

## Bowman and Blair Ecology and Design, Inc. Projects

- Johnson property, Seminole County, FL; Site assessment, field delineation and mapping of wetland and surface water limits on 15 acre parcel
- Tomasello property, Volusia County, FL; Site assessment, field delineation and mapping of wetland limits on 2 acre parcel
- Halifax Plantation, Volusia County, FL; Ongoing Annual CUP monitoring and reporting
- Ormond Lakes, Volusia County, FL; Ongoing assessment of 7 permitted onsite mitigation/conservation areas to define maintenance and vegetation management needs adhere to permit requirements while addressing homeowners association need for attractive amenities and functioning stormwater system.
- Southmeadow, Orange County, FL; Ongoing semi-annual assessment of mitigation conservation areas and maintenance coordination
- Mead Botanical Garden, Winter Park, FL; Identify and map 500+ trees; design and coordinate planting within gopher tortoise burrows buffer area.
- Edgewater property, Osceola County, FL; Identify and map all trees of 30" DBH or greater on 1,700+ acre parcel and mapping of high quality natural areas to be considered for inclusion in master plan.
- Edgewater property, Osceola County, FL; Identify and map cogon grass on 1,700+ acre parcel
- Orange Lake Country Club, Orange County, FL; assist with Endangered sand skink cover-board survey
- East Lake Elementary School, Orange County, FL; Develop Planting Plan for Outdoor Classroom

## Catherine L Bowman Project Experience

All projects involve site ecological condition assessments such as for the presence of wetlands or listed species, primarily in support of subsequent environmental permitting or to provide data for land management decisions. Large scale conservation area projects are detailed with regard to additional site specific tasks. Projects listed include those where participation was as project manager, for environmental consulting tasks, or where participation was in the form of providing a significant portion of the technical field support.

## Roadways and Bridges

- Depot Avenue Transportation Corridor Project, City of Gainesville, FL
- East-West Road Roadway Conceptual Analysis, Orange County, FL
- East-West Road (Richard Crotty Parkway), Segment 1 Final Design, Orange County, FL
- East-West Road (Richard Crotty Parkway), Segment 2 Final Design, Orange County, FL
- Edgewater Drive RCA and Final Design, Orange County, FL

- Jog Road, Lantana to Melaleuca, Palm Beach County, FL
- Jog Road/Roebuck Road west of Haverhill Road, Palm Beach County, FL
- Jog Road, Roebuck Road to 45<sup>th</sup> Street, Palm Beach County, FL
- Matanzas Woods Parkway I-95 Interchange PD&E and Final Design, Flagler County, FL
- Northlake Boulevard, Seminole Pratt Whitney to Coconut Blvd, Palm Beach County, FL
- Rouse Road Roadway Conceptual Analysis and Final Design, Orange County, FL
- S. W. 31<sup>st</sup> Street On-site and Off-site Wetland Creation and Enhancement Mitigation Areas Monitoring, Marion County, FL
- Southwest 45<sup>th</sup> Street, Palm Beach County, FL
- Turnbull Bay Road Bridge Replacement, Volusia County, FL
- U. S. 1 at Royal Palms Parkway Intersection Improvements, Flagler County, FL
- U. S. 301/University Parkway Final Design, Sarasota and Manatee Counties, FL

#### FDOT District 5

- S. R. 415 from Reed Ellis Road to North of Acorn Lake Road, Volusia County, FL
- S. R. 442 Widening, Volusia County, FL
- S. R. 436, S. R. 528 to S. R. 50, Orange County, FL
- S. R. 520, S. R. 50 to Brevard County line, Orange County, FL
- S. R. 434, Montgomery Road to I-4, Seminole County, FL
- S. R. 434/419, West of Jetta Point to Mitchell Hammock Road, Seminole County, FL
- S. R. 15 Appraisal Parcels Assessments, Orange County, FL
- I-75 Pasco County Appraisal Parcels Assessments, Pasco County, FL
- S. R. 400 (I-4) and S. R. 46 Interchange Design-Build, Seminole County, FL
- I-95 Design Build, S. R. 528 to S. R. 50, Brevard County, FL
- I-95 Design Build, North of S. R. 50 to S. R. 46, Brevard County, FL
- S. R. 5A and S. R. 5 Intersection Improvements, Volusia County, FL

