

Exhibit D
Ordinance No. 211460

Plum Creek Development Company Planning Parcel

**Conservation Management Area
Management Plan**

Parcels:

05882-000-000 (Acreage 64.98)
05946-000-000 (Acreage 230.98)
05973-000-000 (Acreage 349.35)
06013-000-000 (Acreage 309.14)
07777-000-000 (Acreage 236.17)
07781-000-000 (Acreage 229.36)
07813-000-000 (Acreage 223.38)
07814-000-000 (Acreage 135.41)

Applicant: Weyerhaeuser NR Company
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May 15, 2018

SETTLEMENT AGREEMENT DRAFT - REVISED: June 24, 2022

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Section 1. Introduction

This Conservation Management Area Management Plan (hereafter CMA Management Plan) applies to the Conservation Management Area (CMA)¹ approved by the City for the property previously identified in Future Land Use Element Policy 4.3.4² as “Plum Creek Development Company,” now identified as “Weyerhaeuser NR Company,” (hereafter “Planning Parcel”). The CMA approval followed a determination by the City that applicable requirements of Policy 4.3.4 and Section 30-8.14. of the Gainesville Unified Land Development Code were met through submittal of the *Natural Area Resource Assessment of the Gainesville 121 Project Site* (NARA) prepared by Ecosystem Research Corporation and dated May 22, 2017. The City’s Environmental Coordinator within the Department of Doing (DOD), now known as the Department of Sustainable Development, issued its approval on June 6, 2017 stating that the “NARA accurately represents existing ecological and natural resources for the project site” and that the DOD therefore does not “have any requested, recommended or suggested revisions to the NARA report.” The approved CMA establishes areas within the Planning Parcel requiring permanent protection from development through adoption and implementation of a CMA Management Plan. This CMA Management Plan establishes allowed and prohibited activities within the CMA and provides a process for phased implementation of the required perpetual legal protections through conveyance of conservation easements. A baseline inventory report describing existing conditions and a photographic atlas providing visual documentation of conditions within the CMA are provided as **Attachments 1** and **2** respectively.

1.1. Site Location and Description

The Planning Parcel lies in north central Gainesville along State Road (SR) 121 beginning eight tenths of a mile north of the intersection with US 441 and extends north approximately three miles along both sides of SR 121 past the intersection of County Road CR 231 and SR 121 (**Figure 1**). The site varies in width from one mile in the north area at the Gainesville Regional Utilities Easement crossing at SR 121 to one and half miles at the southern boundary line. The Planning Parcel contains 1,778.8 acres as determined by professional survey (**Figure 2**).

Historical and current use of the land within the Planning Parcel is silviculture and is described in the NARA as a “well managed silviculture operation.” The planning parcel includes utility easements and forest management roads. Access to the site is restricted by locked gates located on the utility easements and forest roads at the various intersections with CR 231 and SR 121.

¹ For convenience, the twenty-two (22) CMA areas contained within the Planning Parcel are collectively referred to in this Management Plan as the CMA. Where specific management practices or protections are required for one or more specific CMA area(s), such requirements are attributed to the applicable area by reference to the individual CMA area number.

² All references hereinafter made to Policy 4.3.4. are to the City of Gainesville, Comprehensive Plan, Future Land Use Element.

Surrounding uses include silviculture, agriculture, agriculture based single family residences, residential subdivisions, small industrial and commercial uses, electric power supply facilities, and an Alachua County solid waste transfer facility.

Immediately east and adjacent to the Planning Parcel lies 7,102 acres owned by Weyerhaeuser NR Company and protected by a conservation easement held by the City of Gainesville, St. Johns River and Suwannee River Water Management Districts (See, **Figure 3**). The conservation easement, now known as the Murphree Wellfield Conservation Easement, was acquired by the City and the two water management districts to protect the “aesthetic, scientific, educational, ecological and water resource value of the property.” (See, Easement Document at **Attachment 3**) When establishing the Conservation Easement in 1999, the City recognized the “natural, scenic, aesthetic, and special character of the Property.” The City and the two water management districts collaborated to secure conveyance of the Conservation Easement. The 7,102 acres Murphree Wellfield Conservation Easement area is managed by Weyerhaeuser NR Company for silvicultural purposes in accordance with Best Management Practices of the State of Florida, Department of Agriculture and Consumer Services, Florida Forest Service.

The easement ensures perpetual “conservation and protection ...of the Property ...in conjunction with the Grantor’s silviculture operations....” Further, the City was granted among other things, the explicit right to locate and install on the property up to six production wells for potable water supply to the City of Gainesville, five of which are now in operation. The City and the two water management districts determined that continued commercial forestry operations on the Property conducted consistent with Best Management Practices of the State of Florida, Department of Agriculture and Consumer Services, Florida Forest Service is consistent with protection of the conservation values of the Property. The easement specifically allows harvesting within upland and wetland areas, with conditions, and replanting of planted pine plantations.

Most of the adjacent land abutting the western boundary of the Planning Parcel (shown as Deerhaven Buffer Area on **Figure 3** and consisting of 2,246 acres, more or less) was purchased by the City of Gainesville from Plum Creek Timberlands, L.P. with timber rights retained in perpetuity by the seller, its successors and assigns (See **Attachment 4** Special Warranty Deed). The City acquired the property to provide a natural buffer for the Deerhaven power plants. The timber reservation applies to all timber then or thereafter located on the property. The reservation also provides the seller with rights to manage the property for silvicultural purposes in accordance with applicable best management practices. In addition, the City purchased an option to buy the timber reservations that it has not exercised. The property remains under active silvicultural use with silvicultural practices governed by Best Management Practices of the State of Florida, Department of Agriculture and Consumer Services, Florida Forest Service.

The City acquired the Conservation Easement for the Murphree Wellfield Conservation Easement and fee simple ownership of the Deerhaven Buffer Area for various conservation purposes. Both properties are managed by Weyerhaeuser NR Company through active on-going

silviculture using BMPs. This arrangement reflects the City’s historical recognition of the environmental value of continuing silviculture practices on these lands when conducted in accordance with Best Management Practices of the State of Florida, Department of Agriculture and Consumer Services, Florida Forest Service. .

1.2. Approved Conservation Management Areas (CMAs)

The approved NARA delineates twenty-two (22) individual CMA management polygons totaling 1,161.0 acres (**Figure 4**). The Planning Parcel contains 1,778.8 acres, of which 65.3% (1,161.0 acres) is set-aside within the approved Conservation Management Area. The remaining acreage includes:

- 566.2 acres of “Available Development Areas” (hereafter, Development Areas),
- 33.6 acres of Non-CMA Upland Set-Aside areas, and
- 18.0 acres of GRU Electric Transmission Easement and Florida Gas Transmission Easement.

In accordance with Policy 4.3.4 a.10. of the City Comprehensive Plan, the CMA includes all onsite wetlands and wetland buffers requiring protection from impacts. Excluded from the CMA are locations where roads may be required to cross wetlands to achieve connectivity between isolated or segregated upland areas. Such crossings are the only potential impacts to wetlands permitted under Policy 4.3.4 a.3. The separate CMA boundaries were delineated based on obvious physical and ecological boundaries. Contiguous areas of uplands and wetlands were incorporated into larger CMA areas to promote establishment and retention of habitat corridors in furtherance of Policy 4.3.4 a.9. Existing forest roads are incorporated within the CMA for continuing access and management purposes.

1.3. Plant Communities Occurring within the CMAs

As documented in the NARA, upland and wetland plant communities occurring within the CMA are shown in **Figure 5** with tabulated acreages for each plant community type.

Section 2. CMA Management Plan Requirements

Compliance with, and implementation of, all applicable requirements of the City’s Comprehensive Plan and Unified Land Development Code is assured through this CMA Management Plan. The applicable requirements are itemized in this section.

2.1. Applicable Comprehensive Plan Policies

Policy 4.3.4 established specific resource protection requirements for the Planning Parcel and where applicable, these are implemented by this CMA Management Plan. The applicable policies (indicated in *italics*) and purpose served by each (indicated in **bold**) are, in relevant part, provided below:

- ▶ **Preserve Function of Existing Ecological System**
Existing functioning ecological systems within Weyerhaeuser shall be retained to the maximum extent practicable while accommodating the uses and intensity of uses authorized by the land use policies governing Weyerhaeuser, as determined by the City. [Policy 4.3.4 a.8.]

- ▶ **CMA Management Plan establishes Perpetual Conservation and Allowed Activity within the CMA**
Wetlands, wetland buffers, floodplain and upland habitat areas that are to be protected shall be identified as Conservation Management Areas and protected by a perpetual conservation easement in favor of the City, or a tax exempt land trust doing business within Alachua County, Florida, as determined by the City. Activities within the Conservation Management Areas shall be as set forth in a Conservation Management Plan approved by the City. [Policy 4.3.4 a.10.]

- ▶ **Creating and Managing Habitat Connectivity**
The PD rezonings for Weyerhaeuser shall ensure that allowed uses are integrated within the existing site landscape in a way that reasonably assures ...[p]reservation of the ecological integrity of the ecosystems of Weyerhaeuser by creating and maintaining connectivity between habitats, minimizing natural area fragmentation, and protecting wetlands, associated uplands, and floodplains as indicated in Policy 4.3.4.a. above. [Policy 4.3.4 c.3. a.]

- ▶ **Wetland Impacts Limited to Crossings**
The PD rezonings for Weyerhaeuser shall ensure that allowed uses are integrated within the existing site landscape in a way that reasonably assures ...[p]reservation or enhancement of existing wetlands with approved treated stormwater to wetlands, limiting impacts to such wetlands to crossings necessary to achieve interconnectivity between upland properties, and requiring that any such crossings be designed to minimize wetland impacts. [Policy 4.3.4 c.3. b.]

- ▶ **Protect Significant Plant and Animal Habitats and Provide for Habitat Corridors**
Maintain and enhance plant and animal species habitat and distribution by protecting significant plant and animal habitats, provide for habitat corridors, prevent habitat fragmentation by requiring a detailed survey of listed species, identify habitat needs for maintaining species diversity and sustainability; preserve wetlands and at least forty percent (40%) and up to fifty percent (50%) of the upland area, inclusive of the wetland buffers established pursuant to 4.3.4.a.4. above. Listed species are those species of plants and animals listed as endangered, threatened, rare, or species of special concern by the state and federal plant and wildlife agencies, or species ranked as S1, S2, or S3 the Florida Natural Areas Inventory (FNAI). [Policy 4.3.4 a.9.]

► **No Development Allowed in Areas with Conservation Land Use and Zoning**

All areas designated Conservation land use shall receive a zoning district designation of Conservation and will be regulated in accordance with said zoning district except that no residential units may be allowed and no transfer of density may be allowed to other areas. The owner/developer shall make incremental applications for Conservation zoning of areas designated Conservation land use in conjunction with applications submitted for Final Development Plan or Final Plat approvals within areas designated Mixed-Use Office/Residential and Planned Use District land use. Such incremental applications for Conservation zoning shall include at least the same or greater proportion of the total Conservation land use area as the application for Final Development Plan or Final Plat approval contains relative to the total area having Mixed-Use Office/Residential and Planned Use District land use designations. No development, other than minimum crossings necessary to achieve interconnectivity between upland developable properties, and passive recreational uses is allowed as a permanent use within Conservation Land Use Areas. Silvicultural use shall be allowed to continue within existing planted pine plantations until receiving a zoning district designation of Conservation..

[Policy 4.3.4 b.]

2.2. Applicable Land Development Regulations

The City's Unified Land Development Code establishes allowances, limitations and management requirements for conservation management areas in Section 30-8.14. The applicable regulations are in relevant part provided below with the specific policy language italicized:

► **Allowed Uses**

The use of conservation management areas shall be limited to that which is compatible with protection of the ecological integrity of the regulated natural or archaeological resources. The following uses may be permitted as part of an approved management plan, provided they do not adversely affect natural and archaeological resource function and ecological integrity.

- 1. Nature trails (mulched walking paths, elevated wooden walkways);*
- 2. Low-intensity, passive recreation activities such as wildlife viewing and hiking;*
- 3. Scientific and educational activities (interpretive trails and signage, observation points);*
- 4. Site investigative work such as surveys, soil logs, and percolation tests;*
- 5. Scenic, archaeological, wildlife, or scientific preserves;*
- 6. Ongoing bona-fide agricultural and/or silvicultural activities that:*
 - a. Are consistent with the protection of the regulated natural and archaeological resources identified on the site for protection under the management plan; or*
 - b. Follow certification programs or best management practices.*

7. *Single-family residential dwellings established as part of an approved management plan*
8. *Constructing fences where no fill activity is required; and*
9. *Other uses demonstrated to be compatible with regulated natural and archaeological resource protections as outlined in the management plan.*

[Section 30-8.14. B.]

► **Prohibited Uses and Activities**

Activities that are prohibited within conservation management areas, unless part of an approved management plan, include the following:

1. *Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;*
2. *Dumping or placing of soil or other substance or material as landfill or dumping or placing of trash, waste, or unsightly or offensive materials;*
3. *Removal or destruction of native vegetation;*
4. *Excavation, dredging, or removal of soil, rock, or other material substance in such manner as to affect the surface;*
5. *Surface use except for purposes that permit the land or water area to remain predominantly in its natural condition;*
6. *Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation;*
7. *Acts or uses detrimental to such retention of land or water areas;*
8. *Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance; and*
9. *Wastewater and stormwater discharges to conservation management areas are generally prohibited. However, discharges may be allowed only in surface waters, wetlands, and significant geologic features if the following criteria are satisfied:*
 - a. *The quantity, timing, and quality of discharge maintains or improves water quality, biological health, and function of the natural ecosystem;*
 - b. *Downstream waters are not affected by nutrient loading;*
 - c. *The project owner or responsible entity prepares and implements a maintenance and monitoring plan acceptable to the city;*
 - d. *The project owner or responsible entity corrects any failures in design or operation of the wastewater and/or stormwater system that cause degradation of water quality, biological health, or the function of the natural ecosystem;*
 - e. *The owner or responsible entity posts a performance bond or similar financial guarantee to assure implementation of maintenance and monitoring in compliance with the Land Development Code; and*

- f. *Treatment is provided in accordance with the requirements of the Land Development Code and the requirements of the appropriate water management district.*

[Section 30-8.14. C.]

► **Management Requirements**

- **Management requirements for conservation management areas.** *Conservation management areas shall be maintained in compliance with the provisions of this Code, the conservation easement, the approved management plan, and the following standards. If a management plan is required, the scope of maintenance shall be specified in the management plan. The owner or responsible entity shall not be held responsible for maintenance which exceeds this scope due to external causes, such as through disasters or other events beyond the control of the responsible entity.*
 1. *Unless the area is dedicated to the public use and accepted by the city, the cost and responsibility of managing the conservation management area shall be borne by the owner or responsible entity.*
 2. *Management shall maintain or enhance the ecological value of the conservation management area and support the protection and maintenance of the identified resource. Management shall include, but not be limited to, the following minimum requirements:*
 - a. *Non-native vegetation shall not be introduced into the conservation management area. Invasive, non-native vegetation shall be eliminated or controlled to a level of noninterference with the growth of native vegetation according to specific goals of the approved management plan. Removal shall be accomplished through ecologically sound techniques, including but not limited to, manual removal, hand-held power equipment, and prescribed burning. Control of non-native trees which are in use as a nesting site shall be postponed until the nesting season is over. All non-native vegetative debris shall be disposed of outside of the conservation management area.*
 - b. *Dead trees that are not a hazard to humans or private property and that provide habitat or wildlife shall remain in the conservation management area.*
 - c. *Where non-native vegetation is removed, replacement with appropriate native species may be required if specified in the conservation easement and/or approved management plan.*
 - d. *Fencing may be required to control access to the conservation management area.*

[Section 30-8.14.K.2.]

- **Management plan.** *A management plan for a conservation management area shall be required for all development applications involving properties within, or partly within, a strategic ecosystem or properties that meet 2 of the following 3 criteria: contains regulated natural or archaeological resources greater than or equal to 5 acres in size; contains at least one listed species; or provides the opportunity for a wildlife corridor adjacent to nature parks and public conservation/preservation areas.*

1. *The management plan shall be prepared at the expense of the applicant by person(s) qualified in the appropriate fields of study, and conducted according to professionally accepted standards. The management plan shall include the following:*
 - a. *Description of goals and objectives based on type of natural resources to be managed;*
 - b. *Description of all proposed uses, including existing and any proposed physical and access improvements;*
 - c. *Description of prohibited activities within buffers or set-aside areas;*
 - d. *Descriptions of ongoing activities that will be performed to protect, restore, or enhance the natural or archaeological resources to be protected. These may include:*
 - i. *Removal or control of invasive non-native vegetation and debris;*
 - ii. *Replanting with native plants as necessary;*
 - iii. *Provision for listed species habitat needs, including restricting, at appropriate times, intrusions into sensitive foraging, breeding, roosting, and nesting areas;*
 - iv. *Fencing or other institutional controls to minimize impact of human activities on wildlife and vegetation, such as predation by pets;*
 - v. *Prescribed burning, thinning, or comparable activities in an environmentally sensitive manner to restore or maintain habitat;*
 - vi. *Cooperative efforts and agreements to help promote or conduct certain management activities, such as cleanups, maintenance, public education, observation, monitoring, and reporting;*
 - vii. *Any additional measures determined to be necessary to protect maintain the functions and values of conservation areas in conjunction with wildfire mitigation;*
 - viii. *Schedules, estimated costs, staffing requirements, and of responsibility for specific implementation activities to be performed as part of the management plan, and identification of means by which funding will be provided;*
 - ix. *Performance standards with criteria for assessing goals and;*
 - x. *Three-year monitoring plan with schedule and responsibility;*
 - xi. *Ownership and entity responsible for management activities;*
 - xii. *Provision for changes to be reviewed and approved by the city;*
 - xiii. *Contingency plans for corrective measures or change if goals are not met.*

2. *The management plan shall be submitted for staff review and approval by the appropriate decision making authority, and shall comply with the provisions of this Code.*
3. *Modifications to an approved management plan that do not result in lesser protection of the resources present may be allowed, subject to approval by the City Manager or designee.*
4. *The existence of the management plan shall be noted on plans and plats, covenants and restrictions, conservation easements and other documents as appropriate to the type of development and manner of protection provided.*
5. *The property owner or responsible entity shall acknowledge and confirm its obligation and financial ability to maintain and manage the conservation management area.*

[Section 30-8.14.L.]

Section 3. General Management within CMAs

This CMA Management Plan provides protection for unique habitat and conservation values identified in the NARA. This Section describes the general methods of land management for the CMA. Permanent protection of the CMA is further assured through incremental conveyance of conservation easements providing enforceable property rights to the city or third party acceptable to the city. The conservation easements will be conveyed incrementally as Final Development Plans or Final Plats are approved for development occurring within the Planning Parcel in accordance with the requirements of Section 5 of this CMA Management Plan.

3.1. Goals and Objectives

The purpose of this CMA Management Plan is to implement the requirements of the comprehensive plan policies and land development regulations³ itemized in Section 2 and thereby achieve the following objectives:

- a. Within all plant communities, ensure preservation of current hydrologic conditions, prevent development, and prevent alteration of existing plant and wildlife habitat; and
- b. Within planted pine plantations that transition out of active silviculture, allow natural succession to occur.

To achieve these objectives, uses within all plant communities are limited as provided for in Section 3.2, existing harvesting rights are terminated in all plant communities not already in planted pine plantation, and continuing silviculture activities within Transition Areas Within

³ **Attachment 5** of this CMA Management Plan serves as a checklist that documents how each of the Management Plan requirements (Section 30-8.14.L. of the Unified LDC) are met.

Planted Pine Plantations are required to be conducted in accordance with the FDACS Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species until terminated in accordance with the requirements of Section 4.2 of this Plan. Table 1 provides descriptions of activities to be undertaken within each of the vegetative communities in furtherance of these goals and objectives. Additional detail of the goals and objectives and activities to be undertaken in furtherance of those goals and objectives for each of the vegetative communities within the CMAs shall be provided in the required conservation easements.

TABLE 1 ACTIVITIES WITHIN VEGETATIVE COMMUNITIES		
PLANT COMMUNITY	ACRES	ACTIVITIES
WETLAND		
Cypress-Hardwood-Bay (logged)	259.90	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of the CMA Management Plan.
Cypress-Hardwood-Bay (unlogged)	170.93	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of the CMA Management Plan.
Marsh	3.89	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of the CMA Management Plan.
Planted Pine Plantation	261.98	Transition Area. One final timber harvest of planted pine plantation is allowed within areas designated Transition Areas Within Planted Pine Plantations in Figure 6 after being included in a Final Development Plan or Final Plat and before being rezoned to Conservation. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of CMA Management Plan and natural succession allowed to occur.
Shrub Swamp	.10	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of CMA Management Plan.
Slash Pine-Cypress-Hardwood-Bay	74.71	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of CMA Management Plan.
UPLANDS		
Pine Flatwoods-Mesic	5.20	Existing harvesting rights are terminated upon the CMA Management Plan taking effect. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of CMA Management Plan.
Planted Pine Plantations-Upland	375.28	Continuing silviculture activities shall be conducted in accordance with the FDACS Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species within the Transition

	<p>Areas based upon the plant communities depicted in Figure 5 & described explicitly in Figure 6 of the CMA Management Plan until transitioned out of silvicultural use incrementally in conjunction with Final Development Plan or Final Plat approvals authorizing development within adjacent Development Areas. One final timber harvest is allowed within areas designated Transition Areas Within Planted Pine Plantations in Figure6 after being included in a Final Development Plan or Final Plat and before being rezoned Conservation. Thereafter, nuisance exotic or non-native plants shall be managed to the degree practicable in accordance with Sec. 3.5 of CMA Management Plan and natural succession allowed to occur.</p>
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Except where may be specifically noted otherwise, the allowed uses, prohibited uses and management strategies provided herein are applicable throughout the CMA depicted in **Figure 4**.

3.2. Allowed Uses and Activities in All CMAs

The allowed uses and activities within the CMA are, as follows:

1. Nature trails (mulched or unmulched walking or biking paths) and elevated walkways and boardwalks are allowed. Trails will be placed in areas that ensure no removal of regulated trees and where minimal disturbance of native understory vegetation occurs;
2. Low intensity, passive recreational activities such as wildlife viewing and hiking;
3. Scientific and educational activities (interpretive trails, observation points);
4. Site investigative work such as surveys, soil logs, and percolation tests;
5. Construction of fences along the perimeter if ever determined to be needed to ensure protection of the natural resource or for protection of adjacent private properties;
6. Other uses demonstrated to be compatible with natural resource protections outlined in this CMA Management Plan as determined by the City through the development review process;
7. Replanting with native plants whenever and wherever needed to replace vegetation altered by storms, disease, drought, fire, or any other natural or man- caused disturbances;
8. Removal of invasive, non-native vegetation as specified in Section 3.4 a.2) below;
9. Management activities such as vegetation thinning and selective hand harvesting of laurel oak (*Quercus hemisphaerica*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*) of less than 8 inches in diameter at breast height, and loblolly pine (*Pinus taeda*) of less than 20 inches in diameter at breast height. Replanting of harvested vegetation with desirable native plant species;
10. Supervised recreational uses with pets kept on a leash;

11. Placement of small bird or mammal feeders;
12. Pruning of vegetation encroaching on nature trails;
13. Use of small motorized vehicles on trails for handicapped access and maintenance access;
14. Construction of benches or small protective structures such as gazebos for pedestrian use for activities such as wildlife viewing, picnic areas, etc.;
15. Removal of native vegetation and trees that may be potentially harmful to pedestrians using the CMAs or which pose a threat to adjacent private property. Removal of trees will only occur if no other option is available to provide for safe pedestrian access or provide relief of imminent threat to adjacent properties. This item is not intended to address aesthetic issues for adjacent properties;
16. Emergency vehicle use related to fire protection or human life protection or rescue;
17. In the event of natural disaster, fire, disease, insect infestation or the like, effected damaged timber within the CMA may be cut and removed to protect the remaining timber and to safeguard against the threat of wildfire; including the spraying of vegetation to prevent spread of nuisance infestation of pests such as the pine beetle, etc., that threaten CMA areas or adjacent properties;
18. Activities that promote effective natural percolation of native and treated stormwaters to include debris and sediment removal from outflow or overflow structures by means to not cause an adverse, long-term effect on existing native vegetation;
19. Activities related to wetlands mitigation to include re-contouring and excavation of upland buffers to create wetland habitat;
20. Activities related to enhancement and restoration of impaired wetland habitats to include placement of ditch blocks, flow control structures, and re-contouring of impaired wetland areas;
21. Excavation of upland areas to provide for compensatory storage volume as required by permit for floodplain compensation;
22. Discharge of treated stormwaters from basins approved within an Environmental Resource Permit process and as described in Section 6.0 below; and
23. Ongoing bona-fide silvicultural activities conducted in accordance with applicable state Best Management Practices shall continue until transitioned out of silviculture in accordance with Section 4.2 of this Plan. This includes the use of vehicles and equipment required for ongoing bona-fide silvicultural operations and for the management activities described in Section 3.2.17 above.

3.3. Allowed Uses for Certain CMA Areas

1. Sidewalks and Multi-Use Paths: Concrete or asphalt sidewalks and multi-use paths

are allowed within CMA areas 1, 3, 4, 7 through 10, 12, 18, and 19 to facilitate the location of sidewalks and multi-use trails running parallel to, and at a safe and comfortable distance from, SR 121 and achieving interconnectivity between upland properties. The location, design, and management plan for the sidewalks and multi-use paths will be included within **Attachment 8** following approval by the City.

3.4. Prohibited Activities

The prohibited activities in the CMA are, as follows:

1. Construction or placing of enclosed buildings, roads, signs not specifically authorized herein, billboards or other advertising, utilities, or other structures on or above the ground except as described in Section 3.3.2. of this CMA Management Plan;
2. Dumping or placing of soil or other substances or materials as landfill, dumping or placing of trash, waste, or unsightly or offensive materials;
3. Removal or destruction of native trees, shrubs, or other vegetation, except for safety reasons and as allowed by Section 4;
4. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface except as provided in Sections 3.2 21. of this CMA Management Plan;
5. Surface use except for purposes that permit the land or water area to remain predominantly in its current condition;
6. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation;
7. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance;
8. Planting of exotic or non-native vegetation as listed by the Florida Exotic Pest Plant Council (EPPC) 4;
9. Deposition of landscape debris; and
10. Motorized vehicle use, except for:
 - a. golf carts or similar small non-destructive type vehicles that will be limited to natural trails or other relatively clear areas where damage to vegetation will not occur. These vehicles will be used to provide access for handicapped individuals, maintenance activities, fire control, or any activity needed for preservation of the resource.
 - b. emergency vehicles used for lifesaving or property protection activities
 - c. vehicles and equipment used to engage in ongoing bona-fide silvicultural operations and

- d. vehicles and equipment required for the management activities described in Section 3.2.17.
- 11. Expansion of existing planted pine plantation boundaries depicted in **Figure 5**.
- 12. Timber harvests in areas outside existing planted pine plantation boundaries depicted in **Figure 5**.

3.5. Natural Resource Protection

Management activities to protect the natural resources of the CMA, are as follows:

a. **Vegetation Management Plan**

As noted in the approved NARA, neither invasive species nor exotics were found to be a current issue within the CMA due in part to ongoing silviculture management in accordance with BMPs. Monitoring for exotic and invasive species will be conducted, and controls implemented when exotic and invasive species are encountered. Invasive, non-native vegetation shall be eliminated or controlled to a level of noninterference with the growth of native vegetation according to the specific species being controlled. Removal shall be accomplished through ecologically sound techniques, including but not limited to, manual removal, hand-held power equipment, prescribed burning and use of approved herbicides. Control of nonnative trees in use as a nesting site shall be postponed until the nesting season is over. All non-native vegetative debris shall be disposed of outside of the conservation management area. The required conservation easements shall insure that annual inspections are performed to locate any exotic or invasive species and that appropriate treatment is applied to eradicate or control those found, while protecting existing natural species, followed by continued monitoring until control is achieved and natural native succession is able to continue. Treated areas will be included in the annual inspections until such time control is achieved.

There shall be no planting of nuisance exotic or non-native plants as listed by the Florida Exotic Pest Plant Council (EPPC). Weyerhaeuser NR Company, its successors and/or assigns, shall manage and control any occurrence of nuisance exotic or non-native plants to the degree practicable and will be considered successful if the following minimum requirements are met, defined as follows:

- i. Non-native vegetation shall not be introduced into the protected areas. Invasive vegetation shall be removed if possible, or reduced to a level that indicates the target species are no longer interfering with the natural succession or natural function of the existing native plant populations;
- ii. Removal and control of exotic species, if required in the future, will be determined on a species basis. Control is intended to remove 95% of all invasives. If this is not possible, invasives will be reduced to a level that indicates the target species are no longer interfering with the natural succession or natural function of the existing native plant populations.

No replanting of native vegetation is required. However, per Section 3.2.7 of this CMA Management Plan, replanting with native plants is allowed when needed to replace vegetation altered by storms, disease, drought, fire, or any other natural or man-caused disturbances.;

b. Listed Species

Pedestrian activity is allowed in the CMA. If, in the future, pedestrian activity is determined to interfere with listed species nesting, roosting, breeding, or foraging, such pedestrian access may be restricted. The nature of the restrictions will be dependent upon the animal species involved and will be developed in consultation with the Florida Fish and Wildlife Commission (FWC);

c. Fencing

Fencing may be placed in areas to protect natural resources. If needed in the future a fencing plan will be developed with consultation and approval by the City of Gainesville. If fencing is required, a Fencing Plan will be incorporated within **Attachment 6** of this plan; and

d. Active Management Strategies

All active management strategies required are detailed in Section 3.5(a).

3.6. Protection During Construction

- a. It is the responsibility of Weyerhaeuser NR Company, its successors and/or assigns to ensure that protection of the CMA is assured during all phases of development abutting the CMA within the Planning Parcel.
- b. Protective measures will be employed to ensure no adverse impact to the CMA results from construction activities abutting the CMA within the Planning Parcel. Such measures may include, flagging of the CMA boundaries, establishing turbidity control around the boundaries, temporary fencing of the boundaries of the CMA in areas of construction abutting the CMA within the Planning Parcel and other protective measures determined necessary based on the location and character of the development activity.

3.7. Field Markers, Access Points, and Signage

The perimeter of each CMA included within a Final Development Plan or Final Plat approved by the City for development activity within the Planning Parcel shall be identified on the Plan or Plat. A plan for appropriate city-approved signs providing permanent identification of the CMA shall be approved with such Final Development Plan or Final Plat. The boundary between Development Areas and Conservation Management Area(s) will be identified by survey with each application for such Final Development Plan or Final Plat approval containing CMA land area. A plan for field markers along the boundary between Development Areas within the Planning Parcel and the CMA shall be approved with the Final Development Plan or Final Plat. A plan sheet

delineating the location of all such field markers, signs and access points required by such Final Development Plan or Final Plat within the Planning Parcel shall be made part of this CMA Management Plan through inclusion in **Attachment 7**.

