



## Engineering & Operations Division

The Engineering and Operations Division is funded primarily by gas tax revenues. The Division is currently in the process of implementing program enhancements in pavement management and transportation system enhancements. The deteriorating condition of the County's roadway infrastructure and finding effective ways to fund capital maintenance for roads has been a key topic of discussion for several years. For the past 20 years, local governments have struggled with how to fund expensive road repairs with available resources. In 2004, a ½ cent sales surtax ballot initiative for pavement resurfacing was voted down by the electorate by a narrow margin. In 2012, another ballot initiative for a ¾ cent sales surtax failed, leaving the issue of funding the County's \$380 million pavement management backlog unresolved. This year, the County Commission is considering a new 2014 ballot initiative for transportation system improvements. If this initiative moves forward and is ultimately approved by voters this November, it would bring revenues for the County and its nine municipalities to begin addressing the significant need.

Recent tropical storms have demonstrated that flooding poses numerous challenges and dangers in the maintenance of the County's roadway network. The Division has developed a stormwater master plan and will continue to pursue a dedicated funding mechanism to pay for a comprehensive stormwater management program.

The Division will work with residents and interest groups to evaluate various funding mechanisms to pay for stormwater improvements for consideration by the County Commission. The division will continue its mission to ensure consistency of development proposals to the County's Comprehensive Plan. The Division will continue to provide its current level of service to the public for review of plans and to seek opportunities to improve multi-modal transportation. This initiative will require significant community participation and coordinated planning with other County Departments, especially Growth Management.



### MISSION STATEMENT

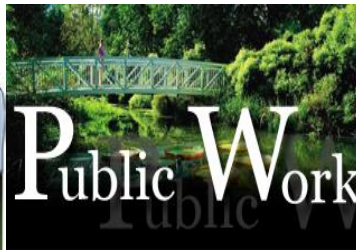
*To provide for the safe operating condition of all existing and future roads, bridges and multi-modal systems on the County Transportation network, while minimizing adverse impacts on air and water quality.*

### Sections of Engineering & Operations:

- Construction Inspections
- Development Review/Emergency Response
- Engineering
- Horticulture
- Road & Bridge
- Survey/Real Property

### The Division currently maintains:

- 680 miles of paved roads
- 240 miles of unimproved roads
- 9 bridges
- 200 stormwater basins
- 29,000 traffic control signs



Phone: (352) 374-5245

## **Services Provided by the Engineering & Operation Division**

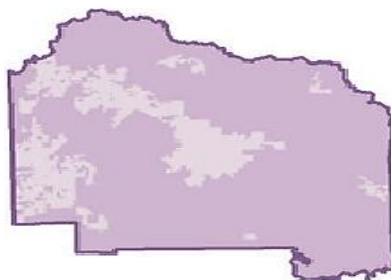
### **CONSTRUCTION INSPECTIONS**



- Types of Services
  - Issues permits and inspect all utility installations, driveway access, and private landscaping construction within County road rights-of-way
  - Performs quality assurance inspections associated with new paving and drainage construction, traffic signal installations, roadway striping maintenance, geotechnical engineering, and the installation of construction materials
  - Administer the Street Light and Fire Hydrant Agreement with the City of Gainesville/Gainesville Regional Utilities (GRU)
  - Coordinate public street light requests and installations required to be performed by utilities other than Gainesville Regional Utilities
- Permit Information
  - Contact: Carol Buchanan
  - Phone: (352) 528-1244
  - Email: [cbuchanan@alachuacounty.us](mailto:cbuchanan@alachuacounty.us)
    - Right of way Use Permits
    - Utility Permits
    - Driveway Permits

### **DEVELOPMENT REVIEW**

This Division interacts considerably with the public in its capacity as the administrator of the Flood Hazard Areas Ordinance. The Division responds to more than 300 requests a year for Flood Insurance Zone information. Effective flood plain administration allows the County to lower the classification rating and the actuarial rates the citizens of Alachua County pay for flood insurance. The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community flood plain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS are to 1) reduce flood losses, 2) facilitate accurate insurance rating and 3) promote the awareness of flood insurance.





