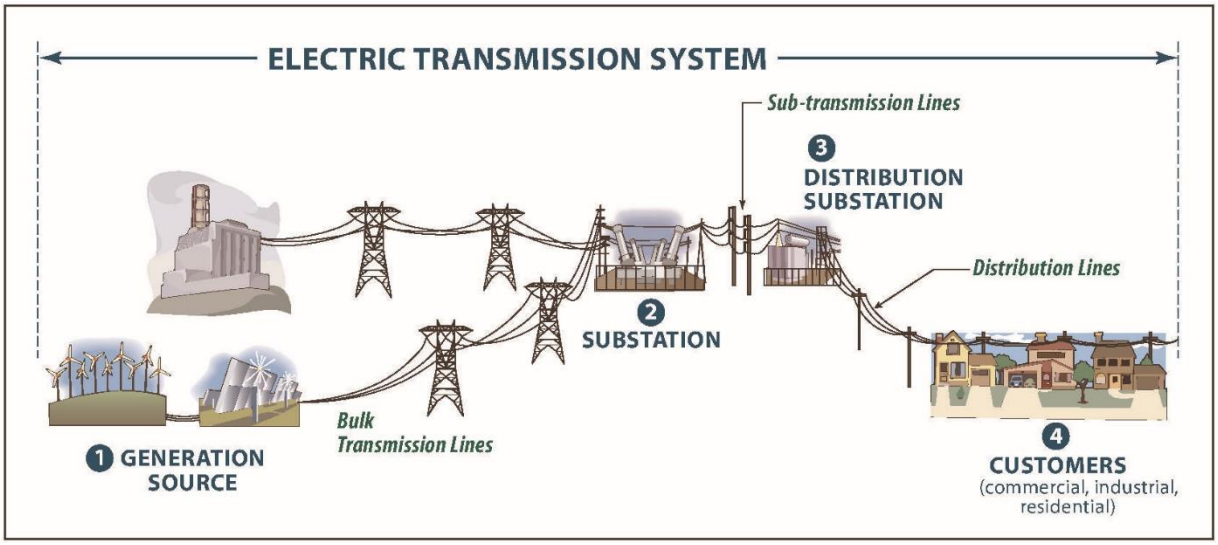

Figure 1 Typical Transmission and Distribution System

Electricity is delivered from the transmission system to customers' homes and businesses through a primary distribution system comprised of a network of power lines delivering electricity at lower voltage. A transformer reduces the voltage again. At this point, it changes from primary to secondary distribution voltage and is at a voltage level appropriate for operating household appliances and office equipment. Voltage on a distribution system ranges from 120 to 50,000 volts and links directly to the customer's meter. In addition to transformers for reducing voltage, distribution systems include regulating and protective equipment to help ensure steady and safe operation of electrical equipment (NERC 2011).

NFRC Project Justification

The NFRC would enhance the reliability of the electric power supply for both GPC's and FPL's customers. All else equal, access to more generation resources makes a utility system more reliable. The NFRC line does not currently exist. Consequently, neither GPC nor FPL have the same access to the other system's generating units that the new line would allow. The additional access to more generating resources that the new line would provide would enable both systems to have one more path to generation resources than is currently the case. This results in both the GPC and FPL systems becoming more resilient when faced with generating unit outages and/or failures of other transmission lines, whether caused by storms or mechanical failure. In addition, the NFRC line would provide other utilities the potential to tie their systems into the new line, thus adding resiliency (and perhaps economic benefits) to their systems as well. For

example, the City of Tallahassee is currently exploring the possibility of tying its system into the NFRC line.

The NFRC project would create more than 200 jobs as part of the development and project construction. GPC encourages contractors to source from the local labor pool during the initial bidding phase for construction. In addition to personnel directly hired by the prime contractor, there are also second-tier contractors whose services, by either the size or nature of the service provided, would be sourced from local companies (hay bales for right-of-way protection, ready-mixed concrete for foundations, gravel, trash disposal, rentals, etc.). Finally, due to the scale of the project, service industries indirectly related to construction (hotels, restaurants, etc.) will see a surge in business with a commensurate increase in the number of employees.

The NFRC project would provide significant tax benefits to every county the proposed project crosses. GPC has provided anticipated tax benefits based on conservative factors. The NFRC project is projected to provide approximately $75 million in property tax benefits to counties. Those benefits are outlined in Table 1-1.

Table 1-1 Anticipated Tax Revenue Over Next 30 Years by County

County	Miles	Anticipated Tax Revenue
Columbia	25	$11 Million
Gadsden	33	$15 Million
Jackson	3	$1 Million
Jefferson	26	$11 Million
Leon	26	$11 Million
Madison	33	$15 Million
Suwannee	26	$11 Million

Lower cost energy would be available to GPC's customers from FPL's generating fleet. GPC's current generation units (power plants) are less fuel-efficient than FPL's generation units. GPC's generating units use almost 40 percent more fuel to produce a kilowatt-hour of electricity than FPL's units use. Because the NFRC line would provide access to FPL's significantly lower-cost generating units around the clock, 365 days a year, GPC's customers would benefit from lower energy costs made possible by the proposed project. Additionally, rather than paying annual fees to obtain the energy over existing transmission lines, GPC would incur significantly less cost in obtaining the energy if a new transmission line is built. Over the projected 47-year life of the NFRC line, the savings are projected to be at least $225 million over the costs associated with obtaining the energy through existing transmission.

Lower costs for new generation units would be possible for GPC's customers. For future maintenance of electric reliability, GPC would need to either build new generating units in its service territory or rely on the NFRC line and access to FPL's system of generating units. GPC forecasts have shown that utilizing the NFRC line would enable GPC to reduce its construction of new generation capacity. For example, GPC forecasts indicate that in the year 2023, the NFRC line would result in GPC requiring 250 megawatts (MW) less of system generating capacity. This is projected to save GPC customers $175 million in just the capital cost of building a new generating unit alone. In addition to this capital cost savings, additional cost savings would be derived from the absence of annual costs for a new unit (i.e., annual costs

for fuel, operations, maintenance, etc.). Beyond cost savings, reducing the number new generation units to be constructed and operated will likely result in lower air emissions in GPC's service area.

Finally, solar facilities built in GPC's area would not only serve GPC's customers, but can serve FPL's customers as well. Part of GPC's generation planning is to make significant improvements to its fleet of generating units. Part of that effort will be to install new solar photovoltaic facilities. These new solar facilities will deliver energy to GPC's customers and will do so with no fossil fuel usage and zero emissions. In the joint GPC and FPL 2020 Ten Year Site Plan that was filed with the Florida Public Service Commission on April 1, 2020, plans were announced to build an additional 1,565 MW of universal solar in GPC's service territory by the end of 2029. Even greater amounts of solar in GPC's service territory may become cost-effective in on-going analyses. Such an assumption would mean that the total solar megawatt-hours (MWh) output in the afternoon on many spring and fall days is projected to be greater than the entire GPC area electrical load for at least several hours. The existence of the NFRC line would allow this "excess" solar MWh output to be transmitted back over the line for the benefit of FPL's customers instead of the excess solar MWh being curtailed. During these hours, the ability to import zero emission MWh from GPC's area into FPL's service territory would also result in lower air emissions in FPL's territory.

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Appendix B

Collocation Agreement with the City of Tallahassee

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CO-LOCATION AGREEMENT
BETWEEN THE CITY OF TALLAHASSEE
AND
GULF POWER COMPANY

This Co-location Agreement ("**Agreement**") is made and entered into on this 24th day of September, 2019 ("**Effective Date**"), by and between the City of Tallahassee, a Florida municipal corporation ("**City**"), and Gulf Power Company, a Florida corporation ("**Company**") (collectively, the "**Parties**").

Recitals

WHEREAS, Company intends to construct a new 161kV transmission line referred to as the North Florida Resiliency Connection ("**Project**"); and,

WHEREAS, the purpose of the North Florida Resiliency Connection is to connect the Gulf Power and FPL systems to, maintain reliability, bring lower cost power to the Gulf system, and meet resource/transfers needs between the two systems; and,

WHEREAS, a portion of the Project will cross through: (i) the Apalachicola National Forest; (ii) City utility easements; and (iii) City owned property, collectively the "**Project Area**"; and,

WHEREAS, the Company and City wish to enter into an agreement or agreements that allow for Company to co-locate portions of the Project with certain city facilities within the Project Area, and agree on terms that provide for mutual benefits to both parties; and,

WHEREAS, the co-location of the Project within the Project Area will require the removal, relocation, and rebuilding of certain City transmission facilities and equipment ("**City Facilities**") to the extent necessary to eliminate conflicts with Company's construction of the Project within the Project Area and to provide for safe and reliable operations; and,

WHEREAS, Company's construction of the Project within the Project Area will require the City granting easements or providing other approvals or support to Company for construction of the Project within the Project Area; and,

WHEREAS, the purpose of this Agreement is to document the terms between the City and Company for Company to co-locate portions of the Project with certain City Facilities within the Project Area in order to accommodate Company's Project upon the terms and conditions stated herein; and,

WHEREAS, the Parties agree that this Agreement is intended to inure to the benefit of and is binding upon the Parties, their respective successors in interest by way of merger, acquisition, or otherwise, and their permitted assigns;

NOW, THEREFORE, for and in consideration of the mutual covenants contained herein,

the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Recitals. The above recitals are true and correct and are incorporated herein.

2. Shared Use of Project Area. Each Party consents to the use, by the other Party, of that portion of the Project Area, identified in Exhibit A, which it has or intends to have the legal right to occupy for the Support Structures and their respective transmission lines and for installation, maintenance, removal and replacement of the same, and each agrees that so long as this Agreement is in effect, none of the permits, easements, or other rights in favor of either Party shall be deemed superior to those in favor of the other Party; it being the purpose and intent to this Agreement that the Parties share the Project Area equally, in accordance with the terms of this Agreement; provided, however, that nothing in this Section is intended to eliminate any requirement that the Parties obtain all permits necessary for each of them to occupy the Project Area in the first instance from appropriate governing authorities.

3. Term. The term of this Agreement shall commence on the date of execution hereof and shall continue in perpetuity.

4. Responsibilities of Company.

a) Company, at Company's sole cost and expense, will remove, relocate, and rebuild certain City Facilities located within the Project Area, as more fully described in Exhibit B.

b) The period during which City Facilities will be required to be out of service for removal, relocation and construction will be within the City's normally planned outage windows of March 1 through May 31 and September 30 through November 30 of each calendar year, unless otherwise mutually agreed to by the parties at least thirty (30) days prior to Company's commencement of construction activities. The Company agrees to take all reasonable measures, including expedited construction techniques and rotating outages, to ensure that planned and actual line outage durations will be reduced to the shortest practicable time periods to minimize disruption to City utility operations, and all outages of City Facilities will be coordinated in accordance with the FRCC Local Operating Plan for NW Florida (FRCC-MS-RC-005) and will not conflict with City's planned generating unit outages[1], unless mutually agreed upon by the parties.

c) Company shall reimburse City for all incremental Costs incurred by the City arising from the Company's requests for outages of City Facilities. For the purpose of this Agreement, "Costs" means all actual, reasonable and documented (i) costs and expenses paid by City to third parties and (ii) costs

[1] The City's Purdom Unit 8 has a 44-day planned unit outage in the Spring of 2020 and Hopkins Unit 2 has a 60-day planned outage in the Spring of 2021. Additionally, there may be restrictions on construction in the Apalachicola National Forest by the USFS from April 1 through July 31 of each year to avoid the nesting season of the Red Cockaded Woodpecker.

and expenses incurred by the City as internal overhead (such overhead not to exceed an amount equal to 102% such costs and expenses). Examples of such incremental Costs would include, but not be limited to, acceleration costs to shorten planned generating unit outage lengths for City generating facilities, Deemed Energy payments, as defined in the Energy Purchase Agreement between the City and FL Solar 4, LLC, or the purchase of operating reserves by the City. Where practicable, the City shall provide the Company with estimated incremental Costs for review and approval prior to incurring such Costs.

d) Any changes in total base import or export capability resulting from the construction and energization of the Project shall not be attributed to or have the effect of decreasing City's assigned import capability under the Florida Southern Interface Allocation Agreement or City's individual base export allocation under the Florida-Southern Transmission Export Allocation Agreement in the event either agreement is amended in response to the construction of the Project. Should either agreement be amended to increase the import or export allocations, the Company shall support the position that the City benefits by such increases on a pro-rata basis to the increase in import or export in negotiations with the other Interface Owners[2], including affiliates of the Company.

e) Upon prior written request, Company will (within a reasonable period of time after such request) provide City with necessary information in order for City to perform power flow modeling of the Florida Reliability Coordinating Council, Inc. ("FRCC") grid with the proposed Company line, including such information regarding line ratings, impedance, length of line and connecting stations.

f) Company will work collaboratively with the City to jointly study the interconnection of the Project to the City's transmission system at 230kv. Should the joint interconnection studies demonstrate benefit for the City, City shall have the right to design, permit and construct an interconnection between the Project and the City's 230kv transmission system at either the City's Substation 5, 32 or 34, or other mutually agreeable location, as determined by the joint interconnection studies. If the interconnection activities are to be pursued, Company agrees to procure and install, the 161/230 kV transformer in support of the proposed interconnection. City is responsible for all other costs for interconnecting the transmission line into the selected substation. Provided the City provides written notification to Company no later than December 1, 2020 of its election to construct such interconnection, the Company shall commence selection, purchase, delivery to the City's prepared foundation, and assembly of the transformer.

[2] "Interface Owners" includes City, Florida Power and Light Company, Jacksonville Electric Authority, and Duke Energy Florida.

g) Except as set forth in Section 4.f., Company will reimburse City for any Costs incurred or expended by City in connection with: (i) granting Company easements or providing other City approvals or support to enable the Company to co-locate the Project within the Project Area; (ii) City's support to ensure that interfacing easements with Florida Gas Transmission Company, LLC ("FGT"), Florida Department of Transportation ("DOT"), or other corporations or agencies are consistent with the Project co-location, if any; and (iii) any other such Costs incurred by the City to support the Project.

h) Company agrees to allow City to cross the Project with future transmission, distribution and communications facilities to support the City's operations. Such crossing will be done consistent with all applicable codes and standards. In the event that there is a crossing of the Project by future City transmission, distribution and/or communications facilities, the Parties will negotiate such crossing based on usual and customary terms and conditions for the type of crossing contemplated by the Parties. Any make ready work required to adjust the existing facilities will be borne by the requesting Party.

i) During the removal, relocation and rebuilding of City Facilities, Company will maintain the City's high-speed communications for components of the City's transmission system that are impacted by the Project during planned line outages in compliance with applicable prudent industry standards. The Parties recognize that temporary interruptions (e.g. hours) will be necessary as long as the transmission lines affected by the high-speed communications are out of service. Notwithstanding Company's maintenance obligations for City's high-speed communications enumerated herein, Company may request of City, and City may agree, to assume and perform the Company's obligations based on terms and conditions mutually agreed upon by the Parties.

j) Based on the Memorandum of Agreement entered into between the Parties on June 13, 2019, and additional factors, the route within Leon County shown in Exhibit A is the Company's preferred route and shall be used for all relevant permits and approvals for the Project, which route shall be deemed approved by the City Commission upon execution of this Agreement.

k) Subsequent to completion of construction and acceptance by the City, Company agrees to transfer to the City all rights, title and ownership interests, if any, in: (i) all City Facilities that Company removes, relocates and rebuilds as part of the Project work; and (ii) the 161/230kv transformer identified in Section 4f above.

l) Gulf acknowledges that the City provides retail electric service in Leon

County within a service area that is partially defined by boundaries with Talquin Electric Cooperative that were approved by the Florida Public Service Commission ("FPSC") through its Orders 22506, 22506-A and PSC-14-0680-PAA-EU. Order 22506 provides that the City's retail service in the zone identified as "Zone A" assures adequate and reliable energy in Florida and avoids uneconomic duplication of facilities.

5. Responsibilities of the City.

a) City will provide approval, support or consent to Company for the sharing of City's existing easements along portions of the Project Area provided the Company complies with all requirements of this Agreement.

b) City will provide reasonable support (subject to reimbursement of City's Costs by Company) in order for Company to obtain access on other portions of City's existing transmission corridors, including, but not limited to, granting or allowing access on portions of City's existing transmission corridors in which special use permit amendments, other permit amendments or consents, or new easements may be required to allow co-location or location of the proposed facilities.

c) Following Company's receipt of all governmental approvals and permits required to commence construction of the Project within the Project Area and upon Company's written request, City shall promptly execute and deliver to Company for recordation in the Public Records of Leon County, Florida (subject to reimbursement of City's Costs by Company) an Easement in the form attached hereto and made a part hereof as Exhibit C to allow co-location or location of the proposed facilities on City fee simple owned lands.

d) City will provide Company with all required and reasonably requested support (subject to reimbursement of City's Costs by Company) necessary to ensure that interfacing easements with FGT, DOT, or other corporations or agencies are consistent with Company-City co-location.

e) City agrees to allow Company to cross City's transmission, distribution and communications facilities when necessary to support the Project. Such crossing will be done consistent with all applicable codes and standards.

f) City will provide to Company the necessary as-built drawings and other relevant design or engineering data necessary to plan and construct the co-located City Facilities and Company facilities as contemplated by this Agreement.

g) City shall engage a nationally recognized independent engineering firm mutually agreed upon by the Parties (the "Independent Engineer") to

periodically review Company's work under Section 4.a. (including certain design and construction services provided by Company's subcontractors or sub-consultants for the City Facilities) for compliance with the design criteria set forth in Exhibit B on terms and conditions mutually agreed upon by the Parties. Company shall be responsible for all (i) fees due and payable to the Independent Engineer and (ii) any actual, reasonable and documented internal costs and expenses incurred by the City (including overhead in an amount such that the total of such costs and expenses shall not exceed an amount equal to 102% of such costs and expenses), in each case, as a result of performing quality inspection services agreed upon by the Parties in connection with confirming that design and construction services provided by Company's subcontractors or sub-consultants for the City Facilities are in compliance with the design criteria set forth in Exhibit B; provided, however, in no event shall Company's aggregate liability for all such fees and Costs exceed an amount equal to Three Hundred Thousand Dollars ($300,000). In the event that, upon finalization of the project schedule by the Parties, the scope of review required by the Independent Engineer and the City under this Section 5.g in connection with such final project schedule is such that such review could not reasonably be completed for an amount less than or equal to the Three Hundred Thousand Dollars ($300,000) limitation described above, then the Parties shall, in good faith, negotiate an adjustment to such limitation that reasonably reflects the fees and Costs anticipated to be incurred based on the final project schedule agreed upon by the Parties. Notwithstanding anything to the contrary herein, the Independent Engineer shall have no right to direct Company, Company's subcontractors or suppliers, or the performance of Company's obligations herein.

h) Within 60 days after the initial, agreed upon project schedule is provided to the City by the Company, City shall provide to Company a forecast of the City's internal projected costs and expenses, including the then-current rate sheets for relevant City employees and other internal labor costs.

i) City, excepted as set forth in this Section, agrees it will not initiate or intervene in any legal or regulatory proceeding in opposition to Company with respect to the Project so long as the Company is not in default, in accordance with Section 8 herein, of any obligations of this Agreement or any subsequent then current agreement; however, such restriction shall not apply to the City in regard to actions to the extent taken in its permitting regulatory capacity in accordance with the City's usual and customary practice. Nothing in this Agreement shall preclude the City from filing an action before the Federal Energy Regulatory Commission concerning the Southern Florida Interface Agreement allocations or assignments.

6. Design Criteria. The portion of the Project in the Project Area shall be constructed in accordance with the Design Criteria provided in Exhibit B.

7. Maintenance of the Project Area.

a) Maintenance of Own Equipment. Each Party shall maintain its own facilities and shall bear the cost of maintaining its own facilities.

b) Vegetation and Access Road Management. The Parties agree to negotiate and execute a detailed vegetation and access road management agreement prior to the Project being energized. Such agreement will include, but not be limited to, details on the roles and responsibilities of the Parties, how costs for these activities will be allocated between the Parties, and delegation of compliance responsibility for North American Electric Reliability Corporation (NERC) reliability standards related to vegetation management, including responsibility for penalties for violations of such NERC reliability standards governing City Facilities. In the event the Parties are unable to reach agreement on vegetation management, each Party shall be responsible for vegetation management for its own facilities within its own permitted portion of the Project Area and each Party shall indemnify, defend and hold harmless the other Party from and against any and all NERC fines and penalties assessed against and paid by such other Party, to the extent directly arising out of or resulting from the failure of such Party to maintain vegetation in a manner that gives rise to a confirmed violation of NERC standard FAC-003 Transmission Vegetation Management. Each Party shall ensure that the other Party, and its respective employees, agents, and representatives, have reasonable access to the access road within the Project Area during the term of this Agreement. Each Party acknowledges and agrees that it shall not unreasonably interfere with the other Party's access to such access road. Nothing in this Agreement shall prevent the City from conducting any needed vegetation management activities for its own facilities prior to the Project being placed in operation; provided, that, the City shall use reasonable efforts to advise the Company in advance of any such vegetation management activities so as not to interfere with the Company's obligations under this Agreement.

c) De-energizing Segments. The Parties agree that under normal conditions they can operate and maintain their respective circuit(s) without de-energizing the other's circuit(s). However, once the Project is energized, the Parties agree that there may be the need for one Party to request an outage on all or a portion of the other Party's transmission facilities so that the requesting Party can safely make repairs or additions as are necessary or desirable to its lines, equipment, including the support structures. The Parties agree to work cooperatively in scheduling any such outages as more fully described below.

i. Emergency Outages: In the event either Party needs the other Party's transmission line removed from service due to an emergency event, the Parties agree to work in a prompt manner to remove from operation and ground their respective facilities. In the case of an emergency outage, the

Parties agree to use good faith and all reasonable efforts to place this need ahead of other priorities.

ii. Scheduled Line Outages: In the event either Party needs to schedule a transmission line outage of the other Parties transmission line, the requesting Party shall provide advance written notice to the other Party. The Parties agree to work jointly with the Florida Reliability Coordinating Council and Duke Energy-Florida, or their successors, in scheduling the outage.

iii. In all cases, the Parties agree to coordinate their activities so as to minimize or avoid any disruption of electrical service or sales and ensure compliance with all applicable regulatory standards and requirements.

iv. In either case, the requesting Party agrees to prosecute all work that requires the other Party's transmission line outage on an expedited basis to minimize the other Party's transmission line outage length.

v. Neither Party shall be required to compensate the other Party for any costs or expenses, including switching and grounding costs and expenses, necessary to support outages under this provision.

8. Default and Termination.

a) The following events shall constitute an event of default by the performing Party should it fail to cure following notice from the other Party and expiration of the applicable cure period: The failure or omission by either Party to observe, keep or perform in any respect the material requirements of this Agreement, which continues uncured for sixty (60) days after the defaulting Party's receipt of written notice from the non-defaulting Party specifying the nature of the default and the required cure, and excepting good faith disputes over payment for services rendered or received, and such failure or omission has continued for sixty (60) days or such longer period as may be required to cure such failure or omission, not to exceed one-hundred eighty (180) days, if such failure or omission cannot reasonably be cured with a sixty (60) day period after written notice from the other Party.

b) In the event of an uncured default, the non-defaulting Party shall have the right at its option and without further notice, subject to the limitations set forth in the last sentence of this paragraph, to exercise any remedy available at law or in equity, including without limitation, a suit for specific performance of any obligations set forth in this Agreement, or any appropriate injunctive or other equitable relief, or for damages resulting from such default. Both Parties agree that remedies at law may be inadequate to protect against any actual or threatened breach of this Agreement. In the event of any breach or threatened breach, either Party shall have the right to apply for the entry of an immediate order to restrain or enjoin the breach and otherwise specifically to enforce the provisions of this Agreement.

c) Notwithstanding anything contained herein to the contrary, the Parties

acknowledge and agree that this Agreement may only be terminated as follows:

i. Either Party has the right but not the obligation to terminate this Agreement in the event the Company fails to commence construction of the Project within twenty-four (24) months of the Effective Date of the Agreement, provided, however, if any delay in commencement of construction arises from any delay in issuance of any local, state, or federal permit or approval for the Project required for the commencement of construction, and such delay is not the direct result of Company's failure to make a good faith effort to pursue the permitting or approval required, then such 24 month period shall be extended as necessary to account for the impact of such delay and until all permits or approvals required for commencement of construction are issued.

ii. Company has the right but not the obligation to terminate this Agreement upon the denial of any local, state, or federal government permit or approval required for the Project, or upon a delay in issuance of such permit or approval beyond a period of two years from the initial application by Company for such permit or approval, or issuance of any such permit or approval required for the Project which contains conditions deemed unacceptable by Company. Company agrees to make a good faith effort to obtain all required permits and approvals.

iii. Either Party has the right but not the obligation to terminate this Agreement on issuance of any local, state, or federal government permit or approval required for the Project, the effect of which modifies the route within Leon County identified in Exhibit A, with the exception of minor modifications.

iv. Either Party, has the right but not the obligation, to terminate this Agreement on issuance of a governmental permit or approval required for the Project, the effect of which materially modifies the design criteria as set forth in Exhibit B, including in Appendices 1, 2, and 3 thereto, in a manner that does not allow for the City's future second circuit to be constructed as contemplated by the Parties.

9. Indemnification. Each Party agrees to indemnify, defend and hold harmless the other Party and such other Party's mortgagees, officers, directors, affiliates, subsidiaries and their respective employees and agents, and successors and permitted assigns (the "Indemnified Parties") from and against any and all third party liabilities, obligations, losses, damages (including indirect, consequential, incidental, or special damages), claims, costs, charges, or other expenses, including, without limitation, reasonable attorney's fees and litigation costs, to the extent arising out of or resulting from any negligent act or omission of any kind by the Indemnifying Party in the Project Area or relating thereto.

10. Insurance. Prior to commencing the Construction of the Project, Company shall procure and maintain, at Company's own cost and expense for the duration of the Contract, insurance, as set forth in this Article, against claims for injuries to person or damages to property which may arise from or in connection with the performance of the Project or provision of services hereunder by Company, its Subcontractors, or their respective agents, representatives, or

employees.

a) Company shall maintain the following types of coverage with no less than the specified limits:

i. Commercial General/Umbrella Liability Insurance - $15,000,000.00 limit per occurrence for property damage and bodily injury. The coverage shall be provided on an occurrence basis and shall include coverage for the following:

- Premise/Operations
- Explosion, Collapse and Underground Property Damage Hazard (only when applicable to the project)
- Products/Completed Operations
- Contractual
- Independent Contractors
- Broad Form Property Damage
- Personal Injury

ii. Business Automobile Insurance - $15,000,000.00 limit per occurrence for property damage and personal injury.

- Owned/Leased Autos
- Non-owned Autos
- Hired Autos

iii. Workers' Compensation and Employers'/Umbrella Liability Insurance - Workers' Compensation statutory limits as required by Chapter 440, Florida Statutes. This policy shall include Employers'/Umbrella Liability Coverage for $1,000,000.00 per accident.

iv. Professional Liability Insurance - $5,000,000 limit per occurrence. Company has the right to meet this requirement using self-insurance. Coverage maintained by Company will apply in excess of any available coverage maintained by subcontractor.

b) Other Insurance Provisions

i. Commercial General Liability and Automobile Liability

- The City, members of its City Commission, boards, commissions and committees, officers, agents, employees and volunteers ("City Insureds") are to be covered as additional insureds as respects: liability arising out of activities performed by or on behalf of the Company; products and completed operations of the Company; premises owned, leased or used by Company or premises on which Company is performing services on behalf of the City. The coverage shall contain no special limitations on the scope of protection afforded to the City Insureds. Such coverage shall not extend to any negligent or wrongful

acts or omissions of a City Insured.

- Company's insurance coverage shall be primary insurance as respects the City Insureds except that the City's insurance shall be primary with respect to the negligence or wrongful acts or omissions of a City insured. Any insurance or self-insurance maintained by the City Insureds, or any of them, shall be excess of Company's insurance and shall not contribute with it.
- Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City Insureds.
- Coverage shall state that Company's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

ii. Workers' Compensation and Employers' Liability and Property Coverage -- The insurer shall agree to waive all rights of subrogation against the City Insureds for losses arising from activities and operations of Company in the performance of services under this Contract.

c) All Coverage

- Each insurance policy required by this Article shall be endorsed to state that Company shall endeavor to provide City with thirty (30) days prior written notice of any material changes to required coverages, including suspension, cancellation, and reductions in coverage.
- If Company, for any reason, fails to maintain insurance coverage, which is required pursuant to this Contract, the same shall be deemed a material breach of contract. City, at its sole option, may terminate this Contract and obtain damages from the Company's resulting from said breach.
- Alternatively, City in the event of default by the Company may purchase such required insurance coverage (but has no special obligation to do so), and without further notice to Company's, City may deduct from sums due to Company's any premium costs advanced by City for such insurance.

d) Deductibles and Self-Insured Retention -- Any deductibles or self-insured retentions must be declared to the City. Company shall provide written notice within thirty (30) days of any material changes in such deductibles or self-insured retentions.

e) Acceptability of Insurers -- Insurance is to be placed with Florida admitted insurers rated B+X or better by *A.M. Best's* rating service or near equivalent rating by a nationally recognized agency. The Electric Insurance Company can be used for any coverage required hereunder at Company's option.

f) Verification of Coverage -- Company shall furnish the City with certificates of insurance affecting coverage required by this clause. The certificates for each policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received by the City before Project commences on the City's property.

g) Subcontractors -- To the extent Company engages subcontractors to perform Project design and construction on the City's Facilities, Company shall ensure that all such subcontractors shall meet the insurance requirements outlined above unless otherwise agreed by the City, including naming the City as an additional insured. In addition, Company shall ensure that any design firms engaged by the Company for City Facilities shall also carry Professional Liability coverage in the amount of $1 million per occurrence.

h) Company has the right to satisfy the requirements in this Section 10 using any combination of primary, excess/umbrella and/or self-insurance.

11. Notice. Any and all notices, requests, demands and other communications required or permitted to be served pursuant to the terms of this Agreement shall be in writing and shall be served by (i) hand-delivery, (ii) United States certified mail, with sufficient prepaid postage affixed to carry same to its destination, return receipt requested, (iii) sent by facsimile, PDF or other electronic transmission (with electronic confirmation or, with the original to follow), or (iv) overnight delivery service, in each instance with receipt requested and postage and/or delivery charges, as the case may be, paid by the party serving such notice, as follows:

Upon City:
Robert E. McGarrah
General Manager Electric & Gas Utility
City of Tallahassee
2602 Jackson Bluff Road
Tallahassee, FL 32304
850-891-5534
850-891-5162 (fax)

With Copy to:
City Attorney
300 South Adams Street
Tallahassee, FL 32301
850-891-8554

Upon Company:
Michael G. Spoor
Vice President, Power Delivery
Gulf Power
One Energy Place
Pensacola, FL 32520-0100

With Copy to:
Russell A. Badders
Vice President and Associate General Counsel
Gulf Power
One Energy Place
Pensacola, FL 32520-0100

or to such other addresses as the parties shall designate in writing. Notice shall be deemed given when actually delivered by hand, upon receipt by electronic transmission, upon receipt by

overnight delivery service, upon receipt or initial refusal of delivery by United States certified mail.

12. Force Majeure. Performance by each Party shall be pursued with due diligence in all requirements under this Agreement; however, except as otherwise expressly provided herein, neither Party shall be liable to the other for any loss or damage for delay due to causes that (a) were beyond the reasonable control and (b) were not caused by the negligence or lack of due diligence of the affected Party. The Parties agree that, provided the conditions stated in (a) and (b) above apply, the following are causes or events of force majeure: acts of civil or military authority (including courts and regulatory agencies), acts of God (excluding normal or seasonal weather conditions), war, riots or insurrection, inability to obtain required permits or licenses, blockages, embargoes, sabotage, epidemics, fire, hurricanes, strikes, work stoppages and labor disputes other than as set forth herein and unusually severe floods. The Party affected shall promptly provide written notice to the other Party indicating the nature, cause, date of commencement thereof, the anticipated extent of such delay and whether it is anticipated that any completion or delivery dates will be affected thereby, and shall exercise due diligence to mitigate the effect of the delay. In the event of any delay resulting from such causes, and provided the affected Party has promptly notified the other and exercised due diligence as provided in this Section 12, the time for performance under this Agreement (including the payment of monies) shall be extended for a period of time reasonably necessary to overcome the effect of such delay. Such extension of time shall constitute the sole remedy of either Party in the event of such delay. Notwithstanding the foregoing provision of this Section 12, the Parties specifically agree that strikes, work stoppages or other labor disturbances solely involving a Party's employees, subcontractors or subcontractor's employees at the location where the applicable obligations under this Agreement are being performed are not excusable delays and will not relieve or postpone such Party's obligations hereunder within the time specified. In the event the affected Party fails to provide prompt written notice to the other Party or fails to exercise due diligence as provided in this Section 12, the obligations under this Agreement shall remain the same and the affected Party shall be obligated to perform those measures determined by the other Party to minimize the impact of such delay at its own expense or be liable to the other party for additional expenses caused by such delay. In no event shall either Party be responsible for the other Party's costs in connection with the occurrence of a force majeure hereunder.

13. Limitation of Liability of City and Company.

a) City:

i. Notwithstanding anything in this Agreement to the contrary, City shall not be liable to the Company for, nor shall the Company collect, any indirect, consequential, special, exemplary or incidental losses or damages or any loss of use, cost of capital, loss of goodwill, lost revenues or lost profit, arising from or in connection with this Agreement or the respective performance or non-performance of obligations herewith.

ii. Notwithstanding any other provisions of the Agreement to the contrary, the

liability of Buyer under this Agreement is intended to be consistent with Florida law and shall not constitute or be interpreted or construed as a waiver by City of its rights of sovereign immunity with respect to torts or tort claims, including, without limitation, its rights under Section 768.28, Florida Statutes, or any successor statute, nor shall any such provision be deemed to alter said waiver or to extend the liability of City beyond such limits, not shall any such obligation be deemed or construed as a waiver of any defense of sovereign immunity to which Buyer may be entitled.

iii. City's maximum aggregate liability hereunder, whether in contract, tort (including negligence), warranty, strict liability, or any other legal theory, shall not exceed $5,000,000.

b) Company:

i. Notwithstanding anything in this Agreement to the contrary, Company shall not be liable to the City for, nor shall the City collect, any indirect, consequential, special, exemplary or incidental losses or damages or any loss of use, cost of capital, loss of goodwill, lost revenues or lost profit, arising from or in connection with this Agreement or the respective performance or non-performance of obligations herewith.

ii. Company's maximum aggregate liability hereunder, whether in contract, tort (including negligence), warranty, strict liability, or any other legal theory, shall not exceed $5,000,000; provided, however that such limitation shall not limit Company's liability for (A) damages for which insurance proceeds are received from an insurance company for insurance required under this Agreement (if any), or (B) Deemed Energy or (C) the City's purchase of operating reserves.

14. Warranties:

a) Upon completion of Company's removal, relocation and rebuild of the City Facilities pursuant to Section 4.a, Company shall assign to City all original warranties received by Company from its suppliers, subcontractors and sub-consultants in connection with the removal, relocation and rebuild of the City Facilities, subject to the terms and conditions as may be set forth therein. Notwithstanding the foregoing, such warranties obtained by the Company and assigned to City shall, at a minimum, include (a) a warranty that all work or services furnished by, or under contract with, the general contractor with respect to the removal, relocation and rebuild of the City Facilities shall be free from defects in workmanship for a period of twenty-four (24) months following substantial completion thereof, (b) a warranty from the sub-consultant furnishing design and engineering services that all such work or services furnished by, or under contract with, the sub-consultant with respect to the removal, relocation and rebuild of the City Facilities shall be free from defects in design and engineering for a period of twelve (12) months following final acceptance of the design thereof; and (c) customary and industry-standard warranty terms for all other materials and equipment provided to Company by its subcontractors and suppliers for such removal, relocation and rebuild of the City Facilities.

b) EXCEPT AS SET FORTH IN SECTION 14(a), THE PARTIES ACKNOWLEDGE THAT NEITHER PARTY IS PROVIDING ANY REPRESENTATIONS, GUARANTEES (INCLUDING GUARANTEES OF PERFORMANCE) OR WARRANTIES OF ANY KIND, WHETHER ORAL, WRITTEN, STATUTORY, EXPRESS, OR IMPLIED (INCLUDING ALL WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE), UNDER THIS AGREEMENT, INCLUDING IN CONNECTION WITH COMPANY'S WORK UNDER THIS AGREEMENT TO REMOVE, RELOCATE AND REBUILD CERTAIN CITY FACILITIES, INCLUDING AS SET FORTH IN SECTION 4.a. INFORMATION, DATA, DELIVERABLES AND/OR REPORTS PROVIDED BY A PARTY HEREUNDER (COLLECTIVELY, "DATA") TO THE OTHER PARTY IS NOT INTENDED TO BE, AND SHOULD NOT BE, RELIED UPON BY SUCH OTHER PARTY OR ANY OTHER ENTITY AS A FINAL OR DEFINITIVE ASSESSMENT OF ANY PRODUCT OR ITS USE OR MAINTENANCE OR REPAIR REQUIREMENTS.

15. Counterparts. This Agreement may be executed and recorded in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument.

16. Entire Agreement. This Agreement, together with attached Exhibits, contains the entire agreement between the Parties hereto with respect to the subject matter hereof and any prior agreements, discussions or understandings, written or oral, are superceded by this Agreement and shall be of no force or effect. No addition or modification of any term or provision of this Agreement shall be effective unless set forth in writing and signed by the authorized representatives of the Parties.

17. Governing Law & Waiver of Trial by Jury. This Agreement shall be governed by the laws of the State of Florida. THE PARTIES TO THIS AGREEMENT HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT THAT MAY EXIST TO HAVE A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED UPON OR ARISING OUT OF, UNDER, OR IN ANY WAY CONNECTED WITH, THIS AGREEMENT. In the event of any dispute between the Parties, the Parties agree that the forum for resolution of such dispute shall be in Orange County, Florida.

18. Dispute Resolution. Any disputes resulting in litigation between the parties shall be conducted in the state or federal courts of the State of Florida. Proceedings shall take place in the Circuit Court for Orange County, Florida, the United States District Court for the Middle District of Florida, or such other Florida location or forum as mutually agreed upon by the parties. The parties irrevocably waive any objection, which any of them may now or hereafter have to the bringing of any such action or proceeding in such respective jurisdictions, including any objection to the laying of venue based on the grounds of forum *non conveniens* and any objection based on the grounds of lack of *in personam* jurisdiction.

19. Headings. The section headings contained in this Agreement are provided for purpose of reference and convenience only and shall not limit or otherwise affect in any way the meaning or interpretation of this Agreement.

20. Partial Invalidity. If any term or provision of this Agreement, or the application thereof to any person, entity, or circumstance is to any extend invalid or unenforceable, the remainder of this Agreement or the application of such term or provision to person, entities, or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each remaining term and provision of the Agreement shall be valid and enforceable to the fullest extent permitted by law.

[Signatures Appear on Following Page.]

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have executed this Agreement on the dates shown below to be effective the day and year first shown above.

CITY:

City of Tallahassee, a municipal corporation created and existing under the laws of the State of Florida

By: _____
Name: Reese Goad
Title: City Manager

Date: 9.23.19

Approved as to Form

_____
City Attorney

Attest:

_____
City Treasurer Clerk

SEAL OF THE CITY OF TALLAHASSEE
INCORPORATED
A.D.1840

COMPANY:

Gulf Power Company, a Florida corporation

By: _____
Name: Michael G. Spoor
Title: Vice President, Power Delivery

Date: 9/17/19

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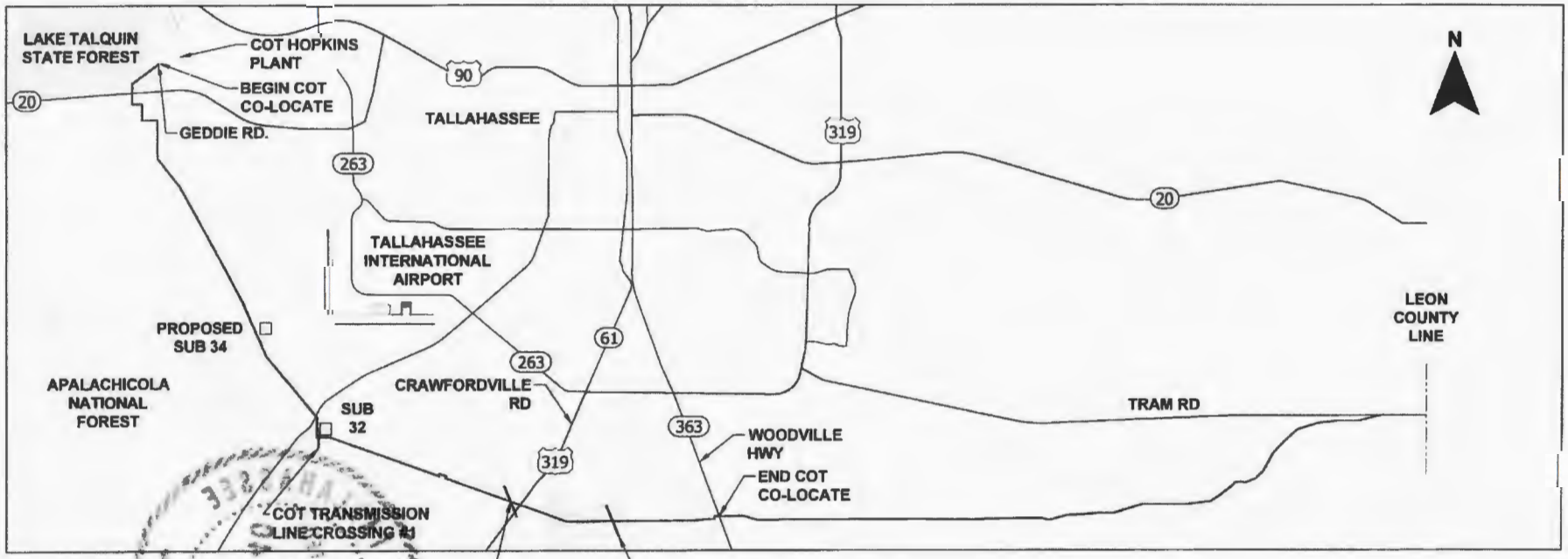
EXHIBIT A
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
LEON COUNTY, FLORIDA



LEGEND

EXTENT OF PROJECT AREA (CITY OF TALLAHASSEE CO-LOCATION)

ROUTE WITHIN LEON COUNTY EAST OF PROJECT AREA

REV	DATE	DESCRIPTION	BY	CKD	APP
0	07/15/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 1 OF 1

DATE: 07/15/19
CHECKED BY: JRC
SECTION: AS SHOWN
FILE NAME: COT EXHIBIT

Gulf Power

FPL 029828
20210015-EI

EXHIBIT B
DESIGN CRITERIA

1. Company shall, at its sole cost, engineer, design and construct the Project, including the City Facilities that are being removed, relocated and rebuilt, in accordance with the engineering and design criteria set forth in this Exhibit B (the "**Design Criteria**"). With respect to the City Facilities, the Company shall remove, relocate and rebuild the following City Facilities:
   a. Line 31N from Hopkins to Sub32 (Segment 1). This includes (i) all 230kv transmission structures and lines, OPGW and communication facilities; and (ii) distribution facilities which connect with Substation 32 and Substation 34 that are directly impacted by Company's work hereunder and would need to be rebuilt as a result of interconnecting therewith.
   b. Line 33 from Substation 32 to Crawfordville Highway (Segment 2) This includes all 230kv transmission structures and lines, OPGW and communication facilities that are directly impacted by Company's work hereunder and would need to be rebuilt as a result of interconnecting therewith.
   c. Line 33 from Crawfordville Highway to Woodville Highway (Segment 3). This includes all 230kv transmission structures and lines directly impacted by the Project, OPGW and communication facilities that are directly impacted by Company's work hereunder and would need to be rebuilt as a result of interconnecting therewith.
2. The design of the Project will include spacing horizontally (both along and across the transmission corridor) between the Company's facilities and City Facilities as depicted in Appendices 1, 2, and 3 to this Exhibit. In addition,
   a. New facilities will be constructed in accordance with Appendices 1, 2, 3, and 4. If unanticipated changes are identified during final design of the Project that were not contemplated at the time of execution of this Agreement, the parties agree to mutually cooperate to develop the final design criteria to address those elements;
   b. Company will provide a minimum of 20 feet of horizontal clearance between Company's poles and circuit conductors and City's poles and circuit conductors including both existing and future circuits, maintained during the term of the Agreement as set forth in Appendices 1, 2, and 3.
3. The Project will meet all applicable local, state and federal codes and standards including, but not limited to, those promulgated by North American Electric Reliability Corporation ("NERC") and National Electric Safety Code ("NESC").
4. City Facilities removed, relocated and rebuilt by Company for City will be independent of Company facilities, with each party's line being located on its own respective structures as set forth in Appendices 1, 2, and 3. The parties recognize there is a potential for common crossing structures to be needed in the design. Should this occur, the parties will agree to the use of a single joint structure under a joint-use agreement, provided however, the City's

circuit(s) will be located in the top position on the structure and design provisions are made for the City's future second circuit.