Section 4. Silviculture Management

As documented in the approved NARA, the Planning Parcel has historically been used for native pasture, improved pasture and timber operations for the past 80 years. The entire 1,778.8 acres Planning Parcel remains eligible for lawful timber operations prior to this CMA Management Plan taking effect. Timber harvests in areas designated *Transition Areas Not in Planted Pine Plantation* in **Figure 6** are terminated upon this CMA Management Plan taking effect. After this CMA Management Plan takes effect, silvicultural operations in areas designated *Transition Areas within Planted Pine Plantation* in **Figure 6** shall be phased out over time and revert to natural succession following applicable Final Development Plan or Final Plat approvals as provided in Section 4.2 of this CMA Management Plan. The CMA includes 1,161.0 acres, of which 637.3 acres are in planted pine plantation and 523.7 acres are not in planted pine plantation. Existing silvicultural operations occurring outside the CMAs and within the Development Areas of the Planning Parcel is to be phased out in accordance with Final Development Plan or Final Plat approvals by the City. Before this CMA Management Plan takes effect, all active silvicultural activity within the CMA and Planning Parcel is being conducted in accordance with the Florida Department of Agriculture and Consumer Services Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species. Upon this CMA Management Plan taking effect, adherence to the same BMPs is mandatory within areas designated *Transition Areas within Planted Pine Plantation* in **Figure 6** for as long as such areas remain in active silvicultural use.

Included within the CMA are 375.3 upland acres of planted pine plantation and 262.0 wetland acres in planted pine plantation. As noted in the approved NARA, the KBN Golder Report was relied upon by Alachua County and later the City when designating the Planning Parcel as strategic ecosystem. That report recognized these areas had been managed for timber production for many decades and recommended that “private landowners should be allowed to continue to manage these areas as timber lands.” The approved NARA also states that “conservation strategies and Best Management strategies should be directed at establishing, maintaining, and enhancing the natural multiple drainage areas that exist in these areas.”

4.1. Transition Areas Outside of Planted Pine Plantations

Continued bona-fide silvicultural activities conducted in accordance with the Florida Department of Agriculture and Consumer Services Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species is allowed in areas designated *Transition Areas Not in Planted Pine Plantation* in **Figure 6** until this CMA Management Plan is approved and takes effect in accordance with Section 10.5 of this CMA Management Plan.

Continued timber harvests and establishment of new planted pine plantation are prohibited by Section 3.4.12 and Section 3.4 11. respectively, upon this CMA Management Plan taking effect

in accordance with Section 10.5 herein.

4.2. Transition Areas Within Planted Pine Plantations

Continued bona-fide silvicultural activities conducted in accordance with the Florida Department of Agriculture and Consumer Services Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species is allowed within all planted pine plantation areas of the CMA designated *Transition Areas Within Planted Pine Plantations* in **Figure 6** until phased out in accordance with this CMA Management Plan. Areas designated Conservation Land Use shall cease silviculture activities after receiving a zoning district designation of Conservation. Areas of the CMA designated *Transition Areas Within Planted Pine Plantations* in **Figure 6** and not designated Conservation Land Use shall be phased out incrementally in conjunction with Final Development Plan or Final Plat approvals authorizing development within Development Areas of the Planning Parcel.

During the Final Development Plan or Final Plat approval process for development occurring in the Development Areas of the Planning Parcel, the following shall be determined and made binding through the applicable final development order:

- a. Delineation of the boundary of development activity; and
- b. Delineation of the boundary of the CMA required by Section 5 of this CMA Management Plan to be included in the Final Development Plan or Final Plat.

General guidelines for vegetation management is provided in Section 3.5.a of this CMA Management Plan. Specific requirements determined appropriate for the applicable CMA area shall be established and included in provisions of the Conservation Easement required under Section 5. of this CMA Management Plan.

Section 5. Timing of Conservation Easement

The CMA shall receive permanent protection through conveyance of Conservation Easements (substantially in the form indicated in **Attachment 9**) to the City and/or third parties acceptable to the City. The conservation easements provide perpetual assurance of compliance with all aspects of this CMA Management Plan through conveyance of real property interests and authority to enforce the rights granted to the City and/or third party acceptable to the City.

The conveyance of such Conservation Easements on land within the CMA not in planted pine plantation shall occur within three months following the CMA Management Plan taking effect. The conveyance of such Conservation Easements on land in the CMA with existing planted pine plantation shall occur incrementally after receiving a zoning district designation of Conservation in conjunction with Final Development Plan or Final Plat approvals for development activity occurring within the Development Areas of the Planning Parcel. The Final Development Plan or Final Plat approval shall include on the applicable plan or plat, delineation of the portion of the CMA to receive protection of a Conservation Easement. Each required easement shall be conveyed and recorded within the official records of Alachua County, Florida within ten (10) business days following acceptance by the City of infrastructure contained within said Final Development Plan or Final Plat and acceptance by the City and/or third party acceptable to the

City of the easement conveyance/dedication. The cumulative proportion of CMA receiving perpetual protection by way of Conservation Easement relative to the CMA for the entire Planning Parcel shall always be equal to or greater than the cumulative proportion of Development Areas receiving Final Development Plan or Final Plat approval relative to the Development Areas for the entire Planning Parcel. For example, a Final Development Plan or Final Plat approval covering ten percent (10%) of the Development Areas for the Planning Parcel requires inclusion of not less than ten percent (10%) of the CMA for the entire Planning Parcel. As further example, if multiple Final Development Plans or Final Plats are approved covering thirty percent (30%) of the Development Areas for the entire Planning Parcel, the combined CMA land area included in the approved Final Development Plans or Final Plats must include at least thirty percent (30%) of the CMA land area for the entire Planning Parcel. **Figure 7** provides three illustrative scenarios for three theoretical Final Development Plans and the associated Conservation Easement area designations consistent with the required proportionality called for in this section.

Section 6. Stormwater Management Areas

Treated stormwater will be discharged from the Development Areas of the Planning Parcel to the CMAs. All such stormwater discharges will be consistent with guidelines outlined in Section 30.8.14.C.9.a.–f. described, as follows:

- (9) *Wastewater and stormwater discharges to conservation management areas are generally prohibited. However, discharges may be allowed only in surface waters, wetlands, and significant geologic features if the following criteria are satisfied:*
- a. *The quantity, timing, and quality of discharge maintains or improves water quality, biological health, and function of the natural ecosystem;*
 - b. *Downstream waters are not affected by nutrient loading;*
 - c. *The project owner or responsible entity prepares and implements a maintenance and monitoring plan acceptable to the city;*
 - d. *The project owner or responsible entity corrects any failures in design or operation of the wastewater and/or stormwater system that cause degradation of water quality, biological health, or the function of the natural ecosystem;*
 - e. *The owner or responsible entity posts a performance bond or similar financial guarantee to assure implementation of maintenance and monitoring in compliance with the Land Development Code; and*
 - f. *Treatment is provided in accordance with the requirements of the Land Development Code and the requirements of the appropriate water management district.*

A Management Plan defining management activity for all basins discharging to CMA areas will be included as **Attachment 10** when such facilities are approved by Final Development Plan or Final Plat issued by the city.

Section 7. Solution Features

Weyerhaeuser NR Company, its successors and/or assigns, shall inform the City of Gainesville if new solution features develop within the CMA.

Section 8. Archaeological Resources

Weyerhaeuser NR Company, its successors and/or assigns, shall inform the City of Gainesville if any archeological resources or artifacts are encountered within the CMA, and take steps to ensure protection of the resources or artifacts until an avoidance, minimization, and protection plan can be prepared and implemented in compliance with all applicable state and local laws.

Section 9. Management Plan Revisions and Contingency Plans

No changes to this Management Plan are authorized without prior approval by the City of Gainesville and Weyerhaeuser NR Company, or its successors and/or assigns in interest. The Management Plan may in the future be amended, changed, or replaced due to changing site conditions, or un-anticipated circumstances, with the written consent of the City of Gainesville and Weyerhaeuser NR Company, or its successors and/or assigns in interest.

Section 10. Ownership, and Management Plan Responsibility

10.1. Maintenance Management Agreements

There are no cooperative or third-party maintenance agreements for management of the CMA. Future management agreements may be entered with additional entities for the performance of some or all Management Plan requirements. Such Management Agreements shall be submitted to the City for inclusion within **Attachment 11**.

10.2. Management Costs

Management costs are the responsibility of Weyerhaeuser NR Company, or its successors and/or assigns in interest, which may fulfill that responsibility through one or more Owner Associations or Community Development Districts formed by Weyerhaeuser NR Company, or its successors and/or assigns in interest, for the purpose of funding common infrastructure and management of common areas and Conservation Management Areas within the Planning Parcel.

10.3. Responsible Entity

The responsible party for implementation of the Management Plan is Weyerhaeuser NR Company, or its successors and/or assigns in interest, and any Owners Association(s) or Community Development District(s) formed by Weyerhaeuser NR Company, or its successors

and/or assigns in interest, and to which some or all responsibility for implementation of this Management Plan may be assigned.

10.4 Financial Assurance

Weyerhaeuser NR Company acknowledges and confirms its obligation and declares that it has the financial ability to maintain and manage the conservation management area in accordance with this CMA Management Plan as required by Section 30-8.14. L.5. of the City's Unified Land Development Code and shall retain ownership of the CMA and financial responsibility for implementing all of the requirements of this CMA Management Plan unless and until such ownership and responsibility is conveyed to an owner's association, community development district or other similar entity with sufficient financial and management capacity to ensure perpetual implementation of this CMA Management Plan.

10.5 Effectiveness

This CMA Management Plan shall take effect following approval by the City and simultaneous with the first rezoning to Planned Development taking effect on any portion of the Planning Parcel.

FIGURES

- Figure 1** **Location Map**
- Figure 2** **Boundary Survey**
- Figure 3** **Regional Context Map**
- Figure 4** **Conservation Management Areas**
- Figure 5** **Plant Communities Within Conservation Management Areas**
- Figure 6** **Silviculture Transition Within CMA**
- Figure 7** **Conservation Easement Timing: Illustrative Scenarios**

ATTACHMENTS

- Attachment 1** **Baseline Inventory Report from Approved NARA**
- Attachment 2** **Photographic Atlas from Approved NARA**
- Attachment 3** **Murphree Wellfield Conservation Easement**
- Attachment 4** **Deerhaven Buffer Special Warranty Deed**
- Attachment 5** **CMA Management Plan Checklist**
- Attachment 6** **Reserved for Future Fencing Plans**
- Attachment 7** **Reserved for Future Additions of Signage and Access Plan Sheets**
- Attachment 8** **Reserved for Sidewalk Plans Approved in Designated CMAs**
- Attachment 9** **Conservation Easement Template**
- Attachment 10** **Reserved for Future Approved Stormwater Management Plans**
- Attachment 11** **Reserved for Future CMA Management Agreements**

APPENDIX

- Appendix A - Bibliography**

Figure 2 - Boundary Survey, Page 1

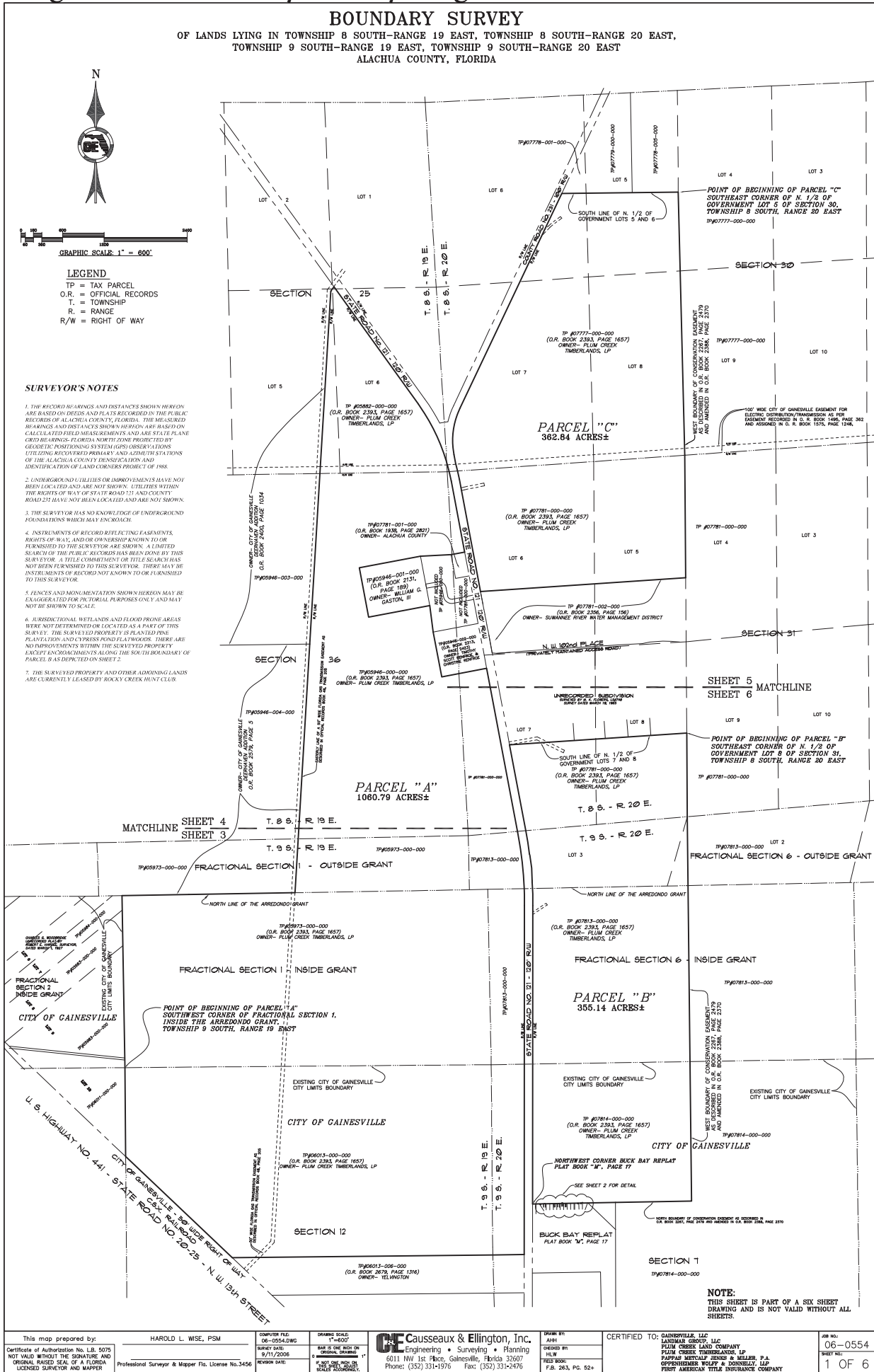


Figure 2 - Boundary Survey, Page 4

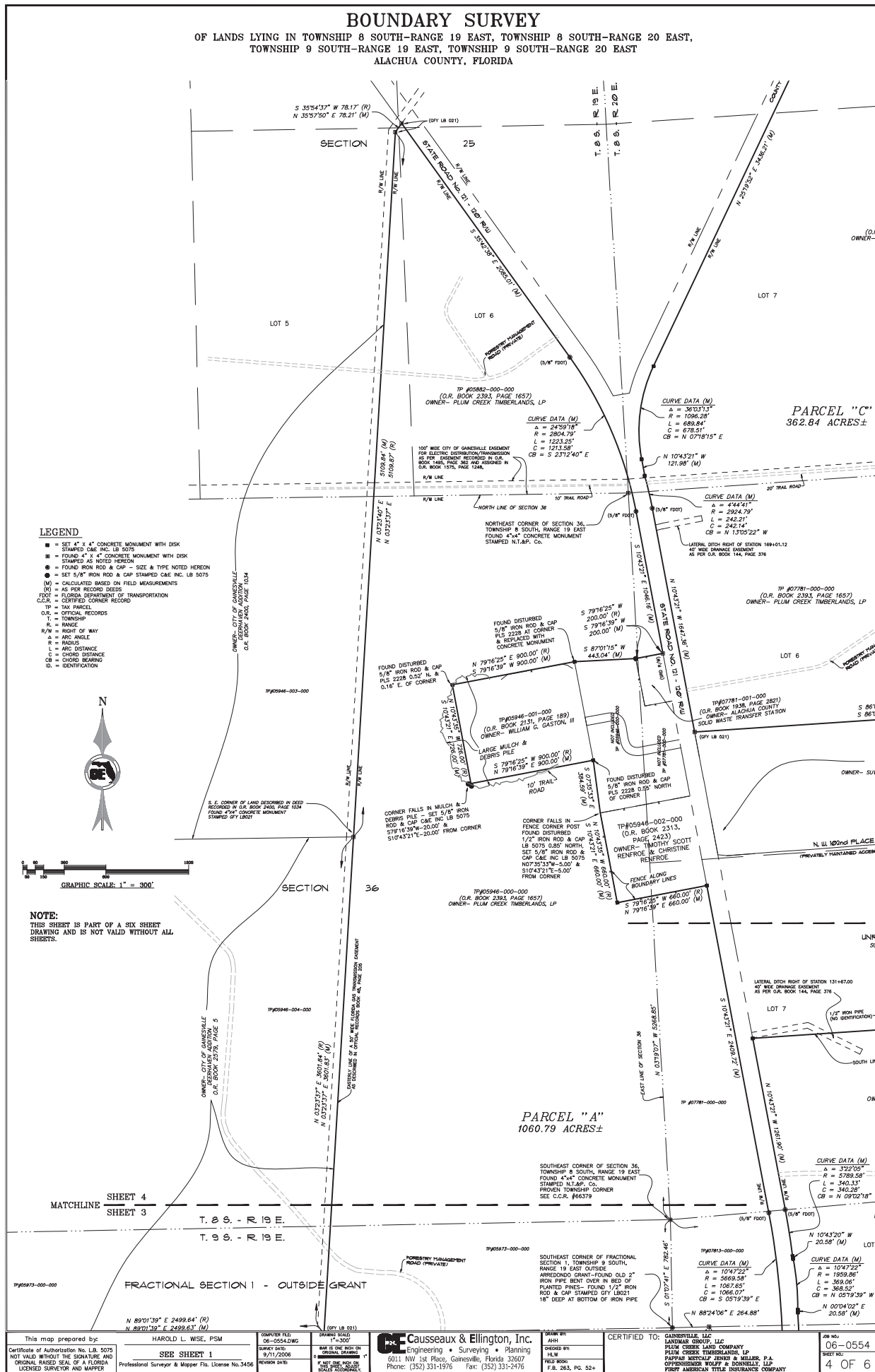


Figure 2 - Boundary Survey, Page 6

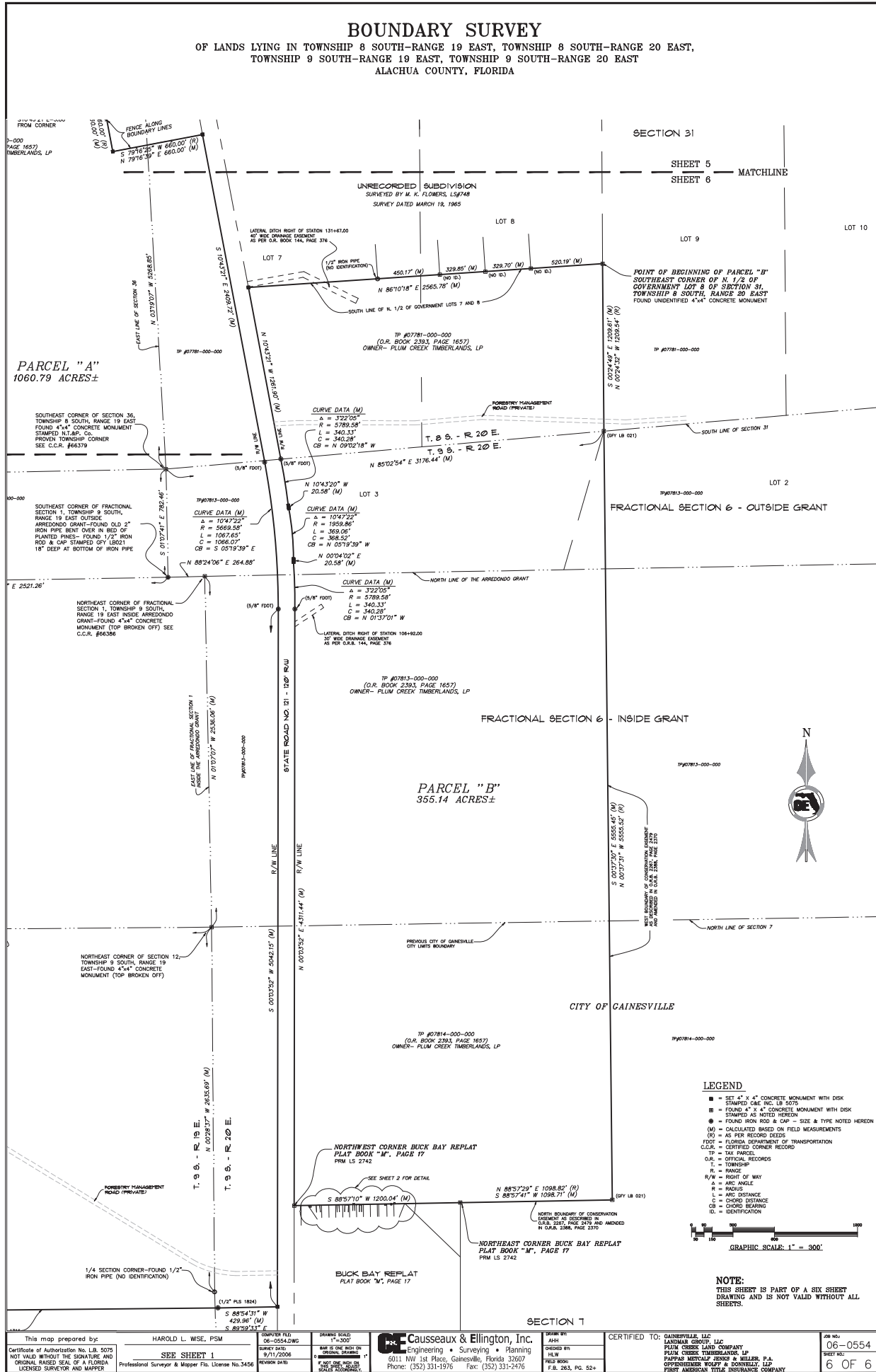
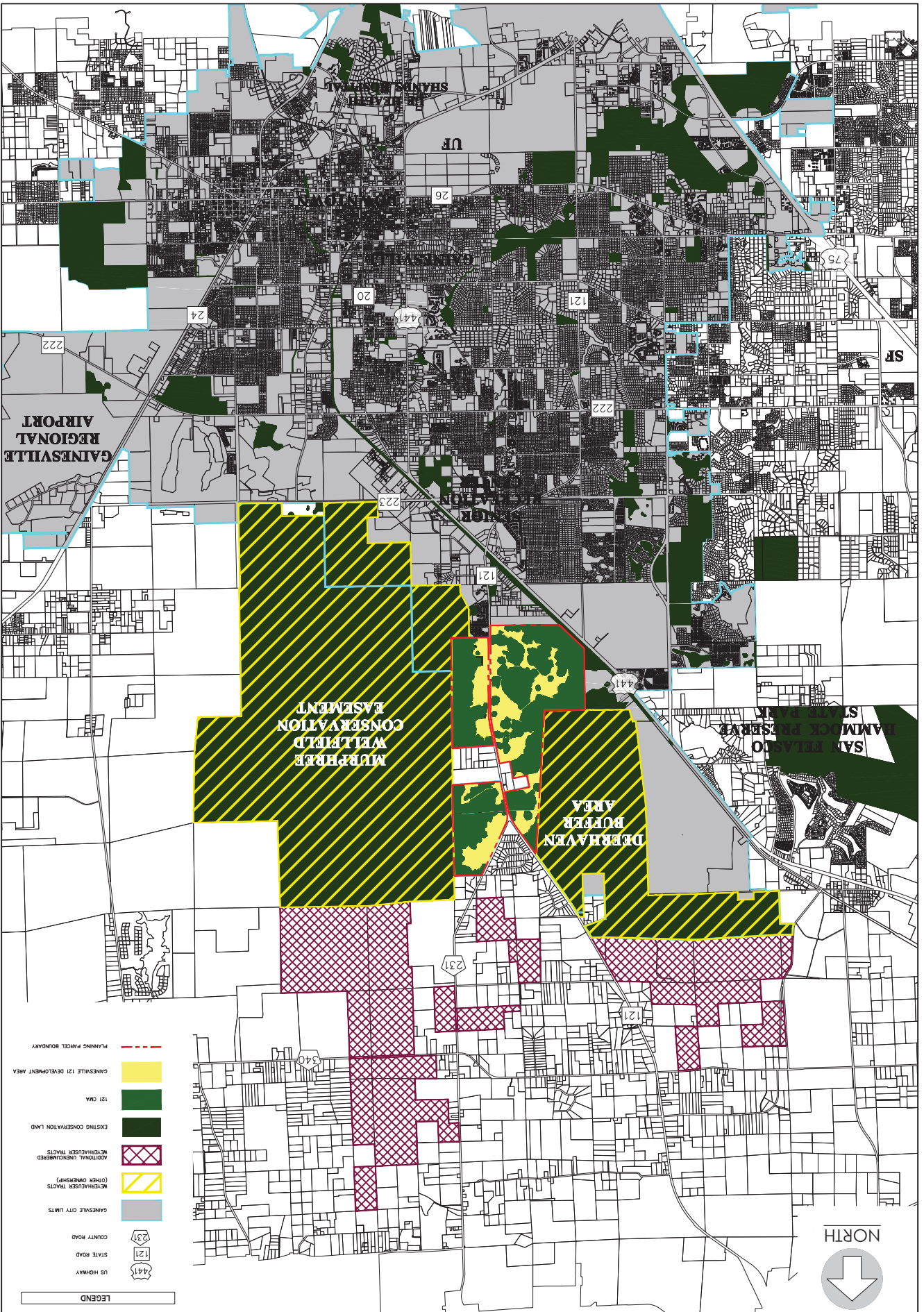


FIGURE 3: REGIONAL CONTEXT MAP

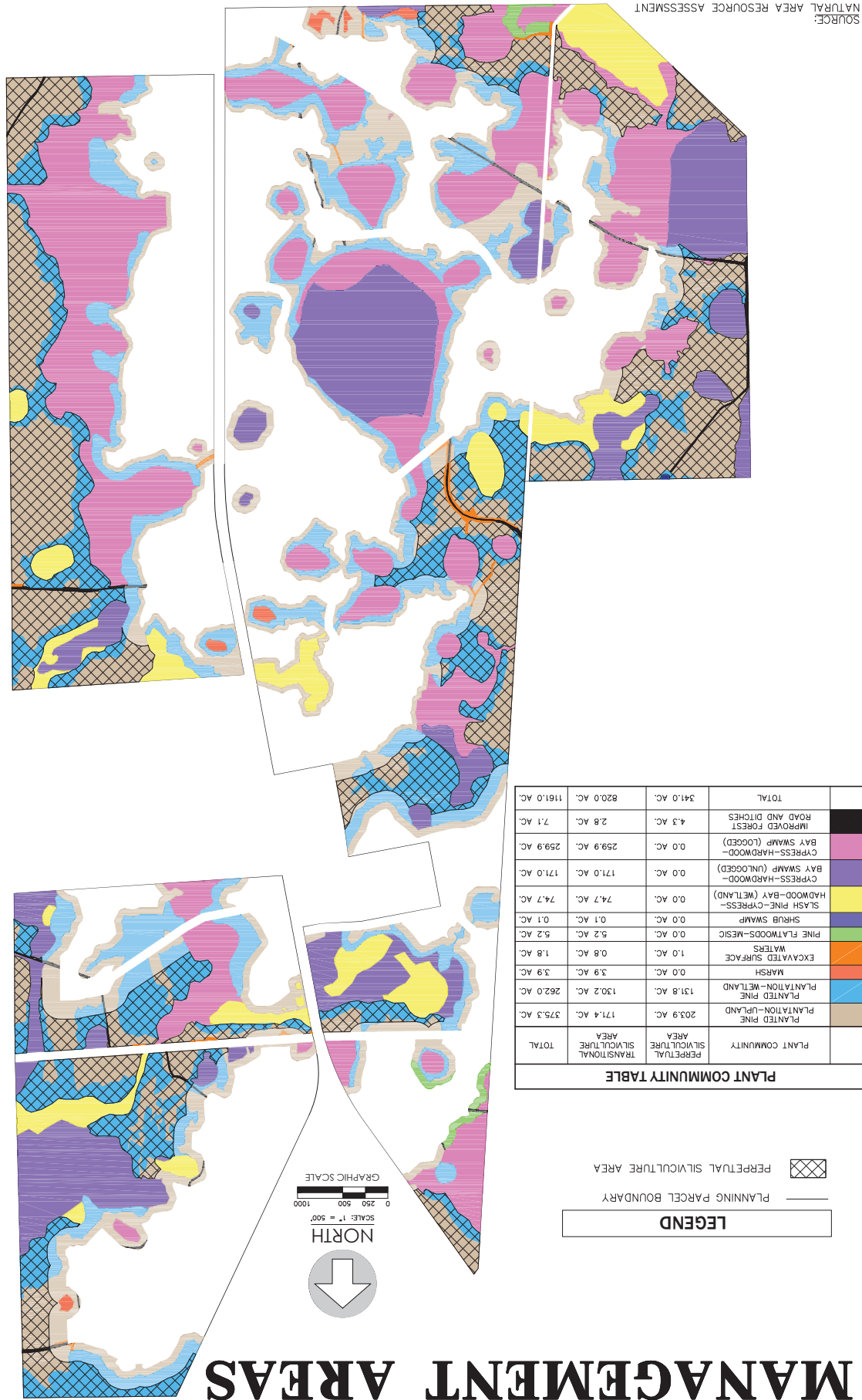


LEGEND

- US HIGHWAY
- STATE ROAD
- COUNTY ROAD
- GAINESVILLE CITY LIMITS
- MEMBERSHIP TRACTS (OTHER OWNERSHIP)
- AGRICULTURAL LANDSCAPES
- EXISTING CONSERVATION LAND
- 121 OIA
- GAINESVILLE 121 DEVELOPMENT AREA
- PLANNING PARCEL BOUNDARY



FIGURE 5: PLANT COMMUNITIES WITHIN CONSERVATION MANAGEMENT AREAS



SOURCE:
NATURAL AREA RESOURCE ASSESSMENT
GAINESVILLE 121 PROJECT SITE: ECOSYSTEM
RESEARCH CORPORATION DATED 05/22/17

SILVICULTURE TRANSITION WITHIN CMA



NORTH

SCALE: 1" = 500'

0 250 500 1000

GRAPHIC SCALE

LEGEND

- PLANNING PARCEL BOUNDARY
- CONSERVATION MANAGEMENT AREA
- TRANSITION AREAS IN PLANTED PINE PLANTATION (TRANSITION OUT OF SILVICULTURE AS DEVELOPMENT TAKES PLACE (637 AC.))
- TRANSITION AREAS NOT IN PLANTED PINE PLANTATION (TRANSITION OUT OF SILVICULTURE WHEN CMA MANAGEMENT PLAN TAKES EFFECT (523 ACRES))

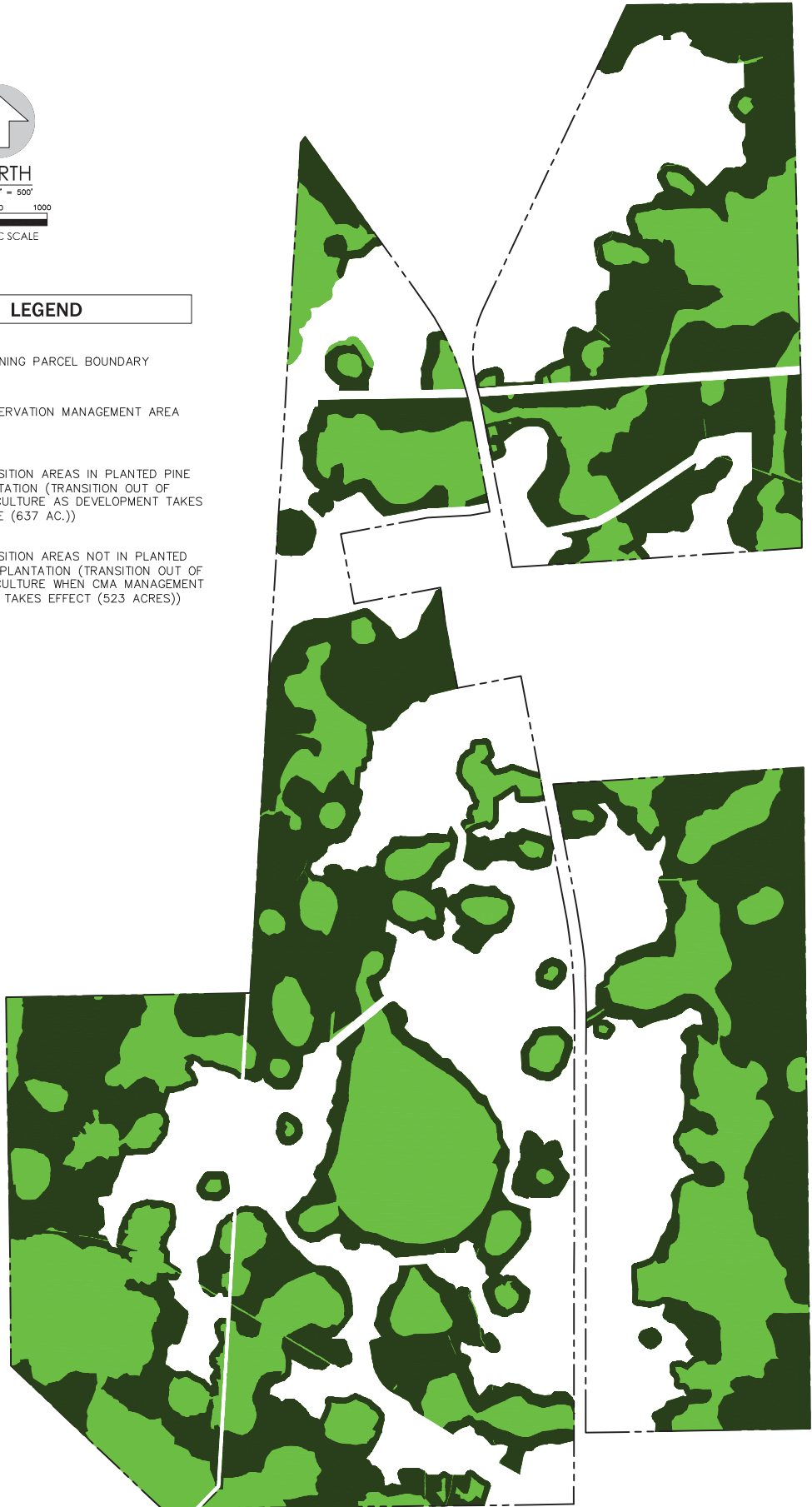


Figure 6
Revised 06/15/2022

ATTACHMENT 1

Baseline Inventory Report of the Plant Communities Occurring within the Gainesville 121 Project Site Conservation Management Area

City of Gainesville, Florida

Prepared for

Weyerhaeuser NR Company
Tim Jackson, P.E., AICP
13005 SW 1st Road, Suite 241
Newberry, FL 32609



Prepared by

Ecosystem Research Corporation
2906 NW 142 Avenue
Gainesville, FL 32609



August 21, 2017

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1.0 Introduction

A **Conservation Management Area (CMA)** Management Plan has been described for the CMA established pursuant to **Section 30-310.3, Conservation Management Areas and Management Plans**, of the City of Gainesville Land Development Code. The CMA is established as a result of a Planned Development (PD) Application submitted for development of a **743.99**-acre PD located within a Planning Parcel that totals **1778.78** acres located within the City of Gainesville, Alachua County, Florida. As a result of these activities, the Planning Parcel was evaluated pursuant to **Section 30-310(e)(3)**. As described in **Section 30-310(e)(3)**, an Environmental Resource Assessment (ERA) dated 22 May 2017, was performed by Ecosystem Research Corporation in accordance with a Methodology Agreement (**Section 30-310(g)**) between Weyerhaeuser NR Company and the City of Gainesville. The ERA was reviewed and approved by the City on 7 June 2017, with delineation of twenty-two (22) individual CMA management polygons that total **1161.01** acres, with **387.64** acres of upland habitat and **773.37** acres of wetland habitat. The Baseline Inventory Report describes the existing conditions of the CMA areas. A photographic atlas documenting the conditions of the CMA areas is also provided as **Attachment 1** to this report.