## MISSION STATEMENT

*Ensure consistency and compliance of development proposals with the County's approved Comprehensive Plan and Land Development Regulations.*

**\*\*Alachua County is currently a Class 6 Community and receives a 20% discount.**

**\*\*Alachua County has staff members that are Certified Floodplain Managers.**

- Types of Services
  - Administers development regulations for land subdivisions, private site developments, storm water management, access management and flood plain management to ensure compliance with the Alachua County Comprehensive Plan and to insure integration of new development with the existing built and natural environments
  - Makes recommendation to the Development Review Committee on issues regarding transportation concurrency, stormwater, parks and solid waste issues associated with the proposed development
  - Makes recommendations and provides technical expertise to the Board of County Commissioners regarding comprehensive land amendments and rezoning requests
  - Makes recommendation to the Board of Adjustments on issues regarding zoning variances and variances to the subdivision regulations
  - Provides comments and recommendations regarding all aspects of the Land Development Regulations
  - Reviews and issues commercial access, paving and drainage improvements permits
  - Reviews and issues flood prone area permits
  - Provides Flood Insurance Rate Zone Information and assistance to the public upon request
  - Process Pre-Application Screenings 1200 per year for all building permit applications
- Goals for Community Rating System (CRS)
  - Reduce flood losses
  - Facilitate accurate insurance rating
  - Promote the awareness of the availability of flood insurance
- Flood Zone Request Line (352)337-6140

## ENGINEERING



- Types of Services
  - Manages the County's Transportation Capital Improvement Program
  - Provides engineering assistance to Development Review and Road Maintenance Sections as well as other divisions within the County
  - Identifies and prioritizes County Road System transportation improvement needs





- Provides engineering specification and oversees the preparation of design and construction plans and documents
- Identifies funding opportunities for improvement of the County Road System through a close working relationship with both Federal and State transportation agencies
- Keeps abreast of Federal, State and District stormwater management permitting criteria
- Participates in working groups with other state and local agencies and other private interest groups to address water quality issues in the County
- Provides for transportation planning by maintaining and utilizing a computer mapping and data management system
- Designs widening, resurfacing, and construction projects for roads, intersections, roundabouts, bike lanes, parking lots and parks
- Advertises design work for bids
- Coordinates activities with consultants and developers to see design projects through to completion.
- Addresses citizen concerns regarding traffic, roadway and stormwater issues
- **Current Major Projects**
  - Since 2005, The Pavement Management Program has resurfaced over 69 miles of road while another 40 miles of roadway have received funding and are under or awaiting design. Funding for these projects come from several sources including gas taxes and sales taxes.

#### **Recently Completed/Nearing Completion**

- N.W. 43rd Street- Resurfacing of NW 43rd Street from Newberry Road to US 441
- Tower Road- Resurfacing from Archer Rd to SW 8th Ave
- SW 8th Avenue Extension – New construction from SW 122nd St to SR 26 in Jonesville.
- NW 16<sup>th</sup> Ave Slope Stabilization at Hogtowne Creek
- NE 21<sup>st</sup> Street Box Culvert Replacement
- NW 16<sup>th</sup> Ave Mid-block Crossings
- Sheriff's Office Roof Replacement

#### **Under Construction/Entering Construction**

- SW 8th Ave Connector – Reconstruction and new roadway from SW 75th St to SW 20th Ave
- NW 32nd Ave – Resurfacing from CR 241 to NW 186th St
- NW 16th Ave – Resurfacing from NW 13th St to Main St
- Resource Recovery Park Infrastructure
- NW 91<sup>st</sup> St Sidewalk from North Rd to NW 39<sup>th</sup> Ave
- SW 24<sup>th</sup> Ave Sidewalk from Tower Rd to SW 91<sup>st</sup> St
- SW 170<sup>th</sup> Street Sidewalks for Archer Community School
- Tower Rd Resurfacing from SW 8<sup>th</sup> Ave to Newberry Rd
- Poe Springs Trail – High Spring to Park