5. City Facilities removed, relocated and rebuilt by Company for City will be designed as follows[1]:

   a. The segment from the City's Hopkins Plant to the City's Substation 32 will utilize concrete poles and designed using 130 mph as the design wind loading. This segment will be designed by Company to allow the City the ability to add a 2nd 230kv transmission line to each structure. This segment shall include provisions for the replacement of the existing distribution circuit. The cross section for this segment is shown in Appendix 1, attached hereto.

   b. Segment from Substation 32 to Crawfordville Road, City Facilities will be rebuilt and designed using 130 mph as the design wind loading. The Company will use its best efforts to obtain additional rights-of-way required in this segment for the Project that allows the City to have the ability to add a 2nd 230kv transmission line. The Company will include City representatives in scheduled discussions with the U.S. Forest Service regarding the Project relative to colocation of the Company's transmission line with the City's transmission line. The cross section for this segment is shown in Appendix 2, attached hereto.

   c. Segment from Crawfordville Road to Woodville Highway, City Facilities will be rebuilt and designed using 130 mph as the design wind loading. In order to allow for the possibility for a future additional 230 kV transmission line for the City, Company will provide a pole with provisions to allow City to add an additional pole section and install a second circuit. Company will provide all the cost, materials and labor required to place the bottom circuit in service. Company will provide City with the technical design documents for the pole extension, including the pole company design information for these extensions. The Company will include City representatives in scheduled discussions with the U.S. Forest Service regarding the Project relative to colocation of the Company's transmission line with the City's transmission line. The cross section for this segment is shown in Appendix 3, attached hereto.

   d. For all three segments, if guying is required to maintain the 130MPH design in accordance with Appendix 4, attached hereto, for the future 230kv circuit, Company shall locate and install the guy foundations as part of the Project.

   e. Company's design of the Project herein, including the City Facilities, shall be based on applicable codes and standards, including those set forth in Appendix 4, in effect as of the Effective Date and in no event shall Company be responsible for any changes in such codes and standards thereafter. City assumes all risk and costs for

[1] For all of the three segments from the City's Hopkins Plant to Woodville Highway, the City's transmission line will be designed per NESC criteria (1.0 Importance factor and 1.0 safety factors). Single conductor on both circuits (max 1590 ACSR with 2 OPGW).

any changes in such codes and standards after the Effective Date. Except as identified in this Exhibit, the City will be responsible for the cost, labor and materials for the installation of the future second circuit.

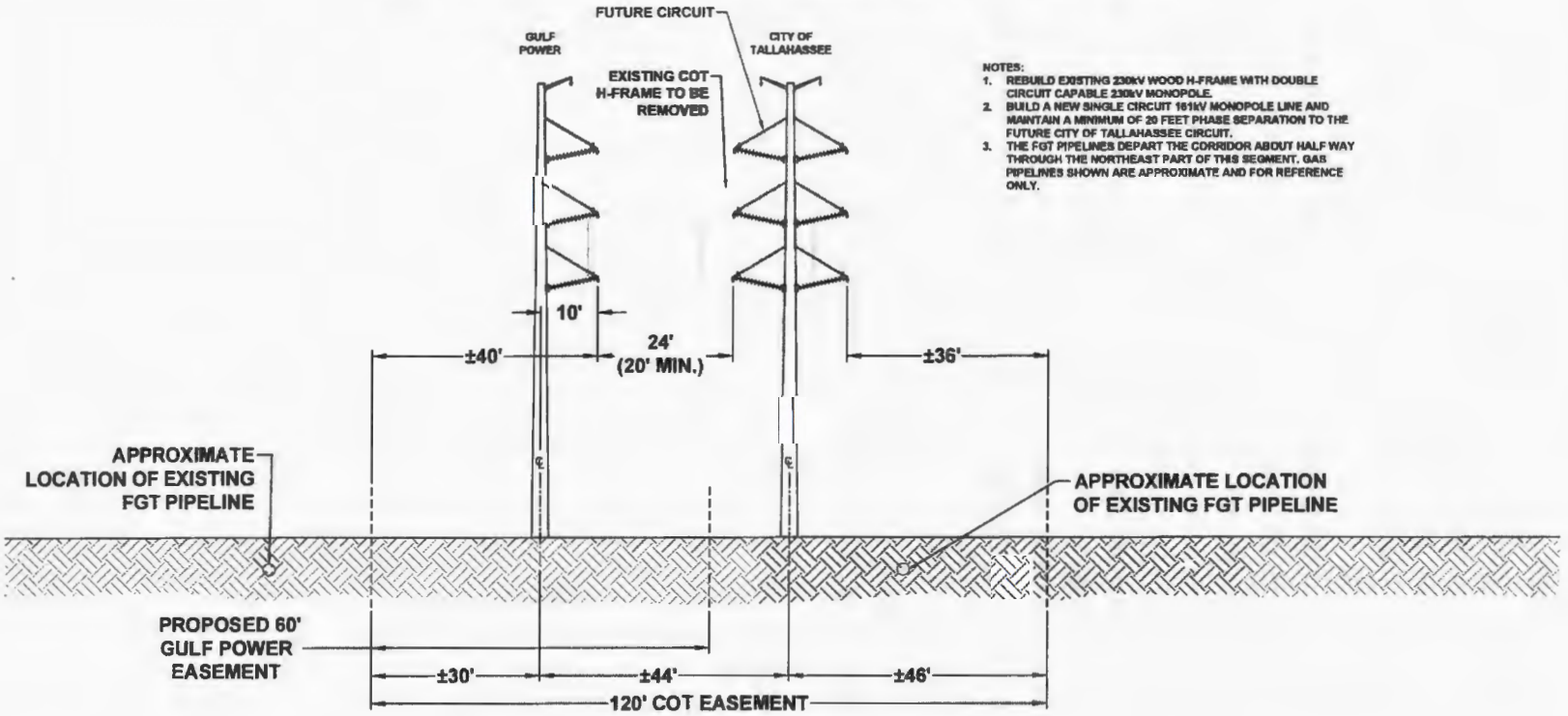
f. Appendix 4 contains the City's transmission design standards. Company agrees to incorporate these standards in the design of the City Facilities to be removed, relocated and rebuilt.

g. Reconstruction of City Facilities will include the installation of optical ground with integrated fiber (OPGW) based on City standards set forth in Appendix 4.

h. The City Facilities removed, relocated and rebuilt by Company for City will be designed such that the City Facilities are relocated and rebuilt on the FGT side of the corridor where FGT easements exist.

6. Company shall provide the City with the opportunity to review and comment on the design, specifications and drawings for the impacted City Facilities at the 30%, 60%, 90% and 100% phases for compliance with this Exhibit B. Company shall incorporate City comments addressing non-compliance with this Exhibit B into the design for the City Facilities following these reviews. Such comments will not be considered a "change in design" and the City will have no financial obligations to the Company for any costs associated with incorporating such comments. City will provide any comments within fifteen (15) business days following receipt of the 30%, 60%, 90% and 100% plans.

EXHIBIT B - APPENDIX 1 - DESIGN CRITERIA
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
TYPICAL CROSS SECTION - HOPKINS PLANT TO SR 20



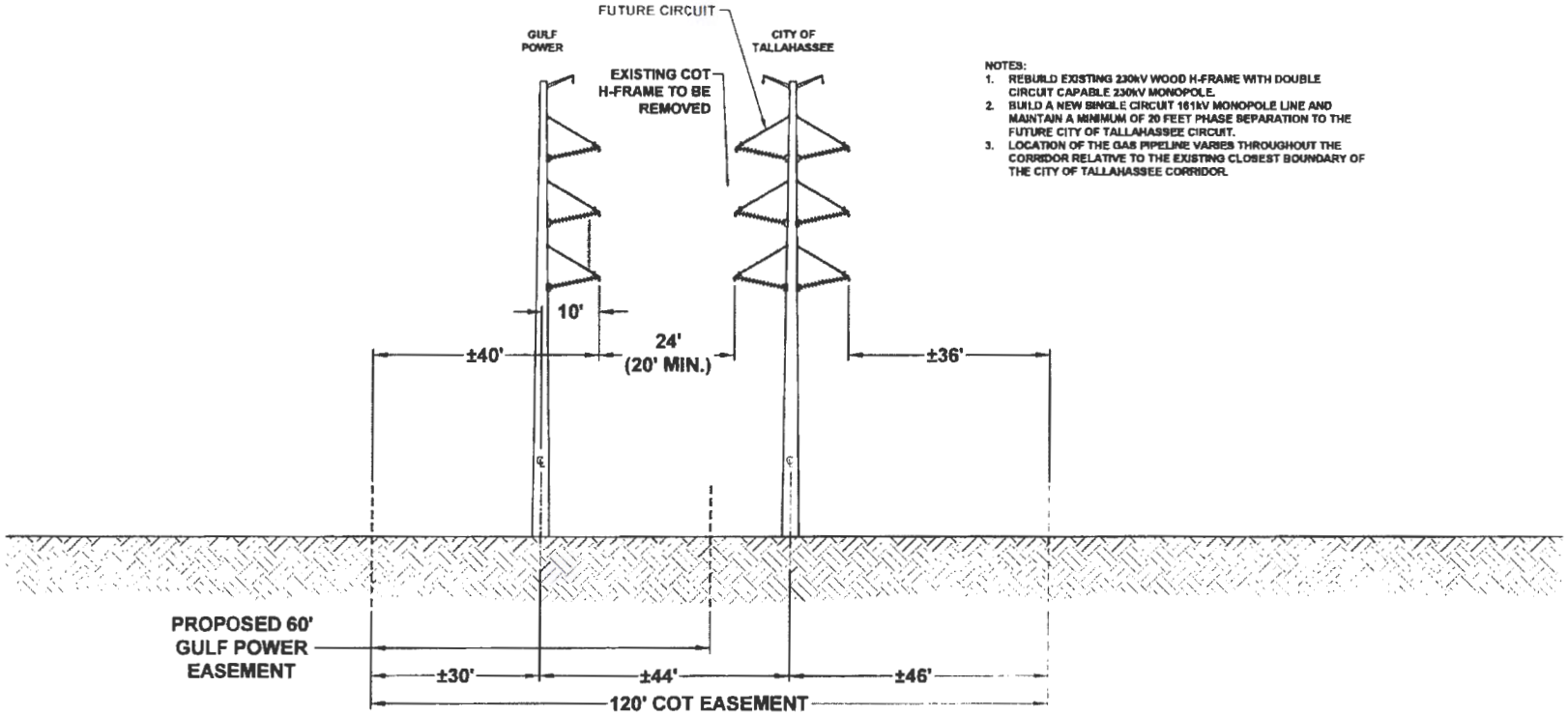
LOOKING NORTHEAST

NOTES:
1. REBUILD EXISTING 230kV WOOD H-FRAME WITH DOUBLE CIRCUIT CAPABLE 230kV MONOPOLE.
2. BUILD A NEW SINGLE CIRCUIT 161kV MONOPOLE LINE AND MAINTAIN A MINIMUM OF 20 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
3. THE FGT PIPELINES DEPART THE CORRIDOR ABOUT HALF WAY THROUGH THE NORTHEAST PART OF THIS SEGMENT. GAS PIPELINES SHOWN ARE APPROXIMATE AND FOR REFERENCE ONLY.

REV	DATE	DESCRIPTION	BY	CKD	APP
0	08/01/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY	NORTH FLORIDA RESILIENCY CONNECTION
SCALE: N.T.S. DRAWN BY: GCC ENGINEER: MKL COUNTY: LEON SHEET 1 OF 5	DATE: 08/01/19 CHECKED BY: JRC SECTION: NA FILE NAME: COT EXHIBIT Gulf Power

EXHIBIT B - APPENDIX 1 - DESIGN CRITERIA
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
TYPICAL CROSS SECTION - SR 20 TO THE WEST BOUNDARY OF THE APALACHICOLA NATIONAL FOREST



NOTES:
1. REBUILD EXISTING 230kV WOOD H-FRAME WITH DOUBLE CIRCUIT CAPABLE 230kV MONOPOLE.
2. BUILD A NEW SINGLE CIRCUIT 161kV MONOPOLE LINE AND MAINTAIN A MINIMUM OF 20 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
3. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO THE EXISTING CLOSEST BOUNDARY OF THE CITY OF TALLAHASSEE CORRIDOR.

LOOKING NORTH

REV	DATE	DESCRIPTION	BY	CKD	APP
0	08/01/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

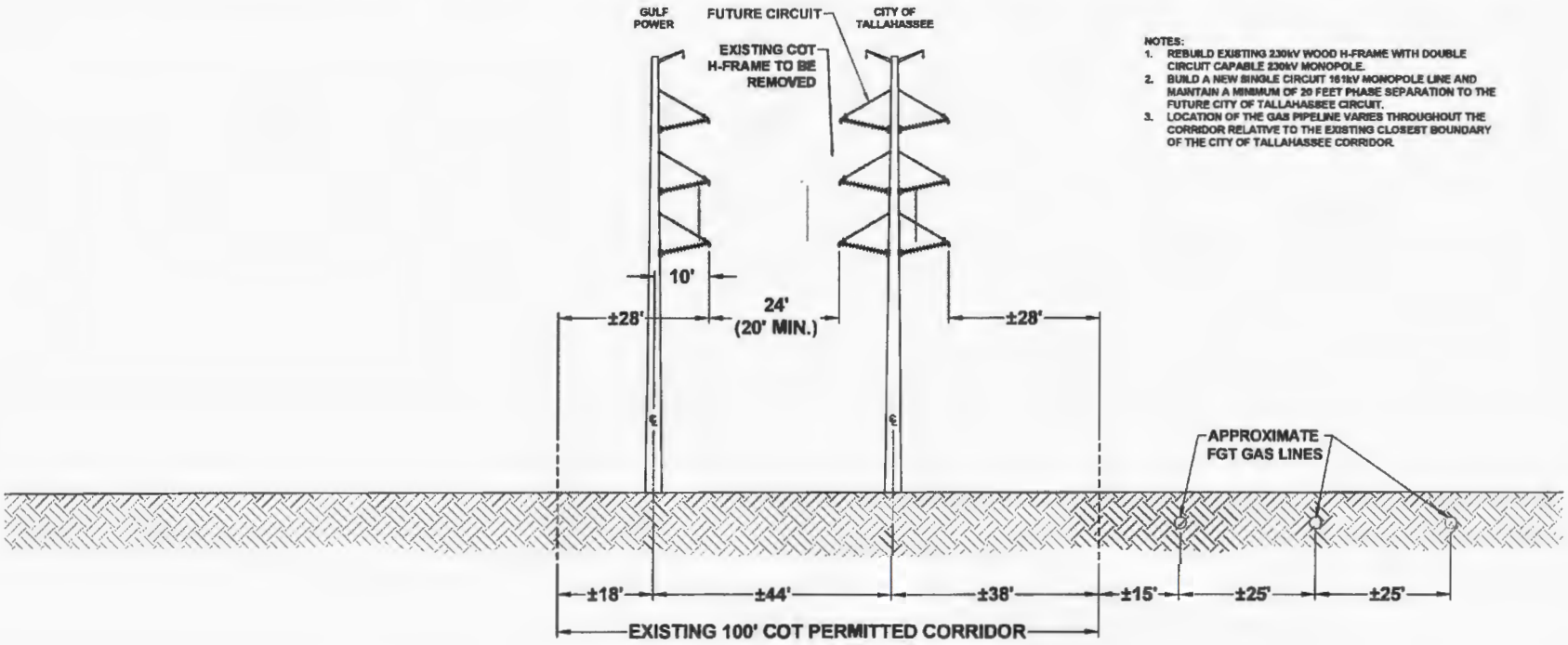
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 2 OF 5

DATE: 08/01/19
CHECKED BY: JRC
SECTION: N/A
FILE NAME: COT EXHIBIT

Gulf Power

EXHIBIT B - APPENDIX 1 - DESIGN CRITERIA
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
TYPICAL CROSS SECTION - THE WEST BOUNDARY OF THE APALACHICOLA NATIONAL FOREST TO SUB 32



NOTES:
1. REBUILD EXISTING 230kV WOOD H-FRAME WITH DOUBLE CIRCUIT CAPABLE 230kV MONOPOLE.
2. BUILD A NEW SINGLE CIRCUIT 161kV MONOPOLE LINE AND MAINTAIN A MINIMUM OF 20 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
3. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO THE EXISTING CLOSEST BOUNDARY OF THE CITY OF TALLAHASSEE CORRIDOR.

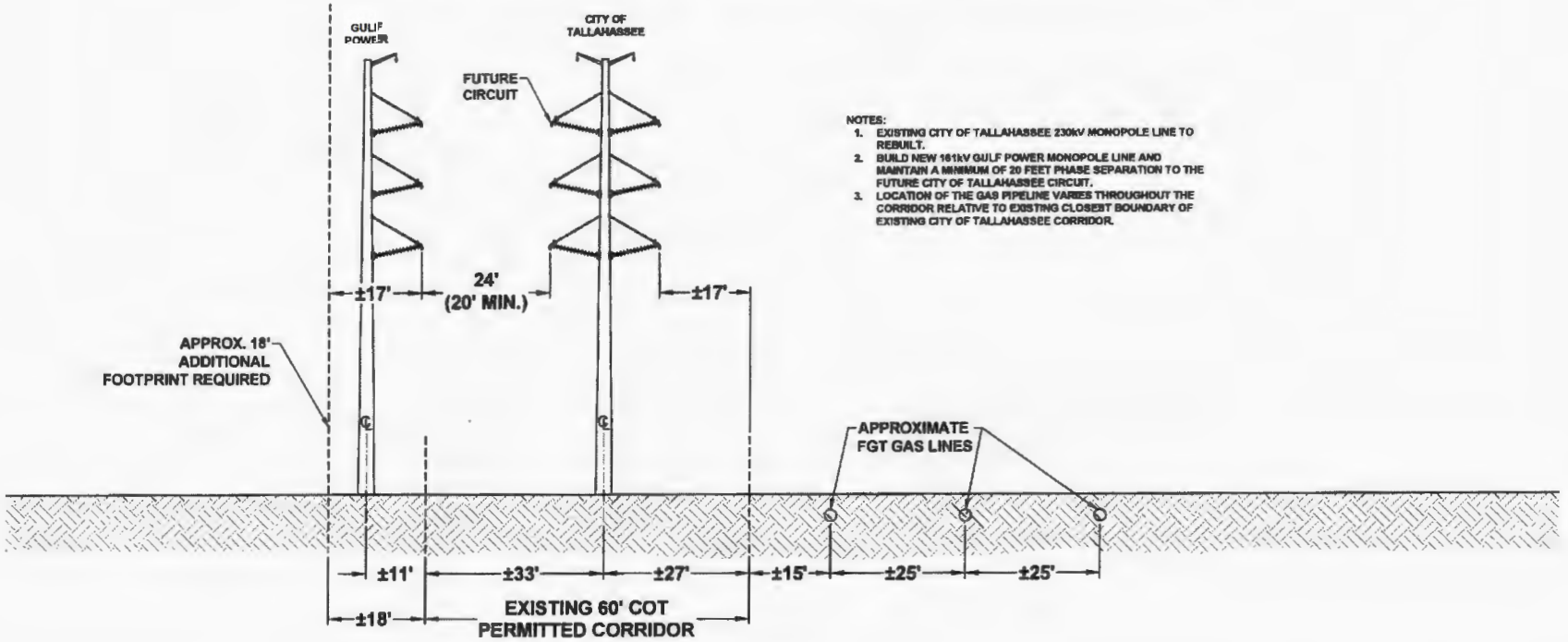
LOOKING NORTHWEST

REV	DATE	DESCRIPTION	BY	CKD	APP
0	08/01/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY	NORTH FLORIDA RESILIENCY CONNECTION
SCALE: N.T.S. DRAWN BY: GCC ENGINEER: MKL COUNTY: LEON SHEET 3 OF 5	DATE: 08/01/19 CHECKED BY: JRC SECTION: N/A FILE NAME: COT EXHIBIT

Gulf Power

EXHIBIT B - APPENDIX 2 - DESIGN CRITERIA
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
TYPICAL CROSS SECTION - SUB 32 TO CRAWFORDVILLE ROAD



NOTES:
1. EXISTING CITY OF TALLAHASSEE 230kV MONOPOLE LINE TO REBUILT.
2. BUILD NEW 161kV GULF POWER MONOPOLE LINE AND MAINTAIN A MINIMUM OF 20 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
3. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO EXISTING CLOSEST BOUNDARY OF EXISTING CITY OF TALLAHASSEE CORRIDOR.

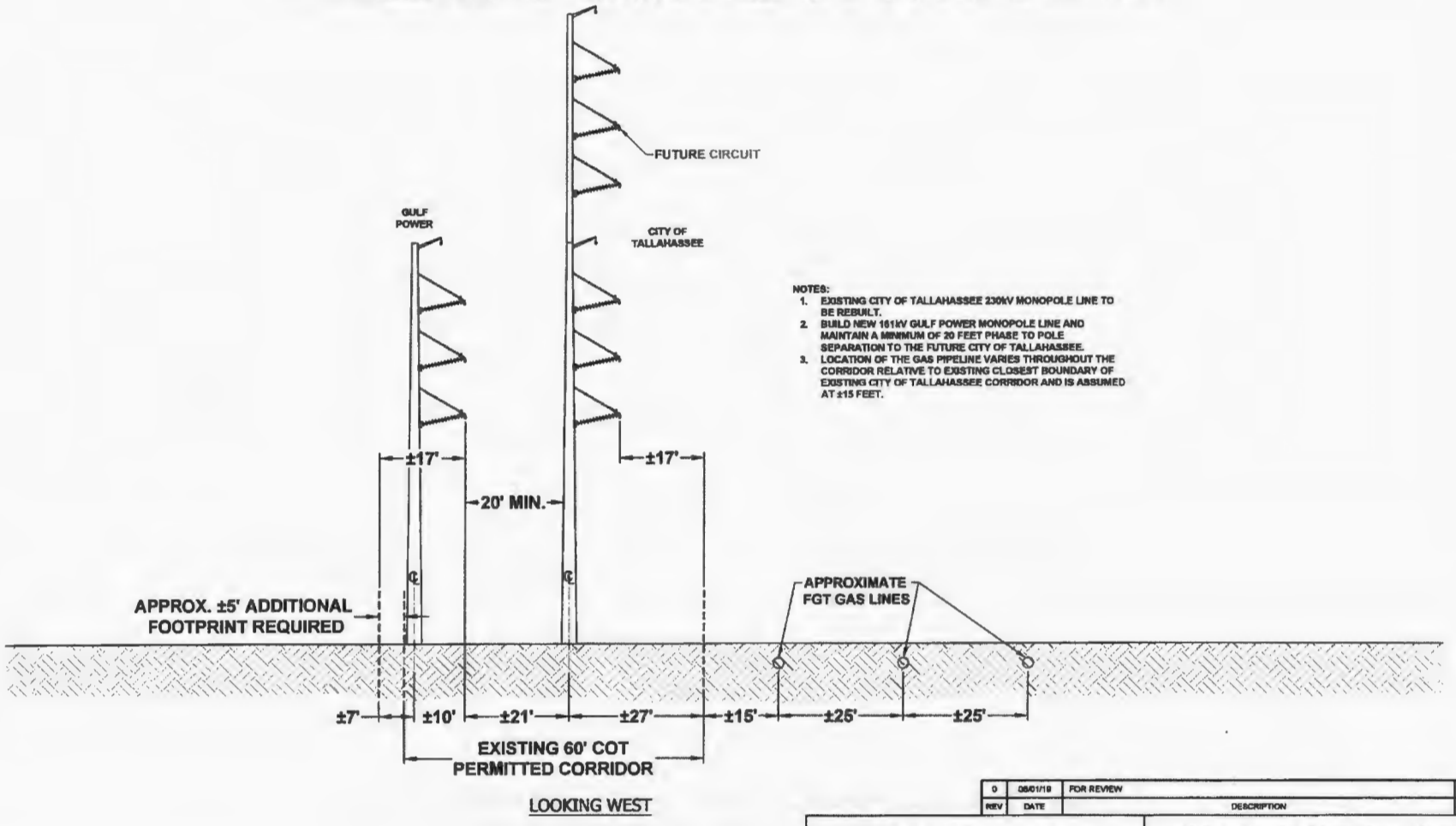
LOOKING NORTHWEST

REV	DATE	DESCRIPTION	BY	CKD	APP
0	08/01/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY	NORTH FLORIDA RESILIENCY CONNECTION
SCALE: N.T.S. DRAWN BY: GCC ENGINEER: MKL COUNTY: LEON SHEET 4 OF 5	DATE: 08/01/19 CHECKED BY: JRC SECTION: N/A FILE NAME: COT EXHIBIT

Gulf Power

EXHIBIT B - APPENDIX 3 - DESIGN CRITERIA
NORTH FLORIDA RESILIENCY CONNECTION
PROPOSED 161kV TRANSMISSION LINE
TYPICAL CROSS SECTION - CRAWFORDVILLE ROAD TO WOODVILLE HIGHWAY



NOTES:
1. EXISTING CITY OF TALLAHASSEE 230kV MONOPOLE LINE TO BE REBUILT.
2. BUILD NEW 161kV GULF POWER MONOPOLE LINE AND MAINTAIN A MINIMUM OF 20 FEET PHASE TO POLE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE.
3. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO EXISTING CLOSEST BOUNDARY OF EXISTING CITY OF TALLAHASSEE CORRIDOR AND IS ASSUMED AT ±15 FEET.

REV	DATE	DESCRIPTION	BY	CKD	APP
0	08/01/19	FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 5 OF 5

DATE: 08/01/19
CHECKED BY: JRC
SECTION: N/A
FILE NAME: COT EXHIBIT

Gulf Power

APPENDIX 4 TO EXHIBIT B

GULF CO-LOCATION AGREEMENT

CITY DESIGN STANDARDS

This Appendix contains the City's design standards to be utilized by Company in the design of the City Facilities to be removed, relocated and rebuilt. In the event of a conflict among the design standards below, the National Electrical Safety Code shall prevail (to the extent applicable).

1. Design Codes and Standards:
   a. National Electrical Safety Code (NESC-C2-2017)
   b. American National Standards Institute (ANSI)
   c. National Electrical Manufacturers Association (NEMA)
   d. American Society for Testing and Material (ASTM)
   e. American Institute of Steel Construction (AISC)
   f. American Society of Civil Engineers (ASCE)
   g. Institute of Electrical and Electronics Engineers (IEEE)
   h. American Concrete Institute (ACI)

2. Weather Cases

Description	Air Density Factor (psf/mph^2)	Wind Velocity (MPH)	Wind Pressure (psf)	Wire Ice Thickness (in)	Wire Ice Density (lbs/ft^3)	Wire Ice Load (lbs/ft)	Wire Temp. (deg F)	Ambient Temp. (deg F)	Weather Load Factor	NESC Constant (lbs/ft)	Wire Wind Height Adjust Model	Wire Gust Response Factor
NESC Light District Loading (250B)	0.00256	59.2927	9	0	57	0	30	30	1	0.05	None	1
NESC Extreme Wind (250C)	0.00256	130	43.264	0	0	0	60	60	1	0	NESC 2017	NESC 2017
NESC Concurrent Ice and Wind (250D)	0.00256	30	2.304	0	57	0	15	15	1	0	None	1
Deflection	0.00256		0	0	0	0	60	60	1	0	None	1
Stringing	0.00256	27.9508	2	0	0	0	32	32	1	0	None	1
Cold Uplift	0.00256		0	0	0	0	0		1	0	None	1
Maximum Operating	0.00256		0	0	0	0	221	221	1	0	None	1
NESC Tension Limit (261H1c)	0.00256		0	0	0	0	30	30	1	0	None	1
NESC Blowout 6PSF	0.00256	48.4123	6	0	0	0	60	60	1	0	None	1
No Wind (SWING 1)	0.00256		0	0	0	0	60	60	1	0	None	1

Moderate Wind (SWING 2)	0.00256	48.4123	6	0	0	0	32	32	1	0	None	1
Moderate Wind (SWING 3)	0.00256	48.4123	6	0	0	0	60	60	1	0	None	1
High Wind (SWING 4)	0.00256	92.7025	22	0	0	0	60	60	1	0	None	1

3. NESC clearances and constraints plus add 2' to code clearances.
4. Structures shall be properly grounded so that they have a footing resistance of 10ohms or less.
5. Shield angle of 30° or less, rolling sphere method inside substations.
6. OPGW – shall be ALF CentraCore Optical Ground Wire – Specification DNO-12065 (Attached hereto as Attachment 1)
7. Tangent construction should be via braced polymer line post insulators with corona rings and suspension clamps with armor rods.
8. Insulators should be polymer with 60 shed, 91" dry arc, 229" leakage distance, 855 kv dry flash, 790 kv wet flash, 1440 kv pos flash, 1465 kv neg flash. No glass or porcelain insulators.
9. No davit arms.
10. Loading per design with NERC stated factors
11. Dead-end construction should include corona rings.
12. Distribution under-build or rebuild shall conform to City distribution standards attached hereto as Attachment 2 and materials shall be specified City standard warehouse stock items specifications. Only manufacturers that are approved for a City stock item may be used. Manufacturers for distribution materials shall be mutually agreed upon by the Parties. Lightning arrestors shall be installed at each dead-end and every quarter mile.

THIS INSTRUMENT PREPARED BY:
Agent's Name and Title
City of Tallahassee/City Hall
Real Estate Management Department, Box A-15
300 S. Adams Street, 3rd Floor
Tallahassee, Florida 32301
Parcel ID:

Leave blank for official recording.

ELECTRIC UTILITY EASEMENT
(Transmission Lines)

THIS EASEMENT, made this _____ day of _____, 2019, by and between **CITY OF TALLAHASSEE**, a Florida Municipal corporation, whose mailing address is 300 South Adams Street, Tallahassee, Florida 32301-1731, hereinafter called **"GRANTOR(S)"**, and Gulf Power Company, whose mailing address is One Energy Place, Pensacola, Florida 32520 and its successors and assigns, hereinafter called **"GRANTEE"**.

W I T N E S S E T H

That the **GRANTOR**, for and in consideration of the sum of ten dollars ($10.00), and other good and valuable consideration paid by the **GRANTEE**, the receipt and sufficiency of which is hereby acknowledged, by these presents does grant, bargain, sell and convey to the **GRANTEE**, in perpetuity, an easement for above ground electric utility transmission purposes, in, over, across, under and through the following described parcel, piece, or strip of land, situate, lying, and being in the County of Leon, State of Florida, hereinafter "Easement Property" to wit:

SEE EXHIBIT "A" ATTACHED HERETO
AND BY THIS REFERENCE MADE A PART HEREOF

including the right of the **GRANTEE**, its employees, agents, invitees, contractors and sub-contractors, at **GRANTEE'S** sole cost and expense, to construct, operate, inspect, maintain, alter, improve, enlarge, or increase voltage to the facilities,remove and replace in said Easement Property an electric utility transmission line and associated equipment described in and permitted by, the Co-Location Agreement, as identified herein, including but not limited to, wires, poles, cables, conduits, anchors, guys, transformers and the equipment associated therewith, attachments and appurtenant equipment for communication purposes of the **GRANTEE** hereinafter "Electric Utility Equipment".

It is understood and agreed by and between the **GRANTOR** and the **GRANTEE** that the Electric Utility Equipment of the **GRANTEE**, installed or located, or to be installed or located in, over, across, under and through the Easement Property, as permitted by the Co-Location Agreement, shall at all times be and remain the absolute property of the **GRANTEE** and subject to its complete dominion and control.

The right is hereby granted to the **GRANTEE**, its employees, agents, invitees, contractors and sub-contractors, to enter upon the Easement Property from and across any adjoining lands of the **GRANTOR** for the purpose of constructing, operating, inspecting, maintaining, altering, improving, increasing voltage, removing and replacing said Electric Utility Equipment therefrom. The **GRANTOR** reserves unto itself and its successors and assigns, the full right of ingress and egress over and across the Easement Property and across lands which the easement is herein conveyed. The **GRANTEE**, its agents and employees, will restore the Easement Property and the adjoining property of the **GRANTOR** used by the **GRANTEE** for access to the Easement Property caused solely and directly by Grantee or its agents and contractors, to its existing condition as reasonably practicable as of the date prior to the work within the Easement Property.

This Electric Utility Easement is granted pursuant to a certain Co-Location Agreement between the Parties, dated _____, 2019 ("Co-Location Agreement"), Other than the GRANTOR's transmission (current and future second circuit as described in the Co-Location Agreement), distribution, and communications facilities, the **GRANTOR** shall not construct any permanent improvements on the Easement Property, or make any final grade changes in excess of six inches (6") within the Easement Property without obtaining the prior written consent of Grantee that shall not be unreasonably withheld, denied or conditioned. Any future **GRANTOR's** facilities, including the future second transmission circuit, and all facilities constructed by the **GRANTEE** shall be designed and constructed consistent with the terms and conditions of the Co-Location Agreement, and in accordance with the then-current applicable codes and standards.

The **GRANTEE** shall have the right to trim or remove all trees, bushes, shrubbery and other obstructions, by way of example, but not limited to, rocks, barriers to entry and debris piles, so that the same shall not interfere with, endanger, or obstruct access to its facilities, including but not limited to the right to trim any trees, bushes or other shrubbery that overhang an imaginary line perpendicular to the outer edge of the Easement Property.

The terms, conditions, restrictions and purposes imposed by this easement shall be binding not only upon the **GRANTOR**, but also on its agents, personal representatives, assigns and all other successors to its interest and shall continue as a servitude running in perpetuity with the Easement Property.

The **GRANTOR** does hereby fully warrant title to said land and will defend the same against the lawful claims of all persons claiming through or under the **GRANTOR**.

IN WITNESS WHEREOF, the **GRANTOR** hereunto sets its hand and seal the day and year first above written.

ACKNOWLEDGEMENT APPEARS ON THE FOLLOWING PAGE

Signed, sealed and delivered in the presence of:

GRANTOR

_____
1st Witness Signature

BY:_____
City of Tallahassee
As Its: _____

_____
Print 1st Witness Name

_____
2nd Witness Signature

_____
Print 2nd Witness Name

STATE OF _____
COUNTY OF _____

THE FOREGOING instrument was acknowledged before me this _____ day of _____, 2019, by _____, who is personally known to me, or who has produced _____ (type of identification) as identification.

_____
NOTARY PUBLIC

_____
Print Notary Name
My Commission Expires:

Appendix C

Vegetation Management Operations Manual

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Vegetation Management Program Manual

11/1/2019

"This document contains nonpublic transmission information and must be treated in accordance with the FERC Standards of Conduct"

Contents

1 Introduction

This manual applies to NextEra Energy Inc.,including FPL, Gulf Power and NextEra Energy, with the exception of Horizon West, designated overhead transmission lines that include NERC applicable lines operated at 200kV and above and lower voltage lines designated as an element of an IROL or WECC Transfer Path. Also covered are lower voltage overhead lines, including NON-NERC facilities.

2 Objective

To define a vegetation program that ensures reliability of the bulk electric system. The following is a list of program objectives:

- Managing vegetation, prior to encroachment, into Vegetation Action Threshold for NERC and Non-NERC lines.
- Minimizing fire hazard by reducing fuel levels to acceptable limits.
- Compliance with governmental vegetation related regulations and restrictions.

3 Definitions

- Batches - Prescription(s) are prioritized and organized into Batches of work which become the annual work plan.
- Clearance 1: Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and trainees as defined in Table 2 of ANSI Z133.1, 2017; Refer to Appendix 1 .
- Clearance to Wire (CTW): A radial distance measurement between vegetation and transmission lines. CTW should be taken on vegetation placed into the annual work plan.
- Corridor: A single line circuit or several lines circuits running in parallel and organized in such a manner that can be managed together as one unit.
- Danger Tree: A tree located on or off the ROW that could contact transmission lines by falling into, swaying into or sagging. Danger trees shall be removed that are located inside of the ROW.
- Diameter at Breast Height (D.B.H.): The standard position for diameter measurements at standing trees is at breast height, defined at the height of 4.5 feet from ground level.
- Hazard Tree: A structurally unsound tree that could strike a target when it fails. As used here, the target of concern is overhead transmission lines.
- Inspector: Individual assigned with the responsibility of evaluating the condition of the ROW and clearances between vegetation and applicable transmission lines.
- Minimum Vegetation Clearance Distance (MVCD): The minimum distance to prevent flashover as specifically identified in FAC-003-4– Table 2; Refer to Appendix 3.

- Vegetation Mitigation Process: Process to manage vegetation that is located within Trigger Distance.
- NERC applicable line - These include lines operated at 200kV or higher, or lines identified as an element of an IROL, or lines that are an element of a Major WECC Transfer Path, or lines that are operated at 200kV or higher and extend greater than 1 mile beyond the fenced area of the generating station switchyard to the point of interconnection, or lines that are operated at 200kV or higher and do not have a clear line of sight from the generating station switchyard fence to the point of interconnection.
- Prescription: Defines and quantifies the work activity to meet the objectives of the plan and identifies when the work should be completed.
- Right-of-Way (ROW): A type of legal right by ownership, easement, permit, grant or reservation over land for the operation of electrical transmission lines. The maintained width of the ROW is as was established at the time of construction or what has been maintained prior to FAC-003-1.
- Transmission Vegetation Management System (TVMS) - Geographic Information System (GIS) based work management system.
- Trigger Distance: Minimum approach distance from energized conductors for qualified line-clearance arborists and trainees as defined in Table 3 of ANSI Z133.1, 2017; refer to appendix 2. Vegetation conditions at or inside the Trigger Distance are classified as an emergent vegetation condition prescription (E.V.C) which starts the Vegetation Mitigation Process.
- Vegetation Action Threshold (VAT): Vegetation Program objective for NERC and Non-NERC lines is to keep vegetation clear of power lines by VAT distance; Refer to Appendix 4.

4 System Structure/Work Prescriptions

4.1 Geographical Structure

The transmission system is organized by NERC Regions, sites and Corridors.

4.2 Practices and Prescriptions

The vegetation management practices are to use an integrated vegetation management approach to achieve program objectives through:

- Identification of compatible and incompatible vegetation through inspection.
- Implementation of appropriate control methods to discourage incompatible vegetation.
- Promotion of compatible vegetation.

Control methods are based on environmental impact and anticipated effectiveness, along with site characteristics, security, economics, current land use and other factors. These methods include, but are not limited to pruning, removal, herbicide application and mowing.

Work identified through the inspection process requires creation of a prescription and is outlined as follows:

- Trim Trees to Standard - Branches removed from a tree in accordance with industry standards as they apply to utility pruning. Unit is number of trees.
- Remove Trees - Trees or shrubs cut (4"or greater at DBH, 5" caliper or greater stump) at ground level and the stumps treated with the appropriate herbicide where necessary to prevent re-sprouting. Unit is number of trees.
- Short Cycle Trim – Trees trimmed to standard on a cycle less than 12 months. Unit is number of trees.
- Tree Group - Trim – Trees trimmed to standard in a specified area. Unit is number of trees.
- Tree Group - Remove – Trees removed and stumps treated with appropriate herbicide in a specified area. Unit is number of trees.
- Trim Area – Vegetation trimmed to standard in a specific area that is. Unit is number of acres.
- Clear Area – Vegetation removed in a specified area. Unit is number of acres.
- Linear Trim - Specifically identified spans of trees trimmed of high enough density that it is not practical to obtain a tree count in advance of trimming. In many cases, there will be some trees that require removal during the linear trimming process. It is not necessary to document the count of these removals during linear trimming because linear trimming is based on length of work (not tree counts). Unit is linear foot for each side of right-of-way.
- Mechanical Trim - Specifically identified spans of trees trimmed with a mechanical tree trimmer, such as a Jarraffe. Unit is linear foot for each side of right-of-way.
- Clear and Treat Brush - Woody species removed and herbicide applied to stumps or stems from around poles, guys, fence right-of-ways, ditch banks as directed. Unit is number of acres.
- Widen ROW Edge – Extend the existing ROW wall beyond the point that it is currently cleared. Unit is number of acres.
- Mow - Normal - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. Brush DBH in right-of-way is less than two (2) inches. Unit is number of acres.
- Mow - Heavy - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. Brush DBH in right-of-way is greater than two (2) inches. Unit is number of acres.
- Mow - Wet - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. The average soil in right-of-way is sufficiently wet to require low ground pressure equipment (ground pressure ratio of less than 4 pounds per square foot). Unit is number of acres.
- Mow - Specialized – Vegetation cleared using unique methods with specialized equipment. Unit is number of acres.
- Mow Roads & Pads - Grass and brush mowed or cut thirteen (13) feet on each side of the center line of the road or structure to a height of less than six (6) inches. Unit is number of acres.
- Roll ROW –Grass in right-of-way rolled down using the tracks and a chopper (under wet conditions). Unit is number of acres

- Chop ROW – Grass and brush in right-of-way chopped to a height of less than eighteen (18) inches. Unit is Number of acres.
- Spot Treat - Light - Plant specific application of an approved herbicide to the target species. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant community. Excessive kill of non-target species will not be permitted. Target species density is less than two hundred (200) stems per acre or less than thirty percent (30%) of the area of the span. Unit is number of acres.
- Spot Treat - Heavy - Plant specific application of an approved herbicide to the target species. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant community. Excessive kill of non-target species will not be permitted. Target species density is greater than two hundred (200) stems per acre or greater than thirty percent (30%) of the area of the span. Unit is number of acres.
- Broadcast Spray - Plant specific application of an approved herbicide to the entire right-of-way to achieve a species shift in the right-of-way diversity (necessary when one or two incompatible species dominate the right-of-way). Contractor shall achieve a 90% kill after three months of those target species. The process of broadcast spray recognizes that the entire right-of-way will brown-out. Unit is number of acres.
- Aerial Spray – Plant specific application of an approved herbicide broadcast across the entire right-of-way using helicopters or fixed wing aircraft. Unit is number of acres.
- Pad Treatment – Plant specific application of an approved herbicide on the structure pad to the target species for a minimum distance of ten (10) feet around the structure and one and one-half feet (1.5) around down guys. The area may vary. Unit is number of acres.
- TGR - Specific application of approved tree growth regulator to a tree in order to slow its growth. Results should be evident within six (6) months and last for three years. Unit is number of trees.
- Tree Group – TGR – Same as TGR but includes multiple trees at one location. Unit is number of acres.
- Remove Vines – The severing of vines at the base of the pole or above ground line and plant specific application of an approved herbicide. (Under no circumstances are vines to be removed from the pole if they are closer in elevation than ten (10) feet below energized facilities). Unit is number of vines.
- Critical Trim - A tree or group of trees that are approaching trigger distance. Unit is number of trees.
- Critical Removal – To remove a tree that is designated as critical (tree must be removed out of cycle and on short notice). Unit is number of trees.
- Emergent Vegetation Condition (E.V.C.) – Trimming of vegetation that is at or inside the Trigger Distance or is considered a safety concern. Reference in vegetation mitigation process. Unit is number of trees.
- VAT Trim – A tree or group of trees that is at or inside the Vegetation Action Threshold distance. Unit is number of trees.
- Restricted Work – Vegetation work being done under restrictions placed on the site or job by a governmental agency.
- Special – Unique vegetation work that is not currently in the prescription List.
- Aerial – Check – Location identified during an aerial inspection for ground follow-up.