2.0 Site Location and Description

The Project Site lies in north central Gainesville along State Road (SR) 121 (NW 22nd Street) 0.88 miles north of the intersection with US 441 (**Figure 1**). The Project Site extends north 3.00 miles along both sides of SR 121 from more or less the location of NW 77th Avenue past the intersection of County Road CR 231 and SR 121. The site varies in width from 1.00 miles in the north area at the Gainesville Regional Utilities Easement crossing at SR 121 to 1.55 miles in the area of the southern boundary line (**Figure 1**). The Project Site totals **1778.77** acres as determined by professional survey (**Figure 1**).

The Project Site spans eight (8) different sections of land (**Figure 2**) geographically described from north to south as follows:

Section	Township (South)	Range (East)
25	8	19
30	8	20
36	8	19
31	8	20
01	9	19
06	9	20
12	9	19
07	9	20

The Project Site is composed of eight (8) Alachua County Tax Parcels that range in size from **64.98** acres to **349.35** acres. The Alachua County parcel boundaries are shown overlain on a 2014 aerial photograph on **Figure 3**. Because parcel boundaries extend across SR 121 for three (3) of the eastern parcels, the parcels are shown in schematic form on **Figure 4** for clarification purposes. The tax parcel numbers and associated acreages are provided as follows:

Tax Parcel Number	Acreage
05882-000-000	64.98
05946-000-000	230.98
05973-000-000	349.35
06013-000-000	309.14
07777-000-000	236.17
07781-000-000	229.36
07813-000-000	223.38
07814-000-000	135.41
TOTAL	1778.77

As shown on Figure 3, the individual parcel boundaries extend on both east and west sides of SR 121. To clarify legal boundaries in relation to SR 121, the Boundary Survey of the Project Site has described the Project Site in relation to three (3) parcel areas: “A,” “B,” and “C” as shown on **Figure 4**. Parcel “A” consists of all lands located west of SR 121 and consists of **1060.79** acres. Parcel “B” is described as all lands located east of SR 121 and CR 231 that are situated within the northeast section of the Project Site. The parcel is bisected by the east-west oriented Gainesville Regional Utilities (GRU) power line easement and consists of **362.84** acres. Parcel “C” consists of the southeast area of the Project Site located east of SR 121 and consists of **355.14** acres. The Project Site Boundary Survey is provided as **Figure 5 (Sheets 1–6)**. These three (3) parcel areas are used to describe Silviculture Management Boundaries established within the Project Site.

There are five (5) legally described utility easements that occur within the Project Site boundary (**Figure 6; Figure 5 [Sheets 4 and 5]**). The easement documents are provided in **Attachment 1** and are listed and described, as follows:

Description	Width (ft)	Legal Record
GRU Electric Distribution/Transmission	100	O.R. Book 1495, page 362; assigned in O.R. Book 1575, page 1248
Florida Gas Transmission	50	O.R. Book 48, page 205; O.R. Book 52, page 126
Lateral Ditch Drainage Easement	30	O.R. Book 287, page 246
Lateral Ditch Drainage Easement	40	O.R. Book 144, page 376
Lateral Ditch Drainage Easement	40	O.R. Book 144, page 376
Lateral Ditch Drainage Easement	30	O.R. Book 144, page 376

The current land use within the Project Site is silviculture. Surrounding land uses include agriculture, agriculture based single family residences, residential subdivisions, small industrial and commercial uses, electric power supply facilities, and Alachua County solid waste transfer facilities. The Project Site currently has **NO** developed areas except for utilities as previously defined and unimproved forest management roadways. Access to the site is currently via locked gates located on the utility easements and forest roads at the various intersections with CR 231 and SR 121.

3.0 Survey Methodology

To delineate the plant communities occurring on the site and generally census the occurrence of threatened and endangered species potentially present, a series of pedestrian transects was traversed. All parcels on the site were surveyed over the course of the following dates:

14 Aug 15	27 Aug 15	4 Sep 15	12 Sep 15	29 Sep 15	14 Apr 17
17 Aug 15	28 Aug 15	8 Sep 15	14 Sep 15	1 Oct 15	18 Apr 17
18 Aug 15	31 Aug 15	9 Sep 15	15 Sep 15	2 Oct 15	25 Apr 17
25 Aug 15	2 Sep 15	10 Sep 15	17 Sep 15	22 Oct 15	1 May 17
26 Aug 15	3 Sep 15	11 Sep 15	18 Sep 15	26 Oct 15	

All surveys were conducted by Peter M. Wallace, MS, and Robert A. Garren, MS, of Ecosystem Research Corporation. As in most ecological surveys, this was a time-limited and budget-limited survey. All areas of the site were visited; however, more time was spent in areas considered to be critical for conservation or where delineation of the plant community boundary was problematic. The total Project Site consisting of **1778.77** acres was surveyed in approximately **29 days**, indicating an average daily survey of **61.34** acres. In this type of survey, there is not a lot of time or energy available for clearing of trails (chopping of vegetation with a machete); therefore, dense vine and brier-tangled, impassable areas were avoided to the degree that was professionally prudent. The cosmopolitan distribution of planted pine throughout the site over upland, transitional, and wetland areas made photointerpretation of the underlying plant community in these areas impractical. Historic aerials were used to further refine the boundaries in many of these areas. The following extant and historical aerial photographs were used to refine the boundaries in these areas as well as provide information on historical land use and successional community development, where applicable (**Table 1**):

Table 1. Aerial photographs used in determination of wetland boundaries occurring on the Project Site.

Date	Photo Type
November 2016	Color photo
December 2014	Color photo
January 2013	False Color Infrared
December 2011	Color photo
December 2008	Color photo
December 2005	Color photo
December 2005	False Color Infrared
March 2004	Color photo
January 1999	False Color Infrared
April 7, 1979	B&W photo
February 4, 1974	B&W photo
November 19, 1968	B&W photo
February 11, 1961	B&W photo
December 31, 1955	B&W photo
March 8, 1949	B&W photo
December 20, 1937	B&W photo

To facilitate production of as accurate of a community map as possible, observations of plant species occurrences and physical structures were recorded at **6,477** locations throughout the site. These locations are referred to as data points or GPS points. The data points with associated plant community nomenclature are shown on **Figure 7**. At each location, the community type or plant community boundary type was recorded using a Garmin GPSMap76 CSx hand-held global positioning system (GPS) unit. Photo stations were established at **355** data collection points located throughout the site. Photo stations are shown on **Figure A-1** and reference locations of 575 photographs provided in **Appendix 1**. The photographs in Appendix 1 show the general existing condition of the various plant communities occurring within the Project Site.

4.0 Procedure for Establishing the Conservation Management Areas (CMAs) and Delineation of CMAs

Based on the results of the field survey performed to verify and ground truth the existing natural resources, twenty-two (22) individual Conservation Management Areas were

defined within the Project Site (**Figure 8**). The total CMA acreage equals **1161.01** acres, with **387.64** acres composed of upland and **773.37** acres composed of wetland habitat. Pursuant to **Policy 4.3.4 of the City Comprehensive Plan**, all onsite wetlands and wetland buffers are encumbered by the CMA except for areas where roads cross wetlands to provide connectivity between isolated or segregated upland areas. The individual CMA boundaries were delineated based on obvious physical and ecological boundaries that separated the designated enumerated areas. Isolated wetland and upland buffer areas were treated as isolated CMA areas. Contiguous areas of uplands and wetlands were delineated into larger CMA areas and boundaries correlated with proposed roadway crossings or existing easement boundaries. Existing forest roads are incorporated into the CMA in which they occur.

All flow-ways and drainages on the site are protected within the designated CMA. There are **NO** Significant Natural Upland Communities that exist on the Project Site as defined in **Sections 30-310(c)(10) and 30-310.2(a)**. There are **NO** Significant Areas of Upland Listed Species Habitats occurring onsite as defined in **Sections 30-310.2(b) and 30-310.1(c)(11)**.

Wetland buffers are the most significant upland areas of the site that require protection. Although wetlands are specifically excluded from the provisions of **Sections 30-310.2 and 30-310.3**, pursuant to the definitions provided in **Section 30-23(c) Definitions. Regulated Natural and Archeological Resources**, they are required to be set-aside by **Policy 4.3.4**. Buffers are provided in three ways, as follows:

1. Buffers of defined width are established around all isolated and contiguous wetlands;
2. Upland areas occurring along flow-ways and between large contiguous wetlands have been set-aside and expanded in width greater than the general required widths of 50 feet and 75 feet; and
3. Areas of contiguous upland occurring between adjacent wetlands and along the outer boundaries of the property are established to provide space between onsite development areas and adjacent areas of residential development. In addition, large buffers are established along the east boundaries to add to adjacent conservation easements.

The upland areas onsite have all been managed for pine plantations. There are **NO** Natural Upland Communities remaining on the site as described by the FNAI *Guide to the Natural Communities of Florida*. Within the KBN Golder 1996 report, the descriptions of the Hague and Buck Bay Flatwoods Strategic Ecosystems specifically noted that the primary management of the plant communities occurring in these areas was for silviculture and timber management. The described management scenario for these areas was suggested as protection of tributaries and flow-ways and protection of the

drainage basins occurring within the Strategic Ecosystem areas. To this end, the Conservation Management Areas on the Project Site have been established for perpetual management of the onsite wetlands and flow-ways.

5.0 Plant Communities Occurring within the CMAs

The upland and wetland plant communities occurring within the CMA areas are shown on **Figure 9** with tabulated acreages for each plant community type. The most extensive upland and wetland community types are Planted Pine Plantation–Upland and Planted Pine Plantation–Wetland consisting of **375.28** acres and **261.98** acres, respectively.

The plant communities as shown for the CMA uplands only are provided on **Figure 10** and the wetland communities designated within the CMA areas is provided on **Figure 11**. The wetland communities as described are dominated by Planted Pine Plantations (261.98 acres), however, there is considerable acreage of Cypress–Hardwood–Bay Swamps which exist both in a logged condition (**259.90** acres) and unlogged condition (**170.93** acres). The wetland community in which slash pine (*Pinus elliottii* Engelm.) is a dominant canopy species is the Slash Pine–Cypress–Hardwood–Bay association and totals **74.71** acres.

The Total Project Site acreage equals **1778.77** acres, of which **65.27%** (**1161.01** acres) is designated as set-aside within Conservation Management Areas. The remaining area of the site consists of (1) “Available Development Areas” which totals **566.17** acres, (2) Non-CMA Upland Set-Aside areas which total **33.60** acres (**Figure 12**), and (3) GRU Electric Transmission Easement and Florida Gas Transmission Easement which total **18.06** acres (**Figure 13**). The plant communities occurring in these areas are defined on Figures 11 through 13. The non-CMA Upland Set-Aside areas shown on Figure 12 include upland areas mapped on the Future Land Use Map as Conservation Areas and includes required development buffer offsets from both SR 121 and CR 231. The utility easements are not included in the CMA because they have existing management easements associated with the existing footprint. **Policy 4.3.4** of the Future Land Use Element requires between **40% and 50%** of the upland area of the Project Site to be incorporated in a set-aside. The set-aside summary for the site is tabulated as follows:

Set-Aside	Acreage	Set-Aside %
Total Project Site Uplands	990.73	
CMA Upland Set-Aside	387.64	39.13%
Non-CMA Upland Set-Aside	33.60	
Cumulative Total	421.24	42.52%
Easement Upland	7.97	
Cumulative Total	429.21	43.52%

6.0 Descriptions of Plant Communities Occurring on the Project Site

A description of the general plant communities occurring on the Project Site are shown on Figures 8 through 12. In certain plant community descriptions, there is a distinction made between “logged” and “unlogged” wetlands. These terms, as applied, relate to recent logging events that are readily apparent on extant aerial photographs. It should be noted that all wetlands and uplands have been logged at some time in the past. The wetlands that currently appear with intact canopies on current aerial photographs historically had the large hardwood, pine, and cypress removed but regeneration has occurred since this distant past logging.

The wetland nomenclature also distinguishes between wetland pine plantations and unplanted natural large pine which dominate many areas of the Mixed Hardwood Wetlands. The pine dominated areas were specifically mapped as separate wetland polygons to show areas where future logging of pine in wetlands would likely or potentially occur. The botanical name, common name, USFWS classification, FDEP classification, and floristic classification of all plant species encountered during the field surveys are provided as **Table 2**.

6.1 Upland Communities

6.1.1 Planted Pine Plantation

Total Acreage: 375.28 FLUCCS 441

The Project Site parcels are part of the North Florida Flatwoods Ecological Community. Historically, this area was dominated by broad areas of Pine Flatwoods with a mixed canopy of slash pine (*Pinus elliottii* Engelm.), longleaf pine (*Pinus palustris* Mill.), with loblolly pine (*Pinus taeda* L.) occurring along several areas of the headwater tributaries. The characteristic understory of this system would have a diverse association of flatwood shrubs and grasses to include saw palmetto (*Serenoa repens* [Bartr.] Small), gallberry (*Ilex glabra* [L.] Gray), shiny blueberry (*Vaccinium myrsinites* Lam.), dangleberry (*Gaylussacia frondosa* var. *nana* [A. Gray] Small), wiregrass (*Aristida stricta* Michx.), lopsided Indian grass (*Sorghastrum secundum* [Elliott] Nash), and tarflower (*Bejaria*

racemosa Vent.). These communities burn naturally in 3 to 5 year cycles, which keeps vegetation low, diverse and provides a wonderful habitat for a host of rare plant and animal species.

The Planted Pine Plantation Upland communities on the Project Site are presently the mesic-managed remnant of this once diverse community type. Presently, in this community association, slash pine (*Pinus elliottii* Engelm.) and loblolly pine (*Pinus taeda* L.) are planted in dense, plantation-style, linear rows and the trees are large enough in many areas that substantial shading of the groundcover species has occurred. Generally, gallberry (*Ilex glabra* [L.] Gray) and saw palmetto (*Serenoa repens* [Bartr.] Small) are the dominant groundcover species; however, ruderal species such as bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex. L.H. Dewey) or broomsedge (*Andropogon virginicus* L.) are common. In many areas, a very sparse groundcover is present being dominated instead by a dense cover of pine straw. Generally, diversity is low with less than 10 species being present in many areas. The areas are deeply furrowed with substantial raised beds. There is no evidence of any prescribing burning maintenance program being employed.

Within the mapped Planted Pine Plantation areas, there are several community types that occur. All of these types have the dominant feature of having been bedded and prepped for pine plantation but the groundcover and associated canopy species are not indicative of a historical flatwoods community. These communities are indicated by the GPS icons shown on Figure 47 and are briefly described as follows:

Planted Pine Plantation-Oldfield (FLUCCS 411/443)

The Planted Pine-Oldfield upland community is a historical mesic flatwood area that has recently been clearcut and replanted with pines. The canopy cover of pines has not reached a coverage that affects groundcover growth; therefore, the groundcover tends to be the dominant stratum in these areas. Due to soil disturbance, groundcover diversity is generally very low. In most areas, bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex. L.H. Dewey) is so dense that pedestrian travel is difficult. A dense tangle of sand blackberry (*Rubus cuneifolius* Pursh) and saw greenbrier (*Smilax bona-nox* L.) in many areas forms almost impenetrable barriers. Broomsedge (*Andropogon virginicus* L.) is more common in drier areas. Most areas in this community type display almost 100% *Andropogon* cover. In all areas, the bedding activities have resulted in the creation of very deep furrows that have severely altered the local surface water flows and the resulting vegetation.

Mesic Hammock (FLUCCS 425)

There are no true examples of high-quality Mesic Hammock communities remaining on the Project Site. Remnant areas exist, primarily around the margins of the larger wetlands and the upper tributaries to Rocky Creek and especially Turkey Creek. However, these

are marginal areas in which the majority of the canopy trees have been previously logged. For the purposes of this study, this community nomenclature is used to describe areas where there is a mix of primarily water oak (*Quercus nigra* L.), laurel oak (*Quercus hemisphaerica* Bartr.), and live oak (*Quercus virginiana* Mill.) with occasional individuals of sugarberry (*Celtis laevigata* Willd.), black cherry (*Prunus serotina* Ehrh.), pignut hickory (*Carya glabra* [Mill.] Sweet), flowering dogwood (*Cornus florida* L.), sweetgum (*Liquidambar styraciflua* L.), slash pine (*Pinus elliottii* Engelm.), loblolly pine (*Pinus taeda* L.), and southern magnolia (*Magnolia grandiflora* L.) being present. Common understory species include saw palmetto (*Serenoa repens* [Bartr.] Small), cabbage palm (*Sabal palmetto* [Walt.] Lodd. ex J. & J. Schultes), gallberry (*Ilex glabra* [L.] Gray), and highbush blueberry (*Vaccinium corymbosum* L.).

Oldfield (FLUCCS 311)

The Oldfield communities are roadside or ditch-side areas or other areas where disturbance has occurred that are presently dominated by a host of ruderal groundcover species. Common species include bahiagrass (*Paspalum notatum* Fluegge.), bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex. L.H. Dewey), broomsedge (*Andropogon virginicus* L.), small dog-fennel (*Eupatorium capillifolium* [Lam.] Small), dwarf horseweed (*Conyza canadensis* [Torr. & Gray] Gray var. *pusilla* [Nutt.] Cronq.), bermudagrass (*Cynodon dactylon* [L.] Pers.), sea myrtle (*Baccharis halimifolia* L.), wax myrtle (*Myrica cerifera* L.), muscadine grape (*Vitis rotundifolia* Michx.), and sand blackberry (*Rubus cuneifolius* Pursh). This community type is commonly found along the perimeter of plantation areas or within plantations where previous log prepping and de-limbing activities have occurred.

Mixed Oaks-Hardwoods-Successional (FLUCCS 439)

The plant community designated as Mixed Oak-Hardwoods-Successional are historically Mesic Pine Flatwood areas that are currently disturbed, not planted with pine, and dominated by a mix of water oak (*Quercus nigra* L.), laurel oak (*Quercus hemisphaerica* Bartr.), live oak (*Quercus virginiana* Mill.), loblolly pine (*Pinus taeda* L.), and slash pine (*Pinus elliottii* Engelm.). Fire in these areas has been suppressed, resulting in a community type that naturally was not common in the area. These communities are common along the plantation areas that border larger headwater wetland communities.

Mixed Shrubs and Vines (FLUCCS 329)

The Mixed Shrubs and Vines upland area is a disturbed successional community dominated by bahiagrass (*Paspalum notatum* Fluegge.), bermudagrass (*Cynodon dactylon* [L.] Pers.), bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex. L.H. Dewey), small dog-fennel (*Eupatorium capillifolium* [Lam.] Small), sand blackberry (*Rubus cuneifolius* Pursh), muscadine grape (*Vitis rotundifolia* Michx.), sea myrtle (*Baccharis halimifolia* L.), wax myrtle (*Myrica cerifera* L.), and water oak (*Quercus nigra* L.). This habitat is widespread in areas that have recently been

disturbed and is also common along fence rows, windrows, and areas where substantial tree fall has occurred as a result of storms, disease, or timber operations.

Planted Pine Plantation: Rabbit-eye Blueberry Groundcover (FLUCCS 4413)

There are large portions of the upland planted pine plantation areas that have a shrubby cover dominated almost entirely by rabbit-eye blueberry (*Vaccinium virgatum* Aiton). This blueberry is a common late summer fruiting blueberry that has been sold commercially in Florida for almost 100 years. This blueberry plant is a very large shrub species that spreads by both rhizomes and stolons and forms very large multi-stem clumps that, where a large population occurs, is almost impassable to walk through. This blueberry possibly escaped from a blueberry farm located in the area. Rabbit-eye blueberries were outplanted in this area circa 1920s as part of an agricultural program. This blueberry forms dense thickets with maleberry (*Lyonia ligustrina* [L.] DC. var. *foliosiflora* [Michx.] Fernald), fetterbush (*Lyonia lucida* [Lam.] D. Don), sweet gallberry (*Ilex coriacea* [Pursh] Chapm.), and gallberry (*Ilex glabra* [L.] A. Gray). This community spans mesic to transitional to hydric habitats and is more prolific where the water table is very close to the surface. For jurisdiction purposes, this species is often confused with highbush blueberry (*Vaccinium corymbosum* L.) as well as potentially mayberry (*Vaccinium elliotii* Chapm.), which in areas where it is dominant caused confusion during the wetland delineation process.

6.1.2 Mesic Pine Flatwoods

Total Acreage: 5.20 FLUCCS 411

The Mesic Pine Flatwoods community is dominated by loblolly pine (*Pinus taeda* L.) and slash pine (*Pinus elliottii* Engelm.); however, water oak (*Quercus nigra* L.), laurel oak (*Quercus hemisphaerica* Bartr.), live oak (*Quercus virginiana* Mill.), sweetgum (*Liquidambar styraciflua* L.), red maple (*Acer rubrum* L.), and sweetbay (*Magnolia virginiana* L.) are occasionally seen. Groundcover species include highbush blueberry (*Vaccinium corymbosum* L.), deerberry (*Vaccinium stamineum* L.), Walter's viburnum (*Viburnum obovatum* Walter), sweet pinxter azalea (*Rhododendron canescens* (Michx.) Sweet), gallberry (*Ilex glabra* [L.] Gray), wax myrtle (*Myrica cerifera* L.), and saw palmetto (*Serenoa repens* [Bartr.] Small). There are only three (3) polygons that were described as Mesic Pine Flatwoods. These are either small areas that border Planted Pine areas that were not planted or are associated with a habitat located within the northwest area of the site. These were the only flatwood areas onsite which had a natural association of bracken (*Pteridium aquilinum* [L.] Kuhn.), shiny blueberry (*Vaccinium myrsinites* Lam.), saw palmetto (*Serenoa repens* [Bartr.] Small), and other groundcover species associated with mature flatwoods.

6.2 Wetland Communities

6.2.1 Planted Pine Plantation-Wetland

Total Acreage: 261.98 FLUCCS 625

The Planted Pine Plantation-Wetland communities are Slash Pine or Loblolly Pine plantation areas that have been placed within the historical wetland boundaries. It should be noted that plantation areas which occur within the currently defined wetland boundaries were established as far back as 1968. At this time and until 1995, the majority of the wetland plantation areas were not areas that would be defined as wetlands based on the rules in existence at that time. The wetland plantation areas were primarily established on mineral soils that exhibit a water table near the ground surface. Prior to 1995, these areas were not regulated as jurisdictional wetlands by the State of Florida.

These communities typically occur along the outer fringes of all wetlands on site and specifically within the shallow overflow wetland areas that exist between all contiguous deep-water forested wetland systems. The areas are deeply furrowed and vegetation typically consists of Virginia chain fern (*Woodwardia virginica* [L.] Smith), redroot (*Lachnanthes caroliniana* [Lam.] Dandy), cinnamon fern (*Osmunda cinnamomea* L.), maidencane (*Panicum hemitomom* Schult.), blue maidencane (*Amphicarpum muhlenbergianum* [J. A. Schultes] A. Hitchc.) and a host of rushes and sedges. In this community, the planted pines are of sufficient size to create a canopy with a shaded groundcover. The degree of canopy closure is highly variable; however, these areas would appear as forested on aerial photographs. Pine trees in this community association are generally smaller than those found in the upland variant of this community type, which is the Planted Pine Plantation-Upland community.

There are several variants of this community type that were recorded during the field survey and documented within the GPS point database (Figure 47). These community variations as mapped occur in both wetland and upland areas as defined by the delineated wetland boundary. The general descriptions of each variation are as follows:

Hydric Planted Pine Flatwoods (FLUCCS 6251)

This community type is characterized by deeply bedded plantation areas with dense populations of Virginia chain fern (*Woodwardia virginica* [L.] Smith) occurring within the deeply incised furrows. These areas are very open and park-like, with few species other than Virginia chain fern occurring within the groundcover. These habitats occur within the Seasonal High Water Elevation but generally occur above the elevation of the Mean Seasonal Water Level.

Transitional Planted Pine Flatwoods (FLUCCS 6252)

These habitats typically occur upslope of the Hydric Planted Pine Flatwoods habitats and occur at the general boundary of the wetland jurisdiction line. Unlike the more hydric variant, these habitats have a very dense groundcover of fetterbush (*Lyonia lucida* [Lam.]

D. Don) which is impassable in many areas. There is a notable paucity of gallberry (*Ilex glabra* [L.] A. Gray) in these areas. On this site, gallberry is primarily limited to the Mesic Flatwoods areas. In many areas of this habitat, there is a significant population of maleberry (*Lyonia ligustrina* [L.] DC. var. *foliosiflora* [Michx.] Fernald) and rabbit-eye blueberry (*Vaccinium virgatum* Aiton) as was previously described in detail above. This habitat occurs at the outer boundary of the Seasonal High Water Elevation.

Planted Pine Plantation-Marsh (FLUCCS 626)

This is the wettest of the Planted Pine Plantation habitats. Water depths in these habitats often exceed depths of 1.5-2.0 ft during seasonal high rain events. Without the planted pine, these areas would be classified as marshes. The habitats are often bedded but the integrity of the beds is not intact in many areas due to the water levels. Common groundcover species include Virginia chain fern (*Woodwardia virginica* [L.] Smith), Carolina yelloweyedgrass (*Xyris caroliniana* Walt), tall yelloweyedgrass (*Xyris platylepis* Chapm.), southern club-moss (*Lycopodiella appressa* [Chapm.] Cranfill), conecup spikerush (*Eleocharis tuberculosa* [Michx.] Roem. & Schult.), needle spikerush (*Eleocharis acicularis* [L.] Roem. & Schult.), sphagnum moss (*Sphagnum* sp.), soft-rush (*Juncus effusus* [L.] subsp. *solutus* [Fernald & Weigand] Hamet-Ahti), and occasionally broad-leaf emergents such as pickerelweed (*Pontederia cordata* L.), bulltongue arrowhead (*Sagittaria lancifolia* L.), and bandana-of-the-everglades (*Canna flaccida* Salisb.). In many areas pond cypress (*Taxodium ascendens* Brongn.) and red maple (*Acer rubrum* L.) are common invading tree species.

Planted Pine-Mixed Hardwoods (FLUCCS 6253)

This community type consists of large bedded plantation pines along primarily riparian habitats. The largest extent of this habitat is found in the northeast section of the site east of CR 231 along a broad floodplain of a tributary to Rocky Creek. These areas are co-dominated by large individuals of laurel oak (*Quercus hemisphaerica* Bartr.), water oak (*Quercus nigra* L.), and occasionally Virginia live oak (*Quercus virginiana* Mill.). Groundcover species are dominated by Virginia chain fern (*Woodwardia virginica* [L.] Smith) and small individuals of the canopy species. There are small areas of Mixed Hardwood Swamp habitat included in this mapped polygon which include areas dominated by pond cypress (*Taxodium ascendens* Brongn.), swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.), red maple (*Acer rubrum* L.), and sweetbay (*Magnolia virginiana* L.).

6.2.2 Emergent Marsh

Total Acreage: 3.89 FLUCCS 641

The conditions of the Emergent Marsh areas are quite variable throughout the project site. The typical historical emergent marsh onsite generally had a circular to irregular-shaped depression dominated by a mix of maidencane (*Panicum hemitomom* Schult.) and Virginia chain fern (*Woodwardia virginica* [L.] Smith). All onsite marshes have been

disturbed by some type of vehicular traffic. Due to historical drainage and silviculture, there is a paucity of marsh habitat located on the site as compared to the historical conditions.