#### FDOT District 2

- C. R. 326 Waccasassa River Bridge Replacement Design-Build, Levy County, FL
- Dillon Road McGirts Creek Bridge Replacement Design-Build, Duval County, FL
- C. R. 313 Appraisals, St. Johns County, FL

#### Utility

- Alaqua Lakes Subdivision, Reclaimed Water Main, Seminole County, FL
- Brevard County Central Disposal Facility Expansion Area, Brevard County, FL
- Carpenter – Story Partin Rd Drainage Improvements, Orange County, FL

- Florida Power Ross Prairie Transmission Line Evaluation of Hazard Trees, Marion County, FL
- Lake Burden Fire Station On-site Mitigation Area Monitoring, Orange County, FL
- Orange County Landfill Consumptive Use Permit Max Hall Park Wetland Monitoring, Orange County, FL
- Orange County Landfill Southern Expansion wetland delineation and gopher tortoise surveys, Orange County, FL
- Pine Ridge Landfill Expansion Site, Floristic Inventory and Listed Species Assessment, Orange County, FL
- Seminole County Reclaimed Water Retrofit Program, Ph. V, Seminole County, FL
- S.R. 528/Shingle Creek Utility Relocation, Orange County, FL
- Sunland Estates Subdivision, Stormwater Retrofit, Seminole County, FL

## Parks and Trails

- Airport Lakes Park Management Plan and Gopher Tortoise Permit, Orange County, FL
- Clear Lake Park, City of Orlando, FL
- Clermont to Minneola Bike Path, Lake County, FL
- Dr. Phillips Community Park, Orange County, FL
- Environmentally Endangered Land Sanctuaries Survey, and Restoration Program Design, Brevard County, FL
- Eustis Greenway Trail, Lake County, FL
- Ferndale Preserve Wetland Delineation and Trail Design Mapping, Lake County, FL
- Kelly Park at Rock Springs Run Trail Refurbishment, Orange County, FL
- Lake Apopka Connector Trail, Magnolia Park, Orange County, FL
- Leesburg Trails PD&E, Lake County, FL
- Little Econ Greenway Phase II, West End, Orange County, FL
- Museum of Arts and Sciences, A Window in the Forest, Volusia County, FL
- West Orange Trail, "Rails-To-Trails," Orange County, FL
- Wirz Park Bike Trail and Boardwalk, City of Casselberry, FL

## Restoration and Mitigation

- Allen Broussard Conservancy Wetland Restoration, Osceola County, FL
- Cornerstone at Lake Hart, On-site Mitigation Area Planting Plan and Compliance Monitoring, Orange County, FL

- C. R. 314 Sharpes Ferry Bridge Design-Build Wetland Restoration Planting Plan/Installation and Baseline Monitoring, Marion County, FL
- East Lake Mary Blvd. Off-site Mitigation Area (Lake Jesup Wilderness Area) Monitoring, Seminole County, FL
- Halifax Plantation On-site Wetland Creation Areas Monitoring and on-going CUP Monitoring, Ormond Beach, FL
- Gateway Daytona On-site Mitigation Areas Compliance Monitoring, Volusia County, FL
- Orange County Landfill Max Hall Park CUP Monitoring, Orange County, FL
- Orange Lake Country Club West Golf Course and Lake Britt Wetland Restoration and Conservation Areas Monitoring, Orange County, FL
- Orlando Easterly Wetlands Vegetation Monitoring, Orlando Wetlands Park, City of Orlando, FL
- Ormond Lakes Phase I and II On-site Mitigation Areas Planting Plan and Monitoring, Ormond Beach, FL
- Preserve at Palm Coast, Wetland Restoration Planting Plan and Compliance Monitoring, Flagler County, FL
- Post and Lumber Wetland Remediation and Restoration Planting and Monitoring, Gadsden County, FL
- River Oaks Reserve PUD Phase I and II Mitigation Areas Monitoring, Seminole County, FL
- River Park On-site Wetland Creation Planting Plan and Monitoring, Orange County, FL
- Shelter Cove On-site Wetland Restoration Areas Monitoring, Beverly Beach, Flagler County, FL
- Southmeadow at Southchase On-site Wetland Enhancement Planting Plan and Monitoring, Orange County, FL
- Westyn Bay On-site Mitigation Areas Monitoring, Orange County, FL
- World Gateway Lake Hart Off-site Wetland Restoration Planting and Monitoring, Orange County