- Aerial – RT (Dead) – A dead tree identified for removal from an aerial inspection. Unit is number of trees.
- Aerial – RT (Leaner) – A hazard tree identified for removal from an aerial inspection. Unit is number of trees.
- Aerial – TTS – A hazard tree identified for trimming from an aerial inspection. Unit is number of trees.
- LiDAR VAT - A tree or group of trees that is detected by remote sensing technologies to be inside VAT. Unit is number of trees.
- Critical LiDAR - A tree or group of trees that is detected by remote sensing technologies to be inside trigger distance**.** Unit is number of trees.

5 Vegetation Management Program (NERC Standard FAC-003-4, Requirement R1, R2 and R3)

5.1 Program Description

The vegetation management program is designed to manage vegetation from encroaching into VAT. The key elements of the program are to inspect the applicable ROWs, document vegetation, prescribe a work plan, and execute the work plan prior to the vegetation encroaching into the VAT for NERC and Non-NERC lines.

Based on the inspections, work prescriptions are defined and inventoried in TVMS, including the work types (i.e., maintenance strategies and vegetation control methods) based on vegetation growth rates and environmental conditions. The identified work prescriptions are then prioritized and organized into batches of work which become the annual work plan which is managed in TVMS.

5.2 Layers of Protection

The Vegetation Management Program has established layers of protection to prevent encroachment into MVCD:

- Growth and bend-in potential of the vegetation -Growth and bend-in potential are gauged through the course of patrol/inspection by inspectors who are trained in the identification and plausible growth and bend-in potential of vegetation.
- Quality Review QAQC; Refer to Section 9.3.3
- Clearance to Wire measurements; Refer to Section 3

5.3 Quarterly Reporting to the Regional Entity (RE)

The Vegetation Management and Compliance groups shall report, at least quarterly to the RE, qualifying sustained transmission line outages determined to have been caused by vegetation.

If outages have occurred that meet the NERC requirements for reporting, Vegetation Management will review outage with the Compliance group prior to submission.

6 Communicating the existence of a vegetation condition that is inside the Trigger Distance (NERC Standard FAC-003-4, Requirement R4)

The Inspector shall communicate to the appropriate control center, without intentional delay, vegetation conditions that are inside the Trigger Distance as defined in Appendix 2. Reference the Vegetation Mitigation Process.

7 Mitigation Measures (NERC Standard FAC-003-4, Requirement R5)

Restrictions on scheduled work may include refusals by property owners to access or perform work, orders to stop work by local authorities, or restrictions by federal and state agencies. These restrictions should be brought to leadership for action. While negotiations or legal action with governmental entities or landowners is underway, the Inspectors shall manage the restriction to prevent encroachment into MVCD.

If Vegetation Management is constrained from performing vegetation work, the following actions should be taken and documented to prevent vegetation from encroaching MVCD on NERC applicable lines:

- Short cycle prescription created for identified work.
- Increased inspection frequency to monitor the vegetation as warranted.

8 ROW Inspection Schedule (NERC Standard FAC-003-4, Requirement R6)

Generally, scheduled work will be determined by the inspection process. Routine inspections will occur via ground patrols, aerial patrols, LiDAR and/or imagery analysis. NERC applicable lines and lines designated as critical to the reliability of the electrical system in the region shall be inspected, at a minimum, annually with no more than 18 months between inspections. The inspection schedule is documented in TVMS.

An independent patroller will perform a peer patrol on NERC applicable lines designated by the VM Operations Leader to ensure vegetation management practices are aligned with vegetation management program expectations. The independent review of classified LiDAR data or imagery can be the independent patrol.

The timing and number of inspections may be adjusted in order to respond to changing conditions such as fuel loading, heavy rain falls, high winds, landowner intervention and tree mortality.

8.1 Inspection Purpose

- To inventory vegetation conditions that may impact the safe reliable operation of the bulk electrical system. Hazard trees and danger trees should be identified/evaluated during the condition assessment.
- To prioritize work appropriate to species and site specific conditions.
- To adjust schedule for changes in vegetation growth to prevent encroachment into VAT.

8.2 Inspection Records

Each inspection shall be documented in TVMS with the date of completion and the name of the Inspector. Data records and/or evidence will be maintained for at least three calendar years to show compliance with FAC-003-4

9 Annual Work Plan (NERC Standard FAC-003-4, Requirement R7)

9.1 Annual Work Plan

Annually, the Vegetation Management department shall review prescriptions and associated batches to ensure completion of the annual work plan and shall certify that NERC applicable lines are in compliance with the NERC Standard FAC-003-4 as required by each Reliability Entity.

The Annual Work Plan is created, maintained and modified in TVMS. Periodically, the plan is reviewed and adjusted. These changes shall be documented at the prescription level. Changes to the annual work plan should not allow encroachment into the VAT. Reasons for change may include:

- Change in expected growth rate/ environmental factors
- Circumstances that are beyond control of the vegetation management department, such as natural disasters
- Rescheduling work
- Crew or contractor availability
- Identified unanticipated high priority work
- Weather conditions/Accessibility
- Permitting delays
- Customer changes/issues

9.2 Work Specifications

The methods utilized for vegetation management are further described in contract specifications. *S*pecifications will be developed for work that is bid or assigned and shall maintain compliance with the standards set forth in this document.

All work specifications shall comply with the following industry standards:

- ANSI Z133.1-2017 Safety Requirements for Arboricultural Operations.
- OSHA 1910.269 Electric Power Generation, Transmission and Distribution.
- ANSI A300 (Part 1) 2017 Pruning for Tree Care Operations—Tree, Shrub and Other Woody Plant Maintenance—Standard Practices
- ANSI A300 (Part 7) 2017 IVM Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Integrated Vegetation Management a. Electric Utility Rights-of-way)

9.3 Implementation (NERC Standard FAC-003-4, Requirement R7)

9.3.1 Tracking

Periodically, the Vegetation Management department will review the progress of inspections and work scheduled in the annual work plan. Resource movements and schedule adjustments will be made as necessary to ensure work plan objectives are met. The Annual Work Plan completion is due at the end of the calendar year.

9.3.2 Documentation

The annual work plan is maintained in TVMS. Reports are monitored to ensure work plan is complete and exceptions are documented.

9.3.3 Quality Assurance, Quality Control, and Independent Inspection

Quality Assurance and Quality Control (QAQC): A random, statistically representative sample of open, scheduled and completed work will be selected and reviewed annually to assess performance and identify improvement opportunities.

Appendix 1 –ANSI Z133.1 Table 2 (Clearance 1)

Table 2. Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and qualified line-clearance arborist trainees.

Nominal voltage in kilovolts (kV) phase-to-phase*	Distance	
	feet-inches	meters
0.0 to 1.0	10-00	3.05
1.1 to 15.0	10-00	3.05
15.1 to 36.0	10-00	3.05
36.1 to 50.0	10-00	3.05
50.1 to 72.5	10-09	3.28
72.6 to 121.0	12-04	3.76
138.0 to 145.0	13-02	4.00
161.0 to 169.0	14-00	4.24
230.0 to 242.0	16-05	4.97
345.0 to 362.0	20-05	6.17
500.0 to 550.0	26-08	8.05
785.0 to 800.0	35-00	10.55

* Exceeds phase to ground. Per 29 CFR 1910.333

Appendix 2 –ANSI 133.1 Table 3 (Trigger Distance)

Table 3. Minimum approach distances (MAD) from energized conductors for qualified line-clearance arborists and qualified line-clearance arborist trainees.

Voltage Range (Phase-to-Phase)	Altitude Correction Factor Sea Level to 5,000 ft (0–1,524 m)* Phase-to-Ground		Altitude Correction Factor 5,000 to 10,000 ft (1,524–3,048 m)* Phase-to-Ground		Altitude Correction Factor 10,000 to 14,000 ft (3,048–4,267 m)* Phase-to-Ground	
kV	ft-in	m	ft-in	m	ft-in	m
0.050 to 0.300	*Avoid contact*		*Avoid contact*		*Avoid contact*	
0.301 to 0.750	1-02	0.356	1-04	0.407	1-06	0.458
0.751 to 5.0	2-03	0.686	2-06	0.762	2-09	0.839
5.1 to 15.0	2-03	0.686	2-07	0.788	2-10	0.864
15.1 to 36.0	2-08	0.813	3-01	0.940	3-04	1.016
36.1 to 46.0	2-11	0.889	3-04	1.016	3-08	1.118
46.1 to 72.5	3-06	1.067	4-00	1.220	4-04	1.321
72.6 to 121.0	3-11	1.194	4-06	1.372	4-10	1.474
121.1 to 145.0	4-06	1.372	5-02	1.575	5-07	1.702
145.1 to 169.0	5-01	1.550	5-09	1.753	6-03	1.905
169.1 to 242.0	7-00	2.134	7-11	2.413	8-07	2.617
242.1 to 362.0	11-09	3.582	13-06	4.115	14-07	4.445
362.1 to 420.0	14-08	4.471	16-09	5.106	18-02	5.538
420.1 to 550.0	17-06	5.334	20-00	6.096	21-08	6.604
550.1 to 800.0	23-09	7.239	27-02	8.281	29-05	8.967

*From 29 CFR 1910.269 Tables R-6 & R-7 altitude corrected (R-5) for 1,500 m, 3,000 m, & 4,200 m.

Appendix 3 – FAC 003 – Table 2 Minimum Vegetation Clearance Distance

FAC-003 — TABLE 2 — Minimum Vegetation Clearance Distances (MVCD)[17]

For Alternating Current Voltages (feet)

(AC) Nominal System Voltage (KV)*	(AC) Maximum System Voltage (kV)[18]	MVCD (feet) Over sea level up to 500 ft	MVCD feet Over 500 ft up to 1000 ft	MVCD feet Over 1000 ft up to 2000 ft	MVCD feet Over 2000 ft up to 3000 ft	MVCD feet Over 3000 ft up to 4000 ft	MVCD feet Over 4000 ft up to 5000 ft	MVCD feet Over 5000 ft up to 6000 ft	MVCD feet Over 6000 ft up to 7000 ft	MVCD feet Over 7000 ft up to 8000 ft	MVCD feet Over 8000 ft up to 9000 ft	MVCD feet Over 9000 ft up to 10000 ft	MVCD feet Over 10000 ft up to 11000 ft	MVCD feet Over 11000 ft up to 12000 ft	MVCD feet Over 12000 ft up to 13000 ft	MVCD feet Over 13000 ft up to 14000 ft	MVCD feet Over 14000 ft up to 15000 ft
765	800	11.6ft	11.7ft	11.9ft	12.1ft	12.2ft	12.4ft	12.6ft	12.8ft	13.0ft	13.1ft	13.3ft	13.5ft	13.7ft	13.9ft	14.1ft	14.3ft
500	550	7.0ft	7.1ft	7.2ft	7.4ft	7.5ft	7.6ft	7.8ft	7.9ft	8.1ft	8.2ft	8.3ft	8.5ft	8.6ft	8.8ft	8.9ft	9.1ft
345	362[19]	4.3ft	4.3ft	4.4ft	4.5ft	4.6ft	4.7ft	4.8ft	4.9ft	5.0ft	5.1ft	5.2ft	5.3ft	5.4ft	5.5ft	5.6ft	5.7ft
287	302	5.2ft	5.3ft	5.4ft	5.5ft	5.6ft	5.7ft	5.8ft	5.9ft	6.1ft	6.2ft	6.3ft	6.4ft	6.5ft	6.6ft	6.8ft	6.9ft
230	242	4.0ft	4.1ft	4.2ft	4.3ft	4.3ft	4.4ft	4.5ft	4.6ft	4.7ft	4.8ft	4.9ft	5.0ft	5.1ft	5.2ft	5.3ft	5.4ft
161*	169	2.7ft	2.7ft	2.8ft	2.9ft	2.9ft	3.0ft	3.0ft	3.1ft	3.2ft	3.3ft	3.3ft	3.4ft	3.5ft	3.6ft	3.7ft	3.8ft
138*	145	2.3ft	2.3ft	2.4ft	2.4ft	2.5ft	2.5ft	2.6ft	2.7ft	2.7ft	2.8ft	2.8ft	2.9ft	3.0ft	3.0ft	3.1ft	3.2ft
115*	121	1.9ft	1.9ft	1.9ft	2.0ft	2.0ft	2.1ft	2.1ft	2.2ft	2.2ft	2.3ft	2.3ft	2.4ft	2.5ft	2.5ft	2.6ft	2.7ft
88*	100	1.5ft	1.5ft	1.6ft	1.6ft	1.7ft	1.7ft	1.8ft	1.8ft	1.8ft	1.9ft	1.9ft	2.0ft	2.0ft	2.1ft	2.2ft	2.2ft
69*	72	1.1ft	1.1ft	1.1ft	1.2ft	1.2ft	1.2ft	1.2ft	1.3ft	1.3ft	1.3ft	1.4ft	1.4ft	1.4ft	1.5ft	1.6ft	1.6ft

* Such lines are applicable to this standard only if PC has determined such per FAC-014 (refer to the Applicability Section above)

** Table 2 – Table of MVCD values at a 1.0 gap factor (in U.S. customary units), which is located in the EPRI report filed with FERC on August 12, 2015. (The 14000-15000 foot values were subsequently provided by EPRI in an updated Table 2 on December 1, 2015, filed with the FAC-003-4 Petition at FERC)*

[17] The distances in this Table are the minimums required to prevent Flash-over; however prudent vegetation maintenance practices dictate that substantially greater distances will be achieved at time of vegetation maintenance.

[18] Where applicable lines are operated at nominal voltages other than those listed, the applicable Transmission Owner or applicable Generator Owner should use the maximum system voltage to determine the appropriate clearance for that line.

[19] The change in transient overvoltage factors in the calculations are the driver in the decrease in MVCDs for voltages of 345 kV and above. Refer to pp.29-31 in the Supplemental Materials for additional information.

Appendix 4 – Vegetation Action Threshold

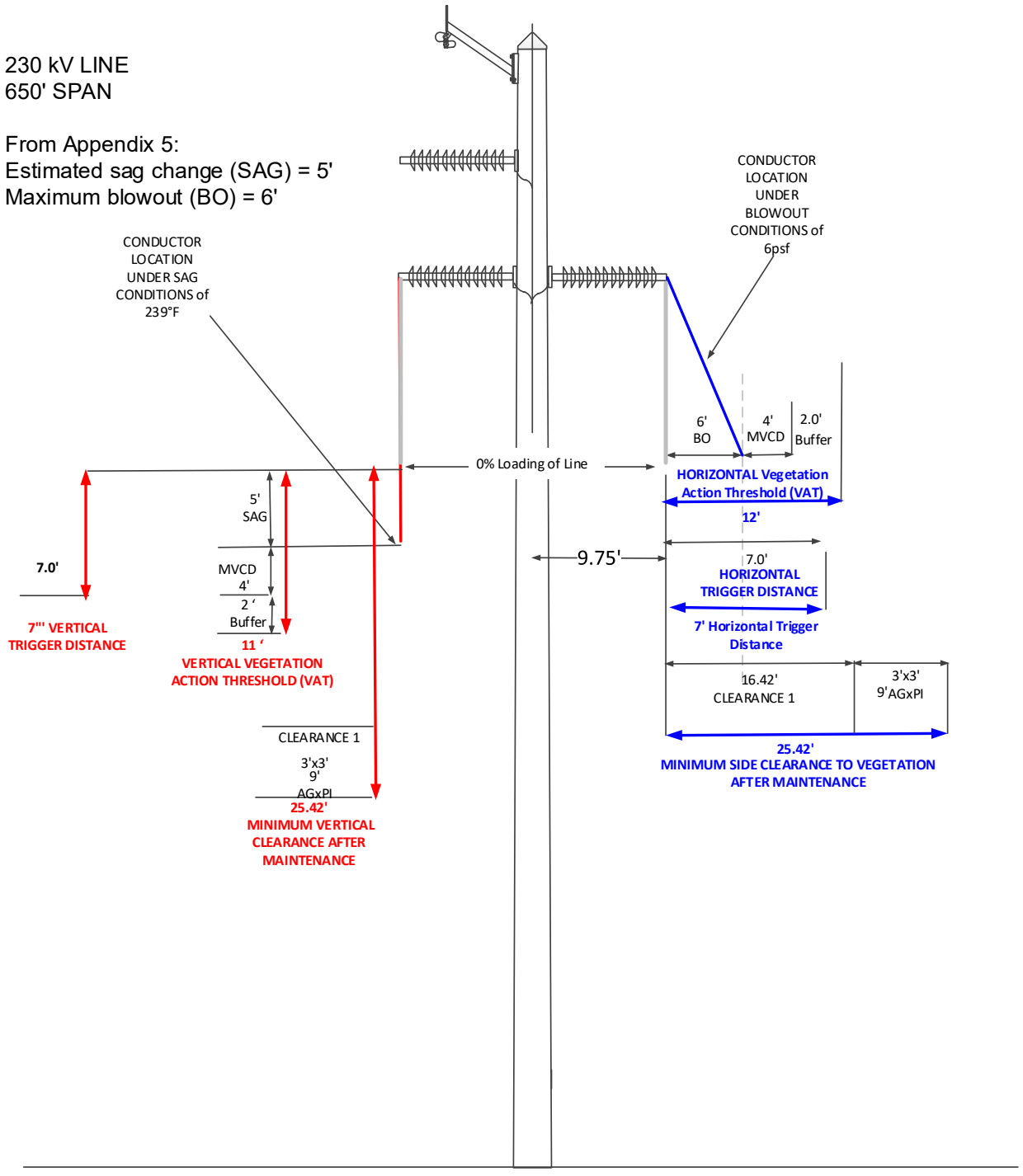
Voltage	Span Length	Vegetation Action Threshold (VAT)
69kV	All	3.5'
115kV	All	3.9'
138kV	All	4.5'
161kV	All	5.1'
230kV	350' (sag & blowout)	9.92'
230kV	650' (sag and blowout)	12'
230kV	1320' (sag)	15'
230kV	1320' (blowout)	24'
345kV	350' and 650' (sag & blowout)	15.17'
345kV	1320' (sag)	15.3'
345kV	1320' (blowout)	24.3'
500kV	350' and 650' (sag & blowout)	21'
500kV	1320' (sag)	21'
500kV	1320' (blowout)	27'
>200kV VAT* consists of MVCD + Sag/Sway @ 6 PSF; 239 Degrees plus a 2' buffer		
<200kV VAT equal Trigger Distance; refer to Appendix 2		
*Exception: Use Trigger Distance if greater than calculation above		

Appendix 5 – Diagram of various clearance requirements

Maximum conductor sag case

Everyday wind case

3' = AG - Expected **A**nnual **G**rowth
3yr = PI - Anticipated **P**rescription or remedial **I**nterval
2' = Buffer - Expected tree movement at rated design
4.3' = MVCD - **M**inimum **V**egetation **C**learance **D**istance for 230 kV
12.25' = VAT - **V**egetation **A**ction **T**hreshold



Buffer shall be increased in the case of expected tree movement

11 Revision History

Revision	Date	Author(s)	Description
1.0	6/18/2014	Steve Jolly	Finalized Structure/Content
2.0	8/18/2014	Steve Jolly	Added references to appendices and NERC requirements
3.0	11/27/2014	Steve Jolly	Added GO list validation
4.0	2/10/2015	Steve Jolly	Added Definition of Applicable line, replaced FPL with NEE
5.0	10/29/2015	Jose Medina	10.1.1 Added section "Quality Assurance, Quality Control, and Independent Patrol".
			10.1.2 Also updated Appendix #3 VEL table in which distances were expanded in anticipation of NERC FAC-003-3 GAP factor adjustment.
			10.1.3 Minor grammatical edits
6.0	5/23/2017	Dan Marsh	General update throughout
7.0	06/27/2017	Dan Marsh	Additional updates and clarification
8.0	01/16/2019	Dan Marsh	Gulf Power added
9.0	06/03/2019	Dan Marsh	Updated appendix 2, 4 and 5, due to ANSI table updates. Added new definitions. General updates throughout.
10.0	11/01/2019	Aaron Neville	Updated name for Vegitation Miitigation Process to Emergent Vegetation Process.

Appendix D

Specifications and Instructions for Right-of-way Preparation and Maintenance

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SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

1.0 SCOPE

These specifications cover the requirements for the preparation and maintenance of right-of-way for construction and operation of overhead electric lines.

Preparation of the right-of-way includes clearing; construction of roads and pads; installation of culverts, swales, and bridges; installation of fences and gates; bonding and grounding of new and existing fences and gates; and other work as described in the Contract Documents.

Maintenance of the right-of-way includes line clearing activities as described in the Project Vegetative Management Plan, and will be the responsibility of FPL.

2.0 GENERAL

2.1 Right-of-Way and Clearing Rights - FPL will secure all easements, and trimming and clearing rights required for all authorized work.

2.2 Use of Private Property - When operations of the right-of-way preparation Contractor occur at the same time and location as the operations of the line construction contractor, each shall make their own arrangements with property owners for the use of gates, bridges, and roads; and so separate their operations to make it clear who is responsible for any damage or claims that may occur. It shall be the responsibility of the Contractor to prevent the obstruction or impairment of the normal functioning of any dike, spoil bank, ditch, fence, gate or other unit of property during performance of the work.

2.3 Damage to Existing FPL Facilities - The Contractor shall be responsible for any damage to existing FPL facilities and the repair of such damage to the condition they were found at the start of the project. Repairs of damaged roads, pads, structures, or other facilities shall be done to the satisfaction of the Company Representative.

2.4 Accounting - The Contractor shall keep records and submit invoices to enable the Company Representative to allocate the charges by the following Federal Energy Regulatory Commission (FERC) accounts:

2.4.1 Account # 355 - Cost of clearing the right-of-way

2.4.2 Account # 359 - Installed cost of roads or trails (including clearing, labor, and material), culverts, swales, bridges, fences, and gates.

NO	DATE	REVISION	BY	CH	CORAPP
4	3-10-00	20000028 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.8. ADDED 6.4	KMA	DB	RAC
3	9/7/94	940868 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO		

02-MAR-2000 09:00 kwadgau

POWER SYSTEMS

TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION 5.0	SHEET 1 OF 13
11/21/88	J. F. CARTWRIGHT R. H. STERBA	TS, TIS, S5	A-88050-4 SIZE

20210015-EI

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

3.0 LOCATION OF RIGHT-OF-WAY

3.1 Rights-of-Way - Where practical, a map and/or related documents will be furnished to the Contractor showing the route and width of right-of-way, permits, clearing and road construction requirements, the location of gates, culverts, bridges and any other information pertaining to the right-of-way preparation project.

3.2 Survey - A base line, which is in general the centerline of pole construction, will be surveyed, and flagged by FPL in advance of Release for Bid for the right-of-way preparation work. The Contractor shall be responsible for obtaining and coordinating all survey services required to delineate the limits of clearing and other work covered in the Contract Documents, unless otherwise stated.

When FPL assumes responsibility for providing the survey services, at Release for Construction of right-of-way preparation, the boundaries of the right-of-way will also be flagged. If structure location is known, both edges of the right-of-way will be staked and flagged with orange and yellow directly opposite the centerline of the structure. If the structure location is not known, both edges of the right-of-way will be staked and flagged with orange approximately every 600 feet. Contractor shall use every precaution to preserve all the survey stakes and hubs.

3.2.1 Survey Color Codes - Shown below is the color code for marking stakes and for flagging:

Color Code	To Indicate
Black marking, Yellow flagging	Centerline of construction
Orange marking, Orange flagging	Limits of edges of a parcel or right-of-way or reference line for clearing operation.
Orange marking, Orange & Yellow flagging	Edges of Right-of-way opposite centerline of structure
Green marking, Green & White flagging	Centerline of access road not coincidental with another line already flagged.
Blue marking, Blue, or Blue & White flagging	Land lines, random lines, traverse line, section line

NO	DATE	REVISION	BY	CH	COR/APP
3	9/7/94	940558 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB	RAC
4	3-10-00	2000008 INSERTED COMMENTS BETWEEN 6.0 AND 6.1, REPLACED 6.3, 6.31, 6.5, ADDED 6.4	KMA		

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

Color Code	To Indicate
Red marking, Red flagging	Location of facility to be installed such as poles, towers, anchors, foundation, etc.

3.3 Right-of-Way Limits - It shall be the responsibility of the Contractor to determine and observe the limits of the right-of-way to be cleared in accordance with the information in the Contract Documents.

4.0 PERMITS

4.1 General Permits - State wetland permits issued by the Florida Department of Environmental Protection (FDEP).

Wetland areas permitted by the "General Permit" shall adhere to the following:
All permanent fill shall be at grade and access roads limited to a maximum 20 foot width.
Access and work areas may be cleared (including stump removal) as necessary, but clearing shall be limited to:

Linear access between structures up to 25 feet wide

Access from the edge of right-of-way to structures up to 25 feet wide

Vegetation under the conductors and up to 20 feet outside the outermost conductor may be cut/removed by hand or mechanized equipment. Cutting shall be no lower than the ground surface. Use of mechanized equipment shall minimize soil disturbance and compaction.

Vegetation in the remainder of the right-of-way, except for exotics, shall be selectively cleared of species with an expected mature height of 14 feet or more.

Exotic vegetation (malaleuca, brazilian pepper, australian pines) shall be eradicated from the right-of way. EPA registered herbicides may be used to accomplish the vegetation control.

Erosion and turbidity controls shall be applied appropriately.

4.2 Nationwide Permits - Federal wetland permits issued by the U. S. Army Corps of Engineers (COE).

Wetland areas permitted by the "Nationwide Permit" shall adhere to the following:

The discharge of dredged or fill material does not cause the loss of more than 10 acres of wetlands.

The discharge, including temporary and permanent work, is part of a single and complete project.

Erosion and turbidity controls shall be applied appropriately.

NO	DATE	REVISION	BY	CH	CORAPP
4	3-10-00	20000088 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.35, 6.8. ADDED 6.4	KMA		
3	9/1/94	940880 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB	

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

4.3 Individual Permits - Federal, State, Regional, or Local wetland permits issued by the respective jurisdiction.

Wetland areas designated as "Individual Permit" shall adhere to the referenced permit requirements contained in the Contract Documents.

4.4 Other Permits - Other areas designated as "Permit" (DOT, FGT, RR, etc.) shall adhere to the referenced permit requirements contained in the Contract Documents.

5.0 CLEARING

5.1 General

5.1.1 All trees that fall onto private property during clearing shall be removed. Holes left by removal of trees/stumps shall be backfilled and leveled.

5.1.2 Where water conditions permit the felling of trees by saw only, the stumps shall not project more than 6 inches above the existing water level (areas must be approved by the Company Representative). The stumps shall be treated to prevent regrowth.

5.1.3 The stumps of all nuisance species (australian pine, brazilian pepper also known as Florida holly, and melaleuca) shall be removed or treated to prevent regrowth.

5.1.4 Position of the outermost conductors with respect to the centerline of construction shall be as defined in the Contract Documents.

5.2 Clearing Methods

5.2.1 Right-of-Way in General - Clear cutting shall take place on all areas of the right-of-way other than those designated as "Wetland Areas" (see paragraph 5.2.2) or "Exception Areas" (see paragraph 5.2.3). Clear cutting is defined as the cutting of all vegetation in the right-of-way (edge to edge) at or near ground level.

5.2.2 Wetland Areas - Clearing in Wetland Areas (General Permit, Nationwide Permit, and/or Individual Permit) shall adhere to the following:

Access and Work Areas may be cleared (including stump removal) as necessary, but clearing shall be limited to:

Linear access between structures up to 25 feet wide, Access from the edge of right-of-way to structures up to 25 feet wide (see sheet 12 of 12 for illustrations),

NO	DATE	REVISION	BY	CH	COR/APP
3	9/7/94	940006 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DS	RAC
4	3-10-00	[illegible] REPLACED 6.1, 6.31, 6.5, ADDED 6.4	KWA		[illegible]

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

Vegetation under the conductors and up to 20 feet outside the outermost conductor may be cut/removed by hand or mechanized equipment. Cutting shall be no lower than the ground surface. Use of mechanized equipment shall minimize soil disturbance and compaction.

Vegetation in the remainder of the right-of-way, except for the exotics, shall be selectively cleared of species with an expected mature height of 14 feet or more.

Exotic vegetation (malaleuca, brazilian pepper, australian pines) shall be eradicated from the right-of-way. EPA registered herbicides may be used to accomplish the vegetation control.

5.2.3 Exception Areas - In these areas, special clearing may be in effect and shall supersede all other clearing instructions. Special clearing requirements in Exception Areas shall consider such things as:

- Access to right-of-way, structures and conductors,
- Fire hazards in designated fire hazard areas,
- Safe operation of the transmission line.

5.2.3.1 Agricultural Areas

Clearing methods/techniques in Agricultural Areas will be project specific with requirements outlined in the Contract Documents.

5.2.3.2 Screen Areas

These methods may be employed adjacent to roadways, navigable waterways or other special crossings.

Clearing methods in Screen Areas shall extend fifty (50) feet in depth along the width of the right-of-way (see sheet 12 of 12 for illustration). Remove only those trees in excess of 14 feet. If extremely dense foliage exists, remove the fast-growing species over 5 feet. Exotic vegetation (Malaleuca, Brazilian Pepper, Australian Pines) shall be eradicated from the right-of-way.

Screen areas shall have an access road cleared and constructed in accordance with paragraph 6.0 for road construction. The road shall be constructed at an angle or in a curvilinear manner to block a view of the right-of-way. All curves constructed in the access road shall have a minimum turning radius of 65 feet (see sheet 12 of 12 for illustration).

NO	DATE	REVISION	BY	CH	COR	APP
4	3-16-00	20000306 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.8. ADDED 6.4	KMA			ZJV
3	9/7/94	940906 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB		RAC

POWER SYSTEMS

TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION	SHEET 5 OF 13
11/21/88	J. F. CARTWRIGHT R. H. STERBA	5.0 TS, TIS, S5	A-88050-4

20210015-EI

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

5.2.3.3 Special Use Areas
Clearing methods/techniques in Special Use Areas will be project specific with requirements outlined in the Contract Documents.

5.3 Disposal of Timber, Pulp Wood and Debris - All trees, brush and debris cleared from the right-of-way shall be disposed of by the Contractor (trees suitable for sale as pulpwood or timber shall be disposed of as indicated in the Contract Documents). The Contractor may burn the debris on the right-of-way provided that he secures the permission of the property owner/s and all required permits. Contractor shall comply with all laws, rules, ordinances, and codes applicable to the work; Florida Statutes Chapter 590 "Forest Protection"; and Rules of Florida Department of Pollution Control. When burning, fires shall not be left unattended, and shall be handled in such a manner as to prevent the spread of fire beyond the right-of-way boundaries.

6.0 ROAD CONSTRUCTION

If road construction is deemed necessary, a permit assessment will be required. Typical considerations are the land classification (uplands, wetlands), the footprint of the road, and the depth of the road. Permitting agencies such as the US Army Corps of Engineers, Florida Department of Environmental Protection, are concerned about sheet flow and environmental impact. For certain areas, the impact of the road must be mitigated. The cost of mitigation in some cases could be as high as $30,000 to $40,000 per acre of wetland impacted???

The design of the road will determine the weight bearing capacity of the road. The soil on which the road is built, the road material, road depth, side slope and compaction are all factors in the ultimate bearing capacity of the road. Where a road in necessary, it is recommended that soild borings be taken at sufficient intervals or locations as to adequately characterize the soil conditions for the project. For soils with a blow count of less than xxx, geotextile stabilization fabric shall be utilized, and a minimum 2' road base (D road) be constructed to facilitate construction. Refer to A-88050 and A-94540.

NO	DATE	REVISION	BY	CH	COR/APP
3	9/7/94	940666 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB	RMC
4	3-10-00	000006 UPDATED COMMENTS BETWEEN 6.0 AND 6.1, REPLACED 6.3, 6.31, 6.5, ADDED 6.4	KWA		3/22

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

The road design should be based on the types of equipment needed for the construction of the line. Road thickness, compaction requirements, LBRvalue and other parameters are impacted by the weight of the equipment to be utilized. The rock fill roads in A-88050 are designed for an ASHTO rating of H20.

Another factor which determines road thickness is the water level of the area in which the road will be built. The road should be a minimum of 6" above water level under xxx storm event.

In wetland areas, water flow will have to be taken addressed in the environmental permit and in the road design. Culverts will have to be selected and placed to insure that water flow is not impeded.

6.1 Road in Dry Areas - A strip shall be leveled and compacted to provide a suitable roadway for traversing with vehicles. The width shall be described in the Contract Documents.

6.2 Road in General Permit Areas - All permanent fill shall be at grade. The width of the access road is limited to a maximum 20 feet.

6.3 Road on Fill or Geo-textile structural fabric - In certain designated areas, the access road ma be built on sand fill, rock fill, fill on corduroy, or on a geo-textile stabilization fabric.

6.3.1 Road Cross-Sections - Fill shall be placed, shaped, and compacted to form a road with a top width of 14 feet, a centerline crown of 3 inches, and side slopes of 2 horizontal to 1 vertical. Compaction requirements specified in the following sections must be met throughout the road cross-section to which they apply. The final 12" layers must be compacted

6.3.2 Road on Sand Fill - Sand shall contain some fine material so that it will readily compact. Sugar sand, or sand that is a cohesionless, loose type, is not acceptable as fill in the top one foot layer of the road. A mixture of marl and rock, or marl and shell is acceptable in the top one foot layer. The final road surface shall meet a minimum Limerock Bearing Ratio (LBR) value of 40.

NO	DATE	REVISION	BY	CH	COR/APP
4	3-10-00	00000000 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.5. ADDED 6.4	KHA	TJG	BMG
3	9/1/88				

POWER SYSTEMS

TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION 5.0	SHEET 7 OF 13
11/21/88	J. F. CARTWRIGHT R. H. STERBA	TS,TIS,S5	A-88050-4 CADE

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

6.3.3 Road on Rock Fill - Rock shall be pit rock and contain coarse and fine material so that it will readily compact, with a maximum of 40% sand. Boulders may be used with a maximum diameter of 12 inches, but no boulder shall be within 6 inches of the surface of the completed road. All boulders not used for construction shall be removed from the right-of-way. The road shall be compacted to 90% of maximum density. The modified proctor test, ASTM D 1557, shall be used to determine maximum density.

6.3.4 Road on Fill Over Corduroy - In certain swamp areas with poor soil conditions, the road may be built on corduroy. These areas are to be hand cut within six inches of the waterline. The trunks of trees that are felled along the proposed road shall be used for road corduroy. The remaining debris shall be disposed of by the Contractor. The trunks shall be cut to a length as wide as the specified road base. Diameter of the logs shall be at least 5 inches. The logs are to be laid side by side, perpendicular to the centerline of the road in a layer not to exceed 2-1/2 feet deep. Where tree logs exist in such abundance as to exceed the 2-1/2 foot depth of corduroy, the surplus shall be disposed of by the Contractor. Sand or rock fill shall be placed in accordance with 6.3.2 and 6.3.3 to form the remaining road.

6.3.5 Structure Pads - shall be built with the same elevation and side slopes as the adjacent road, and with an area as specified in the Contract Documents. The pads shall be constructed to meet the same requirements as the road (compaction, fill type, etc.).

6.4 Geotextile Stabilization Fabric - When the bid documents specify that the road be built on fabric, it is the contractors responsibility to utilize an acceptable fabric of a structural quality to be placed over existing soil and under the entire base of the road (the width of the road from edge to edge, including the side slope). The geotextile fabric shall have a 200LB woven fabric minimum average value or higher. Refer to A-94540 (TIS) for specifications on Geotextile fabric installation. A sketch of the proposed fabric installation and data sheet on the fabric itself, shall accompany the bids.

NO	DATE	REVISION	BY	CH	CORAPP
3	9/7/94	940886 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB	RAC
4	3-10-00	6.3.1, 6.3.5, 6.6 REPLACED 6.3, 6.3.1, 6.6, ADDED 6.4	KWA		

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

7.0 CULVERTS / SWALES / BRIDGES

7.1 Culverts - The type, size, dimensions, locations and grade for each culvert shall be as listed in the Contract Documents. Contractor shall furnish all material and labor to install culverts in accordance with the following:

7.1.1 Corrugated Metal Pipe Culverts - per FPL Drawing A-88049.

7.1.2 Precast Concrete Box Culverts - per FPL Drawing A-91774.

7.2 Swales - The type, size, dimensions, locations and grade for each swale shall be as listed in the Contract Documents.

7.3 Bridges - The type, size, dimensions, locations and grade for each bridge shall be as listed in the Contract Documents. Contractor shall furnish materials (where required) and labor to install bridges in accordance with the following:

7.3.1 Pole Bridge - Furnish labor to install per FPL Drawing A-88046.

7.3.2 Timber Bridge - Furnish material and labor to install per FPL Drawing A-88047.

7.3.3 Prestressed Concrete Bridge - Furnish material and labor to install per FPL Drawing A-88048.

7.3.4 Single Span Prestressed Concrete Bridge - Furnish material and labor to install per FPL Drawing A-93291

7.3.5 Concrete Slab/Wood Piling Bridge - Furnish material and labor to install per FPL Drawing A-95078.

NO	DATE	REVISION	BY	CH	COR/APP
4	3-10-00	20000086 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.8. ADDED 6.4	NMA	TLO	NAC
3	8/7/84	940886 TRACING REDRAWN, SPECIFICATIONS REWRITTEN		DB	

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

8.0 GATES AND FENCES

Gates or fences shall be installed as follows:

8.1 Patrol Road Gate - Furnish labor and materials (where required) per FPL Drawing A-88052

8.2 Heavy Duty Patrol Road Gate - Furnish labor and materials (where required) per FPL Drawing A-88053

8.3 Tubular Patrol Road Gate - Furnish labor and materials (where required) per FPL Drawing A-93234

If the rights-of-way are fenced, the fencing and gate shall be offset or indented, in general one vehicle length (approximately 25 feet) away from the edge of the pavement to allow off road parking of normal vehicles as the gate is opened or closed. In cases where an additional offset can be justified due to heavy traffic, etc., the distance that the gate is located from the edge of the paved road, may be extended to 50 feet (see sheet 12 of 12 for illustration).

9.0 BONDING AND GROUNDING

Fences and gates, whether newly installed or existing, shall be bonded and grounded as follows:

9.1 Field / Barbed Wire Fences and Gates - Furnish labor to install per FPL Drawing A-88018.

9.2 Chain Link / Industrial Fences and Gates - Furnish labor to install per FPL Drawing A- 88019.

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

10.0 RIGHT-OF-WAY MAINTENANCE

10.1 General

FPL shall assume responsibility for maintenance of the right-of-way after all line construction has been successfully completed.

10.2 Right-of-Way Stabilization

After all line construction has been completed, those areas of the right-of-way cleared under paragraph 5.0, shall be sown, as required, with a suitable ground cover vegetation, (bahia, rye, millet, etc.) including seed producing flora for wildlife where applicable.

10.3 Line Clearing

10.3.1 Maintenance Prescriptions - Specific maintenance prescriptions shall be written as part of an overall system vegetation management plan.

10.3.2 Herbicides - EPA registered herbicides may be used for initial clearing, and during subsequent maintenance in accordance with any permits issued at the time of construction. In forested wetlands covered by the "General Permit", herbicides are limited to the following:

Vegetation growing within the area that was formerly cleared to the ground;

Vegetation with an expected mature height of more than 14 feet growing within the remainder of the right-of-way;

Any specimen of exotic vegetation (malaleuca, brazilian pepper, australian pines) within the right-of-way.

10.4 Access Roads

Access roads may be re-shaped from time to time to maintain the ability for vehicles to traverse them. In permitted areas, this re-shaping will be within the original scope of the permit. Minor amounts of fill may be added to account for localized depressions due to settlement.

10.5 Culverts, Swales, Bridges, Gates and Fences

These facilities will be maintained so as to provide their normal functions. In permitted areas, this maintenance will be within the original scope of the permit.