Many of the historical marsh areas have additionally been disturbed by extensive hog feeding activities. There are many additional areas around the site that could potentially have been mapped as Emergent Marsh on the plant community map. Most of the logged hardwood swamps are now generally dominated by herb and grass species. However, if enough of the canopy remained to estimate the future successional direction of the areas or to determine the community type prior to logging, then the nomenclature of Cypress Swamp Association (Logged) or Mixed Hardwood Swamp Association (Logged), etc., was used. In addition, there are many emergent marsh zones that extend around all forested wetland systems due to vehicular traffic as a result of logging. These marsh areas would be included in the forested wetland polygons. There are many small marsh areas distributed throughout the pine plantations. These areas tend to be very shallowly inundated and most have been severely disturbed by bedding and vehicular traffic and are included in the Planted Pine Plantation polygons.

6.2.3 Cypress-Hardwood-Bay

Cypress-Hardwood-Bay Swamp (unlogged)	Total Acreage: 170.93	FLUCCS 630
Cypress-Hardwood-Bay Swamp (logged)	Total Acreage: 259.90	FLUCCS 631

The Cypress Swamp community was historically dominated by pond cypress (*Taxodium ascendens* Brongn.) with swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.), dahoon holly (*Ilex cassine* L.), red maple (*Acer rubrum* L.), sweetbay (*Magnolia virginiana* L.), swamp red-bay (*Persea palustris* [Raf.] Sarg.), and loblolly bay (*Gordonia lasianthus* [L.] Ellis.) being distributed in the canopy and subcanopy. Within the project site, these areas are generally deep water habitats with a dense understory of fetterbush (*Lyonia lucida* [Lam.] K. Koch) distributed throughout the wetland on large hummocks. Throughout the site, this habitat type has been recently clear-cut. In these areas, few canopy trees are often left and deep trenches are left in the peat by the logging equipment. These trenches typically can be a dominant feature in the wetland area.

In many areas, the resulting logged plant community has developed into a dense tangle of bamboo-vine (*Smilax laurifolia* L.) and fetterbush (*Lyonia lucida* [Lam.] K. Koch). The bamboo-vine (*Smilax laurifolia* L.) is so dense as to severely limit the regrowth of any coppicing cypress or bays. The trenches are obvious on aerial photographs, appearing as areas of parallel disturbance on historical photographs. Due to historical logging activities within the wetlands, there is often no clear distinction between areas historically dominated by pond cypress (*Taxodium ascendens* Brongn.), swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.), or sweetbay (*Magnolia virginiana* L.) and loblolly bay (*Gordonia lasianthus* [L.] Ellis.). There are areas included within this mapping polygon that are dominated by cypress and associated hardwood species. These

tend to be the deepwater habitats. A general description of these habitats is provided as follows:

Cypress-Mixed Hardwood Swamp (FLUCCS 621)

The Cypress-Mixed Hardwood Swamp plant communities on the project site exist in various states of disturbance. The most natural areas consist of a mix of pond cypress (*Taxodium ascendens* Brongn.), bald cypress (*Taxodium distichum* [L.] L. Rich.), swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.), red maple (*Acer rubrum* L.), American elm (*Ulmus americana* L.), slash pine (*Pinus elliottii* Engelm.), swamp laurel oak (*Quercus laurifolia* Michx.), swamp red-bay (*Persea palustris* [Raf.] Sarg.), and dahoon holly (*Ilex cassine* L.). The understory consists of a host of shrubs, herbs and grasses to include swamp doghobble (*Leucothoe racemosa* [L.] A. Gray), common buttonbush (*Cephalanthus occidentalis* L.), fetterbush (*Lyonia lucida* [Lam.] K. Koch), Virginia willow (*Itea virginica* L.), cinnamon fern (*Osmunda cinnamomea* L.), royal fern (*Osmunda regalis* L.), and maidencane (*Panicum hemitomon* Schult.). These wetlands typically display flowing surface water for extended periods during normal rain years.

Blackgum Swamp (FLUCCS 613)

The Blackgum Swamps on site are typically small, circular to irregular-shaped wetland areas in which swamp black gum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.) is the dominant canopy species. Canopy species such as red maple (*Acer rubrum* L.) are occasionally present. Many of these wetland areas have very open canopies and a dense emergent groundcover dominated by maidencane (*Panicum hemitomon* Schult.) and Virginia chain fern (*Woodwardia virginica* [L.] Smith) is present. The Blackgum Swamps on site often have large areas of Emergent Marsh with a sparse swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.) canopy. These areas could reasonably also be mapped as Emergent Marsh, but the occurrence of swamp blackgum (*Nyssa sylvatica* Marsh. var. *biflora* [Walt.] Sarg.) is the defining characteristic.

Wetland-Mixed Shrubs and Vines (FLUCCS 632)

This community type is a successional plant community that has developed as a result of clearcutting of large, historic bay wetlands. The bay community typically had a dense canopy dominated by sweetbay (*Magnolia virginiana* L.), loblolly bay (*Gordonia lasianthus* [L.] Ellis.), swampbay (*Persea palustris* [Raf.] Sarg.), pond cypress (*Taxodium ascendens* Brongn.), and slash pine (*Pinus elliottii* Engelm.). Presently the canopy has almost entirely been removed. The understory is presently very densely covered with fetterbush (*Lyonia lucida* [Lam.] K. Koch) and bamboo-vine (*Smilax laurifolia* L.) with some resprouting bays emerging throughout the dense blanket of vines and shrubs. The surface of these wetlands has been severely altered by logging vehicles as is apparent from the numerous vehicle tracks seen on aerial photographs. This is a commonly occurring variation of the Cypress-Hardwood-Bay wetlands.

The Mixed Shrubs habitat is a disturbed successional community that has regenerated in previously excavated or disturbed areas. The predominately shrubby vegetation includes wax myrtle (*Myrica cerifera* L.), eastern false-willow (*Baccharis halimifolia* L.), coastal-plain willow (*Salix caroliniana* Michx.), and scattered red maple (*Acer rubrum* L.). In addition, individuals of popcorntree (*Sapium sebiferum* [L.] Roxb.) may be present. Groundcover is dominated by a host of ruderal oldfield species to include bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex. L.H. Dewey).

6.2.4 Slash Pine-Cypress-Hardwood-Bay

Total Acreage: 74.71 (FLUCCS 627)

The Slash Pine-Cypress-Hardwood-Bay habitat is a densely forested area with a dominant canopy cover of slash pine (*Pinus elliottii* Engelm.); however, pond cypress (*Taxodium ascendens* Brongn.), sweetbay (*Magnolia virginiana* L.), swamp red-bay (*Persea palustris* [Raf.] Sarg.), and loblolly bay (*Gordonia lasianthus* [L.] Ellis.) are common. The shrub layer is typically woody characterized by a dense cover of fetterbush (*Lyonia lucida* [Lam.] K. Koch), sweet gallberry (*Ilex coriacea* [Pursh] Chapm.), and highbush blueberry (*Vaccinium corymbosum* L.). The herbaceous groundcover is dominated by Virginia chain fern (*Woodwardia virginica* [L.] Smith), cinnamon fern (*Osmunda cinnamomea* L.), and royal fern (*Osmunda regalis* L.).

6.3 Miscellaneous Polygon Designations

6.3.1 Excavated Surface Waters

Total Acreage: 1.87 FLUCCS 510

There are many ditches that have been constructed within the Project Site. The ditches that are jurisdictional features that were excavated within historical uplands are included in this mapping polygon. The ditches are primarily associated with roadways and excavated areas created for drainage.

6.3.2 Easement Road/Oldfield

Total Acreage: 7.19 FLUCCS 817/830

There are two (2) large easements that have been constructed within the Project Site. These are associated with the GRU Electric Transmission Line and Florida Natural Gas Transmission Line. These easements have large, raised grade fill roads with limerock fill associated with the access areas. The unused areas of the raised road grades are colonized by oldfield ruderal vegetation to include broomsedge (*Andropogon virginicus* L. var. *virginicus*), bushy bluestem (*Andropogon glomeratus* [Walt.] BSP var. *pumilus* [Vasey] Vasey ex L.H. Dewey), rustweed (*Polypremum procumbens* L.), and more.

6.3.3 Improved Forest Roads and Ditches

Total Acreage: 7.16 FLUCCS 814

There are several above-grade and at-grade forest roads that provide access for silvicultural activities. This polygon includes the footprint of the roads and associated shallow ditches that were not included within the formal wetland and surface water delineation.

Table 2. Species code, scientific name, common name, USFWS classification, FDEP classification, and floristic classification of plant species observed on the Gainesville 121 Project Site during field surveys conducted from August 2015 through May 2017.

Species Code	Scientific Name	Common Name	USFWS ¹ Classif.	FDEP ² Classif.	Floristic ³ Classif.
ACE RUB	<i>Acer rubrum</i> L.	Red maple	FAC	FACW	NC
ACM REP	<i>Acmella oppositifolia</i> (Lam.) R.K. Jansen var. <i>repens</i> (Walter) R.K. Jansen	Oppositeleaf spottflower	FACW	FACW	NC
AGA PUR	<i>Agalinis purpurea</i> (L.) Pennell	Gerardia	FACW	FACW	NC
ALB JUL	<i>Albizia julibrissin</i> Durazz.	Mimosa	NL	UPL	EW
ALE LUT	<i>Aletris lutea</i> Small	Yellow colic-root	FACW+	FAC	NC
ALT PHI	<i>Alter-nanthera philoxeroides</i> (Mart.) Griseb	Alligatorweed	OBL	OBL	EW
AMB ART	<i>Ambrosia artemisiifolia</i> L.	Common ragweed	FACU	UPL	NW
AMP ARB	<i>Ampelopsis arborea</i> (L.) Koehne	Peppervine	FAC+	---	NC
AMP MUH	<i>Amphicarpum muhlenbergianum</i> (Schult.) Hitchc.	Blue maidencane	FACW	FACW	NC
AND GCP	<i>Andropogon glomeratus</i> (Walt.) BSP var. <i>glaucopsis</i> (Ell.) Mohr	Purple bluestem	FACW+	FACW	NP
AND PUM	<i>Andropogon glomeratus</i> (Walt.) BSP var. <i>pumilus</i> (Vasey) Vasey ex L.H. Dewey	Bushy bluestem	FACW+	FACW	NP
AND GLA	<i>Andropogon virginicus</i> L. var. <i>glaucus</i> Hackel	Chalky bluestem	FACU	FAC	NC
AND VIR	<i>Andropogon virginicus</i> L. var. <i>virginicus</i>	Broomsedge	FAC-	FAC	NP
API AME	<i>Apios americana</i> Medik.	Groundnut	FACW	---	NC
ARI TRI	<i>Arisaema triphyllum</i> (L.) Schott	Jack-in-the-pulpit	FACW-	FACW	NC
ARI SPI	<i>Aristida spiciformis</i> Ell.	Bottlebrush threecawn	FAC	FAC	NP
ARU GIG	<i>Arundinaria gigantea</i> (Walter) Walter ex Muhl.	Switchcane	FACW	FACW	NC
ASC PER	<i>Asclepias perennis</i> Walter	Swamp milkweed	OBL	OBL	NC
ASI ANG	<i>Asimina angustifolia</i> Raf.	Slimleaf pawpaw	NL	UPL	NC
ASP PLA	<i>Asplenium platyneuron</i> (L.) Britton et al.	Ebony spleenwort	FACU	UPL	NC
AXO FIS	<i>Axonopus fissifolius</i> (Raddi) Kuhlms.	Common carpetgrass	FACW-	FAC	NP
AXO FUR	<i>Axonopus furcatus</i> (Fluegge) Hitchc.	Big carpetgrass	OBL	FAC	NP
BAC HAL	<i>Baccharis halimifolia</i> L.	Sea myrtle	FAC	FAC	NP
BAC GLO	<i>Baccharis glomeruliflora</i> Pers.	Groundsel tree	FACW	FAC	NC
BAC CAR	<i>Bacopa caroliniana</i> (Walt.) Robins.	Lemon bacopa	OBL	OBL	NC

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BEJ RAC	<i>Bejaria racemosa</i> Vent.	Tarflower	FAC-	UPL	NC
BOE CYL	<i>Boehmeria cylindrica</i> (L.) Sw.	False nettle	FACW+	OBL	NC
BOT PER	<i>Bothriochloa pertusa</i> (L.) A. Camus	Pitted beardgrass	NL	UPL	EW
BUC AME	<i>Buchnera americana</i> L.	Blueheart	FAC	UPL	NC
BUL BAR	<i>Bulbosylis barbata</i> (Rottb.) C.B. Clarke	Watergrass	FAC-	UPL	EW
BUL CIL	<i>Bulbosylis ciliatifolia</i> (Ell.) Fern.	Capillary hairsedge	FACU	UPL	NC
CAL AME	<i>Callicarpa americana</i> L.	Beautybush	FACU-	UPL	NC
CAN FLA	<i>Canna flaccida</i> Salisb.	Bandana-of-the-everglades	OBL	OBL	NC
CAR BRO	<i>Carex bromoides</i> Schkuhr	Bromelike sedge	FACW	FACWC	NC
CAR GLC	<i>Carex glaucescens</i> Elliott	Clustered sedge	OBL	FACW	NC
CAR INT	<i>Carex intumescens</i> Rudge	Greater bladder sedge	FACW	FACW	NC
CAR STR	<i>Carex striata</i> Michx.	Walter's sedge	OBL	FACW	NC
CAR COR	<i>Carphephorus corymbosus</i> (Nutt.) Torr. & Gray	Large-headed carphophorus	FACU	UPL	NC
CAR ODO	<i>Carphephorus odoratissimus</i> (J.F. Gmel.) Herb.	Vanilla plant	FACW	FAC	NC
CAR CAR	<i>Carpinus caroliniana</i> Walter	American hornbeam	FAC	FACW	NC
CEN SPI	<i>Cenchrus spinifex</i> Cav.	Coastal sandbur	NL	UPL	NW
CEN ASI	<i>Centella asiatica</i> (L.) Urban	Coinwort	FACW	FACW	NP
CEN VIR	<i>Centrosema virginianum</i> (L.) Benth.	Spurred butterfly pea	NL	UPL	NC
CEP OCC	<i>Cephalanthus occidentalis</i> L.	Common buttonbush	OBL	OBL	NC
CER CAN	<i>Cercis canadensis</i> L.	Eastern redbud	FACU	UPL	NC
CHA NIC	<i>Chamaecrista nictitans</i> (L.) Moench	Wild sensitive plant	FACU	UPL	NP
CHA LAX	<i>Chasmanthium laxum</i> var. <i>laxum</i> (L.) Yates	Slender woodoats	FACW-	FACW	NC
CHA SES	<i>Chasmanthium laxum</i> var. <i>sessiliflorum</i> (Poir.) Wipff & S.D. Jones	Longleaf chasmanthium	FAC+	FAC	NC
CIC MAC	<i>Cicuta maculata</i> L.	Spotted water hemlock	OBL	OBL	NC
CIR HOR	<i>Cirsium horridulum</i> Michx.	Yellow thistle	FAC+	UPL	NP
CIR NUT	<i>Cirsium nuttallii</i> DC	Nuttall's thistle	FAC	FACW	NP
CLA EVA	<i>Cladonia evansii</i> (Abbayes) Hale & Culb.	Evans' reindeer lichen	---	---	NC
CLA JAM	<i>Cladium jamaicense</i> Crantz	Saw-grass	OBL	OBL	NC

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CNIST1	<i>Cnidocolus stimulosus</i> (Michx.) Engelm. & A. Gray	Tread-softly	NL	UPL	NC
CONCAN	<i>Conyza canadensis</i> (L.) Cronq. var. <i>pusilla</i> (Nutt.) Cronq.	Dwarf horseweed	FACU	UPL	NW
CORLEA	<i>Coreopsis leavenworthii</i> Torr. & A. Gray	Leavenworth's tickseed	FACW	FACW	NC
CORFOE	<i>Cornus foemina</i> Mill.	Swamp dogwood	FACW-	FACW	NC
CRODIV	<i>Croptilon divaricatum</i> (Nutt.) Raf.	Slender scratchdaisy	UPL	UPL	NP
CROROT	<i>Crotalaria rotundifolia</i> (Walt.) Gmel.	Rabbit-bells	FACU	UPL	NC
CRO SPE	<i>Crotalaria spectabilis</i> Roth	Rattlebox	NL	UPL	EW
CRO MIC	<i>Croton michauxii</i> G.L. Webster	Michaux's croton	NL	UPL	NC
CYP CRO	<i>Cyperus croceus</i> Vahl	Baldwin's flatsedge	FAC	FAC	NP
CYP DIS	<i>Cyperus distinctus</i> Steud.	Swamp flatsedge	FACW	OBL	NP
CYP ESC	<i>Cyperus esculentus</i> L.	Yellow nutgrass	FAC	FAC	EW
CYP HAS	<i>Cyperus haspan</i> L.	Haspan flatsedge	OBL	OBL	NP
CYP LEC	<i>Cyperus lecontei</i> Torr.	Leconte's flatsedge	FACW	FACW	NP
CYP ODO	<i>Cyperus odoratus</i> L.	Rusty flatsedge	FACW	FACW	NC
CYP OVA	<i>Cyperus ovatus</i> Baldwin	Pinebarren flatsedge	FACU+	FAC	NP
CYP POL	<i>Cyperus polystachyos</i> Rottb.	Manyspike flatsedge	FACW	FACW	NP
CYP RET	<i>Cyperus retrorsus</i> Chapm.	Pinebarren flatsedge	FACU+	FAC	NP
CYP STE	<i>Cyperus stenolepis</i> Torr.	Flatsedge	OBL	UPL	NP
CYP SUR	<i>Cyperus surinamensis</i> Rottb.	Tropical flatsedge	FACW	FACW	NP
CYR RAC	<i>Cyrtilla racemiflora</i> L.	TTi	FACW	FAC	NC
DAC AEG	<i>Dactyloctenium aegyptium</i> (L.) Beauv.	Crowfootgrass	NL	UPL	EW
DIC ACI	<i>Dichanthelium aciculare</i> (Desvaux ex Poiret) Gould & Clark	Needle-leaf witchgrass	FACU	UPL	NP
DIC ACU	<i>Dichanthelium acuminatum</i> (Swartz) Gould & Clark	Tapered witchgrass	FAC	UPL	NC
DIC COM	<i>Dichanthelium commutatum</i> (Schultes) Gould	Variable witchgrass	FAC	FAC	NC
DIC DIC	<i>Dichanthelium dichotomum</i> (L.) Gould	Cypress witchgrass	FAC	FACW	NC
DIC LAX	<i>Dichanthelium laxiflorum</i> (Lam.) Gould	Openflower witchgrass	FAC	UPL	NC
DIC CAR	<i>Dichondra carolinensis</i> Michx.	Pony-foot	FACW-	FAC	NP
DIG CIL	<i>Digitaria ciliaris</i> (Retz.) Koel	Southern crabgrass	NL	UPL	NW

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DIG SER	<i>Digitaria serotina</i> (Walter) Michx.	Blanket crabgrass	FAC	FAC	NW
DIO TER	<i>Diodia teres</i> Walt.	Poor joe	FACU-	UPL	NP
DIO VIR	<i>Diodia virginiana</i> L.	Virginia buttonweed	FACW	FACW	NC
DIO BUL	<i>Dioscorea bulbifera</i> L.	Air-potato	NL	---	EA
DIO VRG	<i>Diospyros virginiana</i> L.	Common persimmon	FAC	FAC	NC
ELE ACI	<i>Eleocharis acicularis</i> (L.) Roem. & Schult.	Needle spikerush	OBL	OBL	NC
ELE cf. MON	<i>Eleocharis cf. montevidensis</i> Kunth (sterile)	Sand spikerush	FACW+	OBL	NC
ELE TUB	<i>Eleocharis tuberculosa</i> (Michx.) Roem. & Schult.	Conecup spikerush	OBL	OBL	NC
ELE ELA	<i>Elephantopus elatus</i> Bertol.	Florida elephant's-foot	NL	UPL	NC
ELE IND	<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	FACU	UPL	EW
ERA ELL	<i>Eragrostis eliotii</i> S. Wats.	Elliott lovegrass	FACW	FAC	NP
ERA VIR	<i>Eragrostis virginica</i> (Zucc.) Steud.	Coastal lovegrass	FACW	FAC	NP
ERE HIE	<i>Erechtites hieracifolia</i> (L.) Raf.	Fireweed	FAC-	FAC	NW
ERE OPH	<i>Eremochloa ophiuroides</i> (Munro) Hack.	Centipedegrass	NL	UPL	EA
ERI VER	<i>Erigeron vernus</i> (L.) Torr. & Gray	Early whitetop fleabane	OBL	FACW	NC
ERI COM	<i>Eriocaulon compressum</i> Lam.	Flattened pipewort	OBL	OBL	NC
ERI DEC	<i>Eriocaulon decangulare</i> L.	Tenangle pipewort	OBL	OBL	NC
ERY BAL	<i>Eryngium baldwinii</i> Spreng.	Baldwin's eryngo	FACW+	FAC	NC
EUP CAP	<i>Eupatorium capillifolium</i> (Lam.) Small	Dog fennel	FACU	FAC	NW
EUP COM	<i>Eupatorium compositifolium</i> Walter	Yankeeweed	FAC-	FAC	NP
EUP MOH	<i>Eupatorium mohrii</i> Greene	Mohr's eupatorium	FACW-	FAC	NC
EUP ROT	<i>Eupatorium rotundifolium</i> L.	False hoarhound	FAC	FAC	NC
EUS PET	<i>Eustachys petraea</i> (Sw.) Desv.	Pinewoods fingergrass	FACU-	UPL	NP
EUT CAR	<i>Euthamia caroliniana</i> (L.) Greene ex Porter & Britton	Slender goldenrod	FAC	FAC	NP
FIM PUB	<i>Fimbristylis puberula</i> (Michx.) Vahl	Vahl's hairy fimbry	OBL	FACW	NC
FRA PEN	<i>Fraxinus pennsylvanica</i> Marshall	Green ash	FACW	OBL	NC
FUI BRE	<i>Fuirena breviseta</i> (Cov.) Cov.	Umbrellagrass	OBL	OBL	NC
FUI SCI	<i>Fuirena scirpoidea</i> Michx.	Southern umbrella-sedge	OBL	OBL	NC

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GAU ANG	<i>Gaura angustifolia</i> Michx.	Southern beeblossom	NL	UPL	NP
GAY NAN	<i>Gaylussacia frondosa</i> var. <i>nana</i> (A. Gray) Small	Dangleberry	FAC	FAC	NC
GEL SEM	<i>Gelsemium sempervirens</i> (L.) J. St. Hil.	Yellow jessamine	FAC	---	NC
GOR LAS	<i>Gordonia lasianthus</i> (L.) J. Ellis	Loblolly bay	FACW	FACW	NC
GRA HIS	<i>Gratiola hispida</i> (Benth.) Pollard	Scrub hedgehyssop	NL	FAC	NC
GRA PIL	<i>Gratiola pilosa</i> Michx.	Shaggy hedgehyssop	FACW-	FACW	NC
HEL COR	<i>Helianthemum corymbosum</i> Michx.	Clustered rock-rose	NL	UPL	NC
HIE MEG	<i>Hieracium megacephalon</i> Nash	Coastalplain hawkweed	NL	UPL	NC
HYD UMB	<i>Hydrocotyle umbellata</i> L.	Manyflower marshpennywort	OBL	FACW	NP
HYP BRA	<i>Hypericum brachyphyllum</i> (Spach) Steud.	Coastalplain St.-John's-wort	FACW	FACW	NC
HYP CIS	<i>Hypericum cistifolium</i> Lam.	Round-pod St.-John's-wort	FACW	FACW	NC
HYP FAS	<i>Hypericum fasciculatum</i> Lam.	Sandweed	FACW+	OBL	NC
HYP GEN	<i>Hypericum gentianoides</i> (L.) BSP.	Pineweeds	FACU	UPL	NC
HYP HYP	<i>Hypericum hypericoides</i> (L.) Crantz	St. Andrew's-cross	FAC	FAC	NC
HYP MYR	<i>Hypericum myrtifolium</i> Lam.	Myrtle-leaf St.-John's-wort	FACW	FACW	NC
HYP TET	<i>Hypericum tetrapetalum</i> Lam.	Heart-leaved St. Peter's-wort	FACW	FAC	NC
HYP ALA	<i>Hypis alata</i> (Raf.) Shinnery	Musky mint	OBL	FACW	NP
ILE CAS	<i>Ilex cassine</i> L.	Dahoon holly	FACW	OBL	NC
ILE COR	<i>Ilex coriacea</i> (Pursh) Chapm.	Sweet gallberry	FACW	FACW	NC
ILE GLA	<i>Ilex glabra</i> (L.) A. Gray	Gallberry	FACW	UPL	NC
ILE MYR	<i>Ilex cassine</i> var. <i>myrtifolia</i> (Walter) Sarg.	Myrtle dahoon	FACW	OBL	NC
ILE OPA	<i>Ilex opaca</i> var. <i>opaca</i> Aiton	American holly	FAC-	FAC	NC
ILE VOM	<i>Ilex vomitoria</i> Aiton	Yaupon	FAC	FAC	NC
IPO COR	<i>Ipomoea cordatotrilobata</i> Dennst.	Tievine	NL	---	NW
IPO HED	<i>Ipomoea hederifolia</i> L.	Scarletcreeper	FACW	---	NC
IPO QUA	<i>Ipomoea quamoclit</i> L.	Cypressvine	FACU+	---	EW
ITE VIR	<i>Itea virginica</i> L.	Virginia willow	FACW+	OBL	NC
JUN COR	<i>Juncus coriaceous</i> Mack.	Leathery rush	FACW	OBL	NC

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JUN DIC	<i>Juncus dichotomus</i> Ell.	Forked rush	FACW	OBL	NP
JUN EFF	<i>Juncus effusus</i> (L.) subsp. <i>solutus</i> (Fernald & Weigand) Hamet-Ahti	Soft rush	FACW+	OBL	NP
JUN MAR	<i>Juncus marginatus</i> Rostk.	Grassleaf rush	FACW	FACW	NP
JUN SCI	<i>Juncus scirpoides</i> Lam.	Needle-pod rush	FACW+	OBL	NP
JUN VIR	<i>Juniperus virginiana</i> L.	Red cedar	FACU-	UPL	NC
KUM STR	<i>Kummerowia striata</i> (Thunb.) Schindler	Japanese clover	FACU	UPL	EW
KYL BRE	<i>Kyllinga brevifolia</i> Rottb.	Shortleaf spikededge	FACW	FACW	EW
LAC CAR	<i>Lachnanthes caroliniana</i> (Lam.) Dandy	Bloodroot	OBL	FAC	NP
LAC ANC	<i>Lachnocaulon anceps</i> (Walt.) Morong	Bog-buttons	OBL	FACW	NC
LEC TOR	<i>Lechea torreyi</i> (Chapm.) Legg. ex Britton	Piedmont pinweed	FACU	UPL	NC
LEE HEX	<i>Leersia hexandra</i> Sw.	Southern cutgrass	OBL	OBL	NC
LEM SP.	<i>Lemna</i> sp.	Duckweed	OBL	Aquatic	NC
LEP VIR	<i>Lepidium virginicum</i> L.	Poorman's pepper	FACU	UPL	NW
LIA TEN	<i>Liatris tenuifolia</i> Nutt.	Fine leaf blazing-star	NL	UPL	NC
LIC MIC	<i>Licania michauxii</i> Prance	Gopher apple	NL	UPL	NC
LIM SPO	<i>Limnobium spongia</i> (Bosc) Rich. ex Steud.	Frog's-bit	OBL	OBL	NC
LIP NOD	<i>Lippia nodiflora</i> (L.) Michx.	Frog-fruit	FACW	FAC	NP
LIQ STY	<i>Liquidambar styraciflua</i> L.	Sweetgum	FAC+	FACW	NC
LOB CAR	<i>Lobelia cardinalis</i> L. †	Cardinalflower	FACW+	OBL	NC
LUD ALA	<i>Ludwigia alata</i> Elliott	Winged primrosewillow	OBL	OBL	NC
LUD LIN	<i>Ludwigia linearis</i> Walter	Narrowleaf primrosewillow	OBL	OBL	NC
LUD MAR	<i>Ludwigia maritima</i> Harper	Seaside seedbox	FACW	FACW	NP
LUD OCT	<i>Ludwigia octovalvis</i> (Jacq.) Raven	Mexican primrosewillow	OBL	OBL	NP
LUD PER	<i>Ludwigia peruviana</i> (L.) Hara	Primrose willow	OBL	OBL	NW
LUD REP	<i>Ludwigia repens</i> J.R. Forst.	Creeping seedbox	OBL	OBL	NC
LUD SUF	<i>Ludwigia suffruticosa</i> Walt.	Shrubby seedbox	OBL	FACW	NC
LUZ FLU	<i>Luziola fluitans</i> (Michx.) Terrell & H. Rob.	Southern watergrass	OBL	OBL	NC
LYC APP	<i>Lycopodiella appressa</i> (Chapm.) Cranfill	Southern club-moss	OBL	FACW	NC

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LYO FRU	<i>Lyonia fruticosa</i> (Michx.) Torr.	Staggerbush	FAC	UPL	NC
LYO LIG	<i>Lyonia ligustrina</i> (L.) DC. var. <i>foliosiflora</i> (Michx.) Fernald	Maleberry	FACW	FAC	NC
LYO LUC	<i>Lyonia lucida</i> (Lam.) D. Don	Fetterbush	FACW	FACW	NC
LYT ALA	<i>Lythrum alatum</i> Pursh var. <i>lanceolatum</i> (Elliot) Torr. & A.Gray ex Rothr.	Winged loosestrife	OBL	OBL	NC
MAG GRA	<i>Magnolia grandiflora</i> L.	Southern magnolia	FAC+	UPL	NC
MAG VIR	<i>Magnolia virginiana</i> L.	Sweetbay	FACW+	OBL	NC
MAT FLO	<i>Matelea floridana</i> (Vail) Woodson †	Florida spiny pod	NL	---	NC
MEC ACU	<i>Mecardonia acuminata</i> (Walter) Small	Axiflower	FACW	FACW	NC
MEL AZE	<i>Melia azedarach</i> L.	Chinaberrytree	NL	UPL	EW
MIK SCA	<i>Mikania scandens</i> (L. f.) Willd.	Climbing hempweed	FACW+	---	NP
MIT REP	<i>Mitchella repens</i> L.	Partridgeberry	FACU+	---	NC
MIT PET	<i>Mitreola petiolata</i> (J.F. Gmel.) Torr. & A. Gray	Lax hornpod	FACW+	FACW	NC
MOM CHA	<i>Momordica charantia</i> L.	Balsampear	NL	---	EW
MUR NUD	<i>Murdannia nudiflora</i> (L.) Brenan	Nakedstem dewflower	FAC	FAC	EW
MYR CER	<i>Myrica cerifera</i> L.	Wax myrtle	FAC+	FAC	NP
NEP COR	<i>Neprolepis cordifolia</i> (L.) C. Presl	Tuberous sword fern	NL	FAC	EA
NYS BIF	<i>Nyssa sylvatica</i> Marsh. var. <i>biflora</i> (Walt.) Sarg.	Swamp blackgum	OBL	OBL	NC
NYS SYL	<i>Nyssa sylvatica</i> Marsh. var. <i>sylvatica</i>	Blackgum	FAC	UPL	NC
OLD UNI	<i>Oldenlandia uniflora</i> L.	Clustered mille graines	FACW	FACW	NC
OSM CIN	<i>Osmunda cinnamomea</i> L.	Cinnamon fern	FACW+	FACW	NC
OSM REG	<i>Osmunda regalis</i> L. var. <i>spectabilis</i> (Willd.) A. Gray	Royal fern	OBL	OBL	NC
OXA COR	<i>Oxalis corniculata</i> L.	Common yellow woodsorrel	FACU	UPL	NW
OXY FIL	<i>Oxypolis filiformis</i> (Walt.) Britt.	Water dropwort	FACW+	OBL	NC
PAN ANC	<i>Panicum anceps</i> Michx.	Beaked panicum	FAC-	FAC	NC
PAN DIC	<i>Panicum dichotomiflorum</i> Michx.	Fall panicum	FACW	FACW	NP
PAN HEM	<i>Panicum hemitomom</i> Schult.	Maidencane	OBL	OBL	NC
PAN MAX	<i>Panicum maximum</i> Jacq.	Guineagrass	FAC-	UPL	EW
PAN REP	<i>Panicum repens</i> L.	Torpedograss	FACW-	FACW	EA