## Residential and Commercial

- Halifax Plantation DRI, Wetland Permitting, Mitigation, Gopher Tortoise Management Plan, Volusia County, FL
- Plantation Oaks PUD, Wetland Permitting and Mitigation, CUP Monitoring, Volusia County, FL
- Southchase DRI, Southmeadow and Parcels 37 and 39, Permitting and On-site Mitigation Monitoring, Orange County, FL

- World Gateway DRI, On-site and Off-site Mitigation Monitoring, Gopher Tortoise Humane Relocation, Red-cockaded woodpecker management plan execution, Orange County, FL
- River Oaks Reserve PUD and permitting to Econlockhatchee River RHPZ regulations, Seminole County, FL
- National Gardens Conceptual Plan and On-site Mitigation, Ormond Beach, Volusia County, FL
- Oviedo Crossings Mall On-site Mitigation Wetland and Upland Planting and Monitoring, Seminole County, FL
- Semoran Plaza at Auvers Village, Orlando, FL
- National Gardens Trust Property Conceptual Plan permitting, Volusia County, FL
- Powers Dairy Property Assessments, Lake County, FL
- Spring of Life Church, Orange County, FL

## Institutional

- Seminole Community College Oviedo Campus Master Plan, Seminole County, FL
- Valencia Community College Criminal Justice Institute, Orange County, FL
- Orange County Corrections Facility Expansion Site 2, Orange County, FL
- Valencia Community College East Campus, Orange County, FL
- Orange County Public Schools Wedgefield Alternate School Sites Study, Orange County, FL
- Orange County Public Schools Eatonville Surplus Site Formal Wetland Determination, Orange County, FL
- Orange County Public Schools East River High School Bus Transportation Access Study
- Lake Sumter Community College Baseball Field Gopher Tortoise Management Plan and Relocation

## Rare and Imperiled Habitats

- Conducted qualitative/quantitative surveys for federal and state listed plant and animal species in imperiled habitats such as scrub, sandhill, and pine rocklands. Representative species include gopher tortoise, sand skink, Florida scrub-jay, Eastern Indigo snake, Florida mouse, Sherman's fox squirrel, Florida pine snake, gopher frog, short-tailed snake, Lake Eustis pupfish, Curtiss' milkweed, Florida bonamia, sand butterfly pea, butterfly pea, scrub buckwheat, garberia, scrub pinweed, scrub lupine, sandhill spiny-pod, Briton's beargrass, papery whitlow-wort, scrub milkwort, Small's jointweed, scrub plum, hidden stylisma, pygmy fringe tree, and clasping warea.

- Dr. Phillips Community Park, Orange County, FL
- Orange Lake County Club, Orange County, FL
- Shelter Cove, Flagler County, FL
- Plantation Oaks of Ormond, Volusia County, FL
- Pine Ridge Landfill, Orange County, FL
- Fort Drum Marsh Conservation Area, Indian River County, FL
- Silver Beach Road, Palm Beach County, FL
- KICCO Management Area, Osceola County, FL
- South Lake Trail, Phase II, Lake County, FL
- Florida Audubon Society, Ft. Lauderdale Preserve Site, Broward County
- Everglades Area 4A, FWC Tree Island *Lygodium* (invasive exotic climbing fern) Survey, Miami-Dade County, FL

## Hydrology

- St. Johns Marsh Conservation Area Vegetation Sampling, Brevard County
- Kissimmee River Restoration Evaluation Program, Osceola County
- Wetland Assessment for Central Florida Coordination Area, South Florida Water Management District, Orange and Osceola counties
- Plantation Oaks of Ormond, CUP permitting and monitoring, Volusia
- Town of Oakland CUP Baseline Monitoring, Orange County
- S.R. 528/Shingle Creek Utility Relocation, Orange County
- St. Johns River Water Management District Bull Creek Management Area Plant Survey, Osceola County, FL
- Orange County Stormwater Pond Sustainability Study, Orange County, FL

## Conservation Area Studies

- Ft. Drum Marsh Conservation Area, Listed Species Assessment, Indian River County, Florida. Coordinated with the St. Johns River Water Management District's project manager and land management staff to design sampling for listed species of birds, reptiles/amphibians, mammals, and plants; conducted plant sampling and compiled an inventory by vegetative community type (approximately 23,000 acres); scheduled and coordinated with field teams; and provided information on the presence, location, and abundance of rare plants, herpetiles, birds, mammals, and exotic/nuisance species.