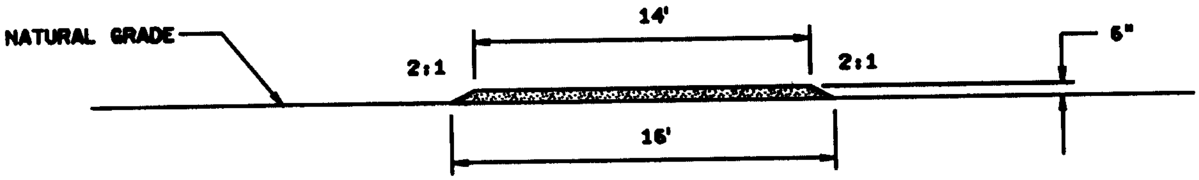
NO	DATE	REVISION	BY	CH	COR/APP
4	3-10-00	2000008 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.5. ADDED 6.4	KMA		
3	9/1/94	940888 TRACING REDRAWN, SPECIFICATIONS REWRITTEN	TLO	DB	RAC

POWER SYSTEMS

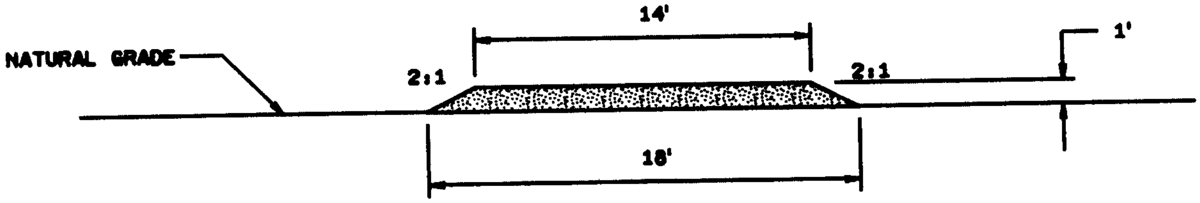
TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION 5.0	SHEET 11 OF 13
11/21/88	J. F. CARTWRIGHT R. H. STERBA	TS, TIS, S5	A-88050-4

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE



TYPE "B" ROAD



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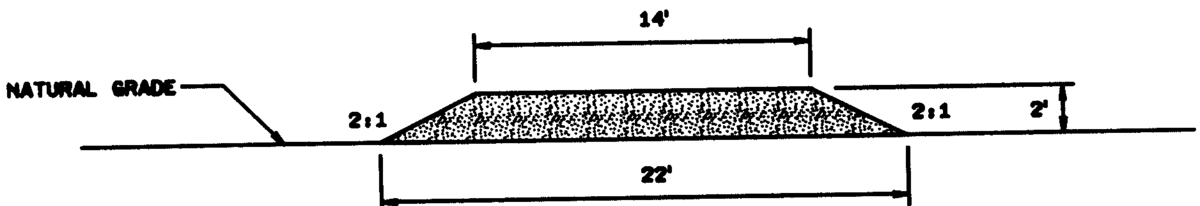

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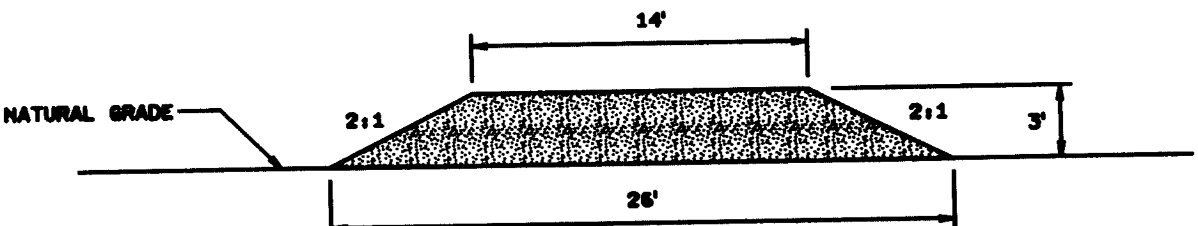

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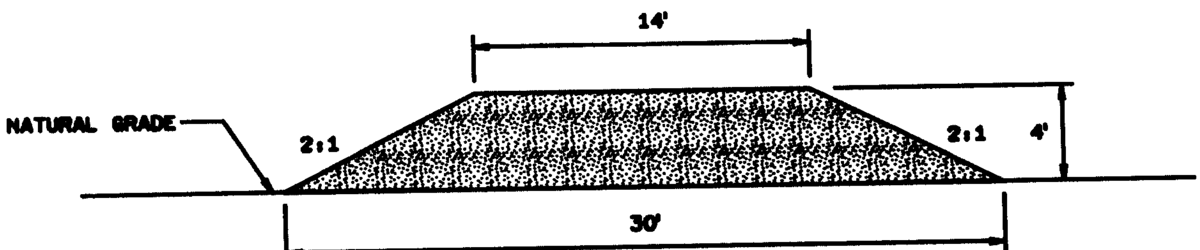


TYPE "F" ROAD

SCALE: 1/4" = 1'-0"

NO	DATE	REVISION	BY	CH	COR/APP
3	9/7/94	SOURCE TRACING REDRAWN, SPECIFICATIONS REWRITTEN	JMS	DB	RMC
4	3-10-00	[illegible]	KMA		[illegible]

POWER SYSTEMS

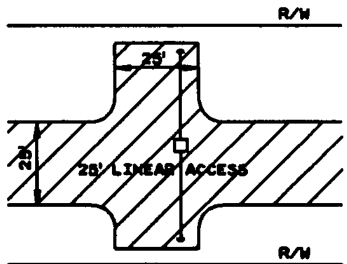
TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION 5.0	SHEET 12 OF 13
11/21/88	J. F. CARTWRIGHT R. H. STERBA	TS, TIS, S5	A-88050-4 CADE

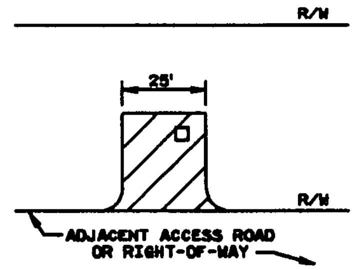
FPL 029873
20210015-EI

6/99

SPECIFICATIONS AND INSTRUCTIONS FOR RIGHT-OF-WAY PREPARATION AND MAINTENANCE

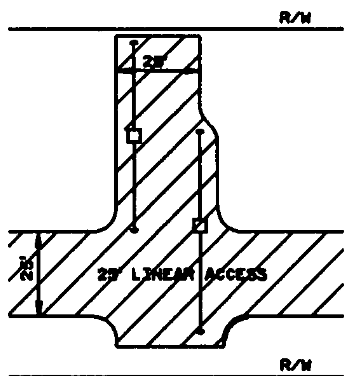


LINEAR ACCESS
BETWEEN STRUCTURES

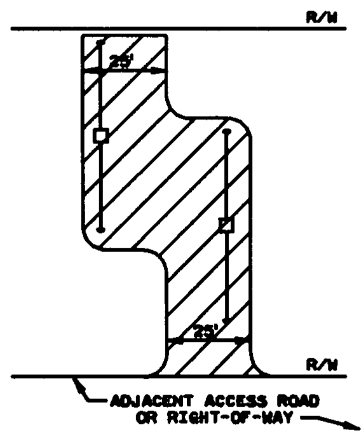


SIDE ACCESS FROM
RIGHT-OF-WAY EDGE

CLEARING IN WETLAND AREAS SINGLE STRUCTURE RIGHT-OF-WAY

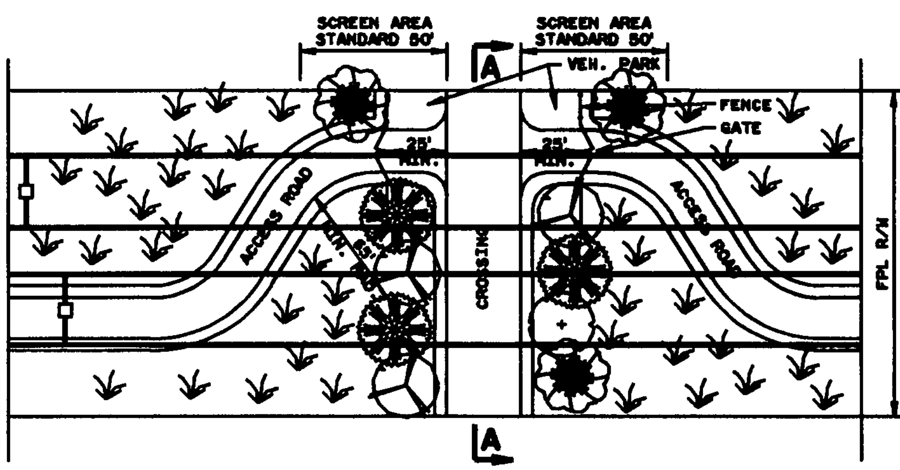


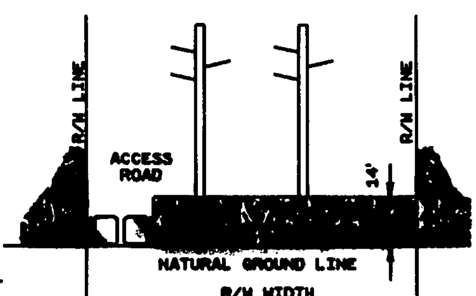
LINEAR ACCESS
BETWEEN STRUCTURES



SIDE ACCESS FROM
RIGHT-OF-WAY EDGE

CLEARING IN WETLAND AREAS MULTIPLE STRUCTURE RIGHT-OF-WAY





SECTION A-A

SCREEN AREAS

NO	DATE	REVISION	BY	CH	COR	APP
4	3-10-00	20000035 INSERTED COMMENTS BETWEEN 6.0 AND 6.1. REPLACED 6.3, 6.31, 6.5. ADDED 6.4	KWA			
3	9/7/94	940558 ADDED SHEET 13; UPDATED REVISION NUMBER.	TLO	DB		RAC

POWER SYSTEMS

TRANSMISSION INSTALLATION SPECIFICATION

DATE:	APPROVED:	SECTION 5.0	SHEET 13 OF 13
11/21/88	J.F. CARTWRIGHT R.H. STERBA	TS, TIS, S5	A-88050-4

FPL029871

20210015-EI

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Appendix E

Proposed Transmission Line Cross Section Illustrations

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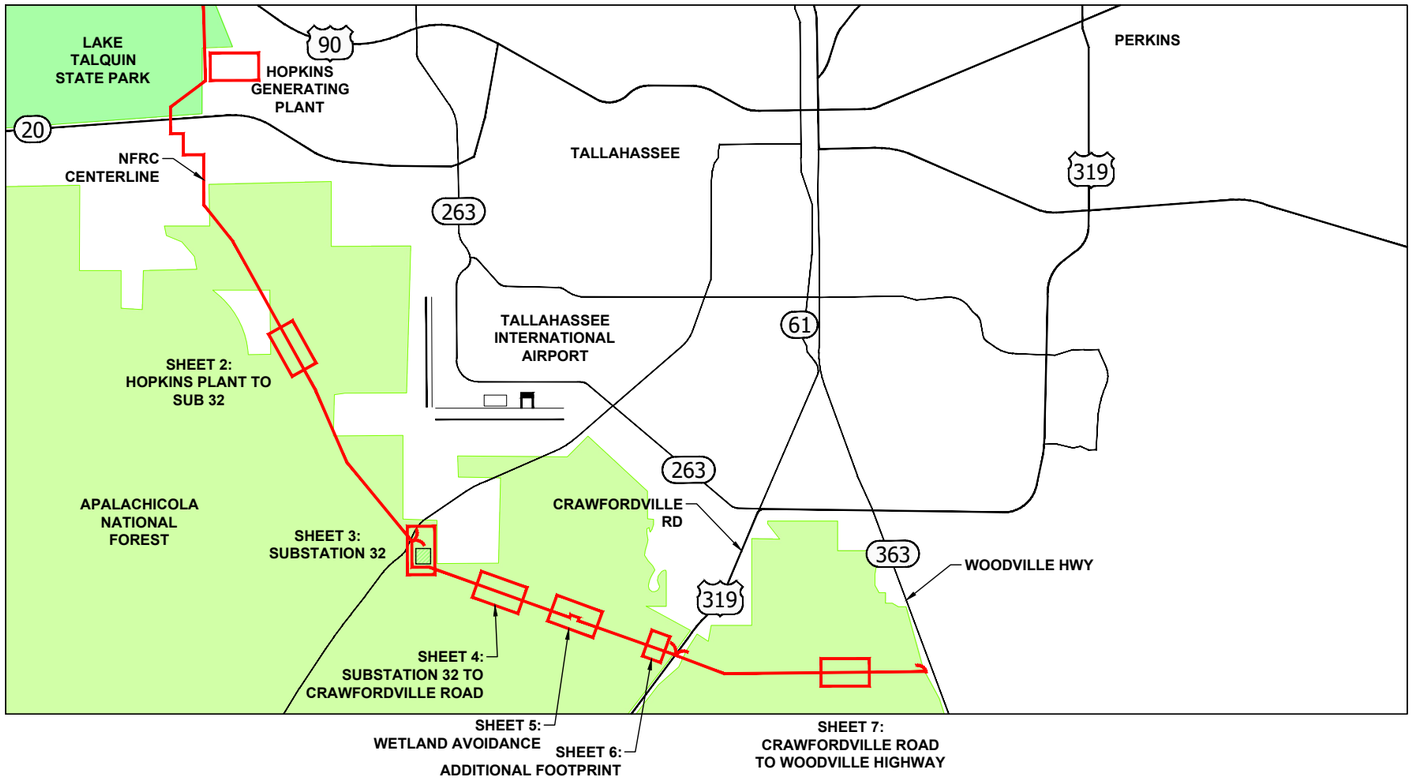
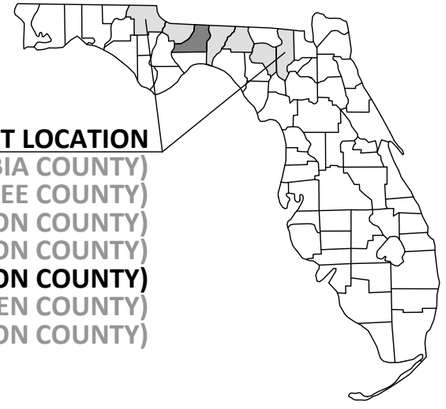
NORTH FLORIDA RESILIENCY CONNECTION
161kV TRANSMISSION LINE BUILD
APALACHICOLA NATIONAL FOREST

N



APALACHICOLA NATIONAL FOREST KEY MAP



PROJECT LOCATION
(COLUMBIA COUNTY)
(SUWANNEE COUNTY)
(MADISON COUNTY)
(JEFFERSON COUNTY)
(LEON COUNTY)
(GADSDEN COUNTY)
(JACKSON COUNTY)

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

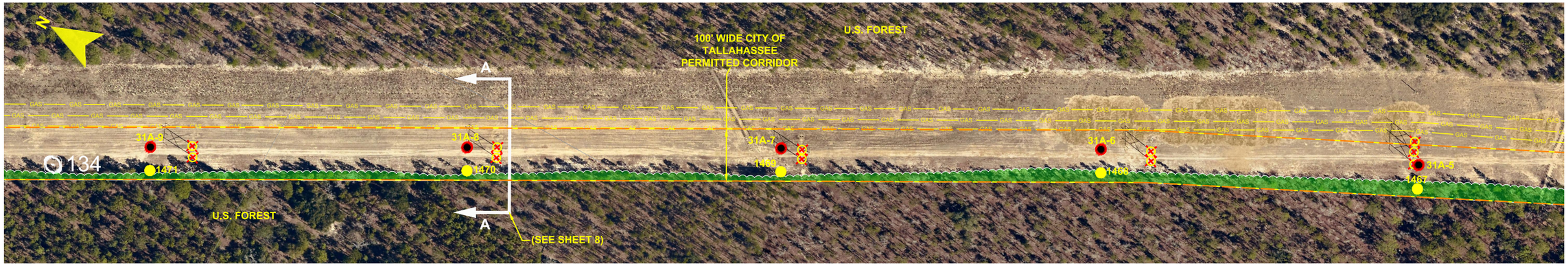
SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 1 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST

FPL 029878
20210015-EI



SEGMENT 1 - HOPKINS PLANT TO SUB 32

LEGEND

- LIMITS OF UPLAND CLEARING
- LIMITS OF WETLAND CLEARING
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPERTY LINE
- WETLAND
- DITCH, STREAM & WATERBODY
- 239 NFRC TRANSMISSION POLE TO BE INSTALLED
- 33-43 COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 FUTURE COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 EXISTING COT TRANSMISSION POLE TO REMAIN
- EXISTING POLE
- TRANSMISSION POLE TO BE REMOVED
- 1 PROJECT MILE MARKER

24 x 36 Scale: 1" = 100'
11 x 17 Scale: 1" = 200'

100' 0 50' 100' 200'

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

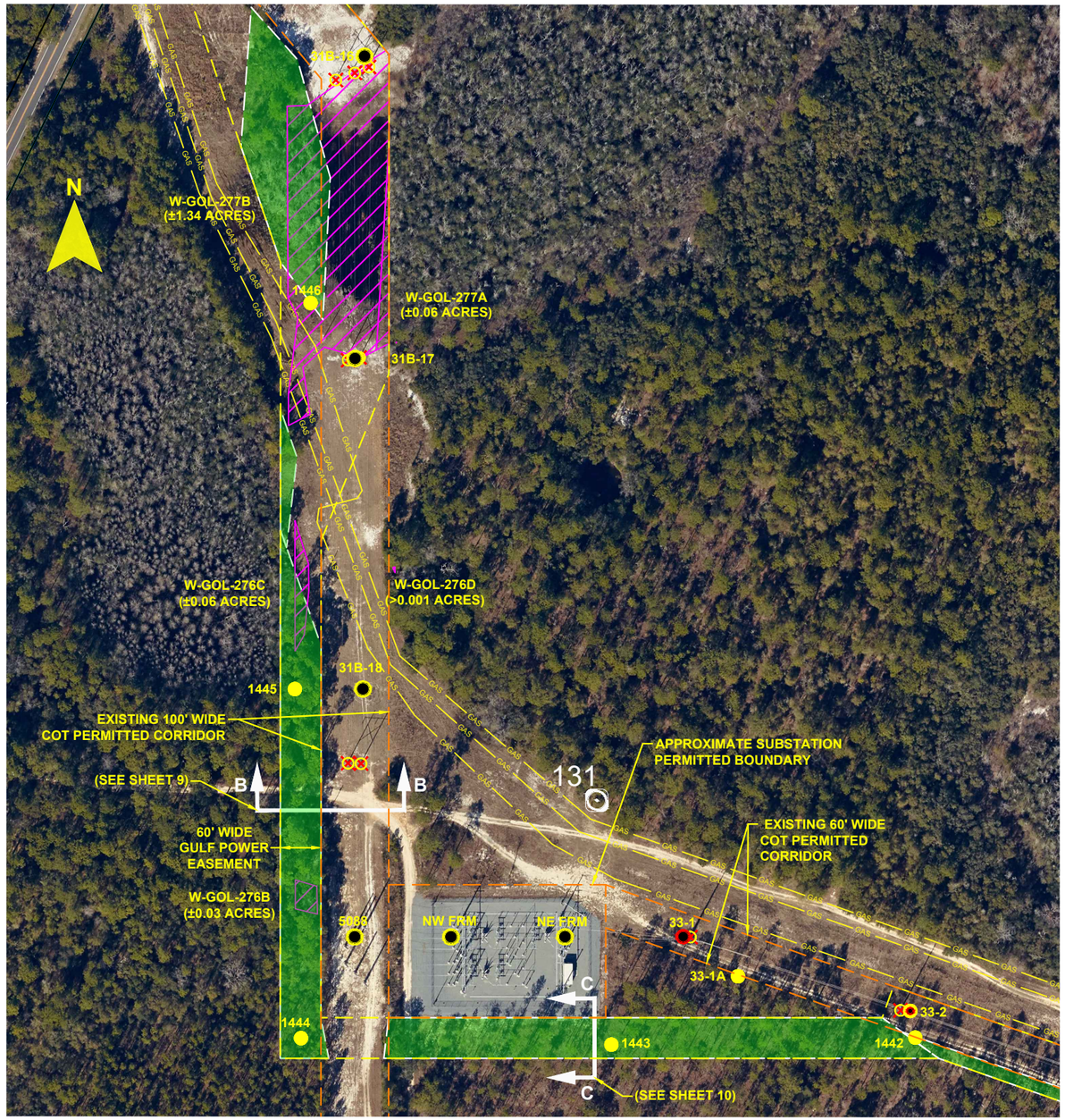
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: 1" = 200'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 2 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SEGMENT 1



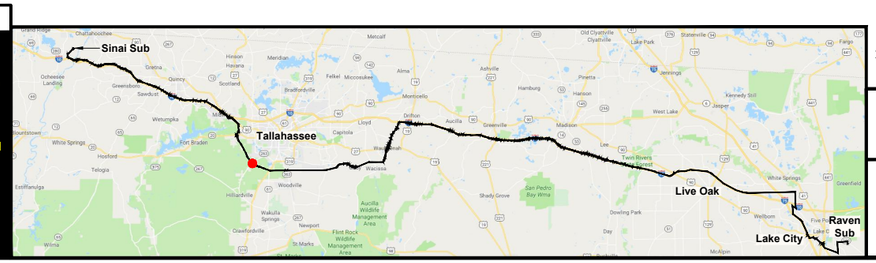
SUBSTATION 32

NOTES:

1. SURVEY BOUNDARIES AND WETLAND DELINEATION PROVIDED BY OTHERS.

LEGEND

LIMITS OF UPLAND CLEARING	239	NFRC TRANSMISSION POLE TO BE INSTALLED
LIMITS OF WETLAND CLEARING	33-43	COT TRANSMISSION POLE TO BE INSTALLED
EXISTING EASEMENT	33-43	FUTURE COT TRANSMISSION POLE TO BE INSTALLED
PROPOSED EASEMENT	33-43	EXISTING COT TRANSMISSION POLE TO REMAIN
PROPERTY LINE		EXISTING POLE
WETLAND		TRANSMISSION POLE TO BE REMOVED
DITCH, STREAM & WATERBODY	1	PROJECT MILE MARKER



24 x 36 Scale: 1" = 100'
11 x 17 Scale: 1" = 200'

100' 0 50' 100' 200'

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	FOR INITIAL REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

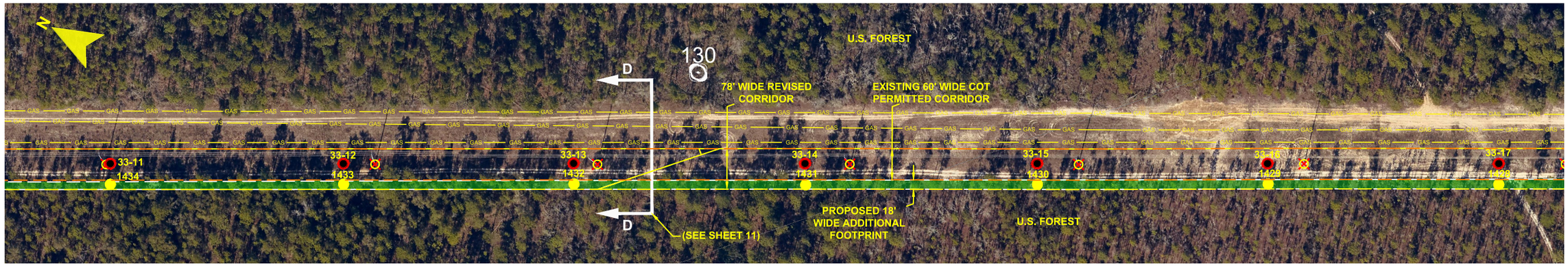
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: 1" = 200'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 3 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SUBSTATION 32



SEGMENT 2 - SUBSTATION 32 TO CRAWFORDVILLE ROAD

LEGEND

- LIMITS OF UPLAND CLEARING
- LIMITS OF WETLAND CLEARING
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPERTY LINE
- WETLAND
- DITCH, STREAM & WATERBODY
- 239 NFRC TRANSMISSION POLE TO BE INSTALLED
- 33-43 COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 FUTURE COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 EXISTING COT TRANSMISSION POLE TO REMAIN
- EXISTING POLE
- TRANSMISSION POLE TO BE REMOVED
- 1 PROJECT MILE MARKER

24 x 36 Scale: 1" = 100'
11 x 17 Scale: 1" = 200'

100' 0 50' 100' 200'

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

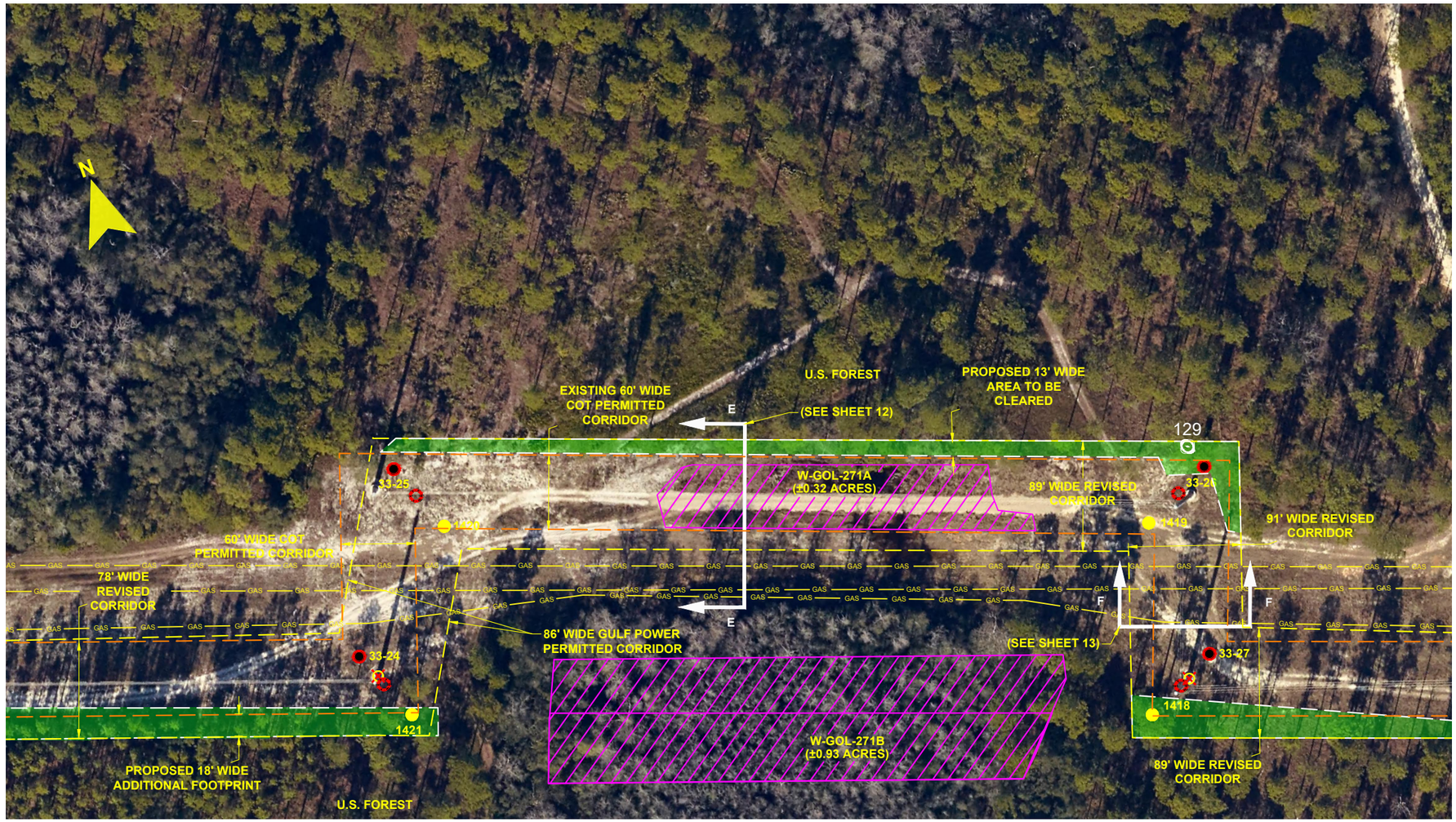
SCALE: 1" = 200'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 4 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SEGMENT 2

FPL 029881
20210015-EI



WETLAND AVOIDANCE

LEGEND

- LIMITS OF UPLAND CLEARING
- LIMITS OF WETLAND CLEARING
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPERTY LINE
- WETLAND
- DITCH, STREAM & WATERBODY
- 239 NFRC TRANSMISSION POLE TO BE INSTALLED
- 33-43 COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 FUTURE COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 EXISTING COT TRANSMISSION POLE TO REMAIN
- EXISTING POLE
- TRANSMISSION POLE TO BE REMOVED
- 1 PROJECT MILE MARKER

24 x 36 Scale: 1" = 50'
11 x 17 Scale: 1" = 100'

50' 0 25' 50' 100'

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

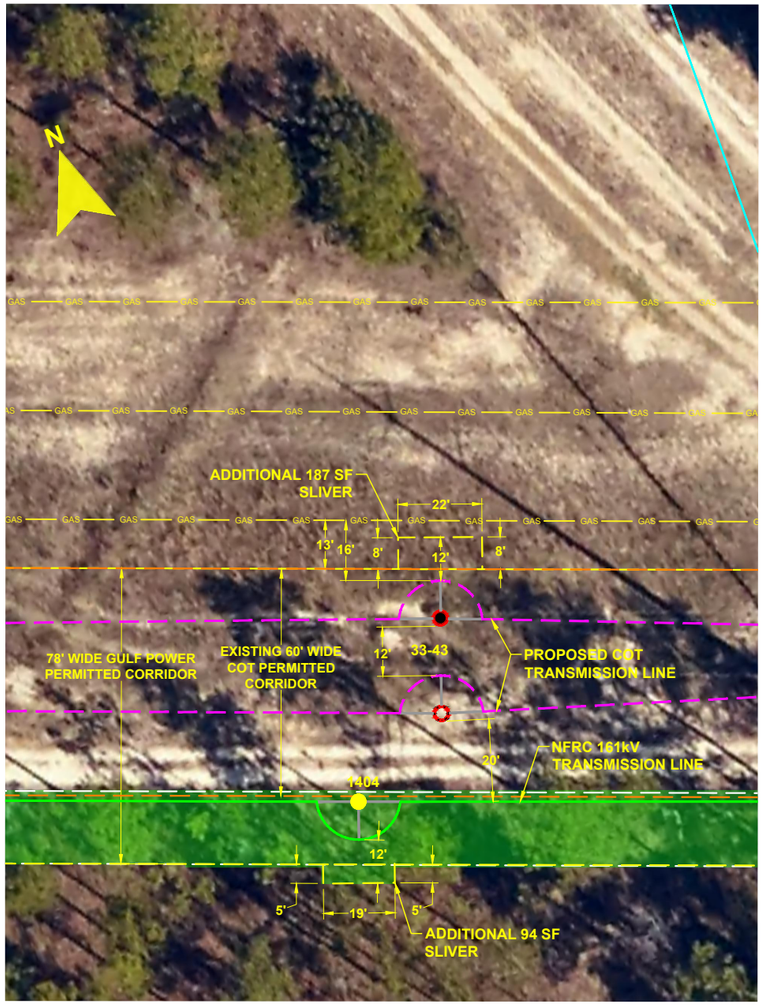
SCALE: 1" = 100'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 5 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
WETLAND AVOIDANCE

FPL 029882
20210015-EI



ADDITIONAL FOOTPRINT

LEGEND

- LIMITS OF UPLAND CLEARING
- LIMITS OF WETLAND CLEARING
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPERTY LINE
- WETLAND
- DITCH, STREAM & WATERBODY
- 239 NFRC TRANSMISSION POLE TO BE INSTALLED
- 33-43 COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 FUTURE COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 EXISTING COT TRANSMISSION POLE TO REMAIN
- EXISTING POLE
- TRANSMISSION POLE TO BE REMOVED
- 1 PROJECT MILE MARKER

24 x 36 Scale: 1" = 20'
11 x 17 Scale: 1" = 40'

20' 0 10' 20' 40'

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

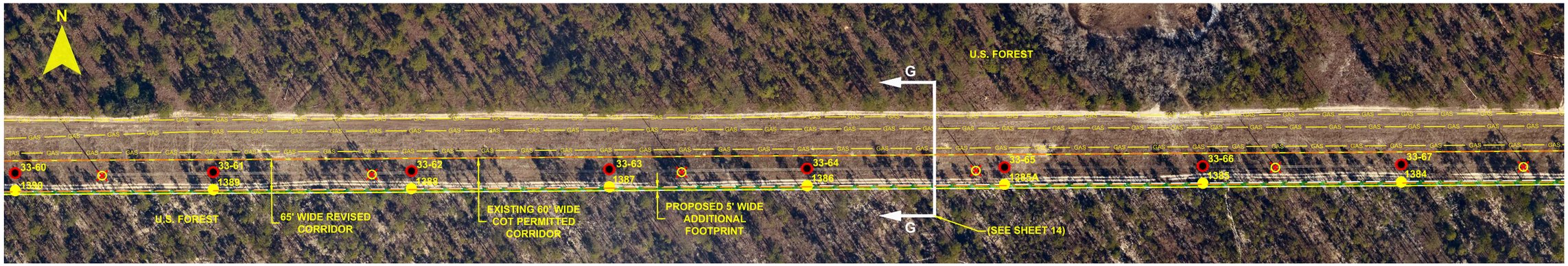
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: 1" = 40'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 6 OF 14

DATE: 03/04/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
ADDITIONAL FOOTPRINT



SEGMENT 3 - CRAWFORDVILLE ROAD TO WOODVILLE HIGHWAY

LEGEND

- LIMITS OF UPLAND CLEARING
- LIMITS OF WETLAND CLEARING
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPERTY LINE
- WETLAND
- DITCH, STREAM & WATERBODY
- 239 NFRC TRANSMISSION POLE TO BE INSTALLED
- 33-43 COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 FUTURE COT TRANSMISSION POLE TO BE INSTALLED
- 33-43 EXISTING COT TRANSMISSION POLE TO REMAIN
- EXISTING POLE
- TRANSMISSION POLE TO BE REMOVED
- 1 PROJECT MILE MARKER

24 x 36 Scale: 1" = 100'
11 x 17 Scale: 1" = 200'

100' 0 50' 100' 200'

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

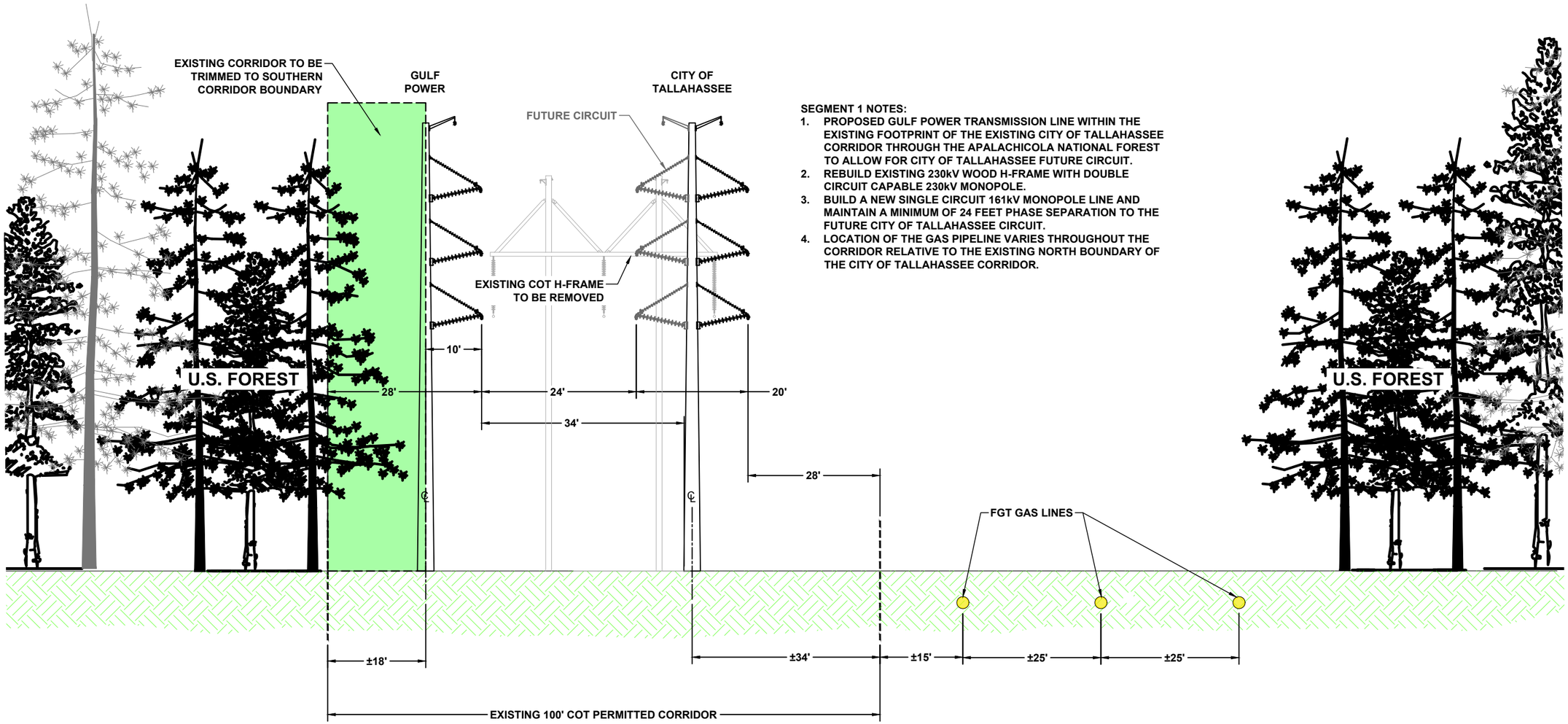
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: 1" = 200'
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 7 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SEGMENT 3



SEGMENT 1 NOTES:

1. PROPOSED GULF POWER TRANSMISSION LINE WITHIN THE EXISTING FOOTPRINT OF THE EXISTING CITY OF TALLAHASSEE CORRIDOR THROUGH THE APALACHICOLA NATIONAL FOREST TO ALLOW FOR CITY OF TALLAHASSEE FUTURE CIRCUIT.
2. REBUILD EXISTING 230kV WOOD H-FRAME WITH DOUBLE CIRCUIT CAPABLE 230kV MONOPOLE.
3. BUILD A NEW SINGLE CIRCUIT 161kV MONOPOLE LINE AND MAINTAIN A MINIMUM OF 24 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
4. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO THE EXISTING NORTH BOUNDARY OF THE CITY OF TALLAHASSEE CORRIDOR.

SECTION A-A - SEGMENT 1 - HOPKINS PLANT TO SUB 32

LOOKING NORTHWEST

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

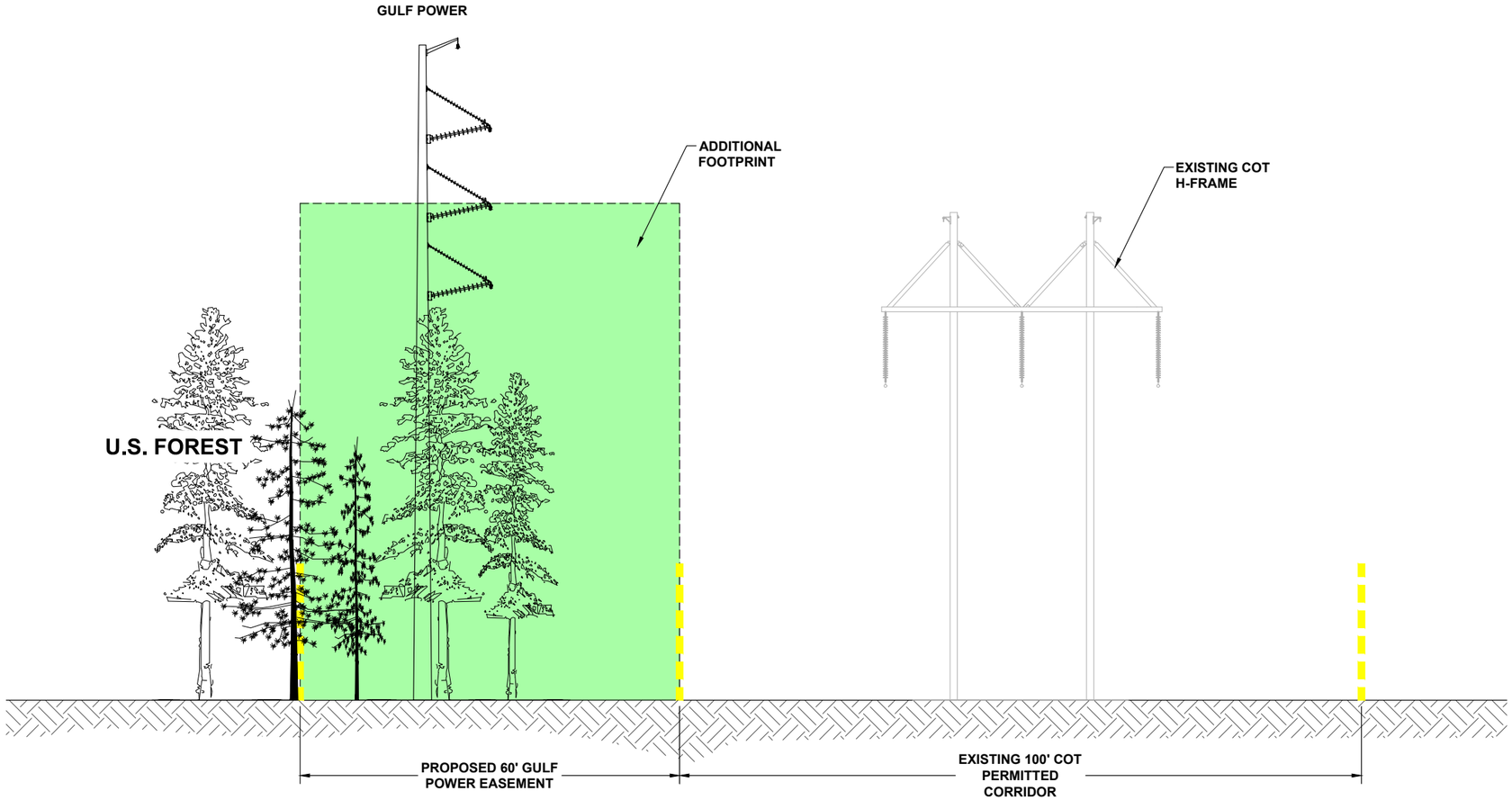
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 8 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION A-A - SEGMENT 1



SECTION B-B - SUBSTATION 32

LOOKING NORTH

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	FOR INITIAL REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

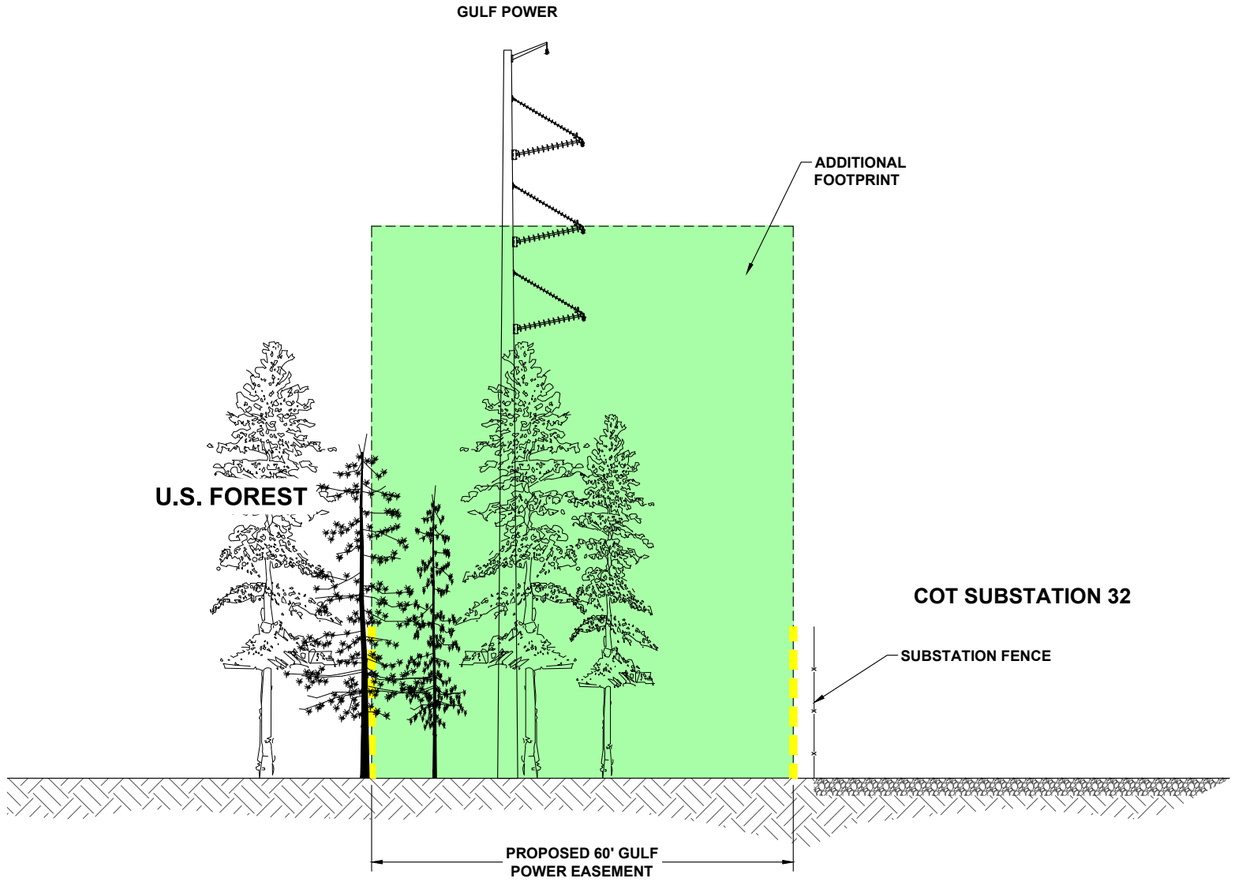
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 9 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION B-B - SUBSTATION 32



SECTION C-C - SUBSTATION 32
LOOKING WEST

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	FOR INITIAL REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

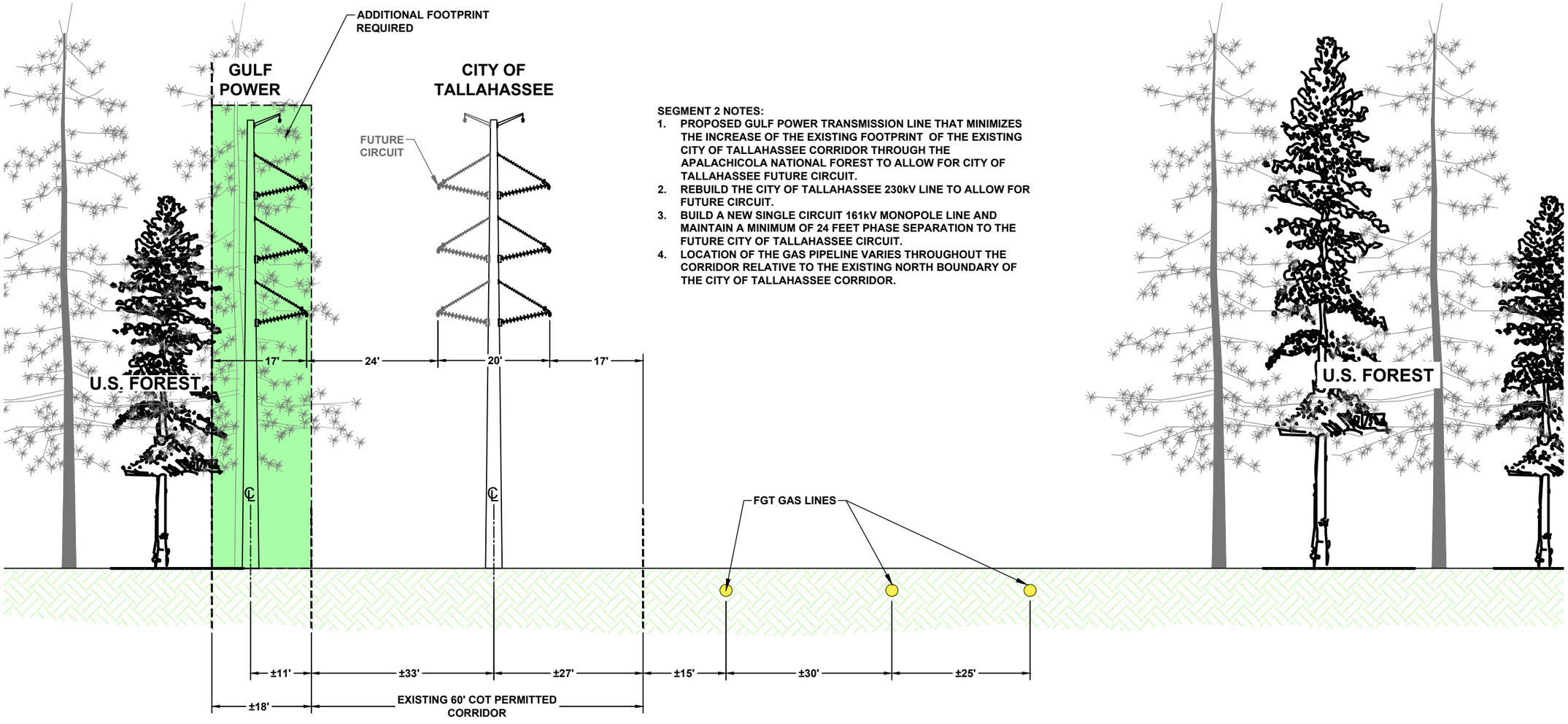
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 10 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION C-C - SUBSTATION 32



SEGMENT 2 NOTES:

1. PROPOSED GULF POWER TRANSMISSION LINE THAT MINIMIZES THE INCREASE OF THE EXISTING FOOTPRINT OF THE EXISTING CITY OF TALLAHASSEE CORRIDOR THROUGH THE APALACHICOLA NATIONAL FOREST TO ALLOW FOR CITY OF TALLAHASSEE FUTURE CIRCUIT.
2. REBUILD THE CITY OF TALLAHASSEE 230kV LINE TO ALLOW FOR FUTURE CIRCUIT.
3. BUILD A NEW SINGLE CIRCUIT 161kV MONOPOLE LINE AND MAINTAIN A MINIMUM OF 24 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
4. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO THE EXISTING NORTH BOUNDARY OF THE CITY OF TALLAHASSEE CORRIDOR.