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PAN RIG	<i>Panicum rigidulum</i> Nees	Redtop panicum	FACW	FACW	NC
PAN VER	<i>Panicum verrucosum</i> Muhl.	Warty panicum	FACW	FACW	NC
PAR BAL	<i>Paronychia baldwinii</i> (Torr. & A.Gray) Fenzl ex Walp.	Baldwin's nailwort	NL	UPL	NC
PAS CON	<i>Paspalum conjugatum</i> Bergius	Sour paspalum	FAC	FAC	NW
PAS FLO	<i>Paspalum floridanum</i> Michx.	Florida paspalum	FACW-	FACW	NC
PAS LAE	<i>Paspalum laeve</i> Michx.	Field paspalum	FACW-	FACW	NC
PAS NOT	<i>Paspalum notatum</i> Fluegge	Bahiagrass	FACU+	UPL	EA
PAS SET	<i>Paspalum setaceum</i> Michx.	Thin paspalum	FAC	FAC	NP
PAS URV	<i>Paspalum urvillei</i> Steud.	Vaseygrass	FAC	FAC	EW
PEL VIR	<i>Peltandra virginica</i> (L.) Schott & Endl.	Green arrow arum	OBL	OBL	NC
PER PAL	<i>Persea palustris</i> (Raf.) Sarg.	Swampbay	FACW	OBL	NC
PHY URI	<i>Phyllanthus urinaria</i> L.	Chamber bitter	FAC	FAC	EW
PIN ELL	<i>Pinus elliotii</i> Engelm.	Slash pine	FACW	UPL	NC
PIN GLA	<i>Pinus glabra</i> Walter	Spruce pine	FACW	FACW	NC
PIN PAL	<i>Pinus palustris</i> Mill.	Longleaf pine	FACU+	UPL	NC
PIN TAE	<i>Pinus taeda</i> L.	Loblolly pine	FAC	UPL	NC
PIT GRA	<i>Pityopsis graminifolia</i> (Michx.) Nutt.	Grass-leaf golden aster	UPL	UPL	NC
PLE POL	<i>Pleopeltis polypodioides</i> (L.) E.G. Andrews & Windham	Resurrection fern	NL	UPL	NC
PLU BAC	<i>Pluchea bacccharis</i> (Mill.) Pruski	Rosy camphorweed	FACW	FACW	NC
PLU ODO	<i>Pluchea odorata</i> (L.) Cass.	Saltmarsh fleabane	FACW	FACW	NC
POL LUT	<i>Polygala lutea</i> L.	Wild bachelor's button	FACW+	FACW	NC
POL HYD	<i>Polygonum hydropiperoides</i> Michx.	Mild water-pepper	OBL	OBL	NP
POL PUN	<i>Polygonum punctatum</i> Eil.	Dotted smartweed	FACW+	OBL	NP
PLY SET	<i>Polygonum setaceum</i> Baldwin	Bog smartweed	FACW	OBL	NC
POL PRO	<i>Polyprenum procumbens</i> L.	Rustweed	FACU-	FAC	NP
POL COM	<i>Polytrichum commune</i> Hedw.	Common haircap moss	---	---	NC
PON COR	<i>Pontederia cordata</i> L.	Pickernelweed	OBL	OBL	NC
PRO PEC	<i>Proserpinaca pectinata</i> Lam.	Mermaid-weed	OBL	OBL	NC

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PSE OBT	<i>Pseudognaphalium obtusifolium</i> (L.) Hilliard & B.L.Burt	Sweet everlasting	NL	UPL	NP
PTE AQU	<i>Pteridium aquilinum</i> (L.) Kuhn.	Bracken	FACU	UPL	NC
PTE PYC	<i>Pterocaulon pycnostachyum</i> (Michaux) Elliott	Blackroot	FAC-	UPL	NP
PTI CAP	<i>Ptilimnium capillaceum</i> (Michx.) Raf.	Mock bishop's-weed	OBL	FACW	NP
PYR CAR	<i>Pyrrhopappus carolinianus</i> (Walter) DC.	Carolina desertthickery	NL	UPL	NW
QUE GEM	<i>Quercus geminata</i> Small	Sand live oak	NL	UPL	NC
QUE HEM	<i>Quercus hemisphaerica</i> Bartr.	Laurel oak	NL	UPL	NC
QUE LAU	<i>Quercus laurifolia</i> Michx.	Swamp laurel oak	FACW	FACW	NC
QUE MIN	<i>Quercus minima</i> (Sarg.) Small	Dwarf live oak	NL	UPL	NC
QUE MYR	<i>Quercus myrtifolia</i> Willd.	Myrtle oak	NL	UPL	NC
QUE NIG	<i>Quercus nigra</i> L.	Water oak	FAC	FACW	NC
QUE PUM	<i>Quercus pumila</i> Walter	Running oak	NL	UPL	NC
QUE VIR	<i>Quercus virginiana</i> Mill.	Virginia live oak	FACU+	UPL	NC
RHE MAR	<i>Rhexia mariana</i> L.	Pale meadowbeauty	FACW+	FACW	NC
RHE NUT	<i>Rhexia nuttallii</i> James	Nuttall's meadow-beauty	FACW+	FACW	NC
RHO VIS	<i>Rhododendron viscosum</i> (L.) Torr.	Swamp azalea	FACW+	FACW	NC
RHU COP	<i>Rhus copallina</i> L.	Winged sumac	NI	UPL	NC
RHY CAD	<i>Rhynchospora caduca</i> Ell.	Falling beaksedge	OBL	FACW	NC
RHY COL	<i>Rhynchospora colorata</i> (L.) H. Pfeiff.	Starrush whitetop	FACW	FACW	NC
RHY COR	<i>Rhynchospora corniculata</i> (Lam.) A. Gray	Short-bristle beaksedge	OBL	OBL	NC
RHY FAS	<i>Rhynchospora fascicularis</i> (Michx.) Vahl	Fasciculate beaksedge	FACW+	FACW	NC
RHY FIL	<i>Rhynchospora filifolia</i> A. Gray	Threadleaf	FACW-	FACW	NC
RHY MIC	<i>Rhynchospora microcephala</i> (Britton) Britton ex Small	Small bunched beaksedge	OBL	FACW	NC
RHY MIL	<i>Rhynchospora mileacea</i> (Lam.) A. Gray	Millet beaksedge	OBL	OBL	NC
RHY PLU	<i>Rhynchospora plumosa</i> Ell.	Plumed beaksedge	FACW	FACW	NC
RUB CUN	<i>Rubus cuneifolius</i> Pursh	Sand blackberry	FACU	---	NP
RUB PEN	<i>Rubus pensilvanicus</i> Poir.	Sawtooth blackberry	FACU+	---	NP
SAB MIN	<i>Sabal minor</i> (Jacq.) Pers.	Bluestem palm	FACW	FACW	NC

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SAB BRE	<i>Sabatia brevifolia</i> Raf.	Short-leaf rosegentian	FACW	FACW	NC
SAB DIF	<i>Sabatia difformis</i> (L.) Druce	Lanceleaf rosegentian	OBL	FACW	NC
SAC GIG	<i>Saccharum giganteum</i> (Walter) Pers.	Sugarcane plumegrass	FACW	OBL	NC
SAC IND	<i>Sacciolepis indica</i> (L.) Chase	India cupscale	FAC	FAC	EW
SAC STR	<i>Sacciolepis striata</i> (L.) Nash	American cupscale	OBL	OBL	NC
SAG GRA	<i>Sagittaria graminea</i> Michx. var. <i>graminea</i>	Grassy arrowhead	OBL	OBL	NC
SAG LAN	<i>Sagittaria lancifolia</i> L.	Bulltongue arrowhead	OBL	OBL	NC
SAL CAR	<i>Salix caroliniana</i> Michx.	Carolina willow	OBL	OBL	NP
SAL LYR	<i>Salvia lyrata</i> L.	Lyreleaf sage	FAC-	UPL	NC
SAP SEB	<i>Sapium sebiferum</i> (L.) Roxb.	Popcorn tree	FAC	FAC	EA
SAR MIN	<i>Sarracenia minor</i> Walt. †	Hooded pitcherplant	OBL	FACW	NC
SAU CER	<i>Saururus cernuus</i> L.	Lizard's tail	OBL	OBL	NC
SCH SCO	<i>Schizachyrium scoparium</i> (Michx.) Nash	Little bluestem	FACU	FAC	NC
SCH TAB	<i>Schoenoplectus tabernaemontani</i> (C.C.Gmel.) Palla	Softstem bulrush	OBL	OBL	NC
SCI CYP	<i>Scirpus cyperinus</i> (L.) Kunth	Woolgrass	OBL	OBL	NC
SCL TRI	<i>Scleria triglomerata</i> Michx.	Tall nutgrass	FACU+	FACW	NC
SEN OBT	<i>Senna obtusifolia</i> (L.) H.S. Irwin & Barneby	Sicklepod	NL	UPL	NW
SER REP	<i>Serenoa repens</i> (Bartr.) Small	Saw palmetto	FACU	UPL	NC
SER TOR	<i>Sericocarpus tortifolius</i> (Michx.) Nees	Whit-top aster	NL	UPL	NC
SES HER	<i>Sesbania herbacea</i> (Mill.) McVaugh	Danglepod	NI	FAC	NW
SET PAR	<i>Setaria parviflora</i> (Poir.) Kerguelen	Knotroot foxtail	FAC	FAC	NP
SEY CAS	<i>Seymeria cassioides</i> (G.F. Gmel.) S.F. Blake	Yaupon black-senna	FAC	FAC	NC
SID RHO	<i>Sida rhombifolia</i> L.	Cuban jute	FACU	UPL	NW
SMI BON	<i>Smilax bona-nox</i> L.	Greenbrier	FAC	---	NC
SMI GLA	<i>Smilax glauca</i> Walt.	Wild sarsaparilla	FAC	---	NC
SMI LAU	<i>Smilax laurifolia</i> L.	Bamboo vine	FACW+	---	NC
SOL SCA	<i>Solidago canadensis</i> L. var. <i>scabra</i> T. & G.	Canada goldenrod	FACU	UPL	NP
SOL LEA	<i>Solidago leavenworthii</i> Torr. & A.Gray	Leavenworth's goldenrod	FAC+	FACW	NC

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SOL ODO	<i>Solidago odora</i> var. <i>odora</i> Aiton	Sweet goldenrod	NL	UPL	NC
SOR HAL	<i>Sorghum halapense</i> (L.) Pers.	Johnsongrass	FACU	UPL	EW
SPH TRI	<i>Sphagneticola trilobata</i> (L.) Pruski	Creeping oxeye	FAC	FAC	EW
SPH SP.	<i>Sphagnum</i> sp.	Moss	Aquatic	OBL	NC
SPO IND	<i>Sporobolus indicus</i> (L.) R. Br.	Smutgrass	FACU+	UPL	EW
SPO JUN	<i>Sporobolus junceus</i> (Michx.) Kunth	Pineywoods dropseed	NL	UPL	NC
STA FLO	<i>Stachys floridana</i> Shuttlew. ex Benth.	Florida betony	FAC	UPL	NP
STE SEC	<i>Stenotaphrum secundatum</i> (Walter) Kuntze	St. Augustinegrass	FAC	UPL	NW
STI SYL	<i>Stillingia sylvatica</i> L.	Queen's delight	NL	FAC	NC
STR UMB	<i>Strophostyles umbellata</i> (Muhl. ex Willd.) Britton	Pink fuzzybean	FAC-	---	NC
SYM ELL	<i>Symphotrichum elliotii</i> (Torr. & A.Gray) G.L. Nesom	Elliott's aster	OBL	OBL	NC
SYN FLA	<i>Syngonanthus flavidulus</i> (Michx.) Ruhland	Yellow hatpins	FACW+	FACW	NC
TAX ASC	<i>Taxodium ascendens</i> Brongn.	Pond cypress	OBL	OBL	NC
TAX DIS	<i>Taxodium distichum</i> (L.) Rich.	Bald cypress	OBL	OBL	NC
THE KUN	<i>Thelypteris kunthii</i> (Desv.) C.V. Morton	Southern shield fern	FACW	FACW	NC
THE PAL	<i>Thelypteris palustris</i> Schott var. <i>pubescens</i> (G. Lawson) Fern.	Marsh fern	NL	FACW	NC
TOX RAD	<i>Toxicodendron radicans</i> (L.) Kuntze	Poison ivy	FAC	---	NC
TRA OHI	<i>Tradescantia ohioensis</i> Raf.	Ohio spiderwort	FAC-	UPL	NP
TRI VIR	<i>Triadenum virginicum</i> (L.) Raf.	Virginia marsh St. John's-wort	OBL	OBL	NC
TRI DAC	<i>Tripsacum dactyloides</i> (L.) L.	Eastern gamagrass	FAC+	FAC	NC
TYP LAT	<i>Typha latifolia</i> L.	Common cattail	OBL	OBL	NW
ULM AME	<i>Ulmus americana</i> L.	American elm	FACW	FACW	NC
VAC ARB	<i>Vaccinium arboreum</i> Marshall	Sparkleberry	FACU	UPL	NC
VAC COR	<i>Vaccinium corymbosum</i> L.	Highbush blueberry	FACW	FACW	NC
VAC ELL	<i>Vaccinium elliotii</i> Chapm.	Mayberry	FAC+	FAC	NC
VAC MYR	<i>Vaccinium myrsinites</i> Lam.	Shiny blueberry	FACU	UPL	NC
VAC STA	<i>Vaccinium stamineum</i> L.	Deerberry	FACU	UPL	NC
VAC VIR	<i>Vaccinium virgatum</i> Aiton	Rabbit-eye blueberry	NL	UPL	NC

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VER BRA	<i>Verbena brasiliensis</i> Vell.	Brazilian vervain	FAC-	UPL	EW
VER HAL	<i>Verbena officinalis</i> ssp. <i>halei</i> (Small) S.C. Barber	Texas vervain	FACU-	UPL	NP
VER SCA	<i>Verbena scabra</i> Vahl.	Harsh vervain	FACW+	FACW	NC
VER HET	<i>Verbesina heterophylla</i> (Chapm.) A. Gray †	Diverseleaf crownbeard	FACW	FACW	NC
VER ANG	<i>Vernonia angustifolia</i> Michx.	Tall ironweed	FACU-	UPL	NC
VIT ROT	<i>Vitis rotundifolia</i> Michx.	Muscadine	FAC	---	NP
WOO ARE	<i>Woodwardia areolata</i> (L.) Moore	Netted chain fern	OBL	OBL	NC
WOO VIR	<i>Woodwardia virginica</i> (L.) Smith	Virginia chain fern	OBL	FACW	NC
XYR BRE	<i>Xyris brevifolia</i> Michx.	Shortleaf yelloweyed grass	OBL	OBL	NC
XYR CAR	<i>Xyris caroliniana</i> Walt.	Carolina yelloweyed grass	FACW+	FACW	NC
XYR PLA	<i>Xyris platylepis</i> Chapm.	Tall yelloweyed grass	OBL	OBL	NC
XYR SP.	<i>Xyris</i> sp.	Yelloweyed grass	---	FACW	---

¹ USFWS (United States Fish and Wildlife Service) Classifications: OBL = obligate wetland species; FACW = facultative wetland species; FAC = facultative species (neither wetland nor upland); UPL = upland species; NL = not listed in the federal list; NI = non-indicator species

² FDEP (Florida Department of Environmental Protection) Classifications: OBL = obligate wetland species; FACW = facultative wetland species; FAC = facultative species (neither wetland nor upland); UPL = upland species; "----" = vine (non-indicator species)

³ Floristic Classifications (a measure of relative desirability): NC = Native Characteristic species (highly desirable); NP = Native Pioneer species (highly desirable); NW = Native Weedy species (slightly desirable); EW = Exotic Weedy species (undesirable); EA = Exotic Aggressive species (very undesirable)

† Listed as **Threatened-State** in the *Preservation of Native Flora of Florida Act*. Defined as species of plants native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

‡ Listed as **Endangered-State** in the *Preservation of Native Flora of Florida Act*. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

Figure 1. Project location map of the Gainesville 121 Project Site in relation to local access roadways.

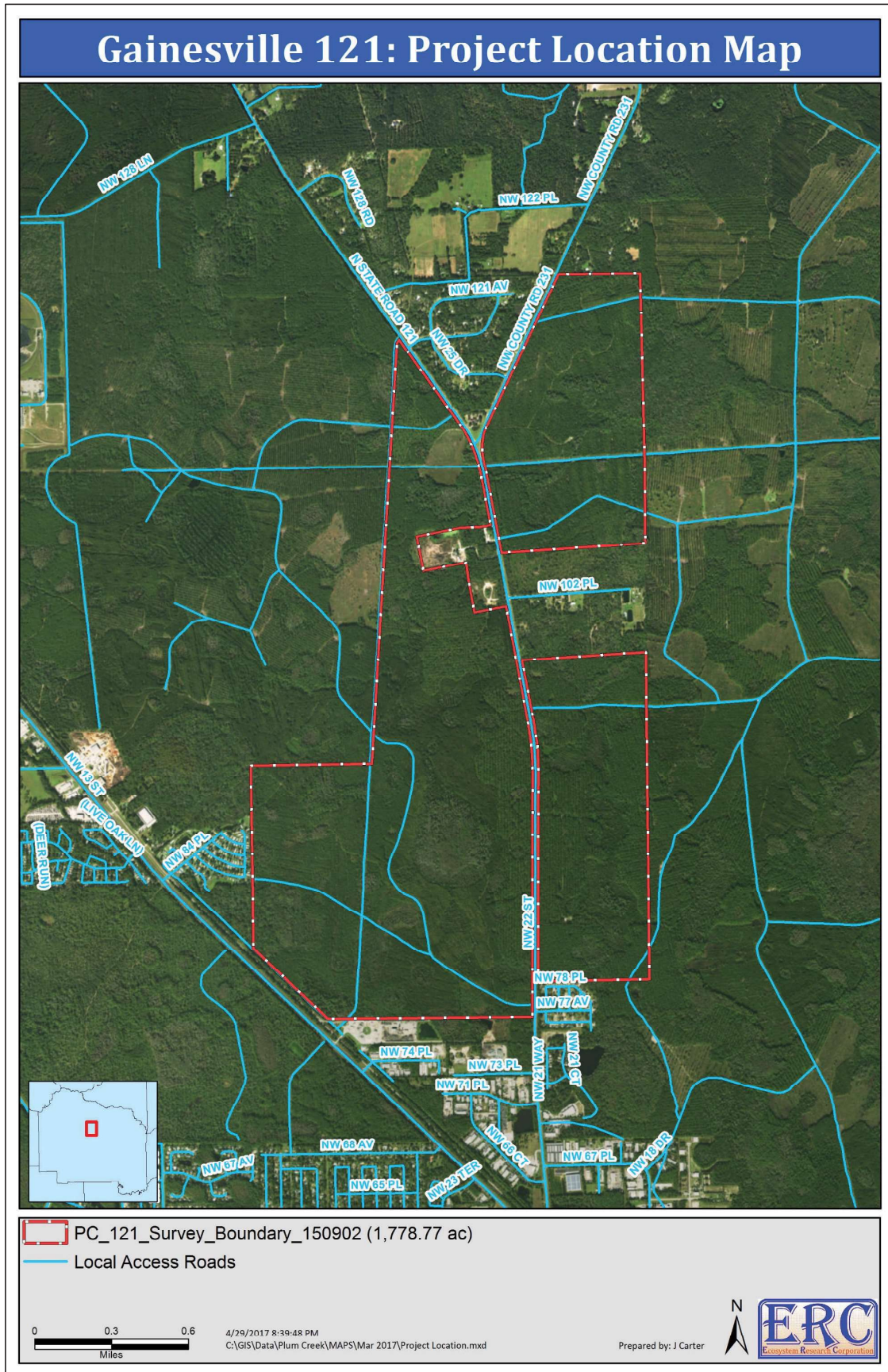


Figure 2. Section, Township, and Range map of the Gainesville 121 Project Site.

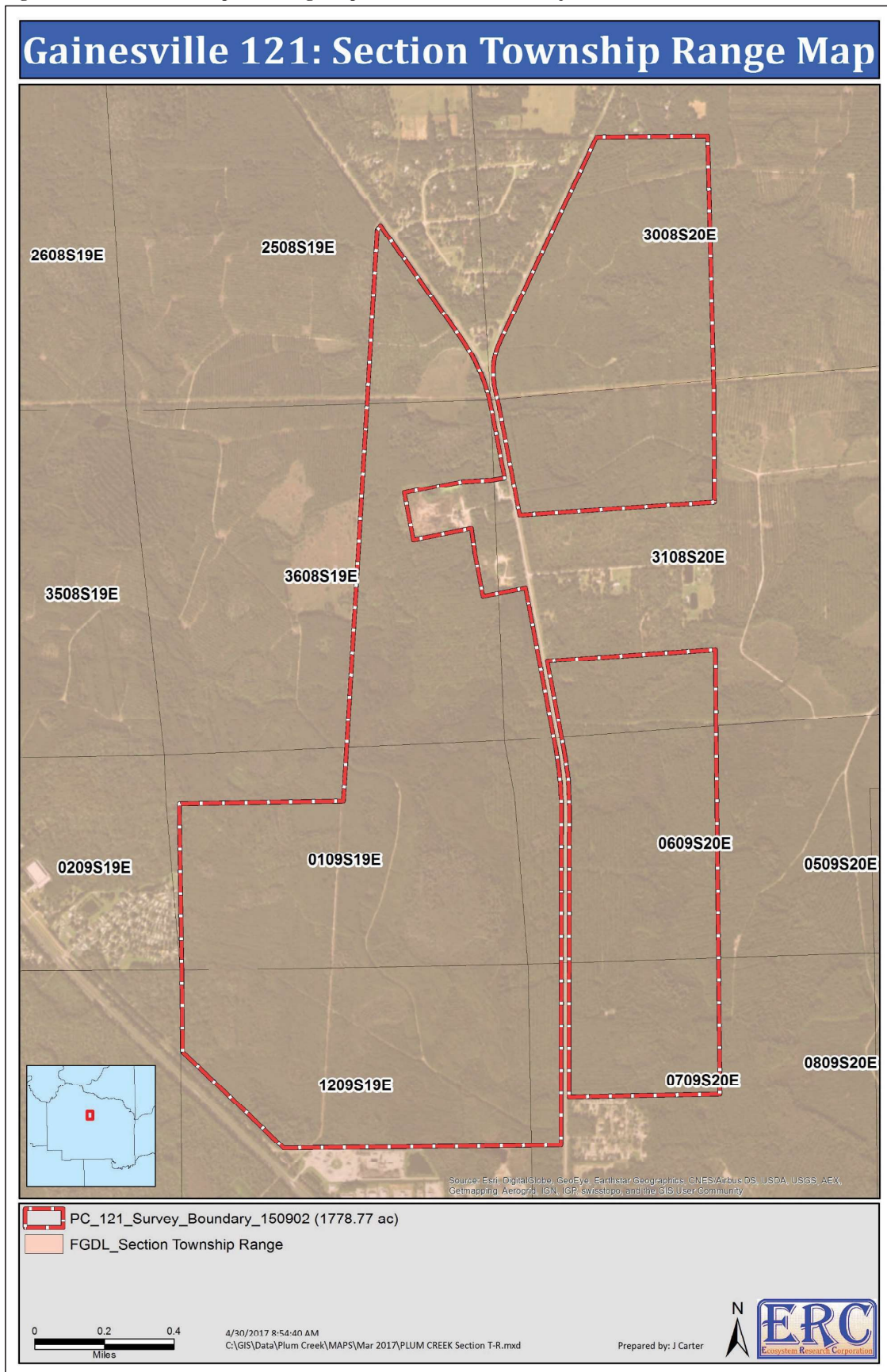


Figure 3. Parcel location map for the Gainesville 121 Project Site.

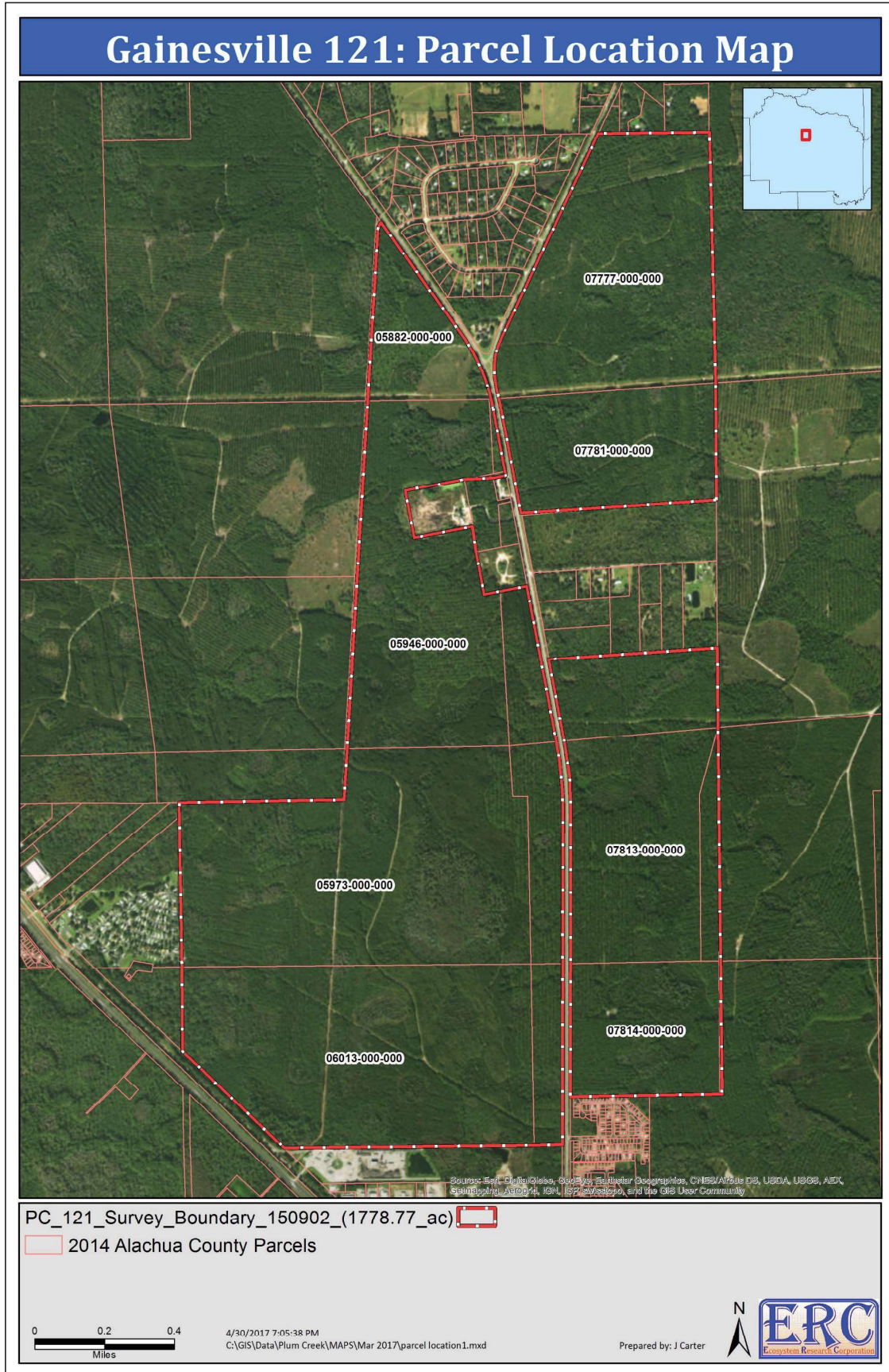
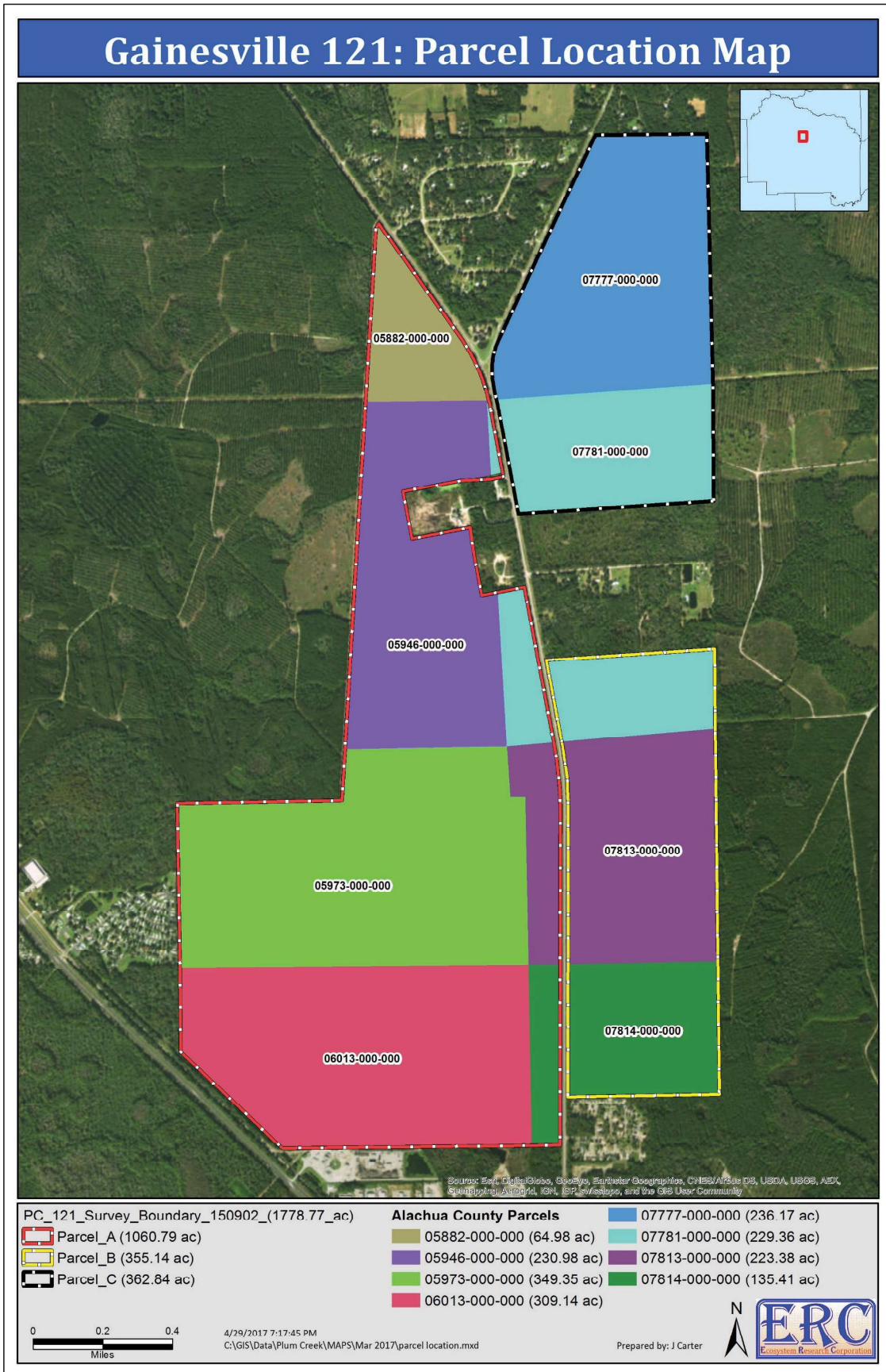
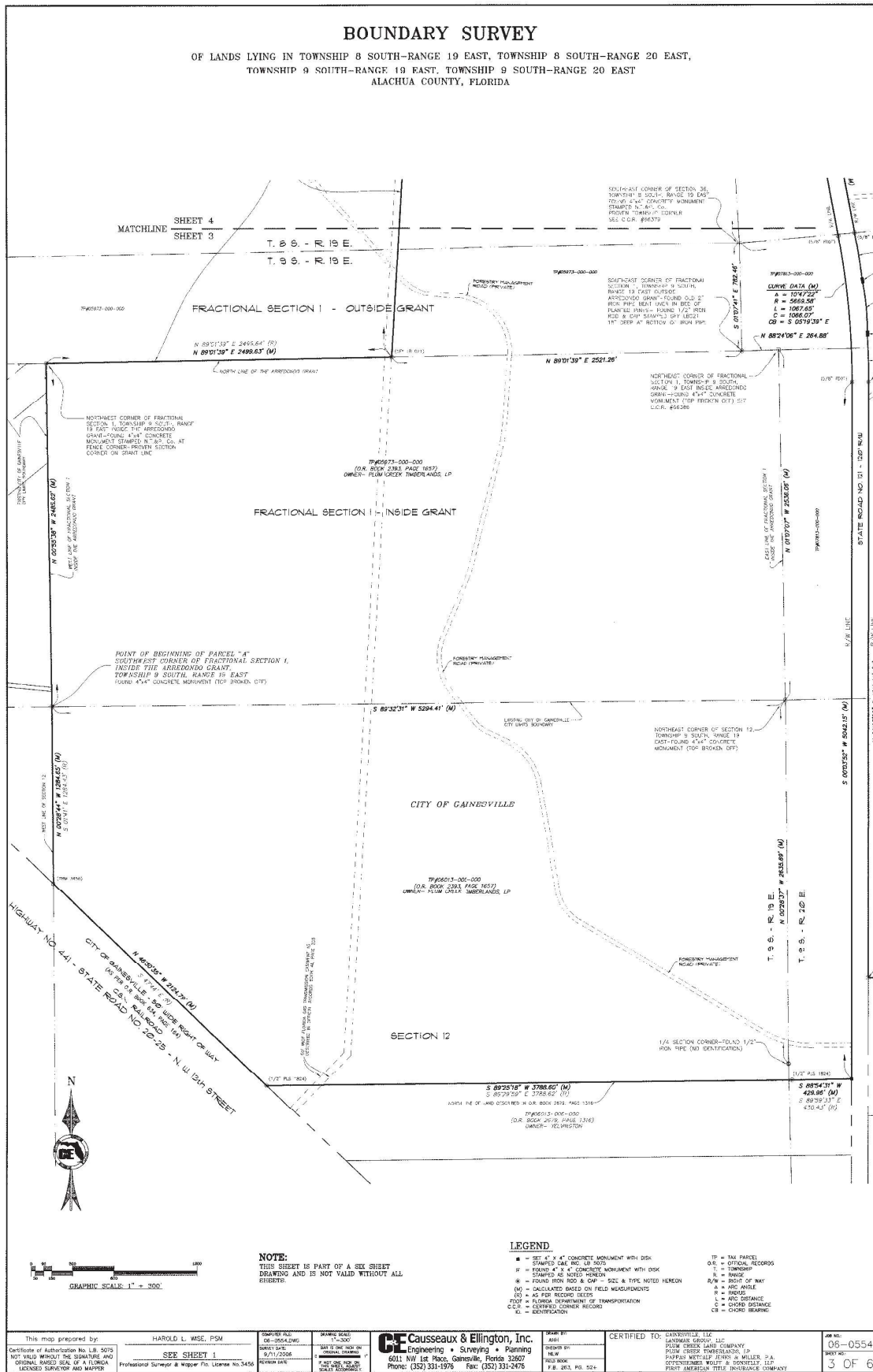


Figure 4. Parcel location map for the Gainesville 121 Project Site with associated acreages.