Sampling procedures included established and random pedestrian sampling transects, drift fences, live traps, minnow traps/nets, audio recording devices, and burrow cams.

- KICCO Management Area Plant Inventory, Osceola County, Florida. Coordinated, designed, and conducted sampling within upland natural communities (approximately 1,653 acres). Compiled a species inventory by vegetative community type and mapped locations of listed and invasive exotic plant species in order to provide support for St. Johns River Water Management District land management decisions.
- Kissimmee River Restoration Evaluation Program, Osceola County, Florida. Habitat mapping based on false color infrared aerial imagery of the 70 square mile Kissimmee River restoration area. Conducted ground-truthing (pedestrian, four-wheel drive vehicle, airboat, and helicopter access) and plant species identification for photointerpretation and delineation of vegetative community types within Pools A, B, C, and D of the restoration area. Participated in photointerpretation and heads-up digitizing of vegetation polygons in ArcView.
- *Lygodium* Survey, Everglades Wildlife Management Area, Conservation Area 3A South, Florida. Established sampling protocol in coordination with the Florida Fish and Wildlife Conservation Commission, then scheduled and conducted search for *Lygodium* sp. (climbing fern) on 10 tree island systems. Survey involved searches of approximately 303 acres.
- Seminole Ranch Conservation Area, T&E Plant Monitoring. Coordinated with the St. Johns River Water Management District's project manager and land management staff, as well as designed and conducted sampling by vegetative community type for listed plant species. Provided information on the presence, location, and abundance of listed and locally rare plants and exotic/nuisance species on the 29,000-acre Seminole Ranch Conservation Area in Orange, Brevard, Seminole, and Volusia Counties, Florida.
- St. Johns Marsh Conservation Area, Vegetation Sampling, Brevard County, Florida. Conducted sampling of random transects that were provided by the U.S. Army Corps of Engineers' project manager to determine the vegetative composition of the marsh and the degree of colonization by exotics and nuisance plants such as cattails (*Typha* spp.), willow (*Salix caroliniana*) and primrose willow (*Ludwigia peruviana*). The project area covered approximately 15 square miles.





## Ronald E. Blair Project Experience

### Florida Park Service

- Henderson Beach State Park, Destin, FL; An expansion of beach facilities.
- Topsail Hill Preserve State Park, Walton County, FL; A major expansion of facilities within an existing State park.
- Bald Point State Park, Franklin County, FL; Facilities to accommodate potential storm surge of 14 feet.
- Lafayette Blue Springs State Park, Lafayette County, FL; Facilities for this State Park include a ranger entry station, two modular home ranger residences, shop, pole barn, ticket booth, day use restroom, 30-space RV campground with bathhouse and parking lot for day use visitors.
- Dowling Park Campsite, Lafayette County, FL; This is a venue on the Suwannee River Wilderness Trail which includes a large picnic pavilion, six raised, screened sleeping platforms, including one accessible unit, mobile restrooms, and an equipment tower at a site where the river may flood 17' above the development's average grade.
- Fort Zachary Taylor Historic State Park, Key West, FL; The fort is on the National Historic Register and is considered to be an exceptional example of Civil War era construction and armaments. It is however, also considered to be at significant risk. The project addresses the most critical threats to the remnants of the barracks structure and includes the stabilization of a major masonry wall and begins phased removal of the concrete double gable roof structure and roofing which will be replaced by heavy timber trusses and corrugated metal roof.
- Colt Creek State Park, Polk County, FL; Services here began as a participant in the formation of the development plan for a new State park.
- Little River Springs State Park, Suwannee County, FL; This new State Park is located on 4.7 miles of the Suwannee River. Represented the Bureau in the formation of the development plan.
- Werner Boyce Salt Springs State Park, Pasco County, FL; This project was in the design development phase.

### Transportation

- Building 3782 Renovations
- HART Streetcar Station Fort Brooks Parking Garage, Tampa, FL; This project included an extension to the existing streetcar track and power to a new station located adjacent to the Fort Brook parking garage.