SECTION D-D - SEGMENT 2 - SUB 32 TO CRAWFORDVILLE ROAD

LOOKING NORTHWEST

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

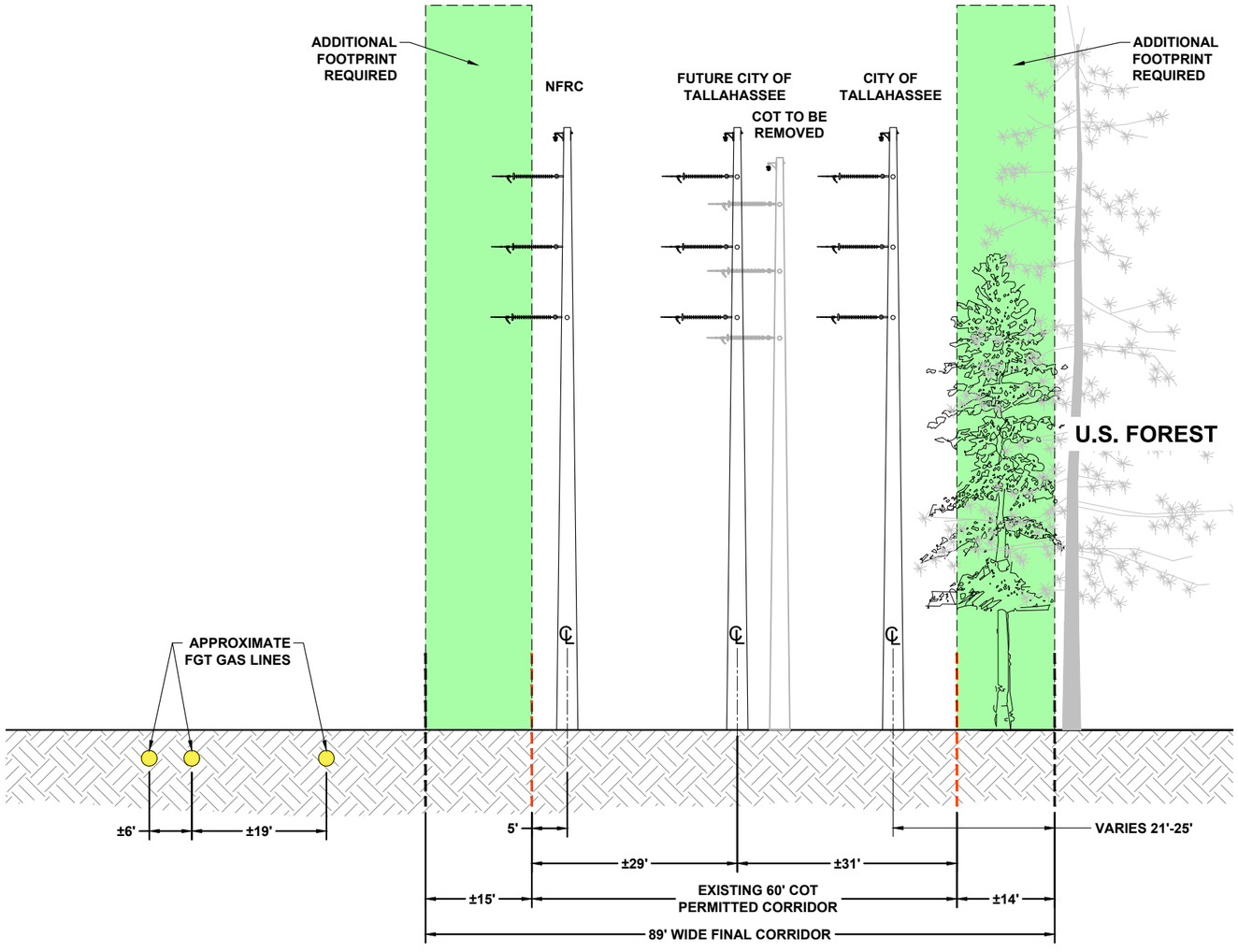
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 11 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION D-D - SEGMENT 2



SECTION E-E - WETLAND AVOIDANCE

LOOKING WEST

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

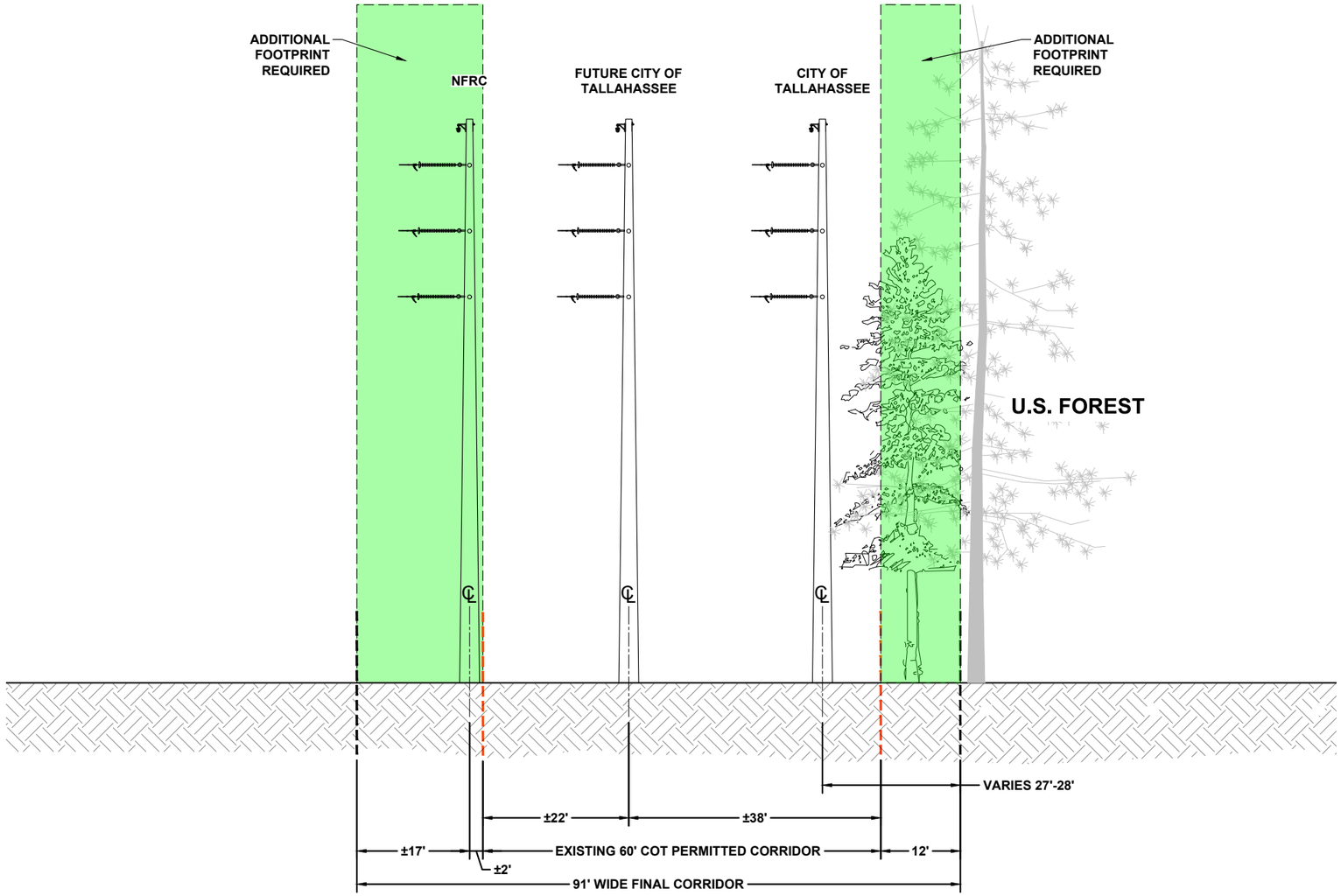
NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 12 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION E-E - WETLAND AVOIDANCE



SECTION F-F - WETLAND AVOIDANCE
LOOKING NORTH

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 13 OF 14

DATE: 04/10/20
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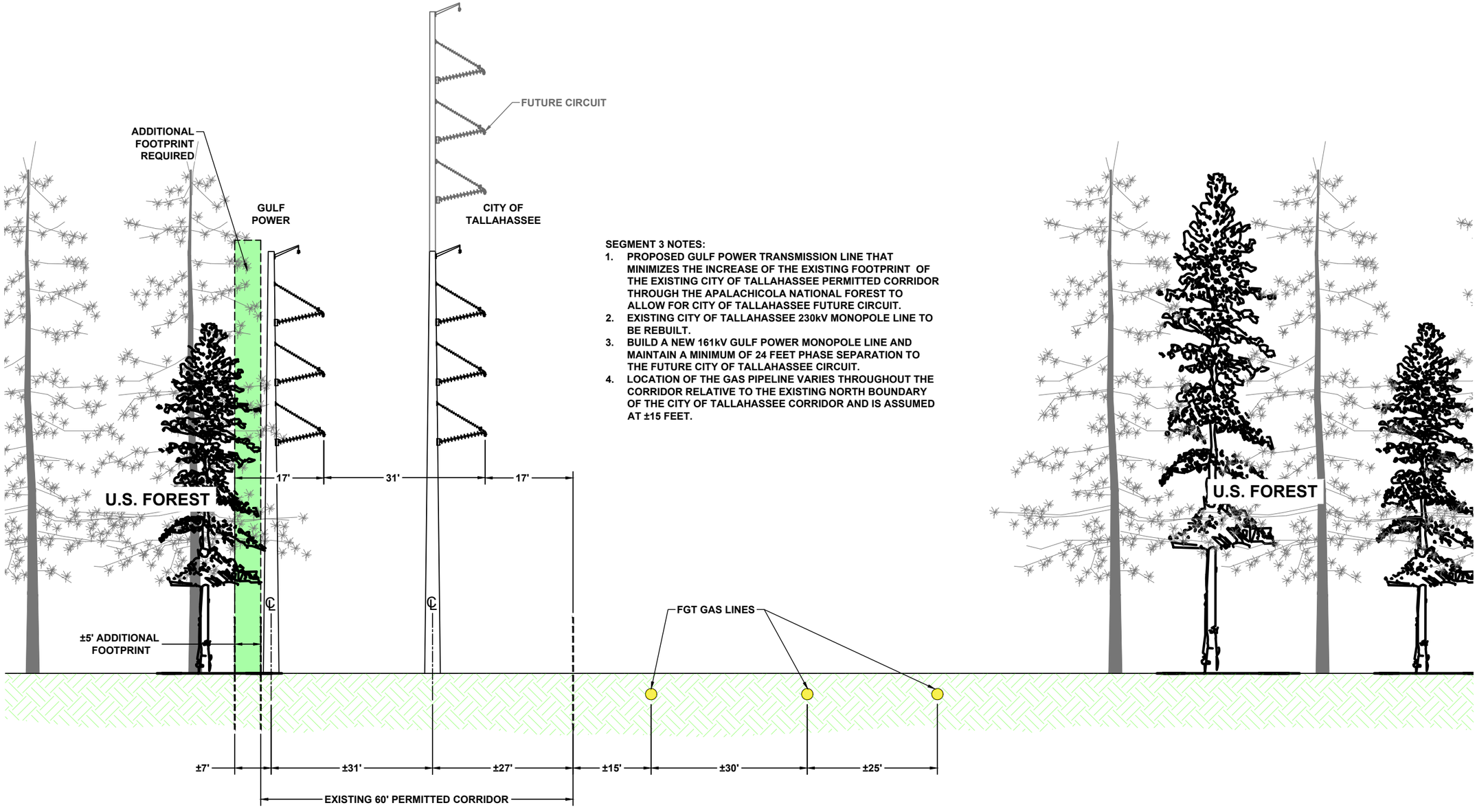
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION F-F - WETLAND AVOIDANCE



SEGMENT 3 NOTES:

1. PROPOSED GULF POWER TRANSMISSION LINE THAT MINIMIZES THE INCREASE OF THE EXISTING FOOTPRINT OF THE EXISTING CITY OF TALLAHASSEE PERMITTED CORRIDOR THROUGH THE APALACHICOLA NATIONAL FOREST TO ALLOW FOR CITY OF TALLAHASSEE FUTURE CIRCUIT.
2. EXISTING CITY OF TALLAHASSEE 230kV MONOPOLE LINE TO BE REBUILT.
3. BUILD A NEW 161kV GULF POWER MONOPOLE LINE AND MAINTAIN A MINIMUM OF 24 FEET PHASE SEPARATION TO THE FUTURE CITY OF TALLAHASSEE CIRCUIT.
4. LOCATION OF THE GAS PIPELINE VARIES THROUGHOUT THE CORRIDOR RELATIVE TO THE EXISTING NORTH BOUNDARY OF THE CITY OF TALLAHASSEE CORRIDOR AND IS ASSUMED AT ±15 FEET.

SECTION G-G - SEGMENT 3 - CRAWFORVILLE ROAD TO WOODVILLE HIGHWAY

LOOKING WEST

NOTE:
CROSS SECTIONS ARE INTENDED TO ILLUSTRATE CORRIDOR SPACING

REV	DATE	DESCRIPTION	BY	CKD	APP
0	04/10/20	ISSUED FOR REVIEW	GCC	JRC	MKL

GULF POWER COMPANY

NORTH FLORIDA RESILIENCY CONNECTION

SCALE: N.T.S.
DRAWN BY: GCC
ENGINEER: MKL
COUNTY: LEON
SHEET 14 OF 14

DATE: 04/10/20
CHECKED BY: JRC
SECTION: N/A
FILE NAME: ANF CLEARING EXHIBIT

Gulf Power

APALACHICOLA NATIONAL FOREST
SECTION G-G - SEGMENT 3

Appendix F

United States Department of Agriculture Forest Service Biological Assessment

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United States Department of Agriculture
Forest Service
National Forests in Florida
325 John Knox Road, Suite F-100
Tallahassee, FL 32303
850-523-8500
Fax: 850-523-8505

File Code: 2670
Date: August 12, 2020

Jose Rivera
Supervisory Fish and Wildlife Biologist
US Fish and Wildlife Service
South Florida Ecological Services Office
1339 20th St.
Vero Beach, Florida 32960-3559

Dear Mr. Rivera,

The USDA Forest Service, National Forests in Florida is currently evaluating a special use permit request from Gulf Power Company and Florida Power and Light for constructing a transmission line across 11 mi. of the Apalachicola National Forest. A draft Environmental Assessment will be available soon on the project website (http://www.nfrcea.ene.com) and a biological assessment is attached along with two supporting documents. I am writing to initiate informal consultation under Section 7 of the Endangered Species Act (ESA) for this project and request written concurrence with the determination that implementing this project may affect, but is not likely to adversely affect, species listed under the ESA.

If you have any questions or require additional information, please contact Matthew Trager at (352) 226-5010 or matthew.trager@usda.gov.

Sincerely,

KELLY RUSSELL
Forest Supervisor, National Forests in Florida

Enclosures (3): Biological Assessment for the proposed special use for Gulf Power Company transmission line, Trager et al. 2018, Concurrence letter for RCW Core Area Phase 1 project

cc: verobeach@fws.gov, panamacityregs@fws.gov, Harold_Mitchell@fws.gov

Biological Assessment

for the

Proposed special use permit for Gulf Power Company transmission line

USDA Forest Service

Apalachicola National Forest

Leon County, Florida

Prepared by

Matthew Trager (matthew.trager@usda.gov)

Forest Planner, National Forests in Florida

August 2020

Introduction

Gulf Power Company (GPC) has requested a special use permit to construct an electric transmission line on the Apalachicola National Forest (ANF). The USDA Forest Service (USFS) is evaluating the request and analyzing the environmental effects of authorizing the proposed use and occupancy of national forest land. The proposed activities are briefly described below and additional information is available on the project website at http://www.nfrcea.ene.com/

This Biological Assessment (BA) documents the expected effects of the proposed action on species listed as endangered or threatened under the Endangered Species Act of 1973 (ESA). Based on the analysis, the USFS has initiated consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with USFS and USFWS policies for implementing Section 7 of the ESA.

Proposed action and affected area

Gulf Power Company proposes to construct, operate, and maintain a 161-kV transmission line connecting the existing GPC Sinai Cemetery Substation in Jackson Co., Florida, to Florida Power & Light Company's Raven Substation in Columbia Co., Florida. The total transmission line is approximately 176 miles and would provide the first direct interconnection between the GPC transmission system and the FPL transmission systems. This larger project is known as the North Florida Resiliency Connection (NFRC).

As part of the NFRC project, GPC has applied to the USDA Forest Service for a special use permit (SUP) authorizing an electric power transmission line easement approximately 11 miles long that would traverse the Apalachicola National Forest (ANF) from south of Blountstown Highway (State Road 20) southeast around Tallahassee to Woodville Highway (Fig. 1). The proposed route would collocate most of the transmission line with the existing City of Tallahassee electric transmission corridor adjacent to the existing Florida Gas Transmission Company, LLC's natural gas corridor through the ANF. Both of those projects were the subject of past environmental review and interagency consultation.

A detailed description of project implementation and a list of mitigation measures are in Appendix 1. Following initial construction activities (e.g., pole installation and replacement, vegetation clearing and rehabilitation of construction sites), ROW maintenance will follow the existing City of Tallahassee vegetation management plan. The affected area will primarily be within the existing utility corridor and in the areas proposed for ROW expansion. Project implementation could begin as early as winter 2020-2021. Construction and site rehabilitation may occur at any time of year but are expected to be completed rapidly after work is initiated to minimize disruption to electricity supply.

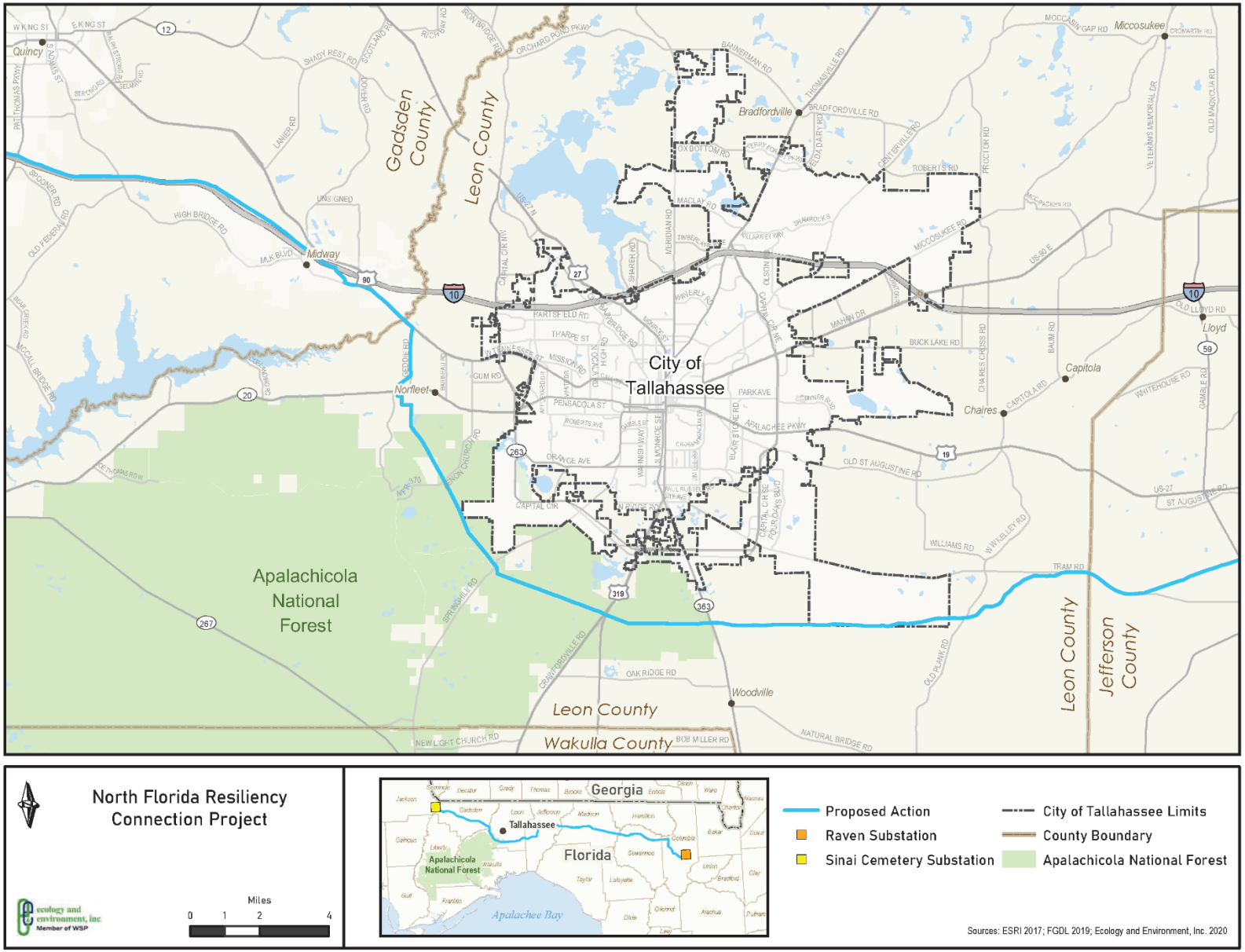

Figure 1. Map of proposed NFRC electric transmission line, showing route through the Apalachicola National Forest (prepared by Ecology & Environment).

Scope of analysis

An IPaC resource list was used to generate an initial list of species that occur within the general vicinity of the project, and USFS and FNAI GIS databases were consulted to identify records of proposed, threatened or endangered species found in the project area. Information from field visits and surveys, published reports and scientific studies, species-habitat relationships and experience with past projects in this area were used to determine which species warranted analysis for this project.

Based on this filtering process, three species were identified that are known to occur within the project area (or have occurred in the recent past) and could potentially be affected by project implementation: eastern indigo snake (*Drymarchon corais couperi*), wood stork (*Mycteria americana*) and red-cockaded woodpecker (*Picoides borealis*). The effects of the project on these species is described in the following section.

Several other species were either listed in the IPaC report or were discussed with USFWS staff that are not considered further in this biological assessment:

- Four bivalve mollusk species occur and have designated critical habitat in the Ochlockonee River upstream from Lake Talquin: Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), purple bankclimber (*Elliptoideus sloatianus*) and shinyrayed pocketbook (*Lampsilis subangulata*). The proposed NFRC route would parallel Hwy 90 west of Tallahassee where the highway crosses critical habitat in the Ochlockonee River. This bridge is less than 5mi from the project area on the ANF. However, these species do not occur in the proposed 11-mile easement in the ANF and considering the effects of the overall project is beyond the scope of this analysis and will be the subject of a separate consultation process. As such, based on their absence from the immediate project area and no reasonable connection to indirect effects of project implementation, there will be no effect on these species.

- Godfrey's butterwort (*Pinguicula ionantha*) occurs on the Apalachicola National Forest. This species most frequently is found in high-quality open wet savanna habitat or in transition zones between savannas or flatwoods and freshwater wetlands. However, these habitats are not present in the project area and the nearest known occurrence of *P. ionantha* is approximately 30mi west of the proposed activities. Based on the lack of suitable habitat in the project area, no occurrence records of the species, and no reasonable connection to indirect effects of project implementation, there will be no effect on Godfrey's butterwort.

- Gopher tortoise (*Gopherus polyphemus*) is currently a candidate for ESA listing and does not require interagency consultation. This species is relatively common on the ANF, and past surveys showed that the sandhill habitats near the proposed activities have a high density of tortoise burrows. A survey for gopher tortoises was conducted within the entire 11-mile proposed ROW and the results,

analysis, and mitigation measures to avoid adverse effects to tortoises and their burrow commensals are available in the environmental assessment for this project and in a separate report on the project website.

- Bald eagles (*Haliaeetus leucocephalus*) are protected under the Bald and Golden Eagle Protection Act and effects analysis for this species is often included in biological assessments as part of interagency consultation. Bald eagles occur in the area and a recently active nest (activity was not evaluated in 2020) is located along Munson Slough just north of the proposed ROW. Effects analysis and mitigation measures to avoid adverse effects to bald eagles are available in the environmental assessment for this project.

- The frosted elfin butterfly (*Callophrys irus*) is a wide-ranging but rare species that was evaluated in a Species Status Assessment by the USFWS in 2018. The Munson sandhills region of the ANF, including areas immediately adjacent to the proposed project, provides habitat for the largest and best-studied frosted elfin population. *C. irus* is not currently a proposed, candidate or listed species under the ESA, and is not included in this biological assessment (consistent with June 11, 2020 phone conversation with Robyn Niver, USFWS). However, the frosted elfin is listed by the USFS as a sensitive species and the environmental assessment includes analysis of the effects of the proposed project and mitigation measures to reduce or offset adverse effects.

As noted above, more information for several of these species is available in other project documents that are available on the project website or upon request.

This biological assessment focuses on the effects of proposed activities that are outside the existing right of way or not covered by previous analyses (e.g., the FGT and COT SWTL utility easement special use permits). Actions considered in this analysis include the proposed pole construction and replacement, widening the existing ROW, and the associated activities such as heavy equipment use, noise, soil and vegetation disturbance. Mitigation measures are described in Appendix 1 and the analysis below assumes that they would be followed during implementation. The USFS only has jurisdiction over the activities within the ANF and is not responsible for any permitting, environmental review or consultation beyond the forest boundaries.

Effects of the proposed action on ESA-listed species

Eastern indigo snake

The current range of eastern indigo snakes includes southern Georgia and Florida, with recent reintroductions to conservation lands in Alabama, South Carolina and Mississippi. Habitat includes sandhill regions dominated by mature longleaf pines, turkey oaks, and wiregrass; flatwoods; most types of hammocks; coastal scrub; dry

glades; palmetto flats; prairie; brushy riparian and canal corridors; and wet fields. Preferred habitat is often near wetlands and frequently has abundant gopher tortoise burrows (NatureServe 2018).

The last confirmed sighting of an eastern indigo snake on the ANF was in the sandhill area southwest of Tallahassee, FL in 1996 (Enge et al. 2013). Despite generally suitable habitat (with the exception of high road density in places) and confirmed historical records of indigo snakes in the area, the species is considered to be locally extirpated on the forest. However, it is possible that indigo snakes either could persist in the area or could be present in the future due to natural movement or reintroduction.

In sandhill habitats in the Florida panhandle, the eastern indigo snake is closely associated with gopher tortoises (Moler 1992), which are relatively common in the project area. A 100% survey of gopher tortoise burrows was conducted over the entire 11 miles of the proposed ROW following the survey procedures in the State of Florida gopher tortoise permitting guidelines (see survey report and environmental assessment available on project website). Project implementation would follow Forest Plan standards for gopher tortoise burrow protection, which would also protect any snakes or other commensal species residing in the burrows.

Heavy equipment used for vegetation clearing and power pole replacement/construction has the potential to directly affect this species through harming or killing individual snakes. Additionally, damage to high-quality sandhill vegetation, disturbance to prey species and loss of gopher tortoise burrows (even following management plan direction) could indirectly affect indigo snakes. Indigo snake protection measures recommended and developed by the USFWS will be followed during the project to minimize the potential for negative effects to this species.

Based on the potential for harm, but also the likely absence of this species from the project area and the protection measures that will be taken, the proposed action may affect, but is not likely to adversely affect the eastern indigo snake.

Wood stork

Wood storks are large wading birds that occur in the southeastern US and use wetlands for both foraging and nesting habitat. Potential foraging areas include freshwater marshes, stock ponds, shallow roadside ditches, shallow tidal creeks and pools, managed impoundments, and depressions in cypress swamps. Wood storks feed primarily on fish, but can opportunistically feed on arthropods and crustaceans, as well as small amphibians, mammals, reptiles, and birds. Wood storks are colonial nesters, and rookeries are usually located in medium to tall trees in swamps or other wetland habitats. They may fly long distances to feed, but the core foraging area (CFA) is defined as the area within 13 miles of a colony.

We used the nesting colony location and foraging area data from the USFWS wood stork website (https://www.fws.gov/northflorida/WoodStorks/wood-storks.htm) as the best available information for the species. There are three known colonies within 13 miles of the ROW that were active between 2010 and 2019 (Fig. 2). Due to the proximity of breeding colonies and the presence of suitable wetland habitat nearby, wood storks may fly over or forage near the proposed right of way. This is particularly true for the area around Munson Slough just east of Hwy 319. However, they are unlikely to feed in any of the smaller isolated wetlands that would be directly affected by project implementation.

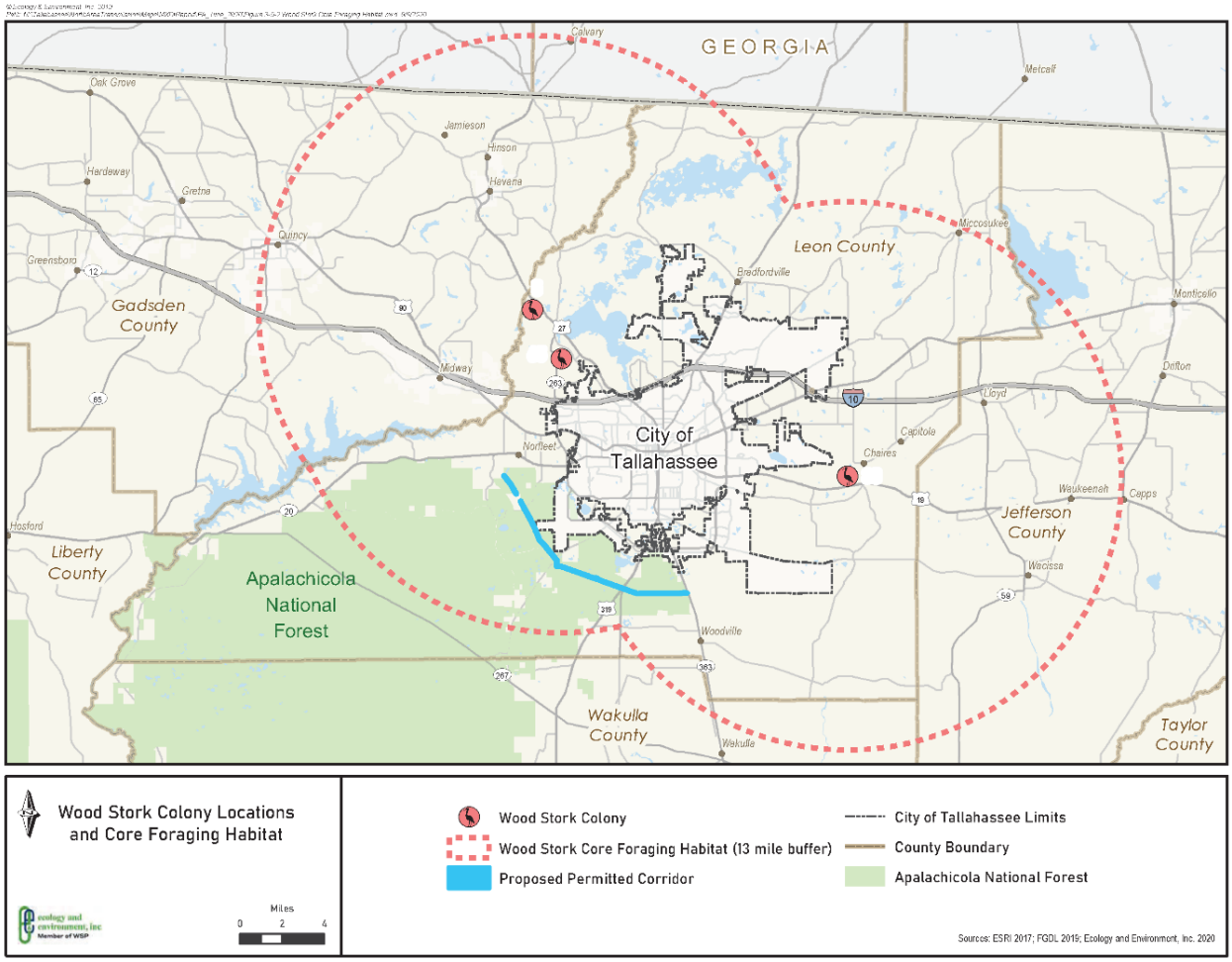

Figure 2. Map showing location of known wood stork colonies in relation to the proposed transmission line (prepared by Ecology & Environment).

The Proposed Action would not directly impact any wetland areas or hydrologic connections that could support wood stork foraging, roosting, or nesting habitat. Although the Proposed Action ROW is located within the CFA buffer of three wood stork colonies, any wood storks foraging in the vicinity of the ROW during the time of construction would likely avoid the area until construction is completed with minimal

impact to their activities, foraging or breeding success. The slightly taller poles and increased number of transmission lines could pose a risk to larger flying birds such as storks, but the effects of transmission line infrastructure will be included in separate consultation.

Based on the low probability of harm or harassment resulting from project implementation, we determine that the proposed action may affect, but is not likely to adversely affect wood storks.

Red-cockaded woodpecker (RCW)

The Apalachicola National Forest contains the largest extant population of RCW, and population growth has continued even with regular removal of fledglings for the species' translocation program and damage to many cavity trees by Hurricane Michael in October 2018. Due to limitations on field work during spring 2020, the most recent population data are from cluster surveys conducted in 2019. The Apalachicola Ranger District population has met its recovery goal of 500 active clusters and currently contains approximately 610 active clusters. In 2003, when the revised RCW Recovery Plan (USFWS 2003) was finalized, the Wakulla Ranger District was estimated to contain 138 active clusters. Annual surveys have shown recent growth of the district population with the current estimate of approximately 250 active clusters.

To evaluate the potential effects of the proposed activities on RCW, we considered the potential direct and indirect effects of the proposed transmission line construction and maintenance following guidance in the RCW Recovery Plan (USFWS 2003). The determination of effects for RCW follows guidance in the Sept. 18, 2019 letter from USFWS Panama City Field Office regarding evaluation of potential harm or harassment in relation to minor, short-term impacts and consideration of whether take is reasonably certain to result from project implementation.

There are no RCW groups near segment 1 of the proposed transmission line ROW (see Fig. 2.4-1 in Appendix 1), but segments 2 and 3 are located within some of the best sandhill habitat on the ANF that currently provides habitat for several dozen red-cockaded woodpecker groups. The proposed activities would occur within the 1/2mi. foraging partitions of 10 groups, within the 1/4mi. foraging partitions of 4 of those groups and within the cluster (defined as the minimum convex polygon of cavity trees with a 200ft buffer) of two of those groups (Fig. 3, see also Appendix 2). Because RCW have high site fidelity with most activity in or near the cluster, only the ten groups with foraging partitions that are crossed by the proposed ROW expansion are considered in the analysis.

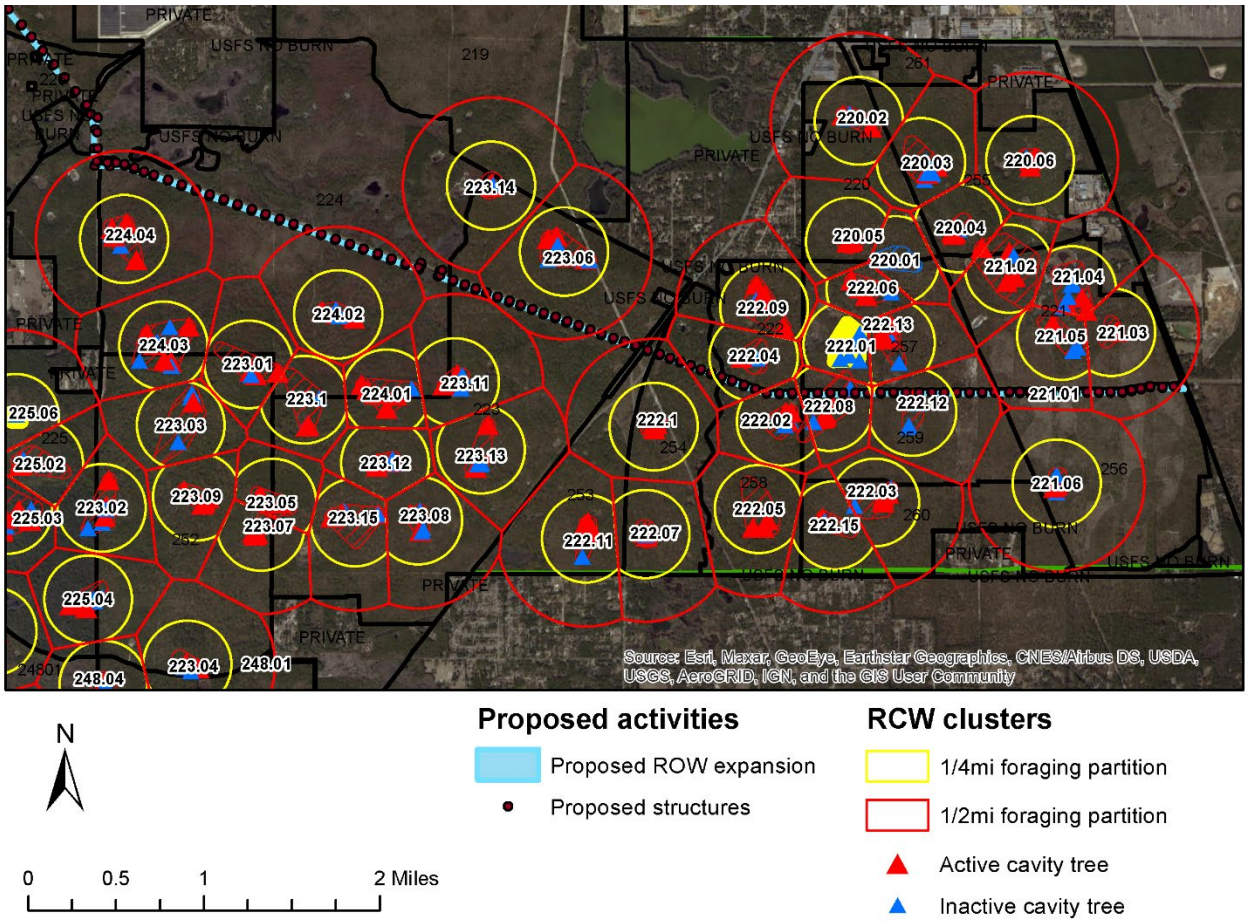

Figure 3. Map of the proposed activities (transmission poles and ROW expansion) in relation to RCW trees, clusters and foraging partitions.