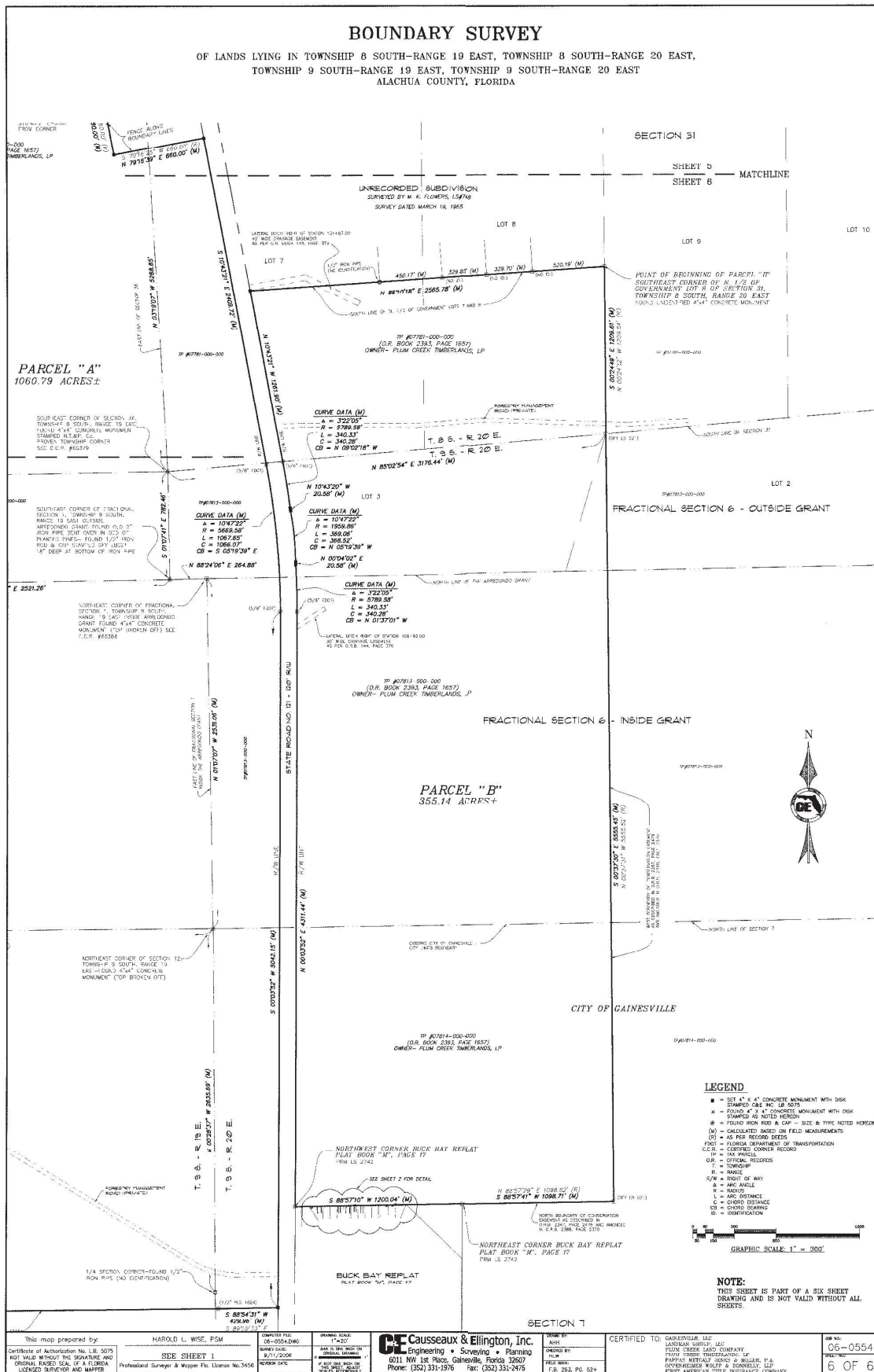


Figure 6. Utility easements located within the Gainesville 121 Project Site.



Figure 7. GPS locations where site-specific data were collected.

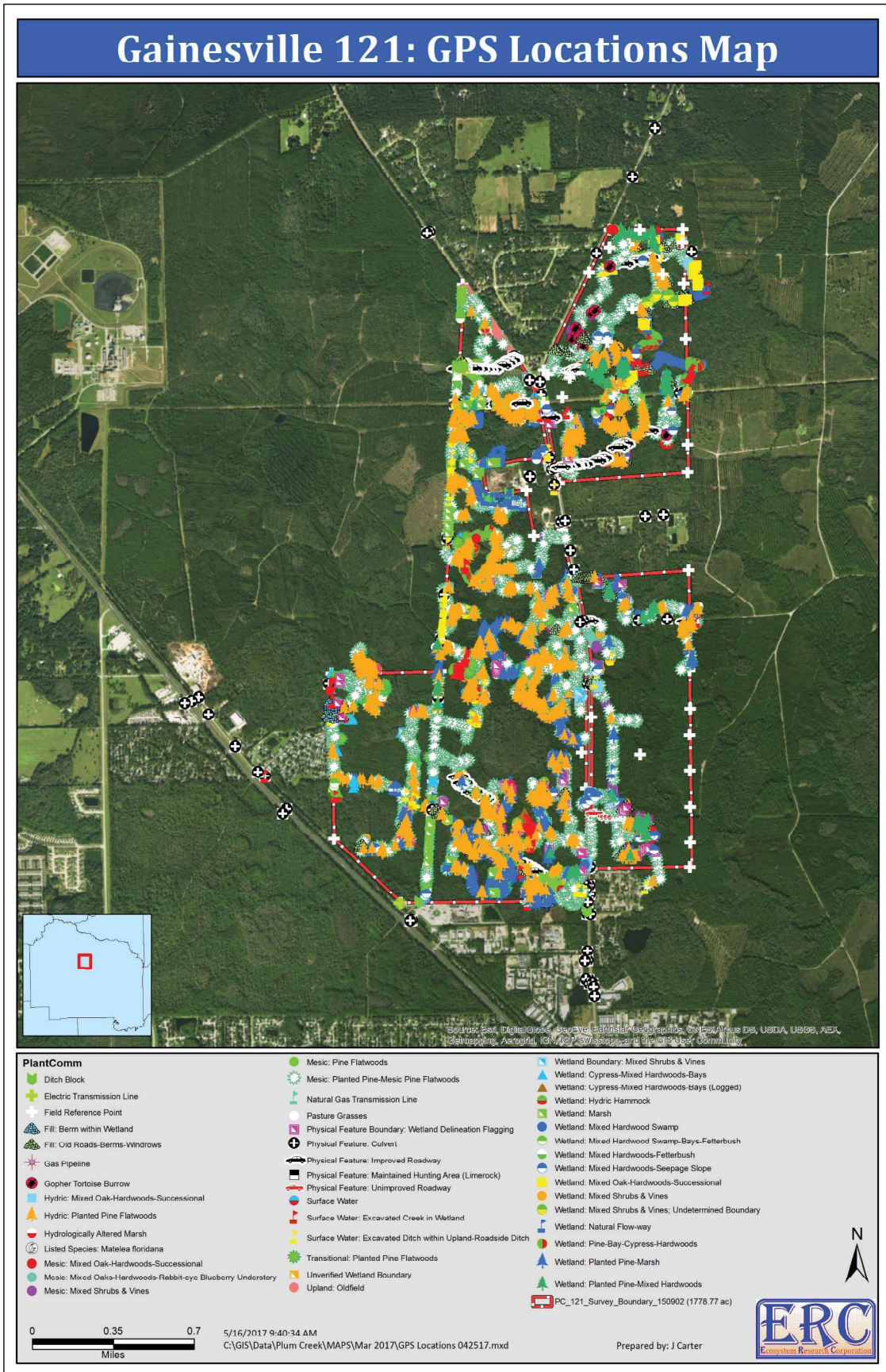


Figure 8. Wetlands and uplands occurring within twenty-two (22) Conservation Management Areas occurring on the Project Site.

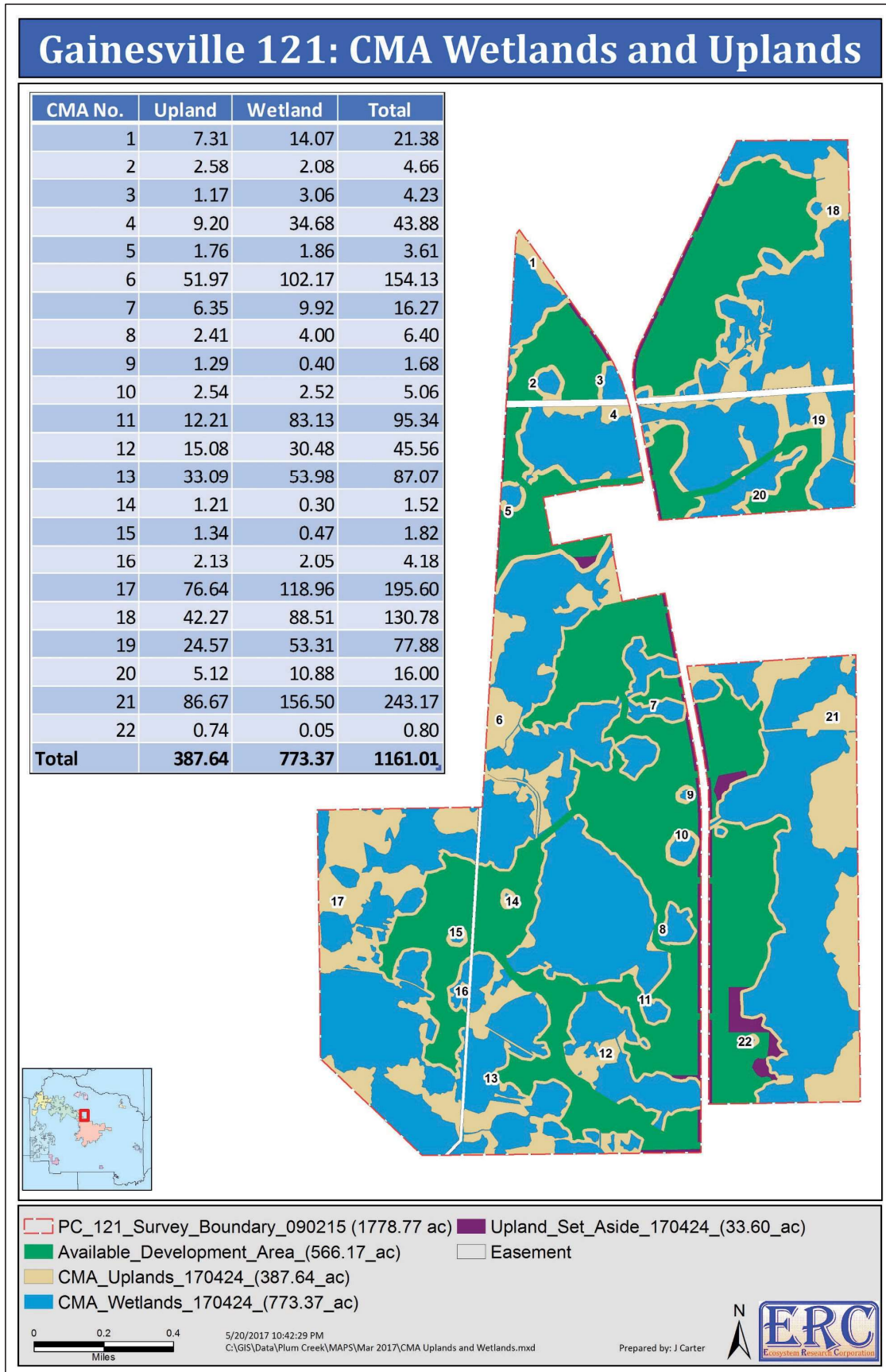


Figure 9. Plant communities occurring within Conservation Management Areas designated on the Project Site.

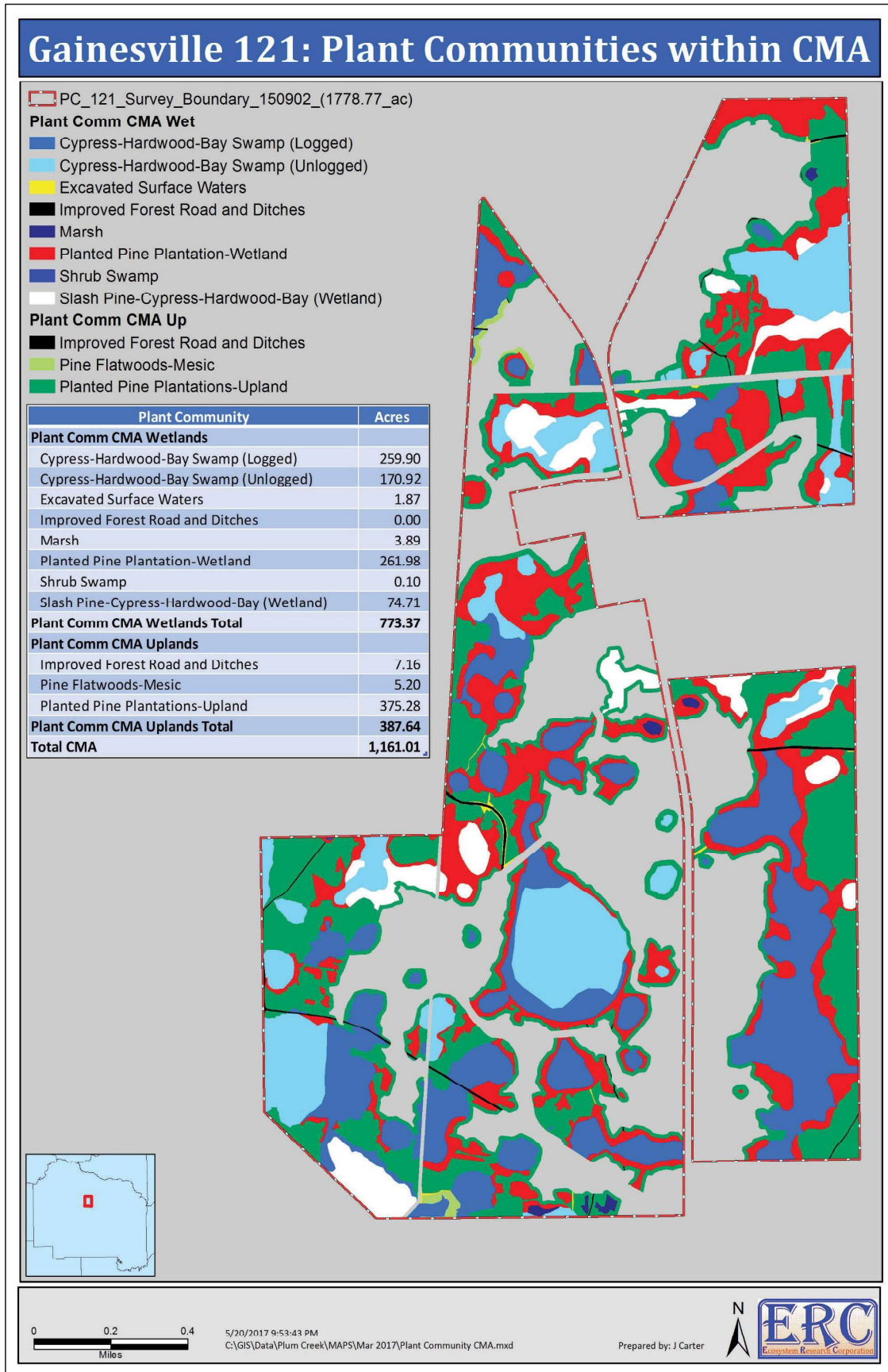


Figure 10. Plant communities occurring within the upland areas of the Conservation Management Areas.

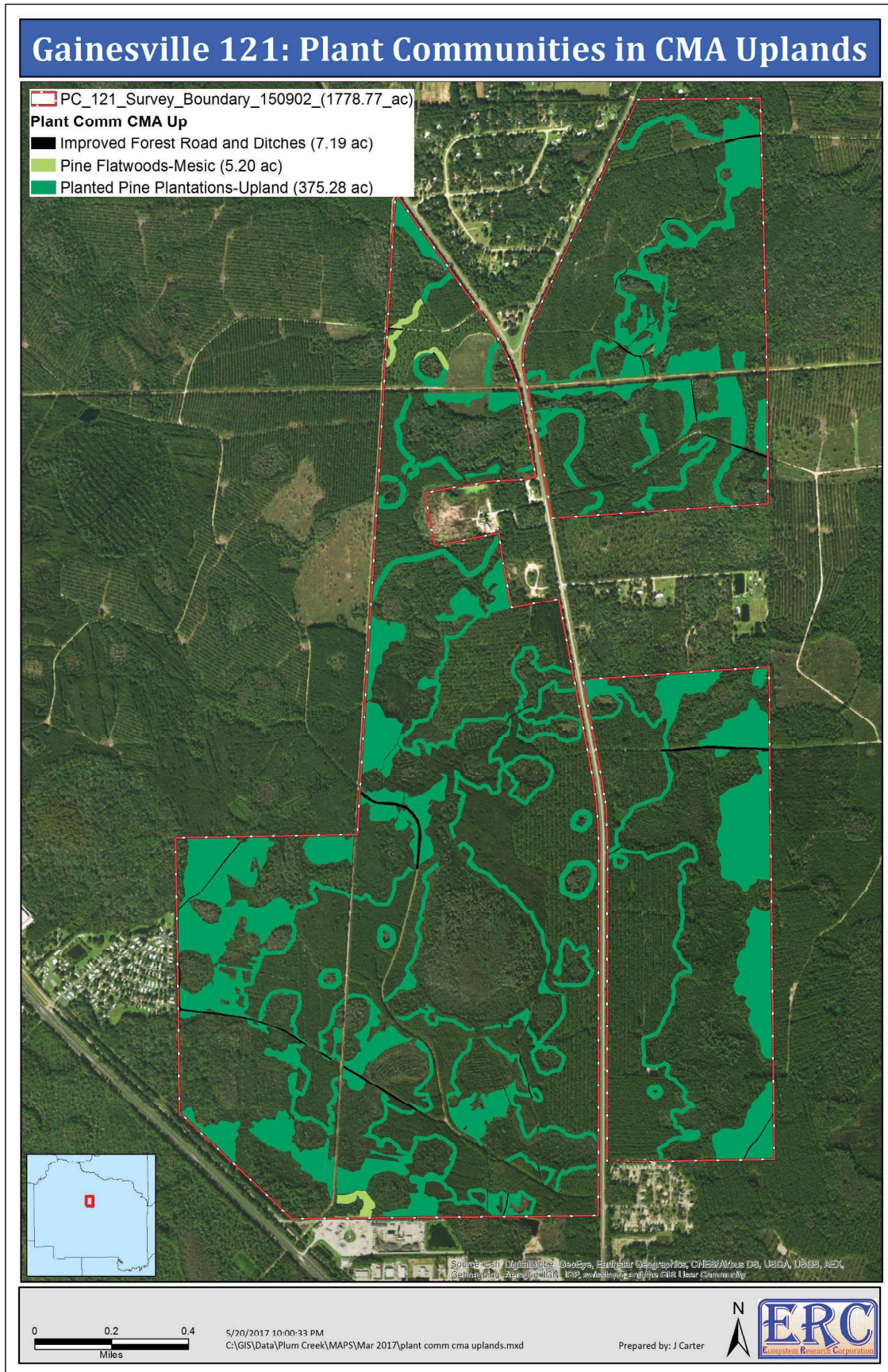


Figure 11. Plant communities occurring within the wetland areas of the Conservation Management Areas.

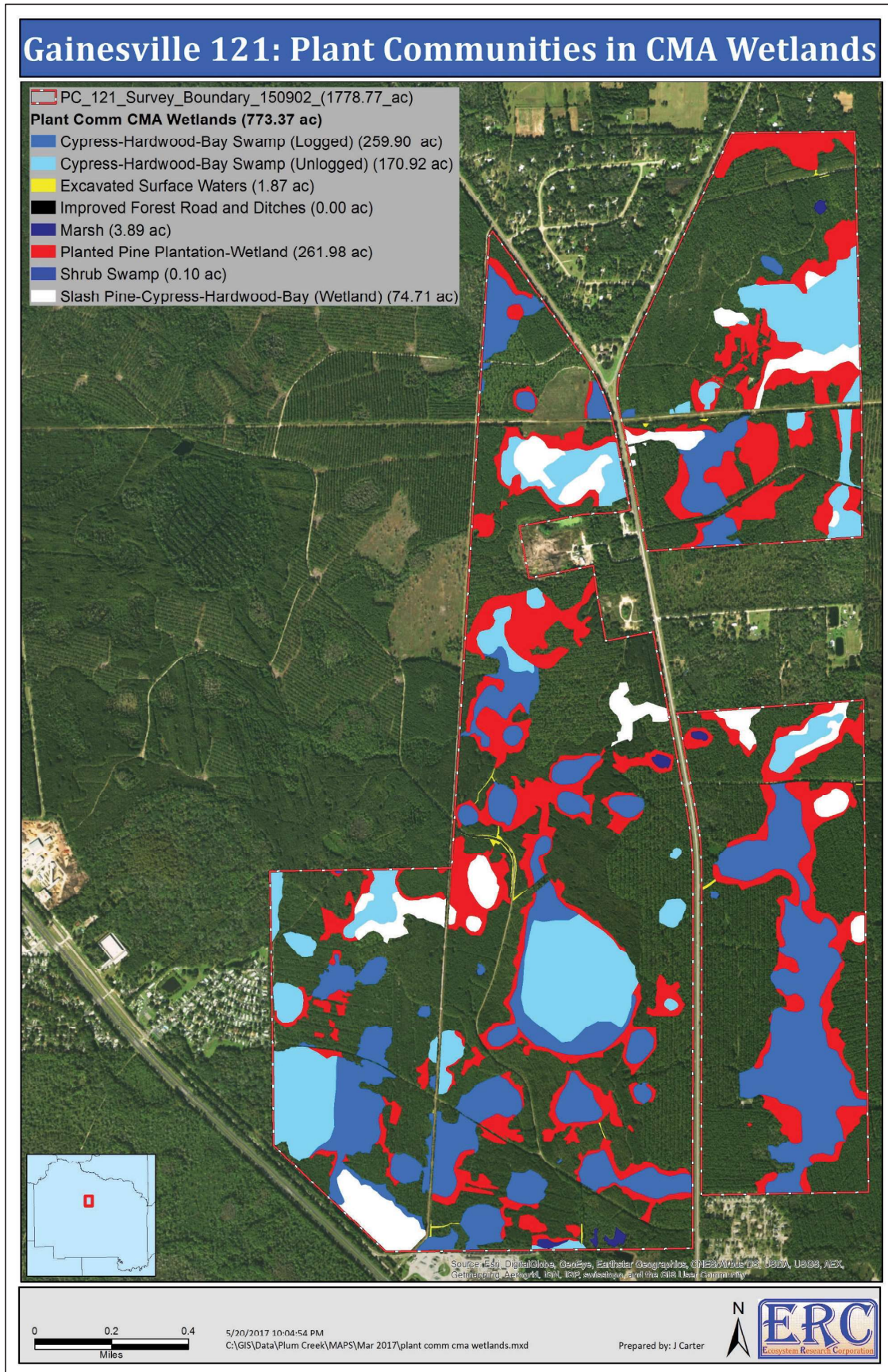


Figure 12. Plant communities occurring within the non-CMA upland set aside areas.