- Metrorail Brownsville Station, Miami, FL; This project included design variations on a master model and construction documents for elevated inline Brownsville Station.
- Budget Rent A Car Southeast Regional Offices, Orlando, FL; The project consisted of interior architecture for regional offices including a data processing center.
- Budget Truck Rental Service Facility, Orlando FL; This is one of several rental facilities for Budget; this one consisting of major renovations
- Superior Car Rental Center, Orlando International Airport; A full service rental car and maintenance facility located near the Orlando International Airport.
- Josam Truck Alignment Center, Orlando, FL; This was the first North American facility for this Swedish firm. The design included repair pits and overhead cranes as components of this state of the arts facility for truck re-alignments.

## Department of Defense

- Building 3782 Renovations, Pensacola, FL; This project included the demolition, design, and construction phase services for a 14 million dollar renovation of a two story 50,000-SF mission critical facility under a Design-Build contract located at Corry Station, Pensacola, FL.
- Renovations to Starship 11000 Barracks and Company Operations Fort Jackson, SC; The project included the design and construction for whole house renovations to 220,000-SF structure.
- Federal Law Enforcement Training Center (FLETC) Glynco, GA; Responsibilities for two concurrent but separate construction contracts included project management and project architect during the construction phase for facilities constructed at the FLETC in Glynco GA.
- Integrated Operational Support Facility, Gunter Annex, Maxwell Air Force Base, AL; The facility consists of approximately 53,580-SF, design-build project.
- Space and Naval Warfare System Center Electronic Integration and Support Facility, Naval Weapons Station, Charleston, SC; This 55,000-SF structure includes 28,000-SF of secure electronics laboratory space, conference rooms, 11,000-SF of administrative offices and open plan area.
- Renovate Bryant Hall, US Army John F. Kennedy Special Warfare Center/School Headquarters, Ft Bragg, NC;
- Major Repairs and Renovations for 8th Air Force Headquarters at Barksdale AFB, LA; Repairs and renovations to an historical 82,000-SF structure including an existing addition for the 2nd Bomb Wing Command Center following major fire damage including new clay tile roof and structure, exterior windows, stairs, elevator, and all

interior construction, mechanical, electrical, plumbing and telecommunication systems.

- Technical Training Facility Keesler Air Force Base, Biloxi, MS; This project includes the design of a two story, 68,700 square feet facility including two high bay areas, classrooms, laboratories, support functions, locker rooms and administrative offices.
- US Army JFK Special Warfare Center and School, Ft. Bragg, NC
- Military Police Building, Naval Weapons Station, Charleston, SC
- Child Development Center, Patrick Air Force Base. FL
- Special Forces Readiness Center, Fort Bragg, NC
- AFCENT (9th AF HQ) Shaw AFB, SC

## Storage Facilities

Storage facility design experiences vary considerably; ranging from public mini-storage facilities to single user structures exceeding 100,000-SF and including rail and truck transporting. Projects also include a number of flexible design shell structures allowing for multiple leases with a mix of offices, showrooms, and storage uses. Construction types included tilt up concrete, reinforced masonry, and PEMB, and various combinations. Project roles included designer, project architect, and construction phase services.

## Interior Architecture Projects

Interior architecture projects were often the result of on-call services agreements with developers and property management entities. The size and functions of these projects varied considerably from 600 to 60,000 SF. Overall, perhaps as many as 200 projects were completed successfully totaling at least 1.5 million square feet in area. Professional services included programming, field surveys, space planning, design, cost estimating, construction documents and construction phase services. Developer and property management client experience includes the following;

- Highwoods Properties
- CNL Properties
- Koger Properties
- Faison
- The Landmarks Group
- Cabot Cabot & Forbes
- Jaymont Realty

Interior architectural services were provided in multiple locations for the following;

- Morgan Stanley
- IBM

### Miscellaneous Projects

- EPCOT East Restaurant Complex; The east restaurant complex is as the name suggests considerably more complex than park visitors can imagine from the exterior or from within the public areas of the building.
- EPCOT World Showcase Museum; VOA was awarded a second project at EPCOT; The construction drawings for this multi-level art museum were completed; however, the facility was never constructed.
- Florida State Museum, Gainesville FL; When Fred Morgan's iconic complex of truncated pyramids and plazas required a retrofit, the heavy sloped concrete exterior panels were replaced with metal panels and the plazas were resurfaced with raised pavers over an elastomeric drainage membrane.
- Emphasis on DoD market sector including preparing RFPs, Concept Documents, and Design-Bid-Build contract documents and construction phase services. Responsibilities included design quality control for projects developed by in-house professionals and other design firms and technical specification's writing.