The proposed activities could potentially impact RCW through direct disturbance such as construction noise or dust, vehicles and heavy equipment use and increased human activity in the existing utility corridor. In general, the direct effects of disturbance for each RCW group is related to the length of the ROW currently in within their foraging partition, the amount of ROW expansion planned for those segments and the proximity of the construction and vegetation clearing to the cluster (Table 1). Because project implementation could occur during RCW breeding season (April 1 – July 31), it is possible that foraging and feeding chicks could be disrupted, particularly for the two clusters that would be affected by ROW expansion (222.08 and 222.12). However, given the current high use of this part of the forest, including periodic heavy equipment (e.g., mowers, line trucks) on the utility corridor, the RCW groups adjacent to the ROW have likely become somewhat habituated to these types of activities.

Table 1. Summary of direct effects of proposed activities on red-cockaded woodpeckers.

RCW group	Length of proposed ROW expansion within 1/2mi foraging partition (ft)	Total area of ROW expansion within 1/2mi foraging partition (ac)	Proximity of ROW expansion or pole construction to cluster
221.03	1,874	0.29	Within 1/2mi partition
221.05	2,813	0.29	Within 1/2mi partition
222.02	1,169	0.22	Within 1/4mi partition
222.04	2,433	0.59	Within 1/4mi partition
222.08	2,180	0.31	Within cluster
222.1	701	0.22	Within 1/2mi partition
222.12	3,766	0.61	Within cluster
223.06	3,484	1.40	Within 1/2mi partition
224.02	3,300	1.70	Within 1/2mi partition
224.04	3,414	2.63	Within 1/2mi partition

Indirect effects of the proposed action were evaluated with a foraging habitat analysis based on guidance in the Recovery Plan and a USFWS memo (USFWS 2003, 2005). Because common stand exams have not been conducted for all forested stands in the project and because the habitat in the project area often varies as scales smaller than individual stands, we used a remote sensing based ecological condition model to assess foraging habitat for each RCW group. A detailed description of model development and an example demonstrating its application for RCW habitat is available in Trager et al. (2018). In short, habitat with "good" ecological condition scores generally meets the criteria for good quality foraging habitat described in the RCW Recovery Plan (USFWS 2003, p. 188-189). Habitat with "fair" conditions usually diverges from good quality foraging habitat in one or more of the following ways: pine canopy is too young (<30yr old, with few trees ≥10in DBH), pine canopy is too dense (BA >80ft^2/ac) or the hardwood midstory is too dense. Habitat in "poor" or "very poor" condition or non-habitat (e.g., wetlands, private land) are not considered in this analysis as potential foraging areas. Figure 4 shows the ecological condition scores for pine habitats under USFS jurisdiction across the project vicinity, Appendix 2 shows aerial imagery and condition maps for each RCW group and Table 2 summarizes current habitat availability within 1/4mi and 1/2mi foraging partitions. Interpretation of the foraging habitat analysis considers the context of the proposed action, experience regarding effects of similar past actions and discussions with USFWS staff.

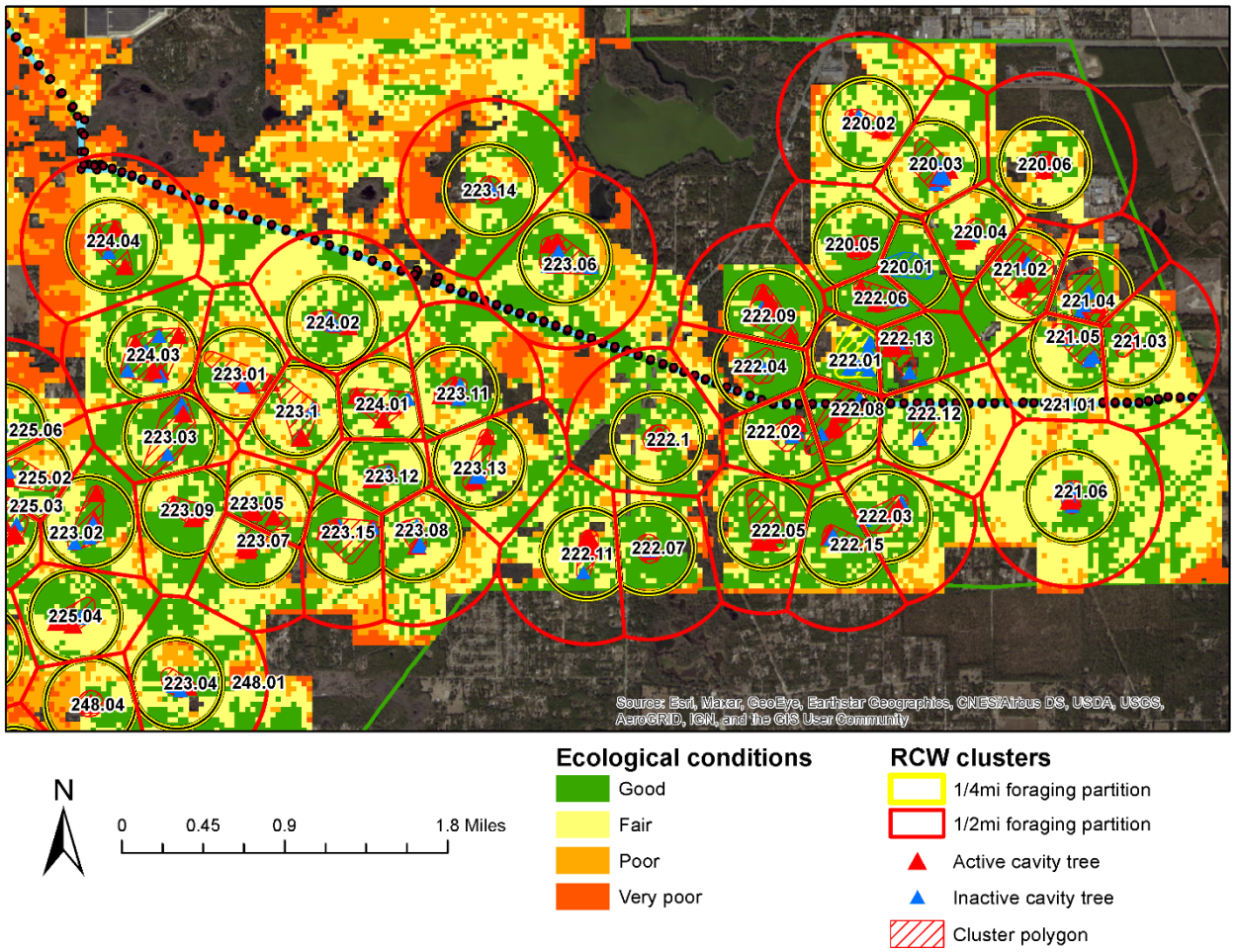

Figure 4. Map showing the ecological conditions of longleaf habitats in relation to the proposed action and nearby RCW groups.

Table 2. Summary of foraging habitat for RCW groups in the affected area (acres)

	1/4mi foraging partition			1/2mi foraging partition			
RCW group	**Total area**	**Good quality**	**Fair quality**	**Total area**	**Good quality**	**Fair quality**	**Habitat loss**
221.03	97.4	46.3	45.2	207.4	63.1	109.1	0.29
221.05	88.4	44.9	39.3	193.3	77.3	95.4	0.29
222.02	99.4	59.9	35.3	134.4	77.9	44.1	0.22
222.04	99.4	64.7	9.7	161.0	69.5	28.7	0.59
222.08	95.5	73.4	21.1	110.9	82.4	27.0	0.31
222.1	125.6	51.7	42.8	350.1	126.3	101.3	0.22
222.12	120.3	54.5	61.6	244.6	76.8	151.5	0.61
223.06	125.6	67.9	43.2	418.7	154.4	107.4	1.40
224.02	125.6	66.8	55.9	327.1	114.4	177.5	1.70
224.04	125.6	56.6	44.0	442.5	99.8	120.7	2.63

As shown in Fig. 4 and Table 2, many RCW foraging partitions are quite small due to high group density or proximity to private land that was not included in the foraging habitat analysis. Additionally, all ten clusters potentially affected by this project appear to have insufficient (i.e., <75ac) good quality habitat within the 1/4mi partitions. The memo clarifying RCW foraging habitat analysis (USFWS 2005) suggests that since the foraging habitat for these groups is already deficient, that any further reduction could be considered an adverse effect. However, based on extensive observations of RCW behavior in this project area, foraging often occurs in suitable areas in the 1/2mi foraging partition (rather than just the 1/4mi foraging partition) and most areas classified as "fair" habitat are regularly used as foraging habitat. It is also clear that many groups not considered in this analysis (e.g., groups 223.1, 223.05 and 224.01 in Fig. 4) persist with very small foraging partitions that contains even less good condition habitat than the groups in this project. Despite foraging habitat somewhat below the Recovery Plan guidance, continued population growth and successful reproduction clearly demonstrates that area and quality of foraging habitat are not currently limiting factors in this part of the forest. As such, the very small amount of foraging habitat lost due to the proposed ROW expansion (total of 8.3ac of varying habitat quality, only three groups losing more than 1ac; see Table 1) is likely to have an insignificant effect on RCW.

It is possible that ROW expansion and construction of additional power lines could inhibit RCW movement across the utility corridor. However, the expanded corridor will still be less than 200ft wide, which is the threshold for open areas to be considered as a barrier to movement.

In summary, activities associated with initial construction of the transmission line may briefly disrupt foraging and other normal RCW activities. Project implementation may occur during the breeding season within or immediately adjacent to the cluster polygons of two RCW groups, which could affect feeding chicks. Additionally, vegetation clearing required for ROW expansion will slightly reduce foraging habitat for ten RCW clusters, including two that currently appear to have insufficient good quality foraging habitat according to Recovery Plan criteria (221.03 and 222.04). The ROW expansion will increase the overall width of the utility corridor, which could inhibit movement within or among groups. However, similar activities, in addition to frequent prescribed fire, hunting, public recreation and vehicle traffic on the utility ROW have been occurring for years in this part of the forest and the RCW population has continued to grow. Despite the recognition of these potential impacts, there is no reasonable certainty that they will result in take of red-cockaded woodpeckers and there is substantial evidence that they will not. Therefore, implementation of the project activities may affect, but is not likely to adversely affect red-cockaded woodpeckers.

Summary of determinations

We have made the following determinations regarding the potential effects of the proposed action on ESA-listed species included in the IPaC report:

- Project implementation will have no effect on Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), purple bankclimber (*Elliptoideus sloatianus*), shinyrayed pocketbook (*Lampsilis subangulata*) or Godfrey's butterwort (*Pinguicula ionantha*) based on their absence from the area and no reasonable connection to indirect effects.

- Project implementation may affect, but is not likely to adversely affect the eastern indigo snake (*Drymarchon corais couperi*), wood stork (*Mycteria americana*) or red-cockaded woodpecker (*Picoides borealis*). These species are known to occur or may occur in the affected area, and a reasonable connection may be made between project activities and potential minor and short-term disturbance. However, the impacts of the proposed activities are not reasonably certain to result in take of individuals and are considered to be insignificant or discountable.

Additional information is available to support the assumptions and effects analysis presented above, including detailed information on RCW cluster and population status and trends.

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Appendix 1. Description of activities and mitigation measures

Note: This section is copied here from the description of the proposed action found in the draft environmental assessment for the project that was prepared by Ecology & Environment as a section of the Environmental Assessment for this project. Internal references for figures are preserved.

The USDA Forest Service's Proposed Action is to process and make a decision on a SUP application for the construction, occupancy, and use of NFS land for a 161- kV electric transmission line. The transmission line, as currently designed, would be capable of transmitting up to 850 megawatts (MW) of power. GPC is proposing to build the new transmission line to maintain electric reliability for electric utility customers in the north and northwest area of the state of Florida. The proposed transmission line would connect GPC's Sinai Cemetery Substation in Jackson County, Florida, to the FPL's Raven Substation in Columbia County, Florida. The total transmission line is approximately 176 miles and would provide the first direct interconnection between the GPC transmission system and the FPL transmission system (Figure 2.1-1).

GPC has applied to the USDA Forest Service for a SUP authorizing GPC to construct, operate, and maintain an electric power transmission line crossing portions of the ANF. This EA will consider effects of the 11-mile segment of the proposed transmission line easement that would traverse the ANF from south of Blountstown Highway (SR 20) southeast around Tallahassee to Woodville Highway. The preferred route would collocate the transmission line with the existing COT transmission corridor and be adjacent to the existing FGT's natural gas corridor through the ANF. A Memorandum of Understanding (MOU) concerning this collocation was approved by the Tallahassee City Commission on June 5, 2019, that allowed for continued negotiation towards a final agreement. The final colocation agreement is included as Appendix B. The primary objective of the colocation agreement with the COT is to minimize land clearing within the ANF. Based on GPC's colocation agreement with the COT, the Proposed Action would rebuild the COT transmission line and construct the GPC power transmission line adjacent to the rebuilt COT transmission line within the same ROW. The design features outlined below (Section 2.1.1) pertain only to the GPC transmission line. The COT rebuild line would be completed in accordance with the details previously presented in the COT SWTL FEIS and SUP issued by the USDA Forest Service for that project. A version of this document can be found on the project website (www.nfrcea.ene.com).

2.1.1 Transmission Design/Facilities Description

2.1.1.1 Structures

The placement of overhead structures (in this document, the terms 'structures' and 'poles' are used interchangeably) for a transmission line takes into consideration a number of factors, including the technical feasibility of installing the structure in different

terrains; the space available for the footprint of the structure; engineering and aesthetic concerns; ecological, social, cultural and natural resources in the project area; land use including location of residential and commercial development, schools, airports, parks, natural resource areas, sensitive habitats, and special land uses; long-range area planning; costs; and construction and operational safety.

Given this, structure height for this project would range from 75 to 110 feet, with higher structures being utilized to cross existing infrastructure, to accommodate a wider span, or to avoid other features. While distances between structures would vary depending upon terrain and configuration, structures would typically be erected with a span of 400 to 600 feet.

The project would be constructed using monopole structures (poles) to reduce footprint. Poles would be either spun concrete or steel. Concrete poles would be approximately 3 to 4 feet in diameter and would be direct embedded. Steel poles would require cast-in-place foundations and would vary in diameter from 4 to 8 feet.

2.1.1.2 Conductors

Transmission conductors are wires that carry the electrical current and typically consist of many aluminum wires wrapped around a steel core for reinforcement. These lines are strung along the transmission structures, connecting generation facilities, substations, and distribution stations to electricity consumers. To achieve the required ampacity, the single circuit transmission line will utilize a two-conductor per phase configuration for a total of six conductors. The Proposed Action would utilize “Pheasant” 1272 kcmil aluminum-conductor steel-reinforced cables, two cables per phase, and a single 0.646 inch, Single Mode Fiber, Optical Ground Wire shield wire with heights of no less than 26 feet above ground level.

2.1.1.3 Circuits and Configurations

Transmission lines consist of multiple conductors along which the electrical current flows; these are called circuits. Alternating current power transmission lines generally use a three-phase system for each circuit. The three-phase system consists of three conductors that carry electric current at the same frequency and different time cycles. Transmission structures can be designed to support either single circuits or double circuits. For the Proposed Action, single or double circuits with either single or bundled conductors will be utilized.

2.1.1.4 Access Roads and Temporary Work Space

The project would be designed to utilize existing roads, ROW, and other previously cleared areas for access to the greatest extent possible to minimize disturbance associated with construction of new access roads. The specific design and location of all access roads would be determined during final project design. Temporary roads may at times be used depending on site-specific situations. The contractor may employ either matting or geotextile fabric covered with temporary fill. There will be approximately five

temporary work areas used during the construction. None of the temporary areas will be located within the ANF. The temporary areas will be used for contractor trailers and staging of materials such as the poles, wire, and insulators. Portions of the temporary work areas may also be designated for temporary storage of timber that is removed from within ROWs, as needed. All construction would be conducted within the permitted corridor within the ANF.

2.1.2 Construction Procedures

If the SUP is authorized, GPC would begin preparing the ROW for construction activities in coordination with landowners. Construction phases will consist of ROW clearing, access road construction (where necessary), line construction, and ROW restoration. Underground utilities would be identified to minimize any conflicts with existing infrastructure. Transmission structures are generally delivered to the site using semi-trucks with open trailers and are assembled on site. Staging areas would be established within the ROW for temporary storage of materials and equipment consistent with local, state, and federal regulations and permit requirements. Staging areas would be of sufficient size to lay down materials and assemble some structural components or hardware, and to store conductors and the equipment necessary for stringing operations. All land clearing, tree and vegetation removal, erosion control, tree protection and maintenance practices would be conducted in accordance with approved VMP standard, except as restricted by the SUP; USDA Forest Service regulations; and local, state, and federal regulations and permit requirements. It is anticipated that only moderate ROW clearing will be required considering the location of much of the preferred corridor is along previously disturbed areas and the expectation of collocation to the existing linear facilities ROW. Minimal amount of clearing and mowing may be required for the installation of anchors for guyed structures and removal of conflict timber that poses a danger of falling into transmission line conductors. Equipment used for construction will typically include light trucks, trailers, auger digger, bulldozers, cranes, shearing machinery, specialized mowing equipment, chainsaws, and other support vehicles.

Once the ROW is cleared, an approximate 50-foot by 50-foot workspace, plus an additional area of 10-foot in width by the length of pole, would be required at each pole location to stage equipment used for erecting structures, to lay down the pole structure, and to drill and pour pole foundations. The typical construction sequence for erecting poles and stringing the line is as follows:

- Structures and insulator assemblies are typically assembled on the ground then raised into position.
- Tangent monopoles would be directly imbedded into augered holes (approximately 18 to 25 feet deep), lifted into place by a large crane, and the holes would then be backfilled with crushed rock or concrete.
- Large angle and dead-end monopoles would have a concrete, drilled pier foundation utilizing large auger equipment to excavate a circular hole of

the appropriate diameter and depth; reinforcing steel and anchor bolts would then be set into position using cranes and other support equipment and then concrete would be placed in the excavation.

- Once the structures are set, wire-pulling equipment will be used to install the conductors and overhead ground wire.
- Once conductors are strung, they would be tightened at pulling sites and would terminate at the appropriate substation.

Construction will be performed so as to minimize disturbance to natural ground cover. Construction mats and low-pressure, rubber-tired or non-tracked vehicles will be used, when appropriate, to minimize the potential for erosion. Turbidity screens, erosion control devices, and other best management practices (BMPs) will be utilized to minimize impacts to wetlands and water bodies to control the quality of runoff.

2.1.3 Restoration Procedures

Upon completion of construction activities, the ROW would be cleared of all signs of construction as quickly as practical, including, but not limited to removing all temporary facilities, staging and laydown areas, equipment, construction materials, and debris.

Post-construction reclamation activities would restore groundcover to a mix of native grass and herbaceous species. Restoration activities within the ANF would utilize a native seed mix that would be collected on the ANF in accordance with the SUP operating plan for this project. Restoration would include the protection of slopes subject to rapid erosion, as necessary. Restoration would be accomplished by native seeding and mulching, sod replacement, or sprigging, where appropriate. In areas where native seeding and mulching would not prevent erosion, additional measures such as water control humps, thatch, sprigging, or sodding would be used.

Following completion of construction activities, existing access roads would be repaired as necessary. Temporary roads required on off-Forest Service property would be reclaimed and erosion control measures installed, land re-graded, areas reseeded, etc.

2.1.4 Operation and Maintenance Activities

GPC has extensive in-house experience operating and maintaining GPC's transmission system in a reliable manner. GPC's subject matter experts use processes, internal controls, and management systems to assist with the operation and maintenance (O&M) of GPC's transmission system in a safe and reliable manner. GPC operating personnel have real-time monitoring and operating tools, including contingency analysis, to monitor and take corrective action to ensure the reliable operation of GPC's transmission system meets NERC Reliability Standards. Similarly, GPC's maintenance personnel use sophisticated diagnostic and tracking systems to target and complete needed testing and maintenance as required by the NERC Reliability Standards, such as PRC-005 (Testing and Maintenance of Protection Equipment). Routine inspections and

maintenance activities would be conducted in a manner consistent with local, state, and federal regulations and permits.

O&M for the first 10 years will be limited to route patrols (ground or aerial) and vegetation management. On the 11th year, the line will be inspected on a 10-year cycle. Vegetation management activities will include patrols (two per year), implementation of a mowing and spraying program (every three years), and annual trimming, as required.

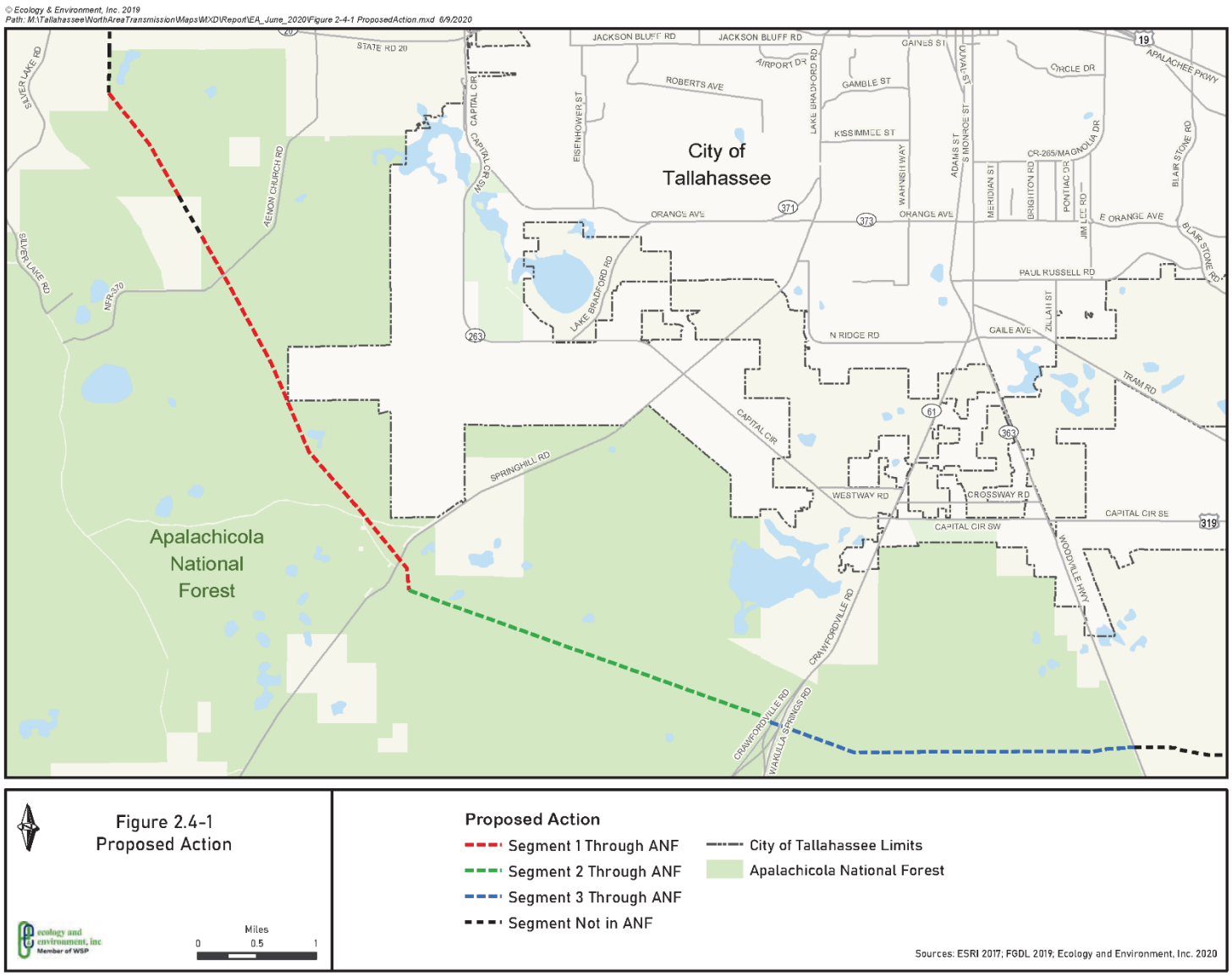
ROW maintenance would be conducted to control vegetation that may interfere with the O&M of the transmission line and tap station structures. All O&M conducted on USDA Forest Service property would be conducted in accordance with the SUP for that portion of the route.

2.1.5 Decommissioning

GPC is requesting an initial 50-year authorization of the SUP; however, with proper maintenance, the expected lifespan for the project is much greater than 50 years. If the project was decommissioned, transmission structures and other line components would be removed. Without vegetation management along the transmission ROW, surrounding vegetation would reclaim the area. Decommissioning on USDA Forest Service lands would occur as outlined in the SUP operating plan and would require reforestation to native trees and groundcover.

2.4.2 Proposed Action

The proposed transmission line would enter the ANF west of Tallahassee and south of Blountstown Highway (SR 20) and continue south and east to Woodville Highway, collocated with the existing COT transmission corridor and adjacent to the existing FGT natural gas corridor until the route exits the eastern boundary of the ANF at Woodville Highway (Figure 2.4-1). There are three distinct segments within the proposed route, totaling approximately 11 miles. See Appendix C for a full cross section illustration of each segment.


© Ecology & Environment, Inc. 2019
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City of Tallahassee
Apalachicola National Forest
JACKSON BLUFF RD
STATE RD 20
SILVER LAKE RD
AENON CHURCH RD
NFR-370
CAPITAL CIR
CAPITAL CIR SW
EISENHOWER ST
ROBERTS AVE
AIRPORT DR
LAKE BRADFORD RD
GAMBLE ST
KISSIMMEE ST
GAINES ST
DUVAL ST
ADAMS ST
S MONROE ST
WAHNISH WAY
ORANGE AVE
MERIDIAN ST
BRIGHTON RD
PONTIAC DR
JIM LEE RD
CR-265/MAGNOLIA DR
E ORANGE AVE
ORACLE DR
APALACHEE PKWY
BLAIR STONE RD
PAUL RUSSELL RD
ZILLAH ST
GAILE AVE
N RIDGE RD
TRAM RD
SPRINGHILL RD
WESTWAY RD
CROSSWAY RD
CAPITAL CIR SE
CAPITAL CIR SW
WOODVILLE HWY
CRAWFORDVILLE RD
WAKULLA SPRINGS RD
Figure 2.4-1
Proposed Action
Miles
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ecology and environment, inc.
Member of WSP
Proposed Action
Segment 1 Through ANF
Segment 2 Through ANF
Segment 3 Through ANF
Segment Not in ANF
City of Tallahassee Limits
Apalachicola National Forest
Sources: ESRI 2017; FGDL 2019; Ecology and Environment, Inc. 2020

Segment 1 begins where the COT utility corridor enters the ANF at Blountstown Highway and continues south and east to the COT Substation 32. In this segment, the COT has a 100-foot-wide corridor. Based on GPC's colocation agreement with COT, the Proposed Action would rebuild the COT transmission line and construct the GPC power transmission line adjacent to the rebuilt COT transmission line. The rebuilt line would be designed to accommodate a future COT second circuit (Figure 2.4-2). Overall, no expansion of the COT 100-foot corridor is expected in this segment; however, a minor deviation from the existing corridor is necessary to navigate around Substation 32. This deviation was discussed and approved by the USDA Forest Service during the planning process. Information on this deviation at Substation 32 is available in Appendix C. This segment is approximately 4.9 miles, which includes non-ANF lands of approximately 0.3 miles. Segment 1 would include the installation of approximately 87 structures with a footprint of 0.1 acres. Temporary workspaces to accommodate the construction of the structures would require 7.19 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minimal clearing would be required for construction within this segment. Approximately 3.1 acres of existing vegetation would be cleared in targeted areas within the existing 100-foot corridor. This acreage is within the existing corridor and was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Additionally, 2.82 acres of new clearing would be needed outside of the current corridor around Substation 32. Photos 1, 2, and 3 are representative of the existing condition within Segment 1.

Photo 1: Segment 1 near northwest boundary of ANF

Photo 2: Segment 1 approximately 1 mile north of Aenon Church Rd.

Photo 3: Segment 1 just south of Springhill Rd.

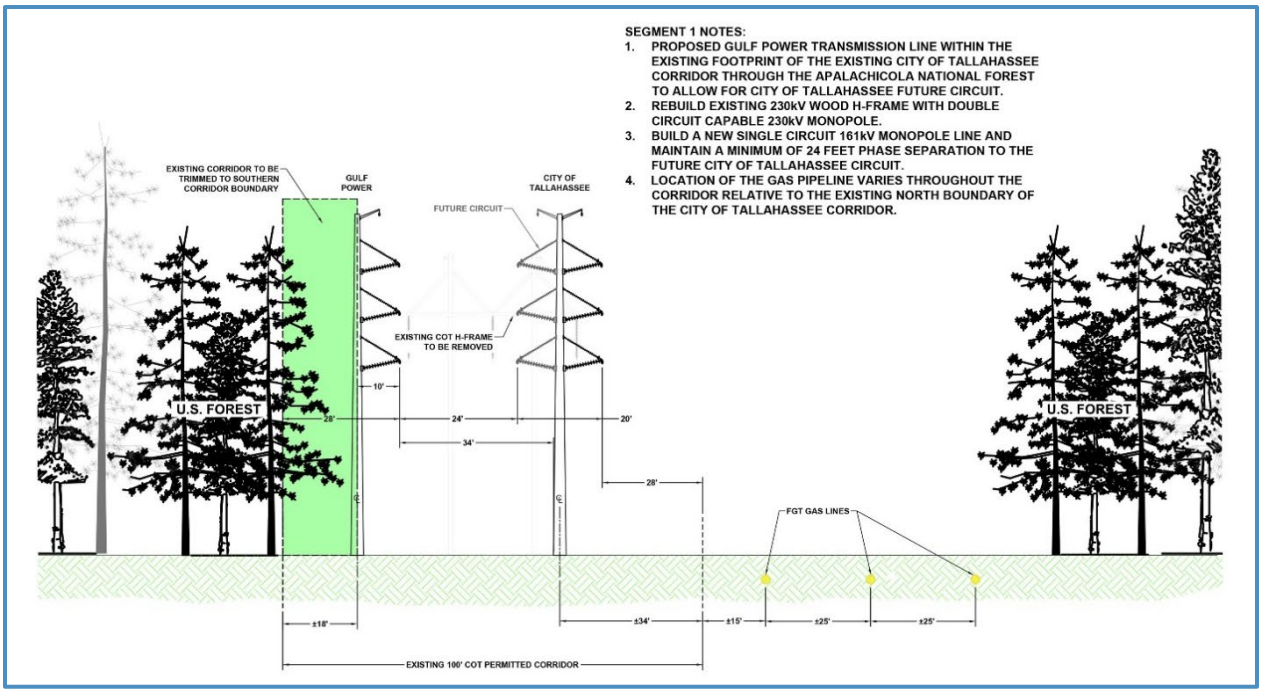

Figure 2.4-2 Segment 1 Corridor Cross Section Looking Northwest

Segment 2 begins at the COT Substation 32 and continues east to Crawfordville Road. In this segment, the COT transmission line is within a 60-foot-wide corridor. Based on GPC's collocation agreement with COT, the Proposed Action would rebuild the COT transmission line. The rebuilt line would be designed to accommodate a future COT second circuit (Figure 2.4-3). The new GPC transmission line would be built adjacent to the COT transmission line on the south side. Due to required safe spacing between structures and wires, space required for conductor "blowout" and the COT requirement to maintain space for a second circuit, this segment would require up to 18 feet of clearing to widen the current corridor on the south side of the COT 60-foot corridor. This segment is approximately 3.3 miles. Segment 2 would include the installation of approximately 92 structures with a footprint of 0.11 acres. Temporary workspaces to accommodate the construction activities would require 7.6 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minor clearing is required for construction within this segment. Approximately 0.72 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot corridor and 7.06 acres would be cleared as part of the up-to-18-foot corridor expansion and the minor deviation from the existing ROW to navigate around Substation 32. Information on this deviation at Substation 32 is available in Appendix C. The acreage to be cleared within the existing corridor was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Photos 4, 5, and 6 are representative of the existing condition within Segment 2.

Photo 4: Segment 2 just east of Substation 32.

Photo 5: Segment 2 approximately 1.5 miles east of Springhill Rd.

Photo 6: Segment 2 approximately 1.5 miles west of Crawfordville Rd.

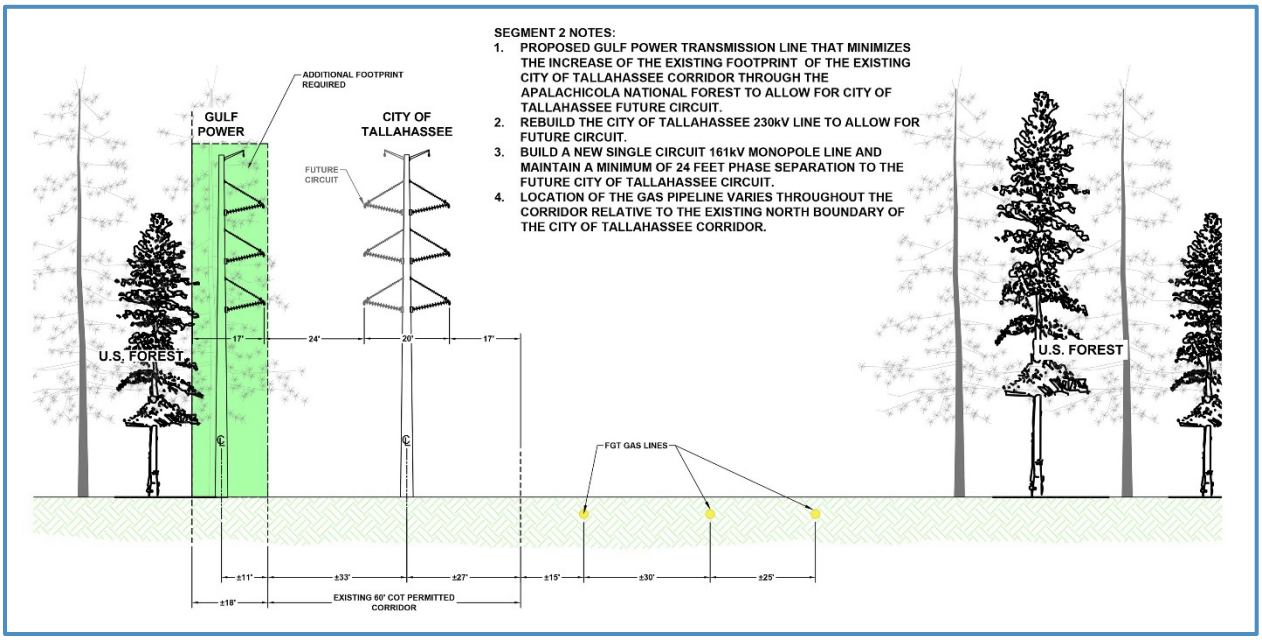

Figure 2.4-3 Segment 2 Corridor Cross Section Looking Northwest

Segment 3 begins at Crawfordville Road and continues east until the route exits the ANF at Woodville Highway. In this segment, the COT transmission line is within a 60-foot-wide corridor. Based on GPC's collocation agreement with COT, the Proposed Action would rebuild the COT transmission line. The line would be rebuilt to allow for a COT second circuit designed in a stacked configuration. The new GPC transmission line would be constructed adjacent to the COT transmission line on the south side (Figure 2.4-4). Due to required safe spacing between structures and wires, space required for conductor "blowout" and the COT requirement to maintain space for a COT second circuit, this segment would require up to 7 feet of clearing to widen the current corridor on the south side of the COT 60-foot corridor. This segment is approximately 3.1 miles. Segment 3 would include the installation of approximately 92 structures with a footprint of 0.11 acres. Temporary workspaces to accommodate the construction activities would require 7.6 acres. The cleared workspace would be within the COT corridor or the areas proposed to be cleared as part of constructing the new transmission line. No expansion of the corridor is associated with the temporary workspaces. Finally, minimal clearing is required for construction within this segment. Approximately 1.11 acres of existing vegetation would be cleared in targeted areas within the existing 60-foot corridor and 1.55 acres would be cleared as part of the up to 7-foot corridor expansion. The acreage to be cleared within the existing corridor was examined as part of the SWTL EIS, but, ultimately, the vegetation was not removed by the COT. Photos 7, 8 and 9 are representative of the existing condition within Segment 3.

Photo 7: Segment 3 just east of Crawfordville Rd.

Photo 8: Segment 3 approximately halfway between Crawfordville Rd and Woodville Hwy.

Photo 9: Segment 3 approximately 1.5 miles west of Woodville Hwy.

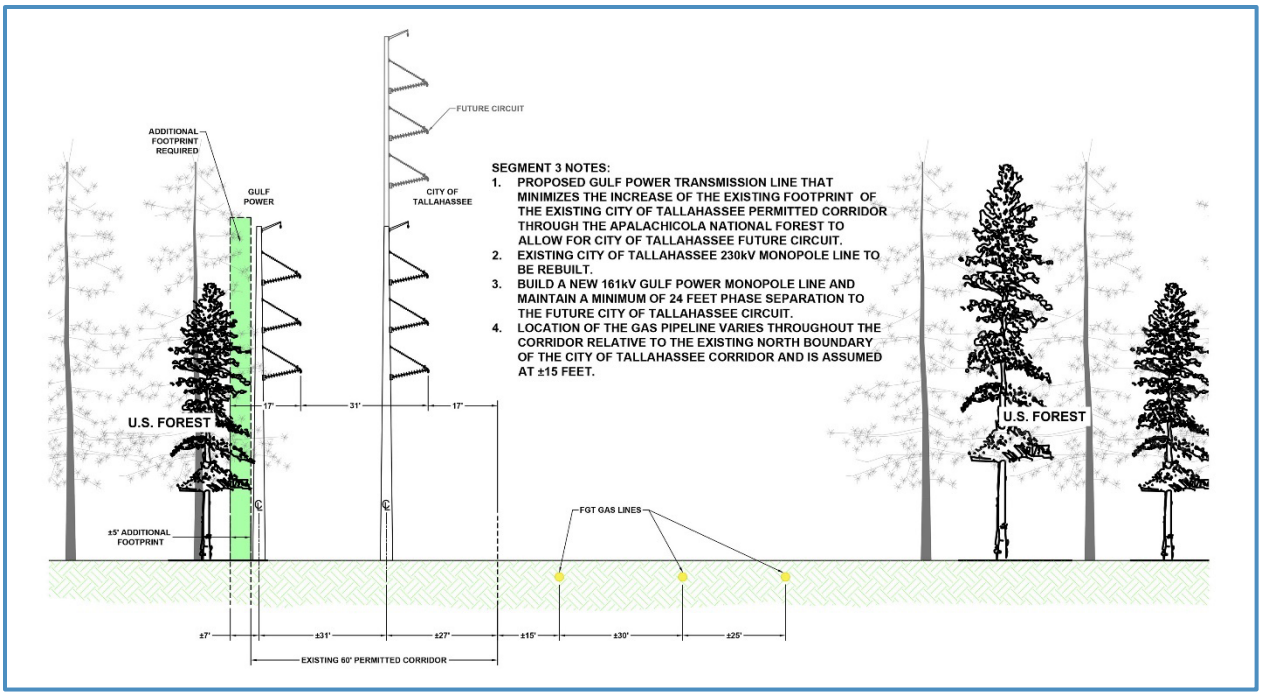

Figure 2.4-4 Segment 3 Corridor Cross Section Looking West

Mitigation measures

Note: The measures listed here will be followed during implementation to avoid or reduce effects to eastern indigo snake (and gopher tortoise as a proxy) and red-cockaded woodpecker. A complete list of mitigation measures may be found in the project environmental assessment.

Eastern indigo snake

To further avoid/minimize potential impacts to eastern indigo snakes, the following mitigating measures will be implemented:

- Conduct pre-construction surveys for gopher tortoise burrows to identify the potential location of commensal burrow species, including the eastern indigo snake.
- Avoid disturbing, wherever possible, active gopher tortoise burrows.
- Report any capture, handling, or displacement of eastern indigo snakes from the construction corridor to the USDA Forest Service and USFWS.
- Identify and report any large snake skins discovered within the construction footprint.
- Provide a one-page flyer to project personnel prior to construction that describes the species and summarizes the required habitat, commensal association with gopher tortoise burrows, visual representation of gopher tortoise burrows, and protective status of the eastern indigo snake and inform them that under no circumstances should any snake found within the construction corridor be harmed or killed.

Gopher Tortoise

To avoid/minimize potential impacts to the gopher tortoise and its habitat, the following mitigating measures are required:

- Conduct gopher tortoise surveys prior to the start of construction to identify all gopher tortoise burrows that may be impacted by the project. Survey methodology will be in accordance with the FWC's Gopher Tortoise Permitting Guidelines (June 2017) and conducted by an Authorized Agent.
- Wherever possible, avoid construction-related activity within 25 feet of the mouth of active gopher tortoise burrows.
- Where avoidance of gopher tortoise burrows is not possible, obtain the appropriate gopher tortoise permits from the FWC prior to the start of construction. Follow FWC's guidelines for excavating and

relocating gopher tortoise individuals, and vertebrate commensal species, that may be impacted during construction to suitable adjacent habitat. This work will be completed using an FWC-approved Authorized Agent. Excavated burrows will be collapsed and/or filled subsequent to the capture of individuals. Gopher tortoises relocated to adjacent areas shall be precluded from returning to the ROW during construction by the use of temporary fencing in the relocation area which will be removed upon the completion of construction and after the ROW has been restored.

- Record all mortality of gopher tortoises during construction and relocation activities and submit monthly reports to the appropriate FWC and/or USDA Forest Service offices during the relocation and construction period.
- Prepare and submit a final project report to the USDA Forest Service and the FWC after all gopher tortoise activities during the construction period are complete.
- Use only existing roadways so that the potential of direct mortality of gopher tortoises from vehicular traffic will be minimal.

Red-cockaded Woodpecker

To avoid or minimize potential project-related impacts on the RCW, the following mitigating measures will be implemented when possible and consistent with project scheduling constraints:

- Existing access roads that are outside of identified RCW clusters should be used for all project activities.
- Work should be scheduled outside of the RCW's primary nesting season (April 1 to July 31) for areas along Segment 3 of the ROW (between Woodville Highway and Crawfordville Road).
- Survey ROW expansion for RCW cavity trees prior to vegetation clearing and notify USFS personnel if new cavity trees are found within or adjacent to (<200ft) the ROW expansion.
- Prior to construction, complete consultation with the USFWS and the ANF regarding any further mitigating measures that may be required to avoid/minimize impacts to RCWs.