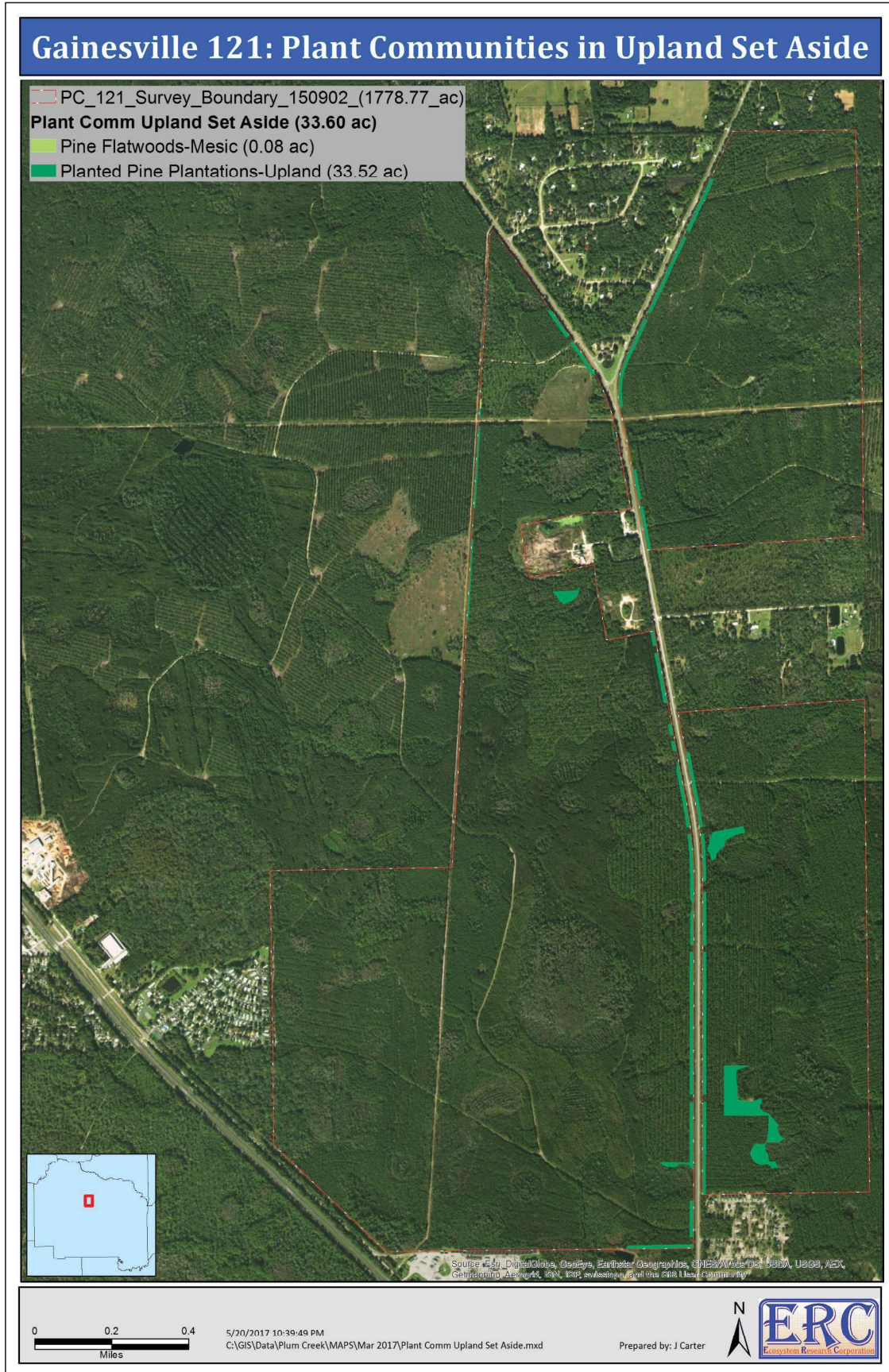


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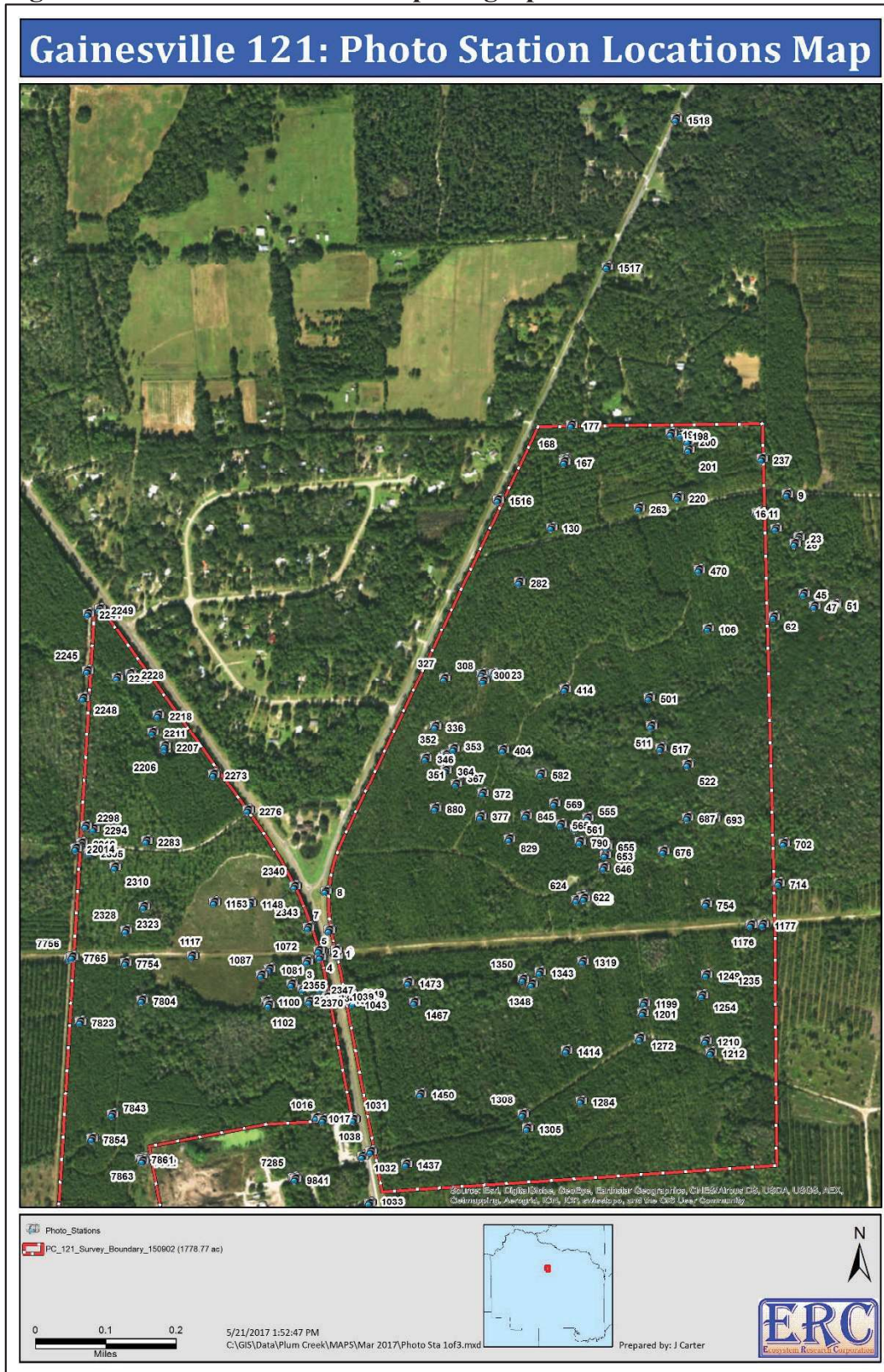
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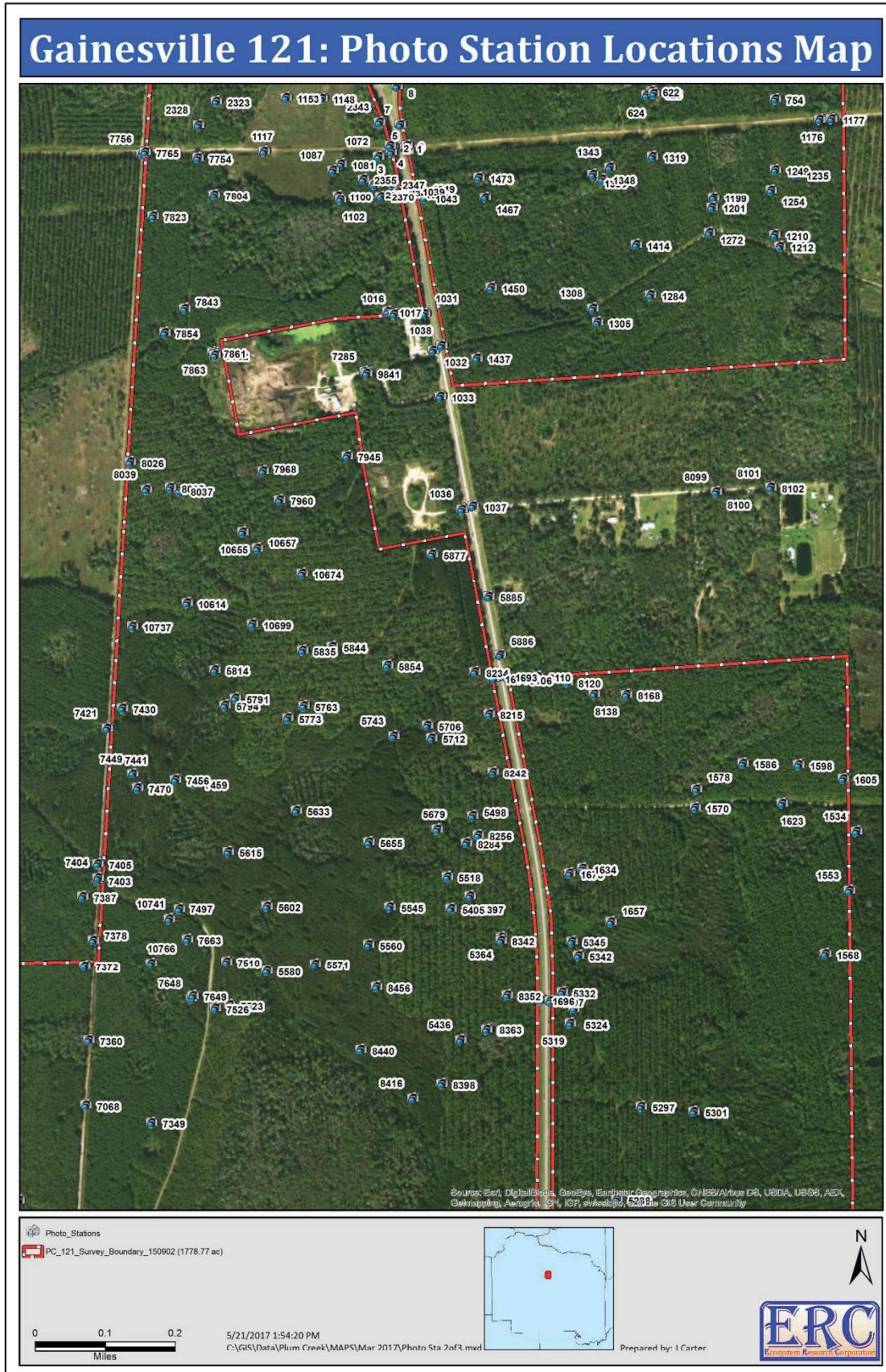
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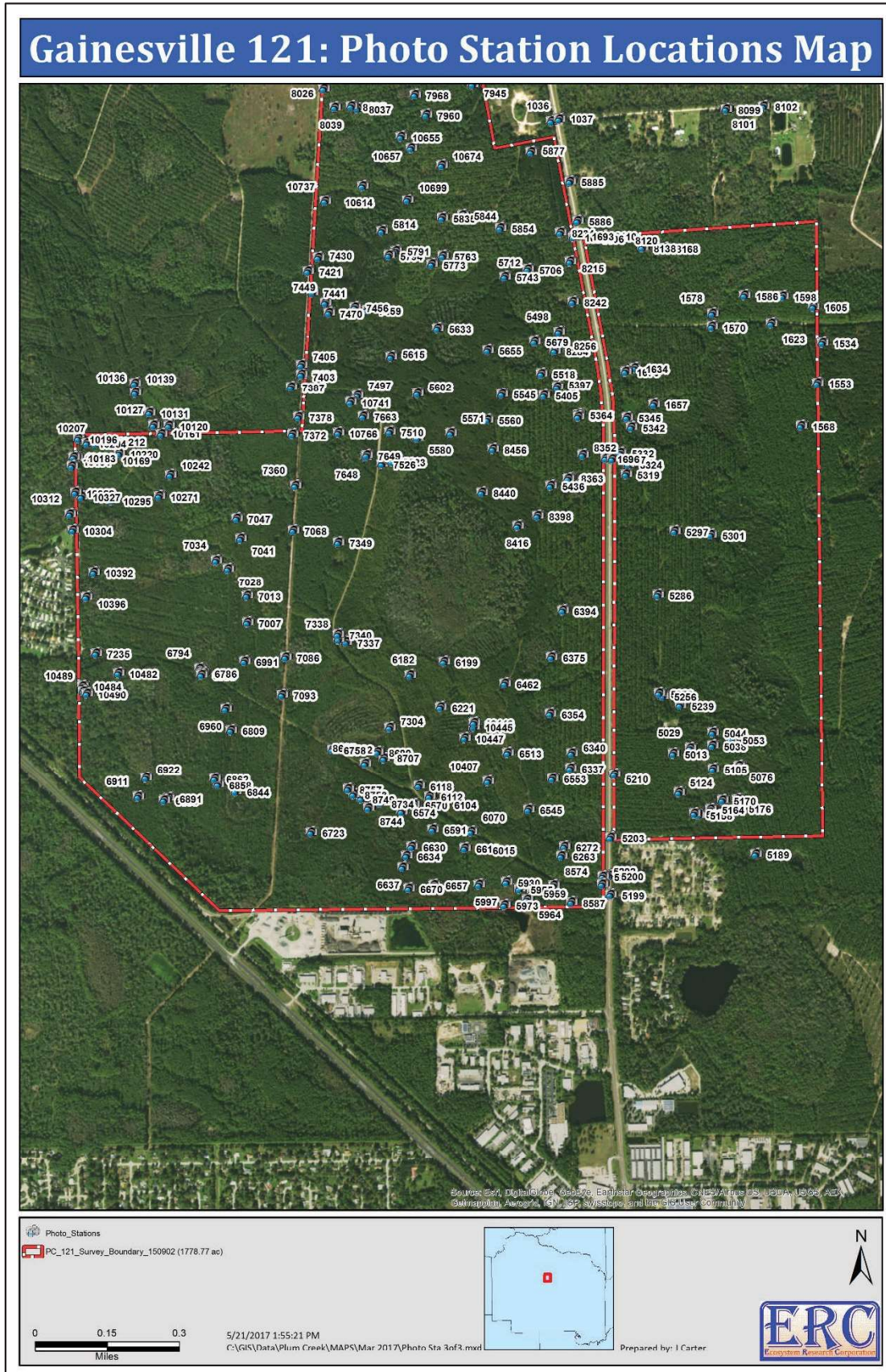




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Photo 2. Power line ditch located at GPS location 4 (Frame 7356; 08/14/15).



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Photo 13. Power line ditch as seen looking east from GPS location 6 (Frame 7367; 08/14/15).



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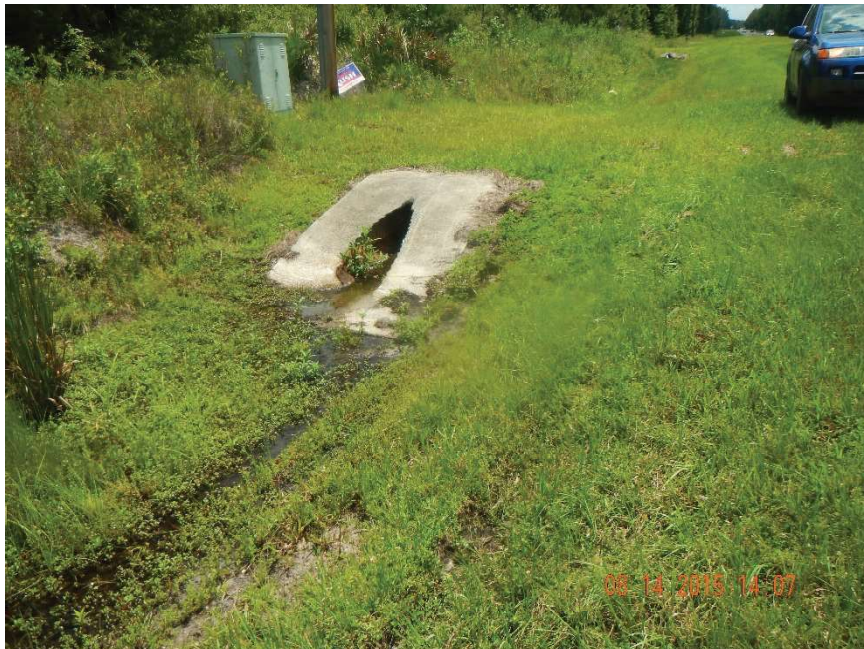


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Photo 16. Culvert and ditch as seen looking north from GPS location 7 (Frame 7370; 08/14/15).



Photo 17. Culvert headwall as seen looking north from GPS location 8 (Frame 7371; 08/14/15).



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Photo 19. Ditch as seen looking south from GPS location 8 (Frame 7373; 08/14/15).



Photo 20. Ditch as seen looking north from GPS location 8 (Frame 7374; 08/14/15).

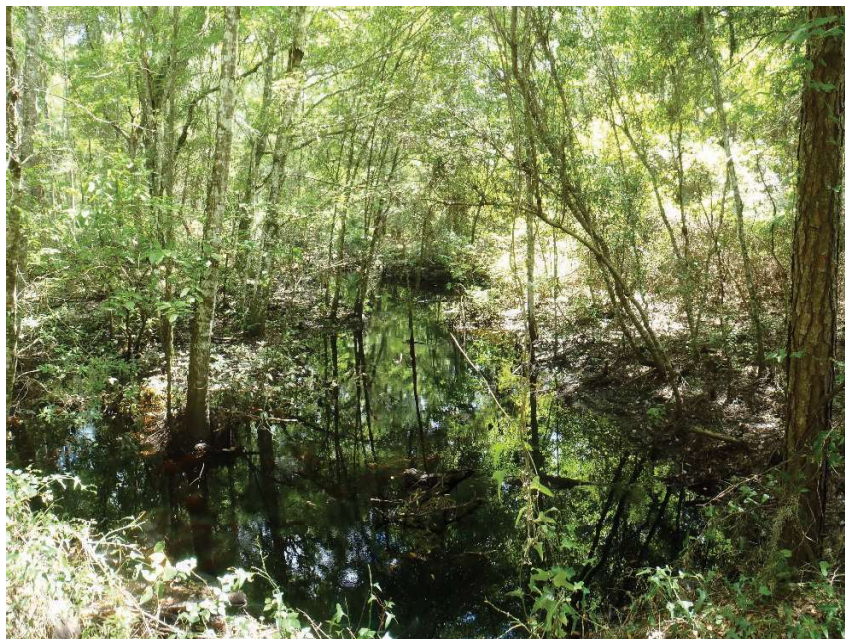


Photo 21. Excavated canal within Wetland: Mixed Oak-Hardwoods-Successional community located south of GPS location 9 (Frames 1486-1487; 08/14/15).



Photo 22. Excavated canal within Wetland: Mixed Oak-Hardwoods-Successional community located north of GPS location 9 (Frames 1488-1489; 08/14/15).



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Photo 26. View of Surface Water: Excavated Creek in Wetland as seen looking east from GPS location 23 (Frames 1495-1496; 08/14/15).



Photo 27. View of Wetland: Mixed Oak-Hardwoods-Successional community as seen looking east from GPS location 28 (Frames 1497-1498; 08/14/15).



Photo 28. View of Wetland: Mixed Oak-Hardwoods-Successional community as seen looking southwest from GPS location 45 (Frames 1499-1500; 08/14/15).



Photo 29. View of lichen line seen in the Wetland: Mixed Oak-Hardwoods-Successional community at GPS location 45 (Frame 1501; 08/14/15).



Photo 30. View of Wetland: Mixed Hardwood Swamp as seen looking east from GPS location 47 (Frames 1502-1503; 08/14/15).



Photo 31. View of Surface Water: Excavated Creek in Wetland as seen looking east from GPS location 51 (Frames 1504-1505; 08/14/15).



Photo 32. View of Surface Water: Excavated Creek in Wetland as seen looking north from GPS location 51 (Frame 1506; 08/14/15).



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Photo 40. View of Wetland: Planted Pine-Mixed Hardwoods community as seen looking east from GPS location 197 (Frames 1521-1522; 08/17/15).



Photo 41. View of Surface Water: Excavated Creek in Wetland as seen looking northwest from GPS location 198 (Frames 1523-1524; 08/17/15).



Photo 42. View of Surface Water: Excavated Creek in Wetland as seen looking west from GPS location 200 (Frames 1525-1526; 08/17/15).

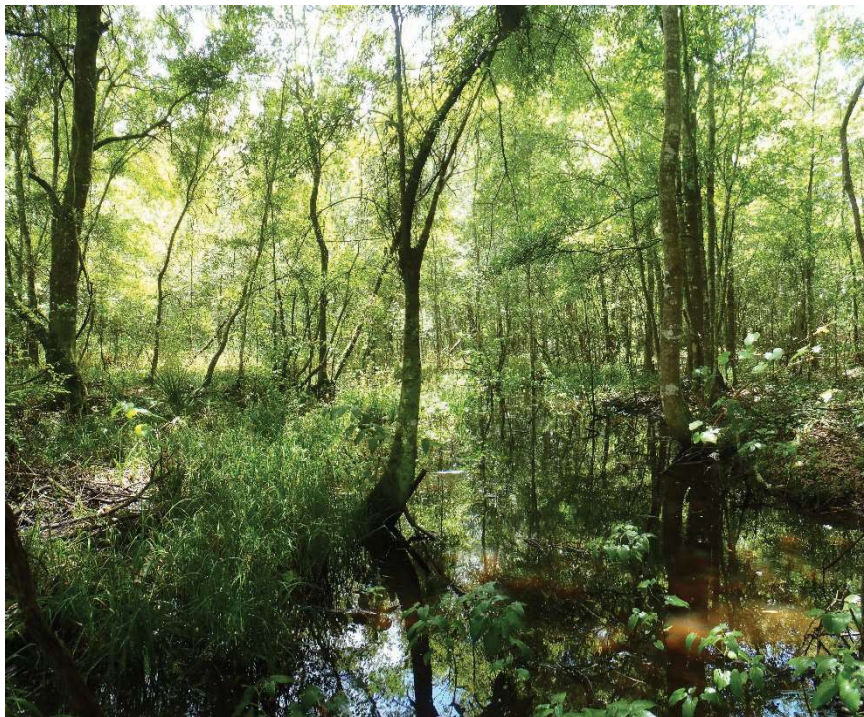


Photo 43. View of Surface Water: Excavated Creek in Wetland as seen looking south from GPS location 200 (Frames 1527-1528; 08/17/15).



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Photo 49. View of Mesic: Mixed Shrubs & Vines community as seen looking southwest from GPS location 300 (Frames 1542-1543; 08/18/15).



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Photo 53. View of gopher tortoise burrow (Active) located at GPS location 336 (Frame 1546; 08/18/15).



Photo 54. View of gopher tortoise burrow (Active) located at GPS location 346 (Frame 1547; 08/18/15).



Photo 55. View of gopher tortoise burrow (Active) located at GPS location 351 (Frame 1548; 08/18/15).



Photo 56. View of gopher tortoise burrow (Active) located at GPS location 352 (Frame 1549; 08/18/15).



Photo 57. View of gopher tortoise burrow (Active, Juvenile) located at GPS location 353 (Frame 1550; 08/18/15).



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Photo 59. View of gopher tortoise burrow (Active, Juvenile) located at GPS location 367 (Frame 1553; 08/18/15).



Photo 60. View of Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 372 (Frames 1554-1555; 08/18/15).



Photo 61. View of Hydric: Planted Pine Flatwoods as seen looking northeast from GPS location 377 (Frames 1556-1557; 08/18/15).



Photo 62. View of Wetland: Mixed Hardwoods-Seepage Slope community as seen looking east from GPS location 404 (Frames 1558-1559; 08/18/15).



Photo 63. View of Wetland: Mixed Hardwoods-Seepage Slope community as seen looking south from GPS location 404 (Frames 1560-1561; 08/18/15).



Photo 64. View of Planted Pine-Mesic Pine Flatwoods as seen looking east from GPS location 414 (Frames 1562-1563; 08/18/15).



Photo 65. View of Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 414 (Frames 1564-1565; 08/18/15).



Photo 66. View of roadway and habitat as seen looking east from GPS location 9 (Frames 1566-1567; 08/18/15).



Photo 67. View of Wetland: Planted Pine-Marsh as seen looking northwest from GPS location 470 (Frames 1568-1569; 08/18/15).



Photo 68. View of Wetland: Mixed Hardwoods-Seepage Slope as seen looking southeast from GPS location 501 (Frames 1570-1571; 08/18/15).



Photo 69. View of Wetland: Hydric Hammock as seen looking south from GPS location 511 (Frames 1572-1573; 08/18/15).



Photo 70. View of Wetland: Hydric Hammock as seen looking south from GPS location 517 (Frames 1574-1575; 08/18/15).

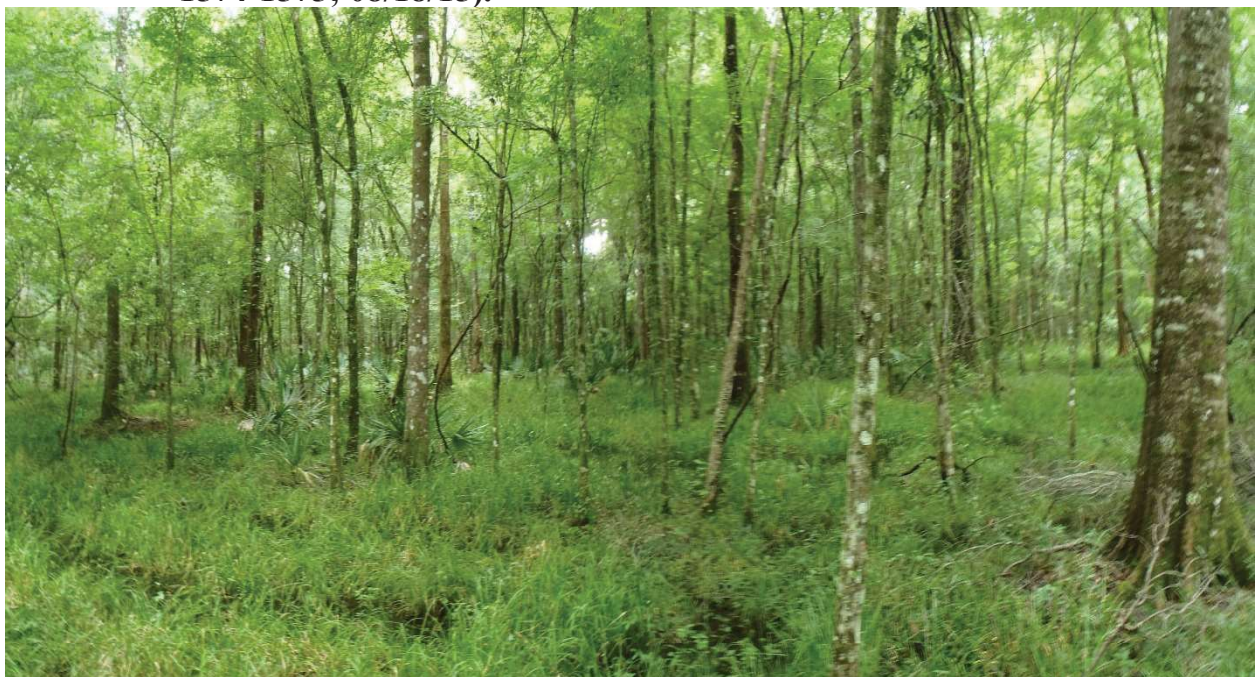


Photo 71. View of Wetland: Hydric Hammock as seen looking west from GPS location 517 (Frames 1576-1677; 08/18/15).



Photo 72. View of Wetland: Mixed Hardwood Swamp as seen looking southwest from GPS location 522 (Frames 1578-1579; 08/18/15).



Photo 73. View of Surface Water: Excavated Creek in Wetland as seen looking west from GPS location 555 (Frame 1580; 08/18/15).



Photo 74. View of wetland flagging over stream as seen looking west from GPS location 561 (Frame 1581; 08/18/15).



Photo 75. View of Hydric: Planted Pine Flatwoods as seen looking north from GPS location 565 (Frames 1582-1583; 08/18/15).



Photo 76. View of Wetland: Planted Pine-Marsh as seen at GPS location 569 (Frame 1584-1585; 08/18/15).



Photo 77. View of Wetland: Mixed Hardwood Swamp as seen looking northeast from GPS location 582 (Frames 1586-1587; 08/18/15).



Photo 78. View of Surface Water: Excavated Creek in Wetland as seen looking south from GPS location 622 (Frames 1650-1651; 08/21/15).



Photo 79. View of Wetland: Mixed Hardwoods-Seepage Slope as seen looking west from GPS location 624 (Frames 1652-1653; 08/21/15).



Photo 80. View of Wetland: Mixed Oak-Hardwoods-Successional community as seen looking east from GPS location 625 (Frames 1659-1660; 08/21/15).



Photo 81. View of old cat-faced stump located at GPS location 646 (Frame 1656; 08/21/15).



Photo 82. View of old cat-faced stump located at GPS location 646 (Frame 7396; 08/21/15).



Photo 83. View of old cat-faced stump located at GPS location 646 (Frame 7397; 08/21/15).



Photo 84. View of old cat-faced stump located at GPS location 646 (Frame 7398; 08/21/15).



Photo 85. View of Wetland: Natural Flow-way as seen looking east from GPS location 653 (Frames 1657-1658; 08/21/15).



Photo 86. View of Surface Water: Excavated Creek in Wetland as seen looking east from GPS location 655 (Frames 1659-1660; 08/21/15).



Photo 87. View of Surface Water: Excavated Creek in Wetland as seen looking west from GPS location 655 (Frames 1661-1662; 08/21/15).



Photo 88. View of Wetland: Mixed Hardwood Swamp as seen looking northwest from GPS location 676 (Frames 1665-1666; 08/21/15).



Photo 89. View of Wetland: Natural Flow-way as seen looking north from GPS location 687 (Frames 1667-1668; 08/21/15).



Photo 90. View of old cat-faced pine as seen at GPS location 687 (Frame 1669; 08/21/15).



Photo 91. View of Wetland: Mixed Hardwood Swamp as seen looking north from GPS location 693 (Frames 1670-1671; 08/21/15).



Photo 92. View of Wetland: Mixed Hardwood Swamp as seen looking southeast from GPS location 693 (Frames 1672-1673; 08/21/15).



Photo 93. View of Wetland: Hydric Hammock as seen looking northeast from GPS location 702 (Frames 1674-1675; 08/21/15).



Photo 94. View of Wetland: Hydric Hammock as seen looking southwest from GPS location 702 (Frames 1676-1677; 08/21/15).



Photo 95. View of Surface Water: Excavated Creek in Wetland as seen looking northeast from GPS location 714 (Frames 1678-1679; 08/21/15).



Photo 96. View of Surface Water: Excavated Creek in Wetland as seen looking northwest from GPS location 714 (Frames 1680-1681; 08/21/15).



Photo 97. View of Surface Water: Excavated Creek in Wetland as seen looking southwest from GPS location 714 (Frames 1682-1683; 08/21/15).



Photo 98. View of Wetland: Planted Pine-Marsh as seen looking west from GPS location 754 (Frames 1684-1685; 08/21/15).



Photo 99. View of Wetland: Planted Pine-Marsh as seen looking north from GPS location 790 (Frames 1686-1687; 08/21/15).



Photo 100. View of Wetland: Planted Pine-Marsh as seen looking northeast from GPS location 829 (Frames 1688-1689; 08/21/15).



Photo 101. View of Hydric: Planted Pine Flatwoods as seen looking east from GPS location 845 (Frames 1690-1691; 08/21/15).



Photo 102. View of Mesic: Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 880 (Frames 1692-1693; 08/21/15).

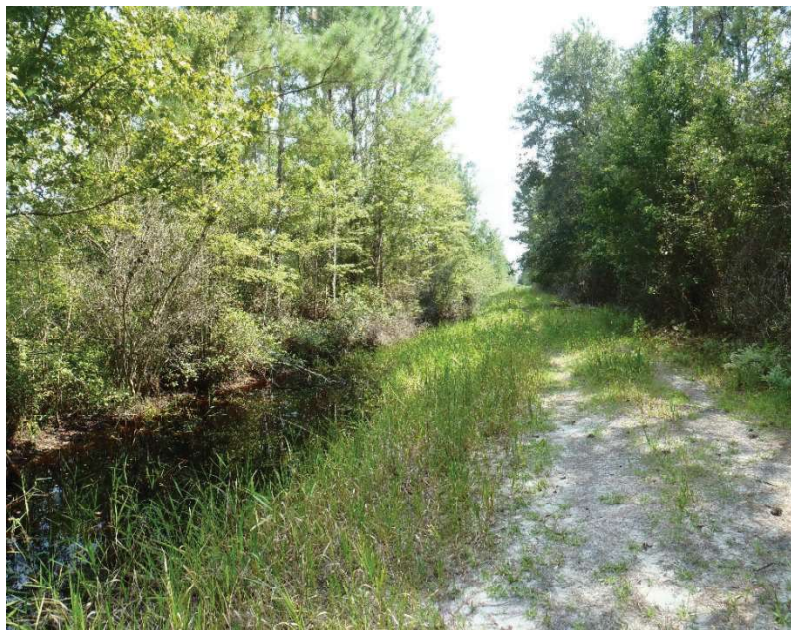


Photo 103. View of Surface Water: Excavated Creek in Wetland located on east side of the gas line right-of-way as seen looking south down gas line from GPS location 2013 (Frames 1695-1696; 08/25/15).



Photo 104. View of Wetland: Mixed Hardwood Swamp as seen looking south from GPS location 2014 (Frames 1697-1698; 08/25/15).



Photo 105. View of Wetland: Mixed Hardwood Swamp as seen looking north from GPS location 2019 (Frames 1699-1700; 08/25/15).



Photo 106. View of Wetland: Mixed Hardwoods-Fetterbush as seen looking southeast from GPS location 2206 (Frames 1705-1706; 08/25/15).



Photo 107. View of Hydrologically Altered Marsh as seen looking northeast from GPS location 2207 (Frames 1703-1704; 08/25/15).