Appendix 2. Figures for red-cockaded woodpecker foraging habitat analysis

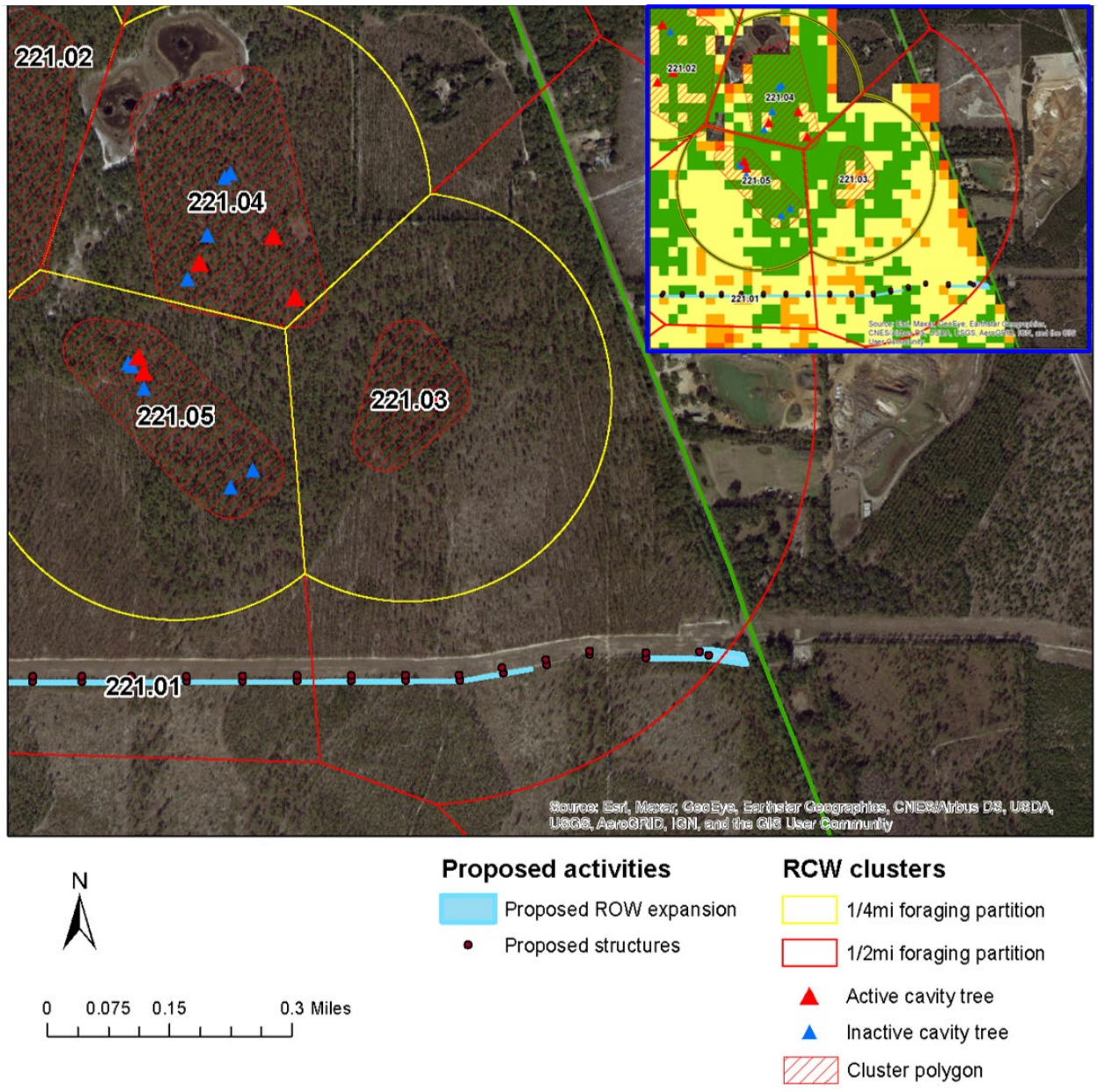

Figure 5. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 221.03. See Fig. 4 for ecological condition legend.

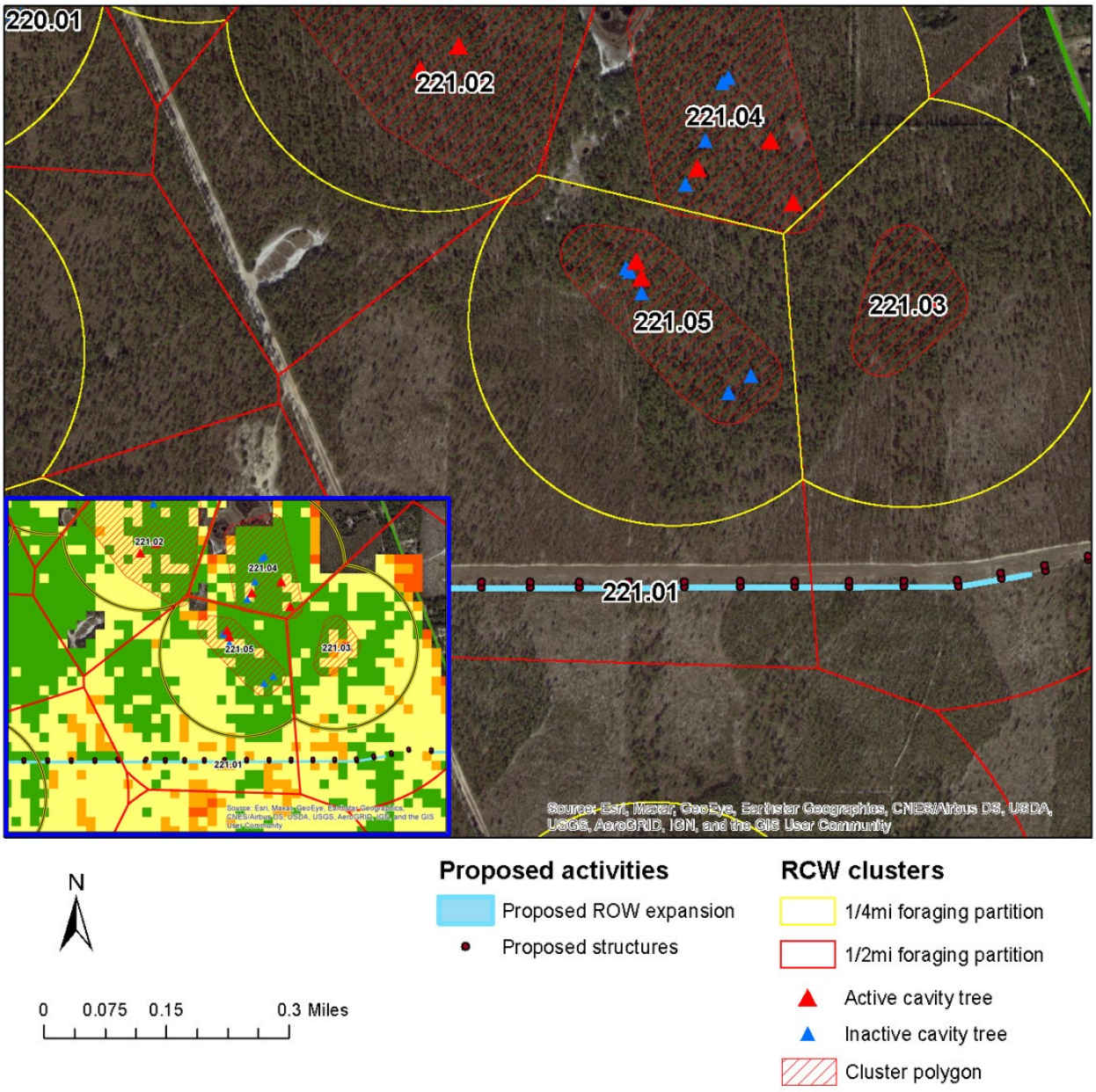

Figure 6. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 221.05. See Fig. 4 for ecological condition legend.

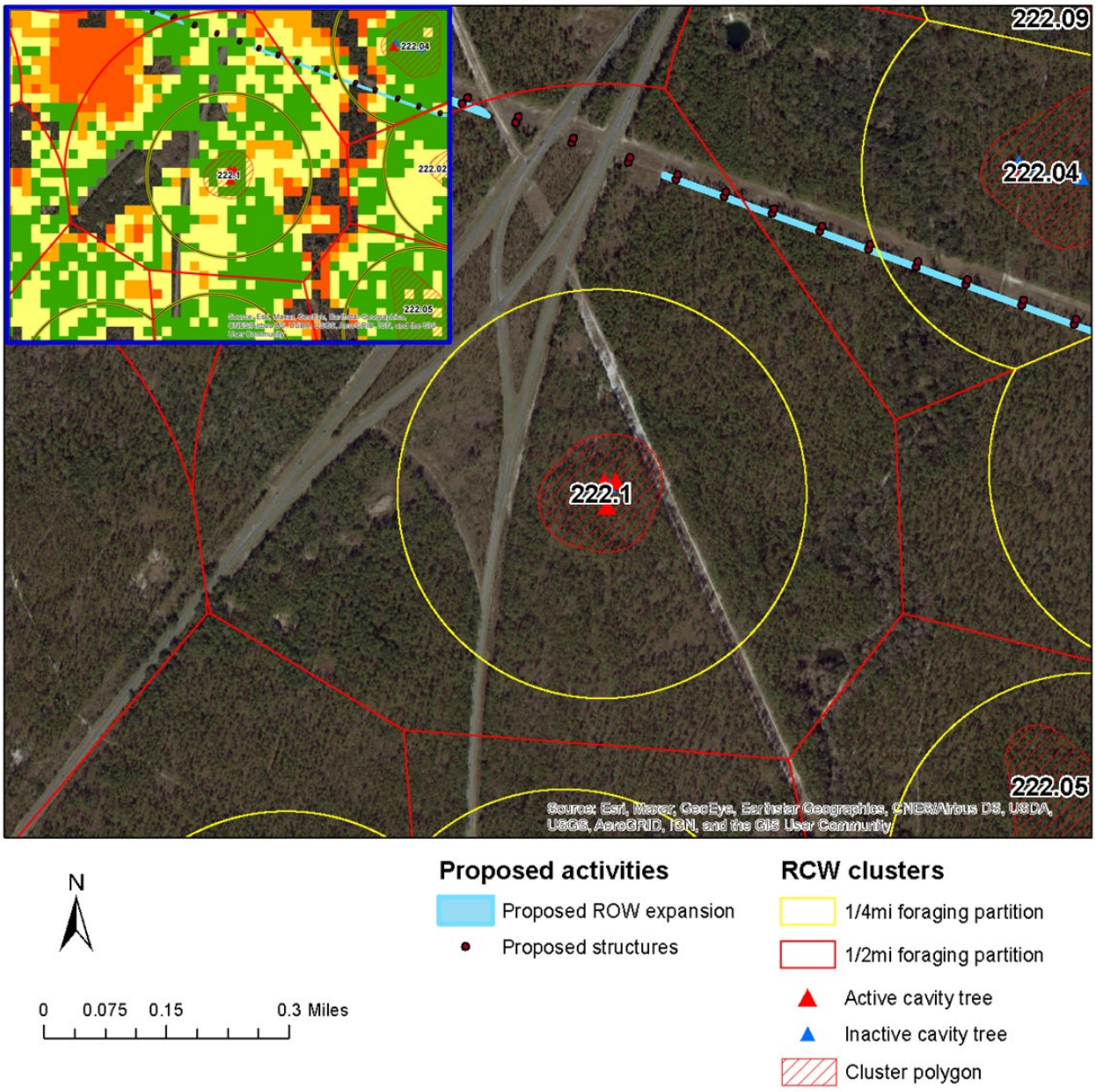

Figure 7. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 222.1. See Fig. 4 for ecological condition legend.

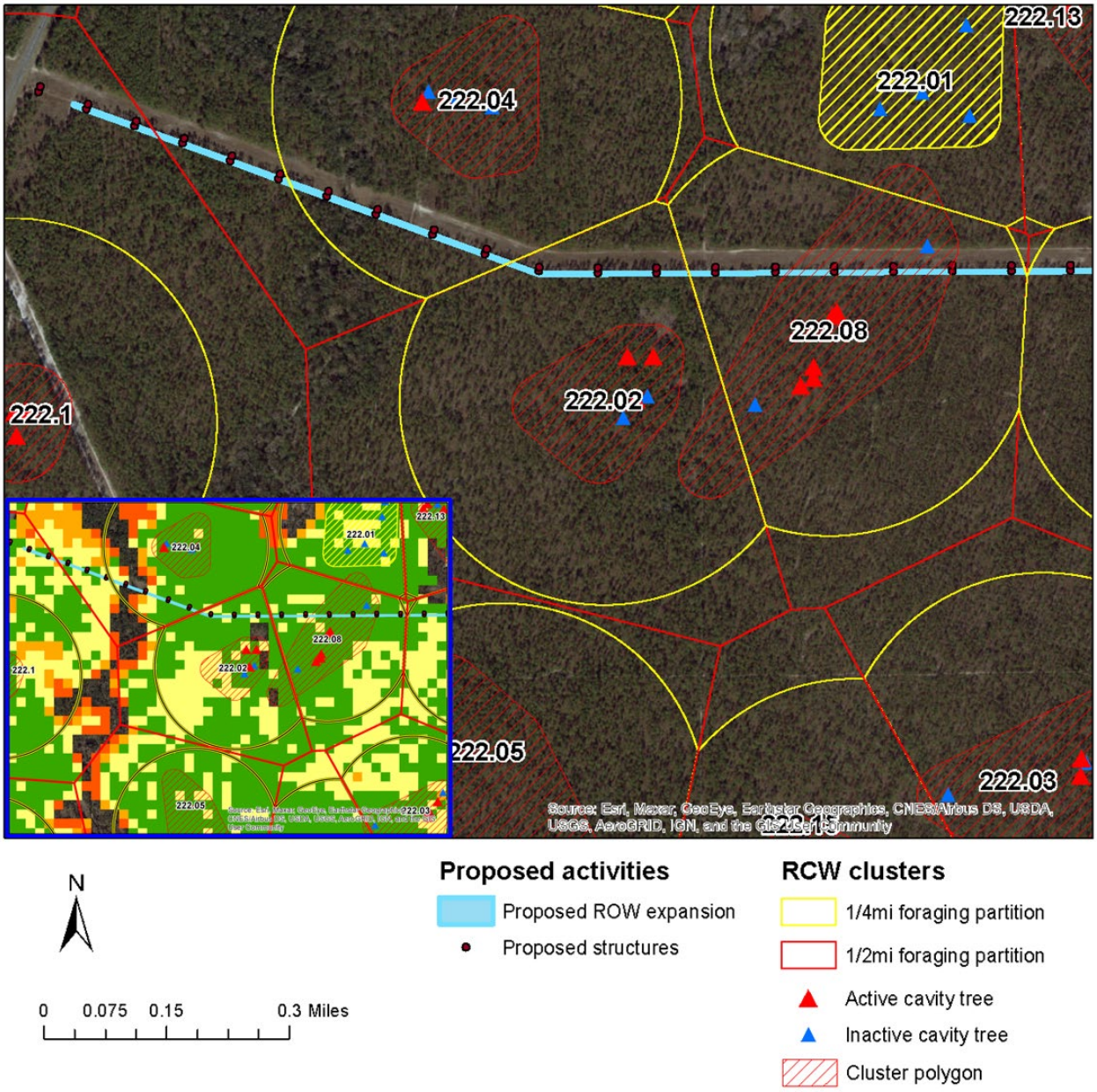

Figure 8. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 222.02. See Fig. 4 for ecological condition legend.

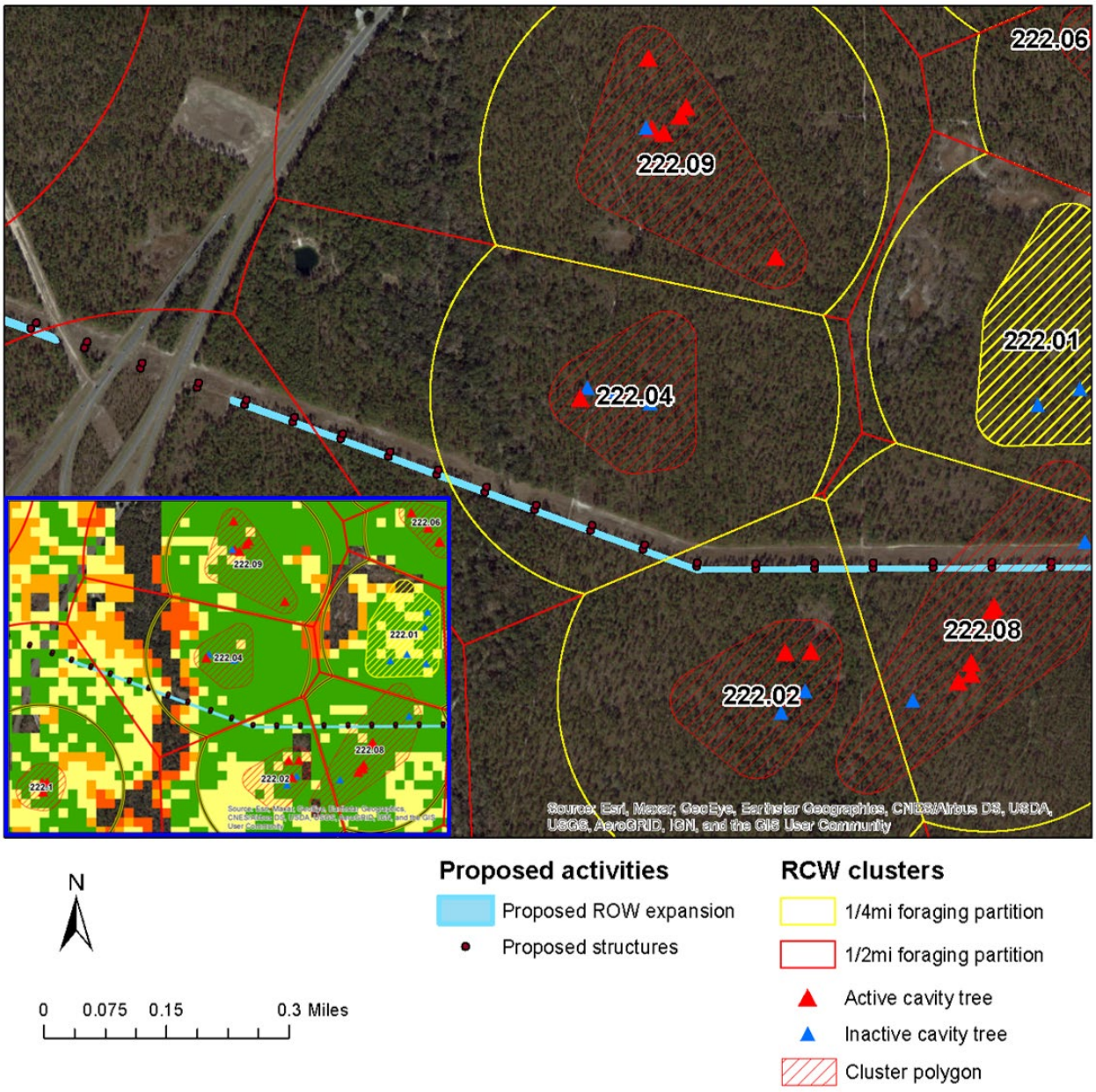

Figure 9. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 222.04. See Fig. 4 for ecological condition legend.

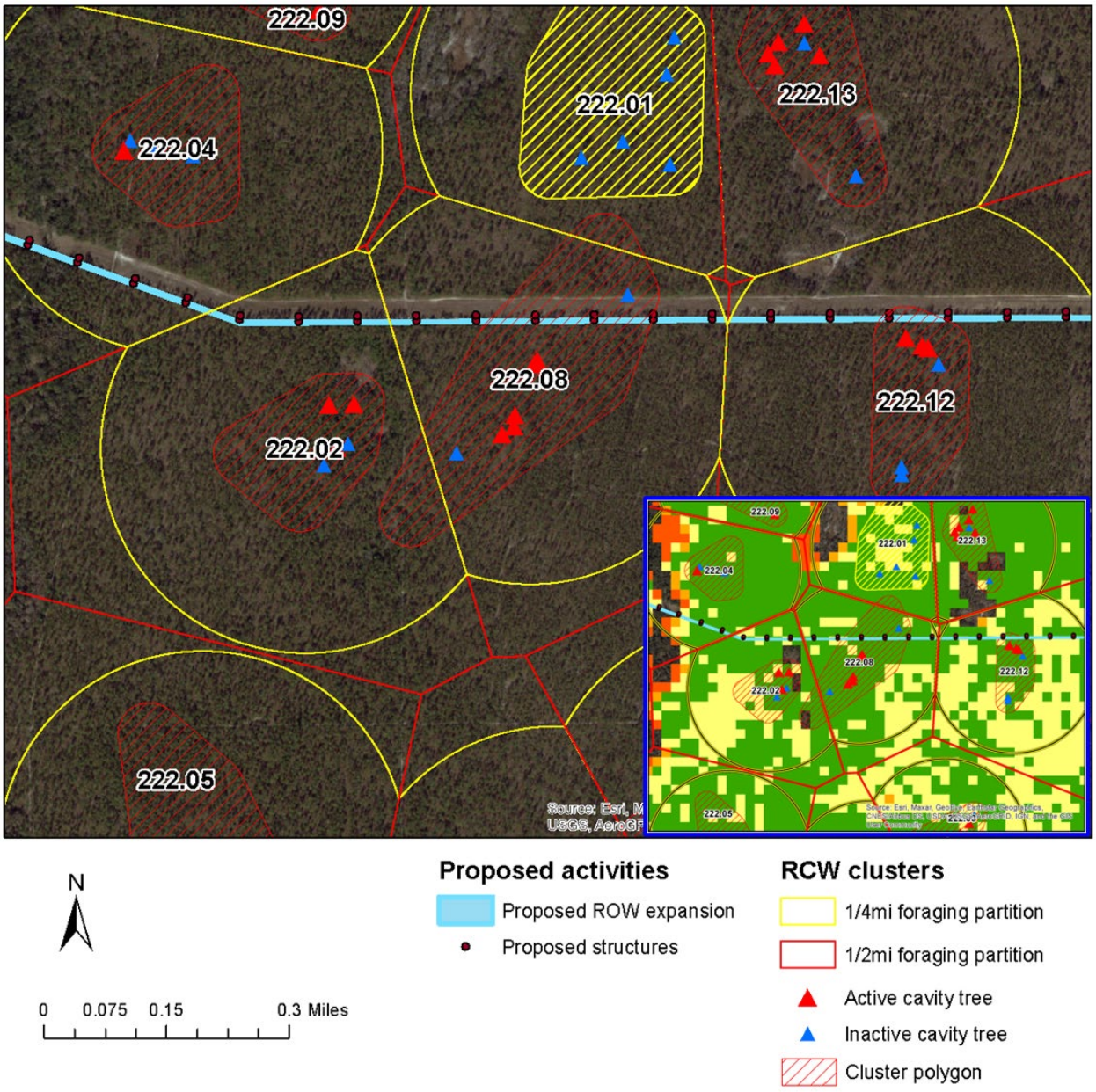

Figure 10. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 222.08. See Fig. 4 for ecological condition legend.

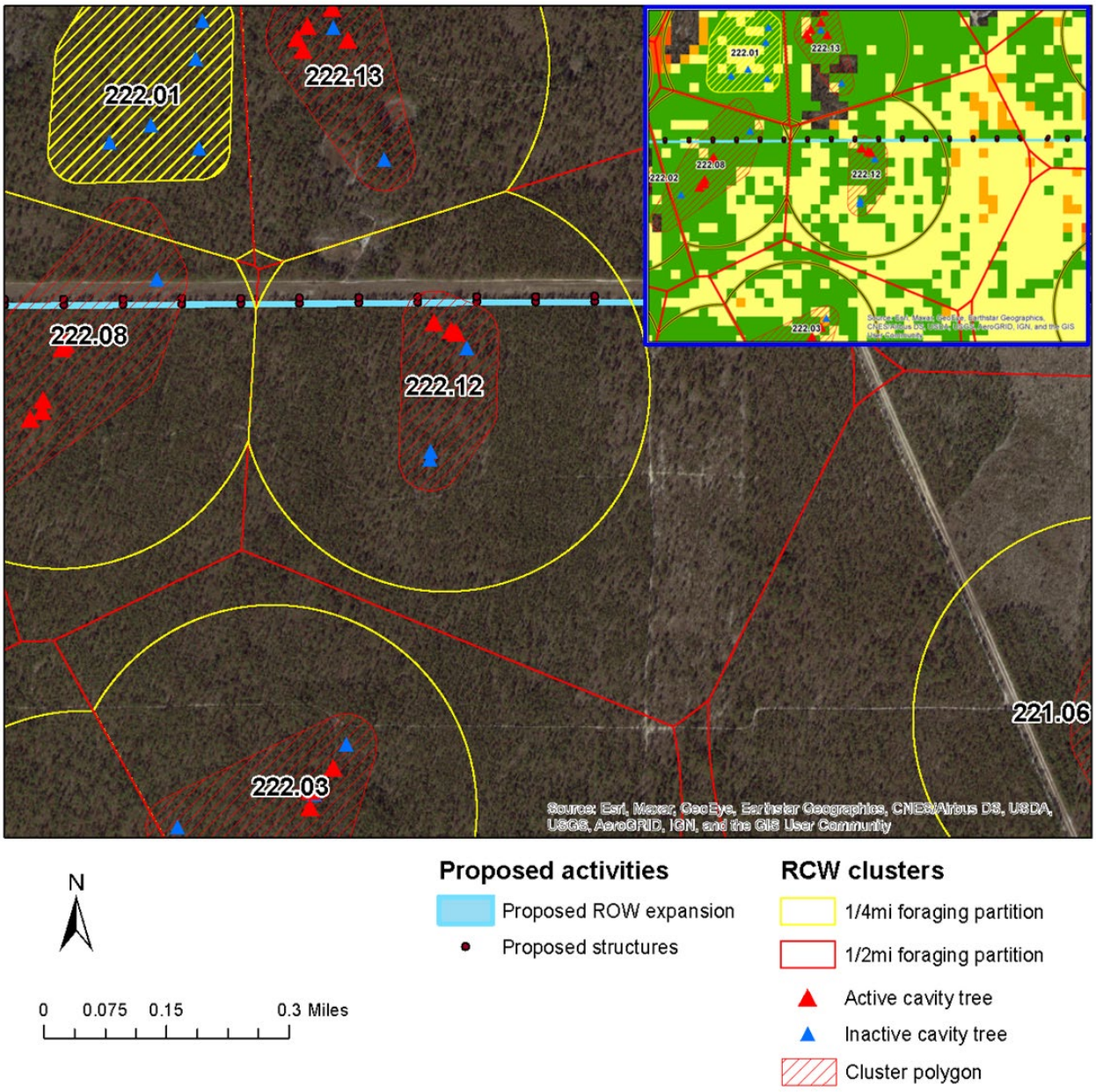

Figure 11. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 222.12. See Fig. 4 for ecological condition legend.

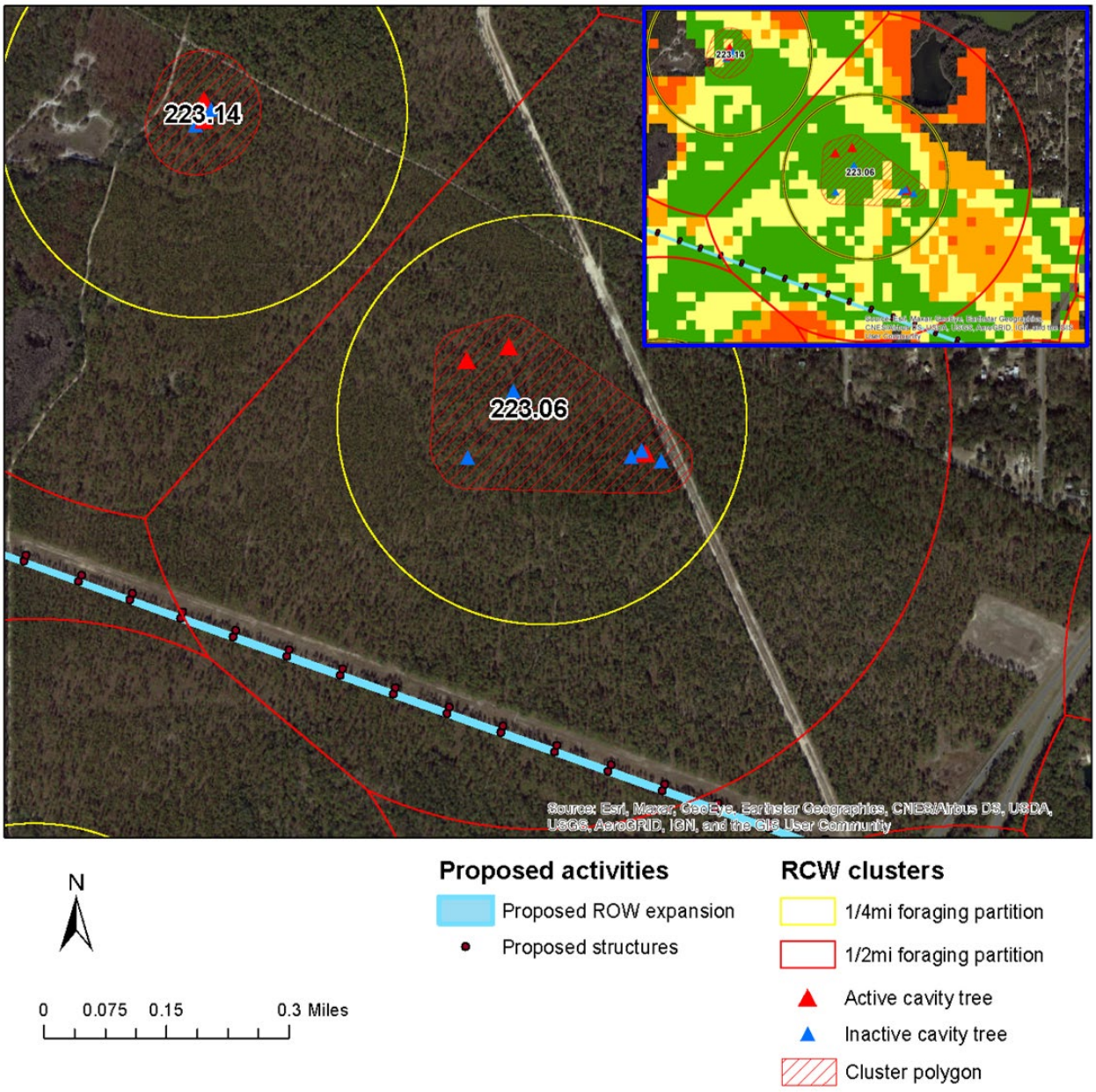

Figure 12. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 223.06. See Fig. 4 for ecological condition legend.

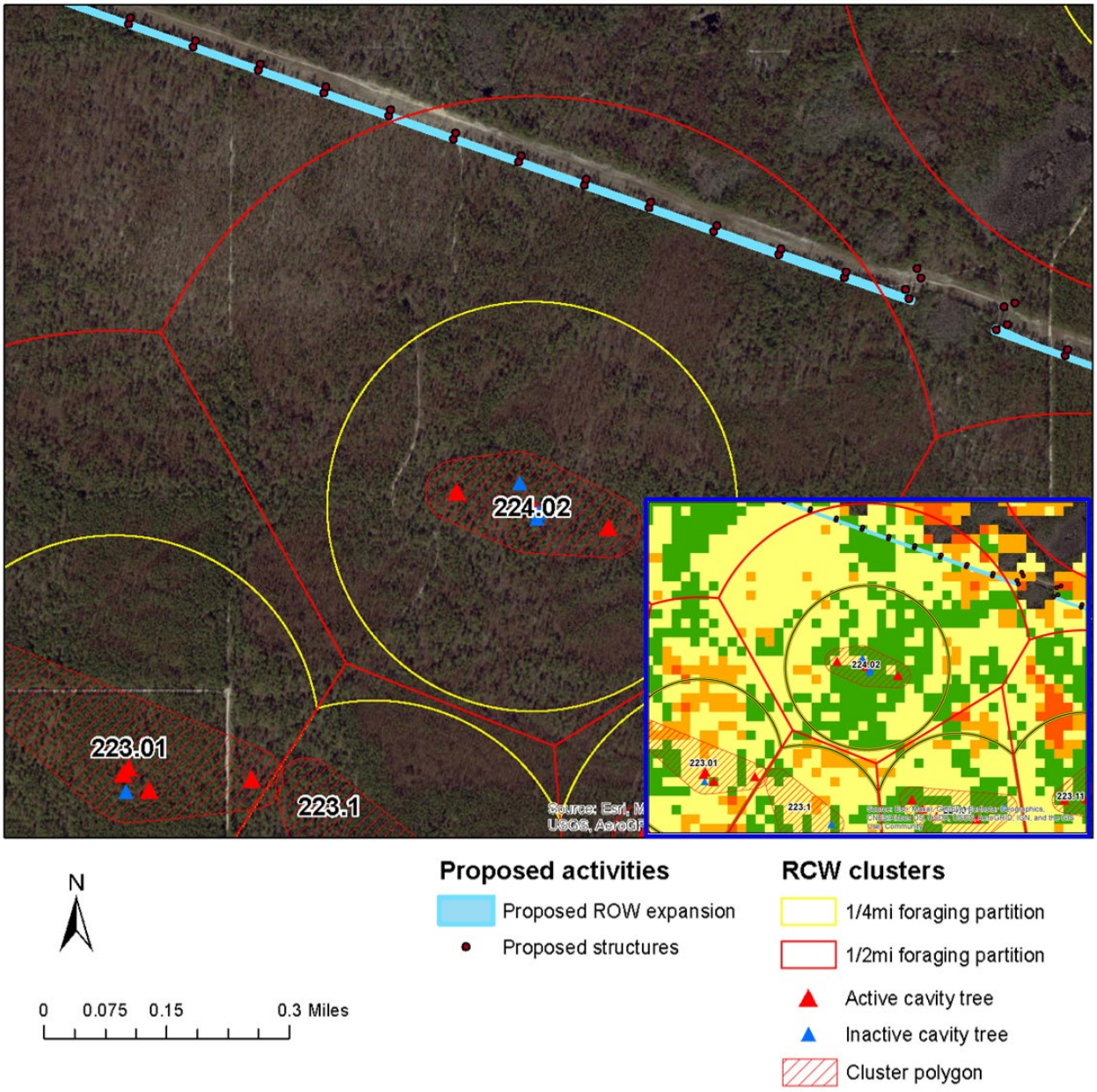

Figure 13. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 224.02. See Fig. 4 for ecological condition legend.

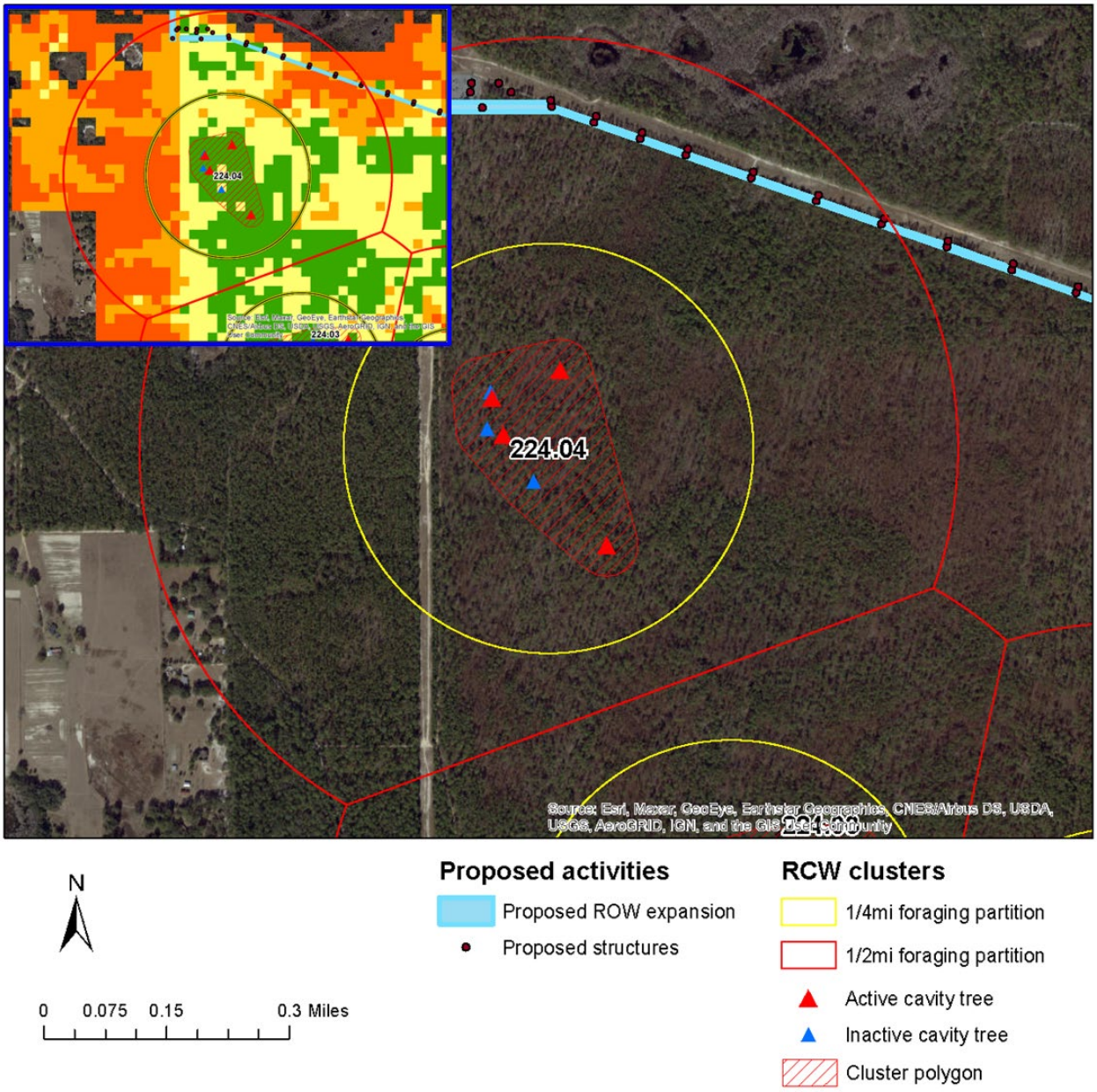

Figure 14. Map showing aerial imagery and ecological condition (inset) of habitat in the foraging partition of RCW group 224.04. See Fig. 4 for ecological condition legend.

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forest ecology

Mapping and Modeling Ecological Conditions of Longleaf Pine Habitats in the Apalachicola National Forest

Matthew D. Trager, Jason B. Drake, Amy M. Jenkins, and Carl J. Petrick

We developed a historical natural community map and a spatially explicit ecological condition model (ECM) to evaluate conditions of the Apalachicola National Forest's longleaf pine habitats. We identified and mapped historical vegetation patterns across the forest and then compared current vegetation structure derived from LiDAR and field surveys to desired conditions for the respective habitat types. In the first example of how these tools may be applied, we show how the natural communities map improved our understanding of wet savanna distribution and how the ECM then revealed opportunities and challenges for managing this unique habitat. In the second example, we show that the ECM scores were closely aligned with red-cockaded woodpecker habitat selection at three nested spatial scales relevant for that species' ecology. Both of these analyses demonstrate how historical data and ecological condition assessments improve our understanding of resource patterns and may inform possible management actions.

Keywords: longleaf pine, ecological condition model, LiDAR, wet savanna, red-cockaded woodpecker

Restoring ecosystem integrity has been identified as an overarching goal for the United States Forest Service's (USFS) management of National Forest System lands. The increasing emphasis on restoration culminated in several national initiatives and policies, including establishing the Collaborative Forest Landscape Restoration program (in Title IV of the Omnibus Public Land Management Act of 2009) and revising regulations for forest planning under the National Forest Management Act that recognize "restoration of natural resources to make our NFS lands more resilient to climate change, protect water resources, and improve forest health" as a primary purpose of Forest Service work (77 FR 68, p. 21164). However, when developing and implementing land management projects in national forests, it is not always clear how to identify the desired structural, functional, or compositional characteristics of managed landscapes that are necessary for defining restoration objectives.

Assessing landscapes for restoration potential requires comparing the focal area with some range of reference conditions thought to characterize high-quality habitat. In many cases, parameters for desired conditions of a specific area may be based on historical conditions at the same site or current conditions at a less degraded site with a similar ecological history (White and Walker 1997; Keane et al. 2009; Landres, Morgan, and Swanson 1999). This approach is particularly informative when landscapes have been substantially altered due to past land management activities or disruption of processes that maintained conditions within a natural range of variation (Swetnam, Allen, and Betancourt 1999; Bolliger et al. 2004). The differences between current conditions and reference conditions may then be used to identify management priorities and develop activities that could be implemented to promote desired structure and function of ecosystems (Gärtner et al. 2008; Hessburg et al. 2007). In the context of Forest Service management, rigorously evaluating the departure of current landscapes from reference conditions may provide a quantitative and defensible basis for restoration planning at multiple spatial scales, from project areas covering a few hundred or a few thousand acres to long-term planning for entire forests or regions (Bollenbacher, Graham, and Reynolds 2014).

This paper briefly describes the development of a historical natural community map and a landscape-level ecological condition model from the Apalachicola National Forest

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in Florida, USA. Additional technical description of the ecological condition model is provided in the online supplementary material, but here we focus on two examples demonstrating the potential application and value of these tools for understanding landscape patterns and informing management.

Study Area and Historical Natural Communities Map

The Apalachicola National Forest (ANF) encompasses approximately 570,000 ac of public land in the Florida panhandle, USA. The forest is managed in accordance with a Land and Resource Management Plan (i.e., the Forest Plan) that established objectives and guidelines for Forest Service activities (USDA Forest Service 1999). The ANF is one of the few remaining large and contiguous areas of longleaf pine (*Pinus palustris*) habitats, which are among the most diverse and imperiled communities in the United States (Brockway et al. 2005). The entire Florida panhandle is considered a biodiversity hotspot (Blaustein 2008), and dozens of rare endemic species occur in the ANF.

Relatively recent historical conditions may be interpreted from a variety of sources, including written accounts, land survey records, long-term monitoring, or interpretation of aerial photographs. For landscapes that have experienced recent change, aerial photograph analysis is particularly useful for quantifying land development or vegetation dynamics (Hellesen and Levin 2014; Morgan and Gergel 2013). In 2010 the National Forests in Florida initiated a project with the state natural history survey, Florida Natural Areas Inventory (FNAI), to identify and delineate historical natural communities of the Apalachicola National Forest. In 2011–2012, FNAI biologists generated a natural community map based on multiple years of georeferenced aerial photography (1930s–present), soil types, LiDAR digital elevation models, several hundred vegetation plots, element occurrences of habitat-specific taxa, and ground-truthed GPS points (Florida Natural Areas Inventory 2012). The resulting GIS database and map (Figure 1) classified all federally managed land within the boundaries of the ANF into five major vegetation types following FNAI's guide to natural communities of Florida (Florida Natural Areas Inventory 2010).

We field-validated and refined the natural communities map with over 400 plots throughout the forest, where we collected data on vegetation structure and composition. Although the map was based on a specific time frame (conditions during the first half of the twentieth century) rather than a dynamic range of conditions that certainly characterized the area (Keane et al. 2009), we are confident that the historical natural community map is nevertheless a better representation of historical conditions than the current distribution and condition of habitats.

Development of an Ecological Condition Model (ECM)

The spatial delineation of historical natural communities in the Apalachicola National Forest provided a basis for assessing the ecological conditions of the four major longleaf pine associations in the forest: flatwoods, sandhills, wet savannas, and upland pine communities. Forested cypress or hardwood wetlands were not considered in this model because they are not actively managed and one of the primary objectives for our ECM was to assess baseline conditions and then track the effects of management activities on the landscape.

Desired conditions for longleaf pine habitat types were defined from descriptions in the Forest Plan or FNAI's Guide to Natural Communities of Florida (Florida Natural Areas Inventory 2010, available at http://fnai.org/naturalcommguide.cfm). Important variables and indicators of condition were further refined based on reference sites and expert opinion of land managers and scientists familiar with the area. Current conditions were estimated for 0.52 ac cells (150 x 150 ft) from vegetation structure derived primarily from airborne LiDAR data, namely relative density for shrubs, midstory, and canopy layers and estimated basal area of canopy trees (summed trunk cross-section area per unit of area, usually ft^2/ac). Additional information such as stand age, dominant species, and time since most recent fire were added to the model from Forest Service databases and records of management history. Recent (1995–2010) fire frequency and severity was estimated from satellite imagery following the methods of Picotte and Robertson (2011). Habitat variables from these sources were used to calculate subscores for canopy, midstory, and groundcover layers based on the difference between the current and desired conditions of each natural community. These scores were then weighted, summed, and binned to produce an overall ecological condition score ranging from the integers 1 (= excellent condition) to 5 (= very poor condition) for each map cell. A more technical description of data collection, score calculation, and background information is provided in the online supplemental material. Table 1 summarizes the ECM scores across the entire ANF. Multiple methods of validation (described in the online supplement) showed that the model has high predictive ability of habitat structure and overall condition, but it is not based on nor does it predict current vegetation composition.

In the examples below, we used simple statistical analyses to illustrate patterns related to ecological conditions across the landscape. Most results in the two case studies include mean ECM scores and results of χ^2 tests based on frequency of scores (integers 1–5) of the categories being compared. These tests compared the observed distribution of condition scores among categories to expected frequency if ecological condition scores were distributed randomly across the forest. For the χ^2 tests we present the test statistic as an

Management and Policy Implications

The USDA Forest Service and many other public land managers work under a multiple-use mandate that includes maintaining or restoring high-quality habitats. However, agencies often lack reliable, large-scale data on both the historical distribution of ecological communities and their current conditions. Technological advances in satellite imagery, LiDAR, and remote sensing analysis techniques have increased the reliability and reduced the cost of these tools for assessing forest conditions. We show here how aerial photography, remote sensed data, agency records, and field surveys were integrated into a map of historical natural communities and a data-rich ecological condition model. These products allow users to efficiently identify high-quality habitats for conservation and better understand the condition and spatial distribution of potential restoration sites. We suggest that developing similar products could greatly improve understanding of landscape patterns by agency decisionmakers and resource specialists, provide a basis for evaluating restoration opportunities and objectively reporting management accomplishments, and facilitate interactions and collaboration with the public.

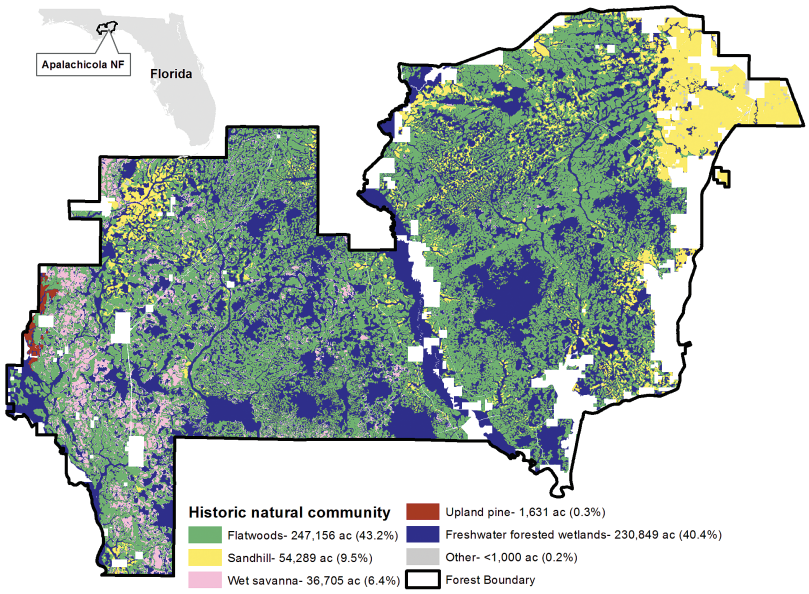

Figure 1. Distribution of historical natural communities in the Apalachicola National Forest.

indication of overall difference and then discuss comparisons of scores between the categories to show directional differences. We considered a cell-level standardized residual >2 as a significant deviation from random distribution between categories for the post hoc interpretation of scores.

Case Study 1: Wet Savanna Management

Background. Wet savannas (often referred to as wet prairies) are one of Florida's major freshwater marsh associations (Kushlan 1990) and were historically widespread throughout the state (Stephenson 2011). These habitats are notable for high plant species diversity that is similar at the genus level among sites, but species vary depending on hydrology, soils, and geography (Walker and Peet 1984; Clewell et al. 2009; Carr, Robertson, and Peet 2010). Wet savannas in the Florida panhandle are characterized by a sparse or absent canopy and midstory with a dense groundcover of wiregrass and diverse herbaceous vegetation (Florida Natural Areas Inventory 2010). Development, agriculture, hydrological alteration, and plantation forestry have all contributed to loss and degradation of wet savanna habitat (Myers and Ewel 1990; Stephenson 2011). Even in otherwise protected areas, alteration of fire regimes (generally reduced frequency and more winter as opposed to summer burning) has also led to loss of wet savannas through encroachment of woody shrubs and trees (Florida Natural Areas Inventory 2010; Clewell et al. 2009; Hess 2014).

When this study was initiated in fall 2014, 160 stands totaling 6617 ac of the Apalachicola National Forest were classified as "undrained flatwoods," the US Forest Service vegetation type most frequently used to identify wet savanna habitats. Examination of aerial imagery and field visits verified that most of these stands were correctly classified based on current conditions, although many were degraded. Almost all of the stands (140 stands totaling 6360 ac) were in the Apalachicola District on the western side of the forest, and most of that area (4168 ac) was within Management Areas (MAs) designated for wet savanna conservation (i.e., MA 2.1–Savanna Research Natural Area and MA 3.1–Apalachicola Savannas Special Interest Area). However, due to past degradation and conversion to other vegetation communities (e.g., slash pine plantations), extant wet savannas represent only a fraction of the historical distribution of this habitat type in the region (Kindell 1997; Stephenson 2011, Hess 2014).

Historical Distribution and Ecological Condition. The historical natural communities map included 2244 polygons totaling 36,705 ac of historical wet savanna—over five times the area currently recognized in USFS databases. Many of these polygons (shown in pink in Figure 1) were relatively small linear areas between forested swamps and slightly higher-elevation flatwoods. However, there are also relatively large and connected patches of historical wet savanna habitat on the western side of the Apalachicola National Forest.

Because many wet savannas on the historical natural community map were narrow ecotonal areas between other habitats, only 34,734 ac of the estimated 36,705 ac of historical wet savannas were captured in the 0.52 ac square cells used in the ECM. Analysis of ECM scores showed that the current conditions of wet savannas are closely linked to Forest Plan direction for different Management Areas (MAs) in the forest. Approximately 10% of historical wet savannas (~3500 of 35,000 ac) is within the two Management Areas (MA 3.1–Apalachicola Savannas Special Interest Area and MA 2.1–Savanna Research Natural Area) that recognize the ecological value of these habitats and provide guidance for their protection and management. The average condition scores in these wet savanna MAs is 2.1, compared to an average score of 3.9 for historical wet savanna in other MAs, and the wet savanna MAs contained a disproportional frequency of excellent and good ECM scores (χ^2 = 19784, d.f. = 4, P < .0001). The continued presence of high-quality wet savannas in these areas

Table 1. Area (acres) and percent of total for each ECM score within the four longleaf pine habitats considered in the model and for the entire ANF.

Condition	Flatwoods	Sandhill	Wet savanna	Upland pine	All longleaf habitats
Excellent	110 (<1)	18 (<1)	1823 (5)	3 (<1)	1954 (<1)
Good	57709 (23)	14262 (26)	4871 (14)	341 (20)	77183 (23)
Fair	69623 (28)	19699 (36)	7461 (22)	357 (21)	97140 (28)
Poor	52734 (21)	12386 (22)	8123 (24)	328 (20)	73571 (23)
Very poor	69499 (28)	8860 (16)	12222 (35)	651 (39)	91232 (26)

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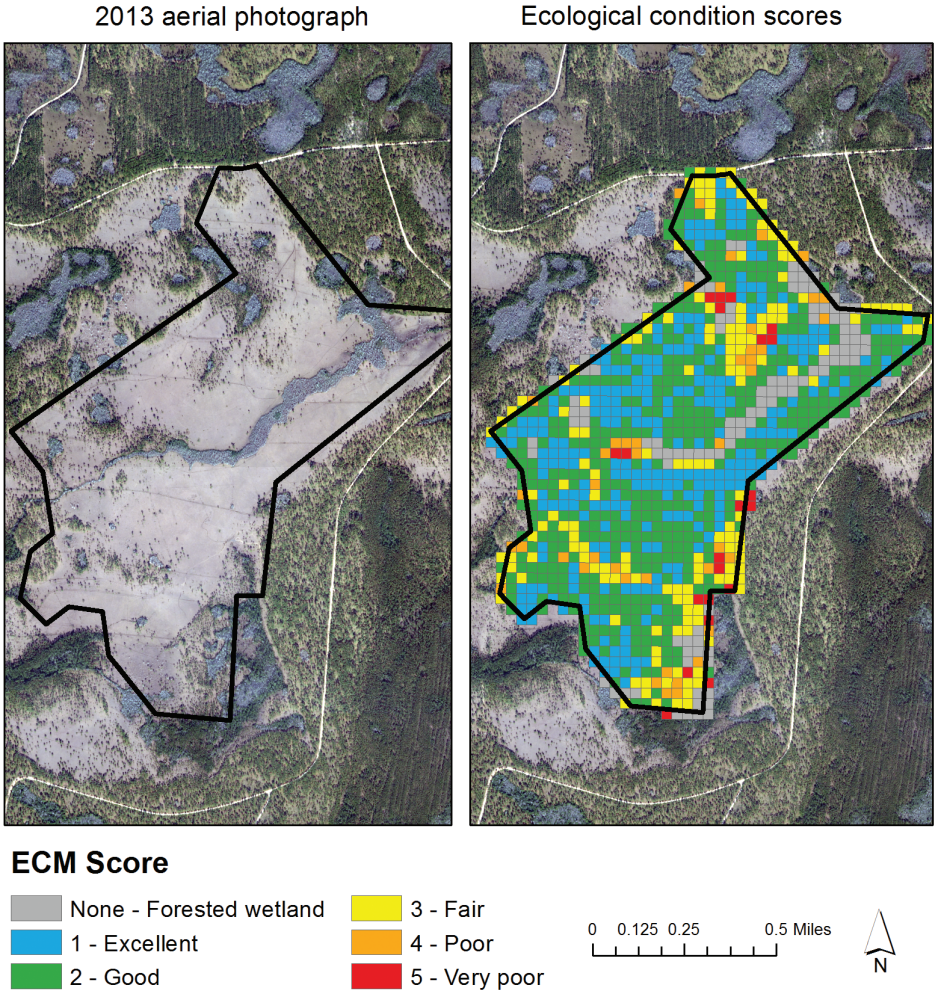

Figure 2. Aerial imagery and ECM scores for mapping units identified as historical wet savanna within the Savannah Research Natural Area (MA 2.1). For ease of interpretation, panel B includes only the 0.52ac ECM cells that had their center located within MA 2.1 and were classified by the historical natural communities map as wet savanna.

indicates that the USFS has generally met their management objectives as described in the Forest Plan, as exemplified by the Savanna Research Natural Area (Figure 2).

By contrast, historical wet savannas outside MAs 2.1 and 3.1 are in relatively poor condition, with only 2% (~590 ac) of historical wet savannas in excellent condition and only an additional 11% (~3500 ac) in good condition. Historical aerial photographs clearly show how plantation silviculture or shrub and tree encroachment due to lack of fire have influenced wet savannas in Management Areas that did not provide guidance for managing these habitats. For example, Figure 3 shows a striking example of the divergence in ecological condition of adjacent wet savanna sites within the past 80 years. The wet savannas east of CR 379 (the line running NW to SE in the images) were maintained and then designated as MA 3.1 in the Forest Plan and currently have good to excellent ECM scores. Most of the wet savannas west of CR 379 were mostly managed for timber production, were not recognized as savannas during Forest Plan revision, and are currently dense slash pine plantations with poor or very poor ECM scores.

Importance of Wet Savannas for Rare Plant Species. Of the 25 rare plant species that occur in panhandle wet savannas, most are habitat specialists and 12 are endemic to the region (Florida Natural Areas Inventory 2010). Four plant species listed as threatened or endangered under the Endangered Species Act of 1973 are known to currently occur in Apalachicola National Forest: Harper's beauty (*Harperocallis flava*), white birds-in-a-nest (*Macbridea alba*), Godfrey's butterwort (*Pinguicula ionantha*), and Florida skullcap (*Scutellaria floridana*). All of these species can occur within wet savannas or on the ecotone between wet savannas and adjacent swamps or flatwoods (US Fish and Wildlife Service 1983, 1994). Of the 744 recently confirmed occurrences of these species in the Apalachicola National Forest, 426 (~57%) are within 269 ECM cells classified as historical wet savanna (some cells contained multiple occurrences). The average ECM score of wet savanna sites where federally listed plants have been found was 2.9, compared to 3.7 in cells where these species have not been found. There was a significantly higher proportion of excellent and good habitat scores and a lower proportion of very poor habitat scores in map cells containing these rare plants (χ^2 = 113, d.f. = 4, P < .0001). It is likely that higher-quality areas have been more intensively sampled for these species, which may account for the apparent habitat selection, but the extent of surveys in lower-quality sites strongly suggests that these species have simply not persisted in degraded wet savannas. This relationship suggests that maintenance and restoration of wet savanna habitats may be particularly important to protection and recovery of listed plant species in the Apalachicola National Forest.

Management and Restoration. Development of the historical natural communities map and an ecological condition model provided a greater understanding of the spatial extent of wet savanna habitats and the level of degradation across the forest, both of which can be used in project planning and monitoring management success. The wet savannas recognized by the Forest Plan and assigned to Management Areas 2.1 and 3.1 are generally in good condition and are maintained by frequent prescribed fire. Other than continued prescribed fire and periodic thinning of encroaching trees or shrubs, these sites likely require little active management. Where fire has been excluded from wetland ecotones, maintaining wet savannas may require mechanical or chemical reduction of shrubs such as titi (*Cliftonia monophylla* and *Cyrilla racemiflora*) that have isolated wet savannas from the rest of the burn unit. ECM scores, rare plant occurrences, and the spatial distribution of wet savanna patches across the landscape can help prioritize these efforts.

Most historical wet savannas outside MAs 2.1 and 3.1 are in fair, poor, or very poor condition. It is important to recognize that these ECM scores encompass a range of vegetation structure and site histories, so appropriate restoration activities vary

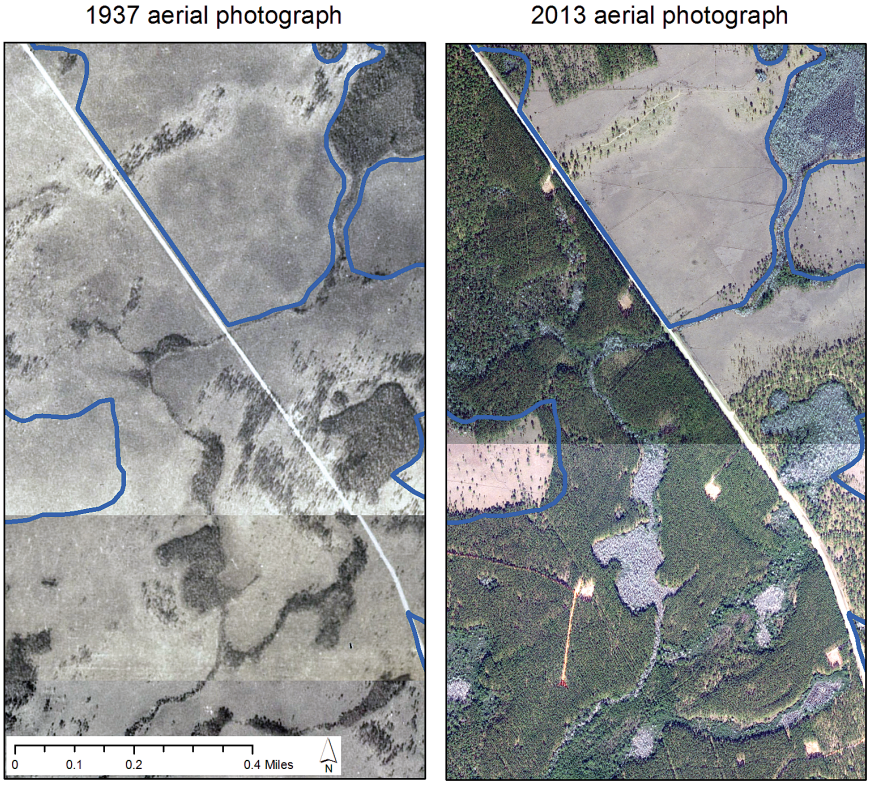

Figure 3. Comparison of historical and current vegetation of an area of historically contiguous wet savanna bisected by County Road 379 (Liberty County, Florida). Blue outlined polygons represent the current MA 3.1 Savanna Special Interest Areas. These are shown in the 1937 photograph for comparison only.

substantially among these conditions. The sites in fair condition (i.e., ECM score of 3) usually have some intact groundcover, but shrub and tree density is higher than desired for wet savannas. Thinning trees through harvest combined with a greater emphasis on short fire return intervals and early growing season fire (March to June) will likely restore many desired elements of structure, function, and composition for these wet savanna sites (Kindell 1997). Because prescribed fire and thinning trees have potentially substantial benefits with relatively low cost, particularly if the trees are marketable, the over 7000 ac of historical wet savannas with a condition score of 3 are reasonable areas for investing resources in restoration. By contrast, sites in poor or very poor condition (i.e., ECM condition 4 and 5) often have few recognizable elements of wet savanna vegetation. In many cases these sites have been either bedded and planted with slash pines or covered by dense titi; occasionally wiregrass, pitcher plants, or sundews may be found at the end of beds along roads or in small gaps in the dense shrubs. For sites planted with slash pine, thinning the canopy and continued efforts to burn the stand are reasonable and low-risk steps toward restoration (Hess and Tschinkel 2017; Van Lear et al. 2005; Walker and Silletti 2006). Historical wet savanna sites that have been dramatically altered may require more intensive restoration efforts (e.g., flattening beds, removing slash pine, cutting and herbiciding shrubs, restoring groundcover) to restore structure and function. However, because such activities are expensive and could disrupt important processes such as hydrological function and fire, it may be reasonable to manage the stands more like wet flatwoods than like high-quality wet savannas, with timber thinning and fire gradually enhancing wet savanna characteristics.

Case Study 2: Habitat Selection by Red-Cockaded Woodpeckers

Background. Red-cockaded woodpeckers (RCWs; *Picoides borealis*) are an iconic species of southeastern pine forests that have been protected under the Endangered Species Act since its passage in 1973. This species breeds cooperatively, and family groups establish and defend territories surrounding one or more cavity trees that are used for roosting and nesting. Although the relative importance of specific habitat elements varies among studies and populations (Garabedian, Moorman, et al. 2014; McKellar et al. 2014), RCWs prefer areas with widely spaced mature pine trees, little or no midstory, and a fire-maintained grassy and herbaceous groundcover (Conner, Rudolph, and Walters 2001; US Fish and Wildlife Service 2003).

There are approximately 750 active red-cockaded woodpecker groups in the Apalachicola National Forest. Management activities in pine flatwoods and sandhills have been conducted largely to maintain and improve RCW habitat, and the Forest Plan directs all timber harvest projects to follow management guidelines described in the RCW recovery plan (US Fish and Wildlife Service 2003). Past studies of RCWs in the Apalachicola National Forest have found preferential occupancy and higher group performance in areas that meet recovery plan criteria for good-quality foraging habitat (James, Hess, and Kufrin 1997; James et al. 2001). Even within occupied areas, one study found evidence for hierarchical habitat selection in which cavity trees were older and larger than surrounding trees and the area surrounding cavity trees (<200m) was more open with larger trees and less midstory than area farther (200–400m) from the cavity trees (Hovis and Labisky 1985).

Ecological Condition of RCW Habitat. The vegetation structure scores in the ECM align closely with the criteria for good-quality foraging habitat described in the RCW recovery plan (US Fish and Wildlife Service 2003, pp. 188–189), with higher-quality flatwoods and sandhills generally falling into scores 1 and 2 in the model. Because RCW respond strongly to structural elements of their habitat and have high fidelity to cavity trees, comparing the distribution of ECM scores in relation to RCW habitat occupancy was a reasonable validation for the modeling methods and an exploration of a potentially powerful habitat assessment tool.

To evaluate this potential application of the model for RCW presence, we compared the proportional distribution of ECM scores at three successively smaller scales of habitat selection relevant for RCW ecology: 1) Forest-wide: map cells within ¼-mile radius of cluster centers partitioned using Theissen polygons (i.e., ¼ mi. foraging

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partitions) compared to map cells in the rest of the forest, 2) Within partitions: map cells within 200 ft of cavity trees (i.e., the cluster) compared to map cells in the ¼ mi. foraging partition but farther than 200 ft from active cavities, and 3) Within clusters: map cells containing active cavity trees compared to map cells within the cluster but not containing active cavity trees. The spatial relationships for these three analyses are shown in Figure 4. Although most RCW clusters were located in flatwoods or sandhills, the ECM scores for all cells falling within the areas described above were used for these analyses, with no distinction among historical natural communities.

We found different proportions of good-quality habitat, as measured by ECM scores, at all three levels of habitat selection. The average score of map cells within ¼ mi. foraging partitions was 2.8, whereas the average score of the rest of the forest was 3.6. The proportional distribution of scores differed between these areas (χ^2 = 34619, df = 4, P < .0001), and examination of the residuals showed that scores 1–3 were over-represented in ¼ mi. foraging partitions and scores 4 and 5 were over-represented in the areas outside partitions (Figure 5A). The within-partition comparison of map cells in clusters to those farther than 200 ft from active trees showed a similar pattern (Figure 5B; χ^2 = 3458, df = 4, P < .0001). The average score of map cells within clusters was 2.5, whereas the average score of the rest of the partition was 2.9. Examination of the residuals showed that map cells with an ECM score of 2 were very over-represented within clusters and scores 1 and 3 were slightly over-represented in clusters, whereas scores 4 and 5 were over-represented in the areas outside clusters. The within-cluster analysis found more subtle differences (Figure 5C), but map cells containing active cavity trees (average score = 2.3) still had proportionally more scores of 1 or 2 compared to map cells within the cluster but not containing active cavity trees (average score = 2.5; χ^2 = 225, df = 4, P < .0001). These results demonstrate that the ECM incorporated relevant variables at a spatial resolution that is appropriate for evaluating red-cockaded woodpecker habitat attributes in a heterogeneous landscape.

Habitat and Population Management. Two recent reviews have found substantial geographic variation in the relative importance of specific habitat variables for RCW populations (Garabedian, Moorman, et al. 2014; McKellar et al. 2014). However, the general description of good-quality habitat as areas with "some large old pines, low densities of small and medium pines, sparse or no hardwood midstory, and a bunchgrass and forb groundcover" (US Fish and Wildlife Service 2003, p. 188), remains well supported. We have shown above that the ECM scores on the ANF align well with these habitat features and correspond with RCW presence. As such, our ECM provides a landscape-level tool that can help determine where actions such as timber harvest could adversely affect RCW foraging habitat or where management actions may be most beneficial for RCW.

The recommended process for analyzing the effects of proposed management activities (e.g., timber harvest) on RCW foraging habitat requires extensive field surveys to estimate vegetation structure parameters of all forest stands in RCW foraging partitions (US Fish and Wildlife Service 2003). Quantifying specific habitat characteristics on a stand level is simple, but doing so on large spatial scales is time consuming and expensive. As such, developing tools based on remote sensing to estimate habitat quality could result in substantial cost savings and increased efficiency. In a recent study, Garabedian and colleagues (Garabedian, McGaughey, et al. 2014) used LiDAR to separately estimate multiple variables related to RCW foraging habitat. Their analysis of habitat quality within ½ mi. foraging partitions was based on evaluation of each variable against their respective thresholds as described in the RCW recovery plan's description of good foraging habitat. Our approach, by contrast, showed that a composite ecological condition score based on multiple elements of vegetation structure and fire frequency was strongly related to RCW habitat selection at three nested spatial scales.

The ECM scores may also be helpful for informing more direct population management activities. Two important techniques used in the ANF are establishing recruitment clusters (artificial cavities placed in apparently suitable habitat) for colonization within the forest and translocation of fledglings to clusters of artificial cavities in other locations across the southeast. Because the ECM scores clearly corresponded with RCW habitat preferences, spatial analysis of unoccupied areas both on the ANF and at recipient sites for translocation could help managers understand where recruitment clusters are most likely to be successful based on quality of the surrounding habitat. Additionally, components of the overall score such as

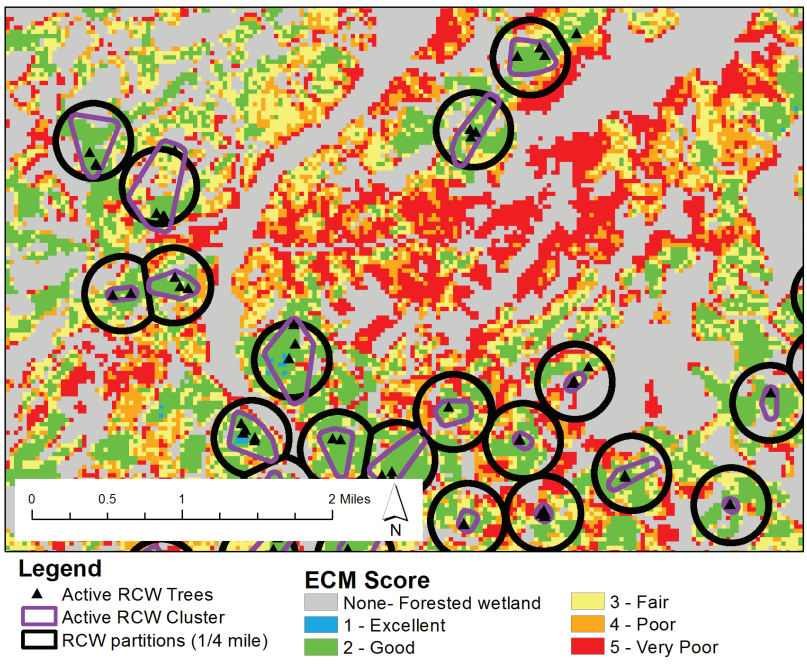

Figure 4. Example of RCW foraging partitions, clusters, and active cavity trees overlaid on ECM scores from the western Apalachicola National Forest.

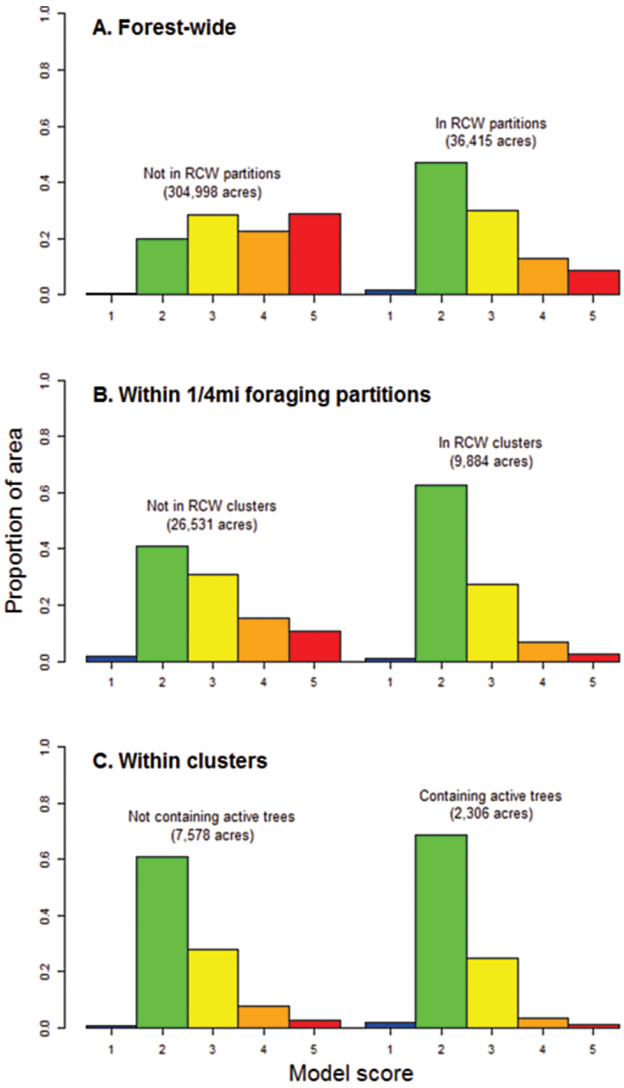

Figure 5. Distribution of ECM scores for RCW habitat selection at three nested spatial scales—A. forest-wide, B. within foraging partitions, and C. within clusters of cavity trees. The colors of the bars match the colors in the ECM results in Figure 4 above.

midstory and canopy density can be displayed individually in GIS to identify areas with appropriate canopy structure but degraded conditions that could be improved by midstory reduction and fire to improve success of recruitment or translocation. Since RCW population health generally increases with density due to the importance of inter-cluster movements (Conner, Rudolph, and Walters 2001; US Fish and Wildlife Service 2003), creating large contiguous areas of suitable habitat should facilitate population growth. We have not explored the relationship between ECM scores of habitat and RCW group variables such as reproductive performance or the presence of helpers, but such an analysis could reveal further applications of remote sensing for RCW management.

Summary and Future Work

Public lands such as national forests face increasing demands to provide a wide variety of resources, including timber and biomass products, habitat for rare species, and recreation opportunities for the public. Given limited or declining budgets, there is a clear need for tools that can help forest managers make more informed decisions and to develop a more deliberate and efficient program of work. Understanding historical conditions of altered landscapes and assessing the current conditions of natural communities are key elements of ecological restoration and should be part of conversations related to balancing restoration goals with other management objectives. Additionally, repeated measurement of ecological condition can indicate restoration success or provide feedback to improve land management activities. In this paper (with greater technical detail provided in the online supplement), we have described the development of a historical natural communities map, a spatially explicit ecological condition model, and the application of these tools to two complex management issues in the Apalachicola National Forest.

As we further develop and update the ECM, it may be used to answer a wide range of questions relevant to restoring longleaf pine habitats within and beyond the Apalachicola National Forest. For example, the composite ECM score or variables from which it was calculated could be used to prioritize ongoing activities such as prescribed fire, timber harvest, or midstory removal. Additionally, although the LiDAR-based approach was very productive, we are also exploring the use of frequently updated National Agricultural Imagery Program or other similar products processed with new techniques to estimate forest structural parameters from satellite imagery (Hogland et al. 2014). If successful, this refinement would reduce the time and expense of generating and updating the ECM, which in turn could decrease the barriers to widespread adoption of such rigorous and objective decision support tools.

Supplementary Materials

Supplement 1. Description of methods used to develop the Ecological Condition Model.

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United States Department of the Interior

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September 18, 2019

Kelly Russell, Forest Supervisor
United States Forest Service
325 John Knox Road, Suite F-100
Tallahassee, Florida 32303

Dear Ms. Russell:

Thank you for your April 9, 2019 letter and accompanying Biological Assessment (BA) entitled Biological Assessment for RCW core area, Phase I on the Apalachicola National Forest (ANF). The purpose of the project is the improvement of nesting and foraging habitat for the red-cockaded woodpecker (RCW), on the Wakulla district. Improvement of the vegetative structure for the benefit of the RCW will require harvesting and planting trees, prescribed fire, use of herbicides, and mechanical treatments.

The BA for this project identifies effect determination for two federally listed species, the eastern indigo snake (*Drymarchon couperi*) and the red-cockaded woodpecker (*Picoides borealis*).The U. S. Fish and Wildlife Service (Service) concurs with your effect determination of "may affect, but not likely to adversely affect" the eastern indigo snake. This determination is warranted because the eastern indigo snake has not been detected in the ANF for over 20 years. There is a lack of gopher tortoise burrows, which serve as important refugia for the eastern indigo snake. No other indications of presence have been noted in that time.

Upon review of the biological assessment provided and given the avoidance and minimization actions detailed in the BA, discussion with ANF biological staff, the Service recommends that the proper determination for the RCW is "**may affect, not likely to adversely affect**", rather than the determination in the BA of "**may affect, likely to adversely affect**". The actions that may affect the RCW are detailed in section 3 of the BA provided by ANF. Although transportation of timber and timber removal could disturb RCW during the nesting season, such activities are unlikely to rise to the level of harm in the form of harassment because of the brevity and short-term nature of the disturbance.

The biological assessment provided by the USFS shows that the timber removal will not trigger the MSS standards for foraging, and will bring the area cut closer to adequate foraging quality for the few nests within the foraging area. In other words, the logging itself will not affect the

RCW. This is shown in the BA. This portion of the BA is therefore considered 'beneficial' and has no negative impacts on the RCW and therefore no potential for take exists with the logging itself.

The only consideration of activities that could cause harm the RCW's in the work area directly or indirectly is the transportation of cut material. The speed of the logging vehicles would likely be less than 5mph on these roads, precluding any reasonable potential for bird strikes or direct take of RCWs. To cause harm in the form of harassment of RCW, the transportation of the cut material along type 1 forest roads would have to occur in May, during the period of most chick rearing, near enough to an active nest to result in disturbance, and during the most vulnerable time for the chicks. Moreover, the disturbance would have to be continuous for an extended period of time to cause nest abandonment. Although the work may occur during the nesting season, it will not be continuous or long-term in nature, therefore reducing the potential for nest abandonment.

This effort meets the definition of insignificant and discountable. "May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. Additionally, the USFWS new standard of "reasonable certainty" for take to occur, further illustrates the low probability of negative impacts that warrant "take".

This project is specifically intended for the improvement of RCW habitat in the Wakulla District, as part of the Forest Service's plans to continue the recovery and increase the population of RCW's on the ANF. Additionally, a regulatory streamlining effort will commence with the focus on creation of a programmatic consultation to cover as many of the necessary section 7 needs of the ANF under one comprehensive document. The Service recommends through this letter, an effect determination of "may affect, not likely to adversely affect" the RCW to reflect this reduced potential impact. This letter serves as documentation of this change.

The Service would like to thank you for your cooperation and foresight in your ongoing management of the RCW on National Forest Service lands. Please contact Harold Mitchell of my staff at (850) 960-4711 or Harold_Mitchell@fws.gov if additional information is needed.

Sincerely,

Dr. Sean Blomquist
Acting Field Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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Vero Beach, Florida 32960

September 4, 2020

Kelly Russell, Forest Supervisor
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Tallahassee, Florida 32303

Service Consultation Code:	04EF2000-2020-I-0164
Corps Application Number:	SAJ-2019-02708
Date Received:	August 12, 2020
Project:	North Florida Resiliency Connection
Applicant:	Gulf Power Company
County:	Leon

Dear Ms. Russell:

The U.S. Fish and Wildlife Service (Service) has reviewed the United States Forest Service's (USFS) request to initiate consultation dated August 18, 2020, for Gulf Power Company's North Florida Resiliency Connection Project (Project). The USFS determined that the proposed Project may affect, but is not likely to adversely affect the federally endangered red-cockaded woodpecker (*Picoides borealis*) and federally threatened eastern indigo snake (*Drymarchon corais couperi*) and wood stork (*Mycteria americana*). This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

PROJECT DESCRIPTION

The Gulf Power Company (GPC) has requested a special use permit to construct an electric transmission line on the Apalachicola National Forest (ANF). GPC proposes to construct, operate, and maintain a 161-kV transmission line connecting the existing GPC Sinai Cemetery Substation in Jackson County, Florida, to Florida Power & Light Company's (FPL) Raven Substation in Columbia County, Florida. The total transmission line is approximately 176 miles and would provide the first direct interconnection between the GPC transmission system and the FPL transmission systems. This larger project is known as the North Florida Resiliency Connection (NFRC).

As part of the NFRC project, GPC has applied to the USFS for a special use permit authorizing an electric power transmission line easement approximately 11 miles long that would traverse the ANF from south of Blountstown Highway (State Road 20) southeast around Tallahassee to Woodville Highway. The proposed route would collocate most of the transmission line with the

existing City of Tallahassee electric transmission corridor adjacent to the existing Florida Gas Transmission Company, LLC's natural gas corridor through the ANF.

THREATENED AND ENDANGERED SPECIES

Eastern indigo snake

There is a confirmed sighting of an eastern indigo snake in 1996 within ANF. This was 0.5 miles away from the Project boundary. There are also documented gopher tortoises (*Gopherus polyphemus*) within the Project footprint. Project implementation would follow *Revised land and resource management plan for the National Forests in Florida* (USFS 1999) standards for gopher tortoise burrow protection, which would also protect any snakes or other commensal species residing in the burrows. Heavy equipment used for vegetation clearing and power pole replacement/construction has the potential to impact this species; however, the *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) will be used. These measures will minimize the potential for impacts to eastern indigo snakes to a discountable amount. Based on the past eastern indigo snake presence in the area and the protection measures being used, the USFS concluded that the proposed action may affect, but is not likely to adversely affect the eastern indigo snake. The Service concurs with this determination.

Red-cockaded woodpecker (RCW)

The central Florida panhandle RWC recovery unit consist of five sites. Two of these sites are on the ANF, the Apalachicola Ranger District and the Wakulla Ranger District. These two districts contain all of the RWC population on ANF. This recovery unit contains the largest extant population of RCW in existence, and population growth has continued even with regular removal of fledglings for the species' translocation program and damage to many cavity trees by Hurricane Michael in October 2018. The Apalachicola Ranger District population has met its recovery goal of 500 active clusters and currently contains approximately 610 active clusters. When the revised *Recovery Plan for the Red-cockaded Woodpecker* (Service 2003) was finalized, the Wakulla Ranger District was estimated to contain 138 active clusters and the Apalachicola Ranger District had 486 active clusters. Annual surveys have shown recent growth of the district population with the current estimate of approximately 250 active clusters.

There are no RCW groups near segment 1 of the proposed transmission line, but segments 2 and 3 are located within some of the best sandhill habitat on the ANF that currently provides habitat for several dozen RCW groups. The proposed activities would occur within the 0.5 mile foraging partitions of 10 groups, within the 0.25 mile foraging partitions of 4 of those groups and within the cluster (defined as the minimum convex polygon of cavity trees with a 200 feet buffer) of two of those groups.

The proposed activities could potentially impact RCWs through disturbance such as construction noise or dust, vehicles and heavy equipment use and increased human activity in the existing utility corridor. In general, the effects of disturbance for each RCW group is related to the length of the right of way (ROW) currently in within their foraging partition, the amount of ROW expansion planned for those segments and the proximity of the construction and vegetation. Given the current high use of this part of the forest, including periodic heavy equipment (e.g.,

mowers, line trucks) on the utility corridor, the RCW groups adjacent to the ROW have likely become somewhat habituated to these types of activities.

The USFS conducted a habitat quality analysis in the Action Area. Many of the RCW foraging partitions are quite small due to high group density or proximity to private land that was not included in the foraging habitat analysis. Additionally, all ten clusters potentially affected by this project appear to have insufficient (i.e., <75 acres) good quality habitat within the 0.25 mile partitions. The memo clarifying RCW foraging habitat analysis (Service 2005) suggests that since the foraging habitat for these groups is already deficient, that any further reduction could be considered an adverse effect. However, based on extensive observations of RCW behavior in this project area, foraging often occurs in suitable areas in the 0.5 mile foraging partition (rather than just the .25 mile foraging partition) and most areas classified as "fair" habitat are regularly used as foraging habitat. It is also clear that many groups not considered in this analysis persist with very small foraging partitions that contains even less good condition habitat than the groups in this project. Despite foraging habitat somewhat below the *RCW Recovery Plan* (Service 2003) guidance, continued population growth and successful reproduction clearly demonstrates that area and quality of foraging habitat are not currently limiting factors in this part of the forest. As such, the very small amount of foraging habitat lost due to the proposed ROW expansion is likely to have an insignificant effect on RCW.

It is possible that ROW expansion and construction of additional power lines could inhibit RCW movement across the utility corridor. However, the expanded corridor will still be less than 200 feet wide, which is the threshold for open areas to be considered as a barrier to movement. In summary, activities associated with initial construction of the transmission line may briefly disrupt foraging and other normal RCW activities. Similar activities, in addition to frequent prescribed fire, hunting, public recreation and vehicle traffic on the utility ROW have been occurring for years in this part of the forest and the RCW population has continued to grow. The utility corridor is expected to have insignificant impacts on the RCW population.

The following minimization measures will be used when possible and consistent with project scheduling constraints:

- Existing access roads that are outside of identified RCW clusters should be used for all project activities.
- Work should be scheduled outside of the RCW's primary nesting season (April 1 to July 31) for areas along Segment 3 of the ROW (between Woodville Highway and Crawfordville Road).
- Survey ROW expansion for RCW cavity trees prior to vegetation clearing and notify USFS personnel if new cavity trees are found within or adjacent to (<200 feet) the ROW expansion.

Based on the discountable and insignificant effects of this Project and the use of the minimization measures, the USFS concluded that this Project may affect, but is not likely to adversely affect red-cockaded woodpeckers. The Service concurs with this determination.

Wood stork
There are three known wood stork colonies within 13 miles of the ROW that were active between 2010 and 2019. Due to the proximity of breeding colonies and the presence of suitable wetland habitat nearby, wood storks may fly over or forage near the proposed ROW. This is particularly true for the area around Munson Slough just east of Highway 319. However, they are unlikely to feed in any of the smaller isolated wetlands that would be directly affected by project implementation, due to the availability of better quality feeding habitat nearby. The Project would also not directly impact any wetland areas or hydrologic connections that could support wood stork foraging, roosting, or nesting habitat. The USFS concluded that the proposed action may affect, but is not likely to adversely affect wood storks. The Service concurs with this determination.

This letter fulfills the requirements of section 7 of the Act and further action is not required. If modifications are made to the Project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.

Thank you for your cooperation in the effort to protect fish and wildlife resources. If you have any questions regarding this project, please contact Lindsay Nester at 772-469-4226.

Sincerely yours,

FOR Roxanna Hinzman
Field Supervisor
South Florida Ecological Services Office

cc: electronic only

Matthew Trager, USDA

LITERATURE CITED

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