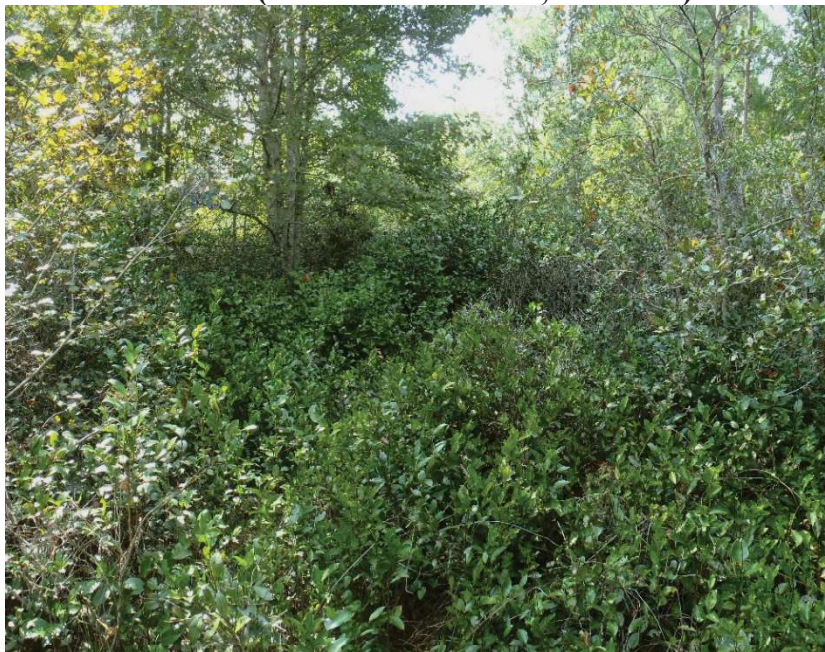


Photo 108. View of Wetland: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking west from GPS location 2211 (Frames 1707-1708; 8/25/15).



Photo 109. View of Hydric: Planted Pine Flatwoods as seen looking southwest from GPS location 2218 (Frames 1709-1710; 08/25/15).



Photo 110. View of Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 2228 (Frames 1711-1712; 08/25/15).



Photo 111. View of Hydric: Planted Pine Flatwoods as seen looking west from GPS location 2230 (Frames 1713-1714; 08/25/15).



Photo 112. View of Florida Gas right-of-way as seen looking south from GPS location 2241 (Frames 1715-1716; 08/25/15).



Photo 113. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking south down gas line right-of-way from GPS location 2245 (Frames 1717-1718; 08/25/15).



Photo 114. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking south from GPS location 2248 (Frames 1719-1720; 08/25/15).



Photo 115. View of Upland: Oldfield as seen looking south from GPS location 2249 (Frames 1721-1722; 08/25/15).



Photo 116. View of Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 2273 (Frames 1723-1724; 08/25/15).



Photo 117. View of Physical Feature: Culvert as seen looking north from GPS location 2276 (Frames 1725-1726; 08/25/15).



Photo 118. View of Physical Feature: Culvert as seen looking south from GPS location 2276 (Frames 1727-1728; 08/25/15).



Photo 119. View of Mesic: Pine Flatwoods as seen looking northwest from GPS location 2283 (Frames 1729-1730; 08/25/15).

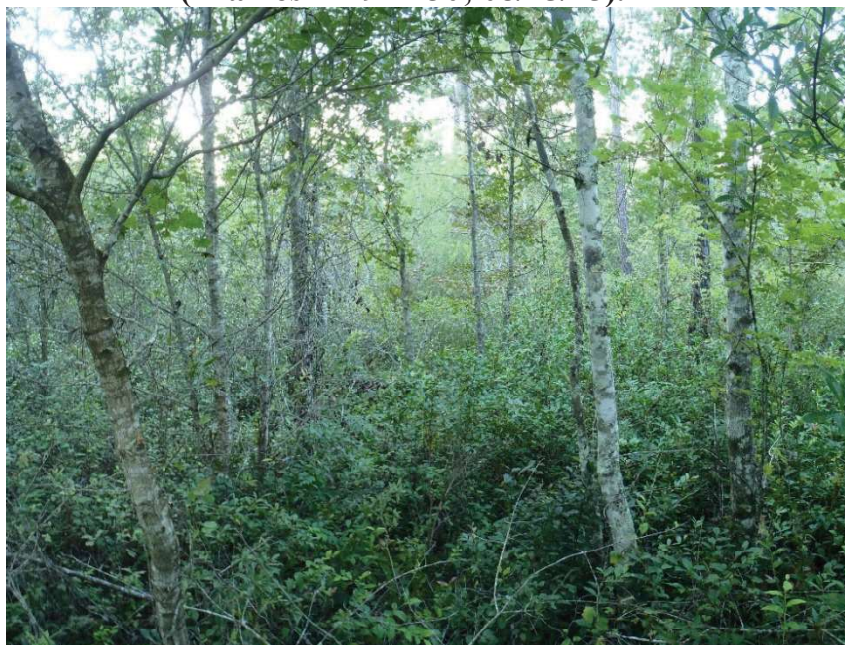


Photo 120. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking northwest from GPS location 2294 (Frames 1731-1732; 08/25/15).



Photo 121. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking northwest from GPS location 2298 (Frames 1733-1734; 08/25/15).



Photo 122. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking southwest from GPS location 2305 (Frames 1735-1736; 08/25/15).



Photo 123. View of Mesic: Pine Flatwoods as seen looking southeast from GPS location 2310 (Frames 1737-1738; 08/25/15).



Photo 124. View of Wetland: Cypress-Mixed Hardwoods-Bays as seen looking east from GPS location 2323 (Frames 1739-1740; 08/25/15).



Photo 125. View of Planted Pine-Mesic Pine Flatwoods as seen looking east from GPS location 2328 (Frames 1741-1742; 08/25/15).



Photo 126. View of Physical Feature: Culvert as seen looking west from GPS location 2340 (Frames 1743-1744; 08/26/15).



Photo 127. View of Physical Feature: Culvert at GPS location 2340 (Frame 1745; 08/26/15).



Photo 128. View of Wetland: Cypress-Mixed Hardwoods-Bays as seen looking west from GPS location 2343 (Frames 1746-1747; 08/26/15).



Photo 129. View of Physical Feature: Culvert as seen looking west from GPS location 2344 (Frames 1748-1749; 08/26/15).



Photo 130. View of Physical Feature: Culvert at GPS location 2344 (Frame 1750; 08/26/15).



Photo 131. View of Wetland: Mixed Hardwood Swamp as seen looking west from GPS location 2347 (Frames 1751-1752; 08/26/15).



Photo 132. View of Planted Pine-Mesic Pine Flatwoods as seen looking northwest from GPS location 2355 (Frames 1753-1754; 08/26/15).



Photo 133. View of Hydric: Planted Pine Flatwoods as seen looking east from GPS location 2363 (Frames 1755-1756; 08/26/15).



Photo 134. View of *Lobelia cardinalis* within the Wetland: Cypress-Mixed Hardwoods-Bays community located at GPS location 2370 (Frame 1757; 08/26/15).



Photo 135. View of Wetland: Cypress-Mixed Hardwoods-Bays as seen looking west from GPS location 2370 (Frames 1761-1762; 08/26/15).



Photo 136. View of Mesic: Mixed Oak-Hardwoods-Successional as seen looking east from GPS location 1016 (Frames 1765-1766; 08/26/15).



Photo 137. View of Wetland Boundary: Mixed Shrubs & Vines as seen looking west from GPS location 1017 (Frames 1767-1768; 08/26/15).



Photo 138. View of Physical Feature: Culvert as seen looking south from GPS location 1031 (Frames 1769-1670; 08/26/15).



Photo 139. View of Physical Feature: Culvert as seen looking south from GPS location 1032 (Frames 1771-1772; 08/26/15).



Photo 140. View of Physical Feature: Culvert as seen looking south from GPS location 1033 (Frames 1773-1774; 08/26/15).



Photo 141. View of Physical Feature: Culvert as seen looking south from GPS location 1036 (Frames 1777-1778; 08/26/15).

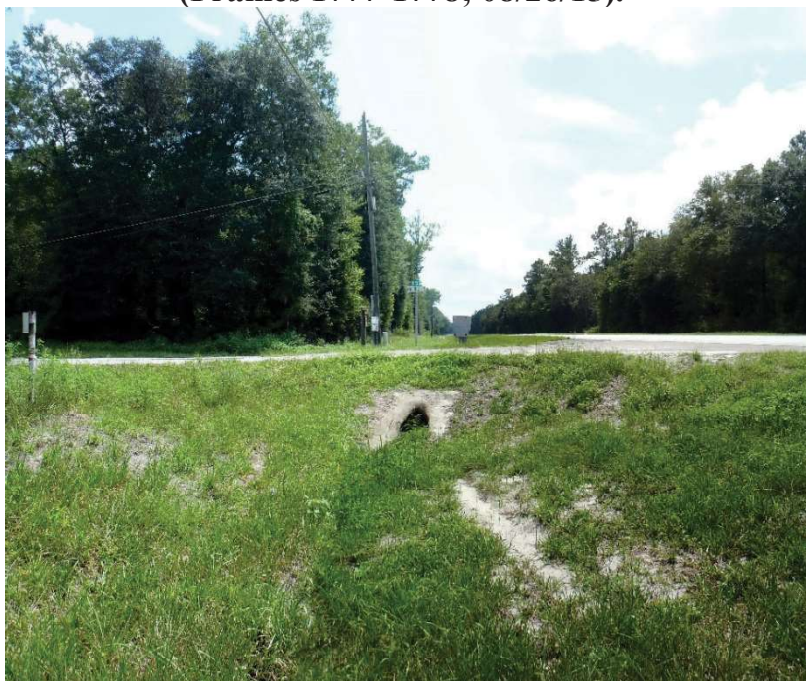


Photo 142. View of Physical Feature: Culvert as seen looking south from GPS location 1037 (Frames 1779-1780; 08/26/15).



Photo 143. View of Physical Feature: Culvert as seen looking south from GPS location 1038 (Frames 1781-1782; 08/26/15).



Photo 144. View of Physical Feature: Culvert as seen looking south from GPS location 1039 (Frames 1783-1784; 08/26/15).



Photo 145. View of Physical Feature: Culvert as seen looking north from GPS location 1040 (Frames 1785-1786; 08/26/15).



Photo 146. View of Physical Feature: Culvert as seen looking south from GPS location 1040 (Frame 1787; 08/26/15).



Photo 147. View of Wetland: Mixed Hardwood Swamp as seen looking southeast from GPS location 1043 (Frames 1788-1789; 08/26/15).



Photo 148. View of Surface Water: Excavated Creek in Wetland as seen looking east from GPS location 1049 (Frames 1790-1791; 08/26/15).



Photo 149. View of Hydric: Planted Pine Flatwoods as seen looking south from GPS location 1072 (Frames 1792-1793; 08/26/15).



Photo 150. View of wetland marsh lying within GRU easement as seen looking east from GPS location 1072 (Frames 1794-1795; 08/26/15).



Photo 151. View of Planted Pine-Mesic Pine Flatwoods as seen looking east from GPS location 1081 located along wetland boundary (Frames 1796-1797; 08/26/15).



Photo 152. View of Hydric: Planted Pine Flatwoods as seen looking west from GPS location 1081 (Frames 1798-1799; 08/26/15).



Photo 153. View of Hydric: Planted Pine Flatwoods as seen looking east from GPS location 1087 (Frames 1800-1801; 08/26/15).



Photo 154. View of Hydric: Planted Pine Flatwoods as seen looking west from GPS location 1100 (Frames 1804-1805; 08/26/15).



**Photo 155. View of Wetland: Mixed Hardwoods-
Seepage Slope as seen looking southeast
from GPS location 1102 (Frames 1802-
1803; 08/26/15).**



**Photo 156. View of Physical Feature: Culvert located at
GPS location 1117 (Frame 1806; 08/26/15).**



Photo 157. View of Planted Pine-Mesic Pine Flatwoods as seen looking south from GPS location 1148 (Frames 1808-1809; 08/26/15).



Photo 158. View of Planted Pine-Mesic Pine Flatwoods as seen looking south from GPS location 1153 (Frames 1810-1811; 08/26/15).



Photo 159. View of *Sabatia brevifolia* located within the Planted Pine-Mesic Pine Flatwoods at GPS location 1153 (Frame 1812; 08/26/15).



Photo 160. View of culverts on north side of power line easement within the Planted Pine-Mesic Pine Flatwoods located at GPS location 9000 (Frame 1813; 08/27/15).



Photo 161. View of culverts on south side of power line easement within the Planted Pine-Mesic Pine Flatwoods located at GPS location 9000 (Frame 1814; 08/27/15).



Photo 162. View of Physical Feature: Culvert located on north side of power line easement at GPS location 1176 (Frame 1815; 08/27/15).



Photo 163. View of Physical Feature: Culvert located on south side of power line easement at GPS location 1176 (Frame 1816; 08/27/15).



Photo 164. View of Physical Feature: Culvert located on north side of power line easement at GPS location 1177 (Frame 1817; 08/27/15).



Photo 165. View of Physical Feature: Culvert located on south side of power line easement at GPS location 1177 (Frame 1818; 08/27/15).



Photo 166. View of Hydric: Planted Pine Flatwoods as seen looking northeast from GPS location 1199 (Frames 1819-1820; 08/27/15).



Photo 167. View of Hydric: Planted Pine Flatwoods with *Sarracenia minor* as seen looking west from GPS location 1201 (Frames 1821-1822; 08/27/15).



Photo 168. View of Hydric: Planted Pine Flatwoods as seen looking east from GPS location 1201 (Frames 1823-1824; 08/27/15).



Photo 169. View of Planted Pine-Mesic Pine Flatwoods as seen looking northeast from GPS location 1210 (Frames 1825-1826; 08/27/15).



Photo 170. View of gopher tortoise burrow (Potentially Occupied) located at GPS location 1212 (Frame 1827; 08/27/15).



Photo 171. View of Wetland Boundary: Mixed Shrubs & Vines as seen looking east from GPS location 1235 (Frame 1828-1829; 08/27/15).



Photo 172. View of Transitional: Planted Pine Flatwoods as seen looking southeast from GPS location 1249 (Frames 1830-1831; 08/27/15).



Photo 173. View of Wetland: Mixed Hardwoods-Fetterbush as seen looking northeast from GPS location 1254 (Frames 1832-1833; 08/27/15).



Photo 174. View of Physical Feature: Culvert located on north side of road at GPS location 1272 (Frame 1835; 08/27/15).



Photo 175. View of Surface Water as seen looking west from GPS location 1284 (Frames 1836-1837; 08/27/15).



Photo 176. View of Surface Water: Excavated Creek in Wetland as seen looking southwest from GPS location 1305 (Frames 1838-1839; 08/27/15).



Photo 177. View of Physical Feature: Culvert located on south side of road at GPS location 1308 (Frame 1840; 08/27/15).



Photo 178. View of Hydric: Planted Pine Flatwoods as seen looking south from GPS location 1319 (Frames 1844-1845; 08/28/15).

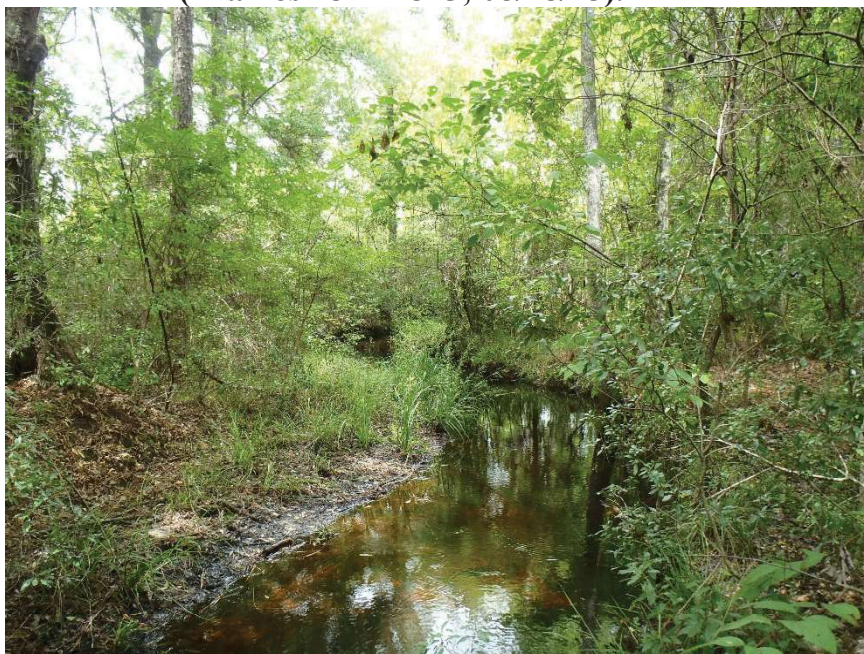


Photo 179. View of Surface Water: Excavated Creek in Wetland as seen looking north from GPS location 1343 (Frame 1846; 08/28/15).



Photo 180. View of Surface Water: Excavated Creek in Wetland as seen looking south from GPS location 1343 (Frame 1847; 08/28/15).



Photo 181. View of Surface Water: Excavated Creek in Wetland as seen looking north from GPS location 1343 (Frame 1852; 08/28/15).



Photo 182. View of Surface Water: Excavated Creek in Wetland as seen looking south from GPS location 1343 (Frame 1853; 08/28/15).



Photo 183. View of Wetland: Mixed Hardwood Swamp as seen looking south from GPS location 1348 (Frames 1848-1849; 08/28/15).



Photo 184. View of Wetland: Hydric Hammock as seen looking north from GPS location 1350 (Frames 1850-1851; 08/28/15).



Photo 185. View of Transitional: Planted Pine Flatwoods as seen looking west from GPS location 1414 (Frames 1854-1855; 08/28/15).



Photo 186. View of Mesic: Planted Pine-Mesic Pine Flatwoods as seen looking south from GPS location 1437 (Frames 1856-1857; 08/28/15).



Photo 187. View of Hydric: Planted Pine Flatwoods as seen looking southwest from GPS location 1450 (Frames 1858-1859; 08/28/15).



Photo 188. View of Planted Pine-Mesic Pine Flatwoods as seen looking north from GPS location 1467 (Frames 1860-1861; 08/28/15).

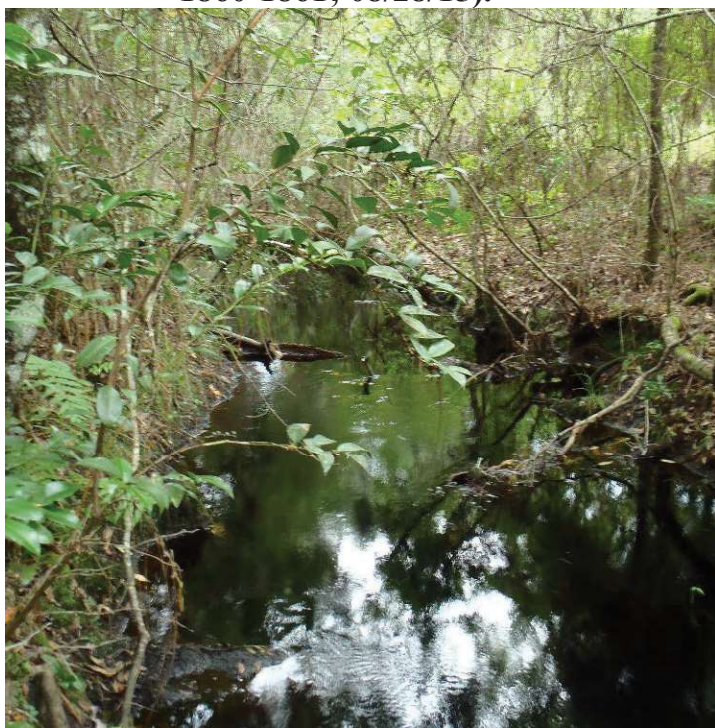


Photo 189. View of Surface Water: Excavated Creek in Wetland as seen looking west from GPS location 1473 (Frame 1862; 08/28/15).



Photo 190. View of Surface Water: Excavated Creek in Wetland as seen looking east from GPS location 1473 (Frame 1863; 08/28/15).



Photo 191. Rocky Creek: view to south of east side of culverts at CR 231 at GPS location 1516 (Frame 7406; 08/28/15).



Photo 192. Rocky Creek: view to south of box culvert on east side CR 231 at GPS location 1516 (Frame 7407; 08/28/15).



Photo 193. Rocky Creek: view to south of box culverts on west side of CR 231 at GPS location 1516 (Frame 7408; 08/28/15).



Photo 194. Rocky Creek: view to east (downstream) of CR 231 culverts located at GPS location 1517 (Frame 7410; 08/28/15).



Photo 195. Rocky Creek: view to south of culverts located at GPS location 1517 on east side of CR 231 at GPS location 1517 (Frame 7411; 08/28/15).



Photo 196. Rocky Creek: view to south of culvert at west side of CR 231 at GPS location 1517 (Frame 7412; 08/28/15).



Photo 197. View to east (upstream) of major branch of Rocky Creek at culvert located at GPS location 1518 (Frame 7414; 08/28/15).



Photo 198. View to south of box culverts on east side (upstream) of CR 231 in Rocky Creek at GPS location 1518 (Frame 7416; 08/28/15).



Photo 199. Rocky Creek: view to west (downstream) of major branch of Rocky Creek at culvert located at GPS location 1518 (Frame 7419; 08/28/15).



Photo 200. Rocky Creek: view to north along CR 231 of west side of box culverts located at GPS location 1518 (Frame 7420; 08/28/15).



Photo 201. View of Wetland: Planted Pine-Marsh as seen looking southeast from GPS location 1534 (Frames 1864-1865; 08/31/15).



Photo 202. View of Wetland: Planted Pine-Marsh as seen looking west from GPS location 1553 (Frames 1866-1867; 08/31/15).



Photo 203. View of Mesic: Planted Pine-Mesic Pine Flatwoods as seen looking west from GPS location 1568 (Frames 1868-1869; 08/31/15).



Photo 204. View of Wetland: Mixed Hardwood Swamp as seen looking southwest from GPS location 1578 (Frames 1870-1871; 08/31/15).



Photo 205. View of Wetland: Planted Pine-Mixed Hardwoods as seen looking east from GPS location 1586 (Frames 1872-1873; 08/31/15).



Photo 206. View of Wetland: Planted Pine-Mixed Hardwoods as seen looking west from GPS location 1586 (Frames 1874-1875; 08/31/15).



Photo 207. View of Mesic: Planted Pine-Mesic Pine Flatwoods as seen looking east from GPS location 1598 (Frames 1876-1877; 08/31/15).



Photo 208. View of Wetland: Planted Pine-Marsh as seen looking east from GPS location 1605 (Frames 1878-1879; 08/31/15).



Photo 209. View of Physical Feature: Culvert located on north side of road at GPS location 1623 (Frame 1880; 08/31/15).



Photo 210. View of Physical Feature: Culvert located on south side of road at GPS location 1570 (Frame 1881; 08/31/15).



**Photo 211. View of Mesic: Mixed Oaks-Hardwoods-
Rabbit-eye Blueberry (*Vaccinium virgatum*)
Understory as seen looking east from GPS
location 1634 (Frames 1882-1883; 08/31/15).**



**Photo 212. View of *Vaccinium virgatum* roots, stolon,
and rhizomes as seen at GPS location 1634
(Frame 1884; 08/31/15).**



Photo 213. View of Wetlands: Mixed Hardwood Swamp-Bays-Fetterbush as seen looking south from GPS location 1657 (Frames 1886-1887; 08/31/15).

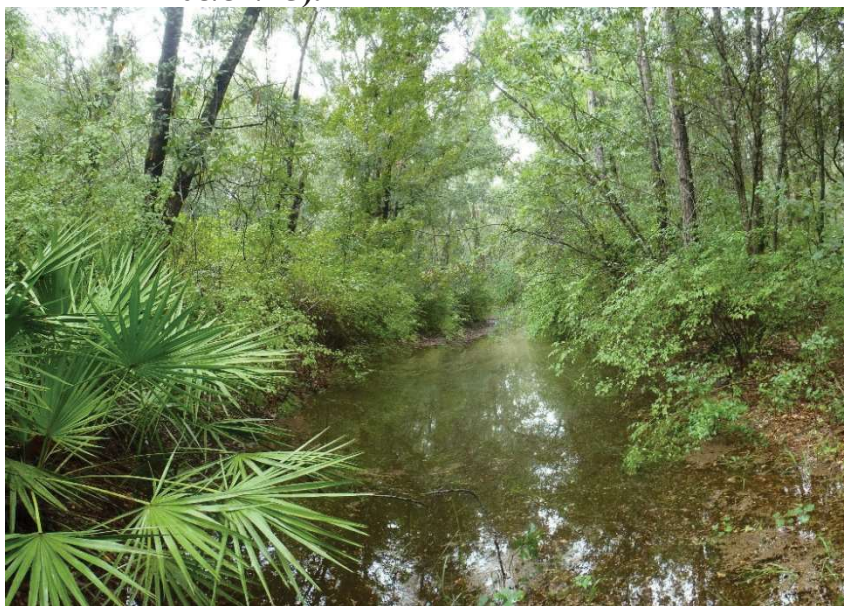


Photo 214. View of Mesic: Mixed Oaks-Hardwoods-Rabbit-eye Blueberry Understory as seen looking north from GPS location 1676. View is of inundated forestry road (Frames 1888-1889; 08/31/15).



Photo 215. View of Physical Feature: Culvert located on east side of road as seen at GPS location 1693 (Frame 1890; 08/31/15).

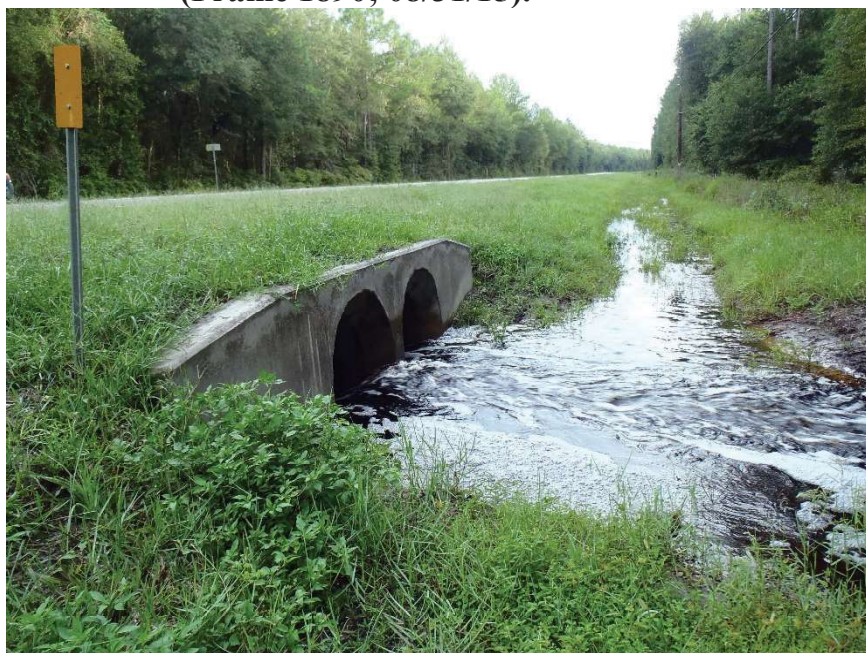


Photo 216. View of Physical Feature: Culvert located on west side of road as seen at GPS location 1694 (Frame 1891; 08/31/15).



Photo 217. View of Physical Feature: Culvert located on west side of road as seen at GPS location 1696 (Frame 1892; 08/31/15).



Photo 218. View of Physical Feature: Culvert located on east side of road as seen at GPS location 1697 (Frame 1893; 08/31/15).



Photo 219. View of Wetland: Mixed Hardwood Swamp as seen looking east from GPS location 5013 (Frames 1897-1898; 09/02/15).



Photo 220. View of Hydric: Planted Pine Flatwoods as seen looking west from GPS location 5029 (Frames 1899-1900; 09/02/15).



Photo 221. View of Wetland: Planted Pine-Mixed Hardwoods as seen looking east from GPS location 5038 (Frames 1901-1902; 09/02/15).



Photo 222. View of Physical Feature Boundary: Wetland Delineation Flagging as seen looking northeast from GPS location 5044 (Frames 1903-1904; 09/02/15).



**Photo 223. View of Physical Feature Boundary:
Wetland Delineation Flagging as seen
looking southwest from GPS location 5044
(Frames 1905-1906; 09/02/15).**



**Photo 224. View of Wetland: Mixed Hardwood
Swamp as seen looking northeast from
GPS location 5053 (Frames 1907-1908;
09/02/15).**

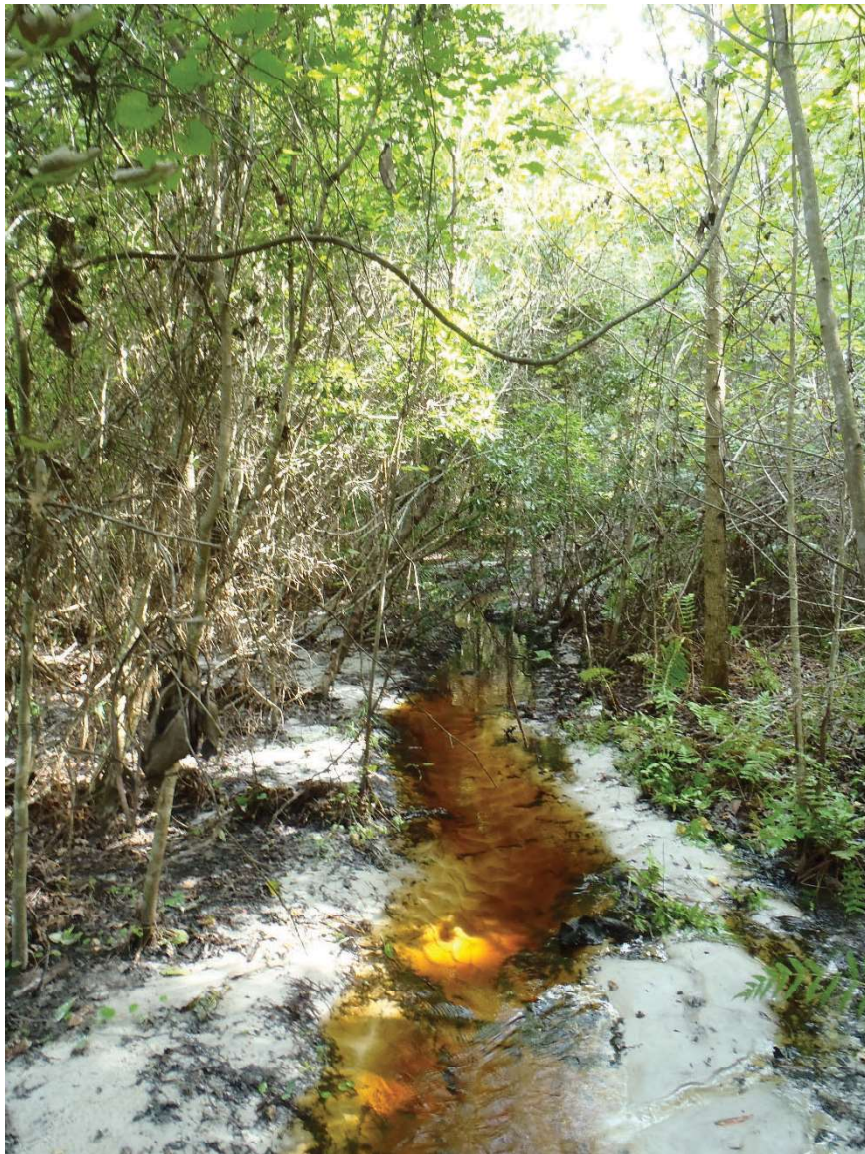


Photo 225. View of Surface Water: Excavated Creek in Wetland as seen looking south from GPS location 5076 (Frame 1909; 09/02/15).