#### **Design Phase**

- SW 170<sup>th</sup> Street from Levy County to US 27/41 resurfacing
- CR 219A from US 301 to SR 26 resurfacing
- South CR 241 from US 27/41 to SR 26 resurfacing
- SW 20<sup>th</sup> Ave Sidewalk from SW 34<sup>th</sup> St to SW 43<sup>rd</sup> St
- New Fairgrounds and Event Center
- SW 24<sup>th</sup> Ave Fire Station
- Tacachale Rescue Station
- Hague Fire Station
- NW/NE 53rd Ave Resurfacing from NW 13<sup>th</sup> Street to Waldo Rd



## HORTICULTURE

- Type of Services
  - Conducts hazard tree evaluations on county rights of way, roadway medians, stormwater basins
  - Receives inquiries from general public regarding trees and other plants, inspects trees, and assigns work to repair damage
  - Provides technical assistance and professional direction for roadway vegetation management
  - Directs, supervises and assists in the structural pruning and removal of trees in public rights of way
  - Directs, supervises and assists in the tree planting and landscaping of rights of way, roadway medians, stormwater basins
  - Performs periodic inspections and prepares reports and recommendations concerning conditions and needs of trees
  - Develops & implements amendments or changes to the tree protection and landscaping ordinances, as required
  - Reviews landscaping plans & specifications for compliance with County policy & sound planning principles
  - Coordinates with other County departments and outside agencies to ensure compliance with environmental protection regulations, tree protections, and erosion and sedimentation control standards
- Major Projects or Programs
  - Cogongrass Program
    - Documents and monitors Cogongrass populations in County maintained rights of way and stormwater basins
    - Coordinates with a vendor for chemical control of Cogongrass in two applications per year
    - Coordinates with Traffic Maintenance department for signage in Cogongrass treatment areas

## CRITICAL FACILITIES.

- Types of Services
  - Maintenance of Fire Chief's and Sheriff's Building which include 13 fire rescues stations, Fire Rescue Headquarters, Fire Rescue Central Warehouse/Fleet, County Jail, Combined Communication Center/Emergency Operations Center, Sheriff's Headquarters, Sheriff's Fleet, Public Works' Compound (5 buildings), and 2 communication tower sites
  - Administers capital and preservation project programs for the assigned buildings
  - Administers expansion program for assigned functions including siting, permitting, and construction such as new fire stations or jail expansion



## ROAD & BRIDGE

The Alachua County Road & Bridge Office is responsible for the safe operation and maintenance of the county-wide transportation network of roads, bridges and associated rights-of-way. The road system consists of over 680 miles of paved roads and 240 miles of unimproved roads.



## MISSION STATEMENT

*To provide for the safe operating condition of all roads and bridges on the County Road System by providing a quality road maintenance program.*

- Types of Services
  - Responds to citizen inquiries and requests regarding county-maintained roads and rights-of-way
  - Mows over 500 miles of County roads on an eight-week cycle during mowing season
  - Trims trees on County roads to promote safe travel and aesthetically pleasing appearance
  - Acts as a lead agency in emergency response & support for all County residents
  - Maintains County stormwater systems associated with roads and right-of-way in compliance with all local, state, and federal guidelines
  - Completes roadway grading on over 240 miles of unimproved County roads on a four-week basis
  - Provides a service to reduce excessive dust on selected County unpaved roads for reasons relating to health and safety
  - Maintains a pavement management program that provides for a pavement surface evaluation and rating system of 680 miles of County road network
  - Promotes multi-modal transportation by maintaining existing sidewalks & bike paths in good repair and constructing new sidewalks with available funds
  - Provides support for other agencies/municipalities with emergency recovery, new construction, & renovation
- Goals
  - To resolve citizen complaints in a responsive and responsible manner
  - To constantly seek ways to partner with other agencies to improve the ability to respond to emergencies
  - To utilize the most efficient and effective maintenance and repair strategy for County roads in an effort to maximize revenue resources
  - To grade over 240 miles of County unpaved roads on a four-week basis
  - To mow over 500 miles of County roads on an eight-week cycle during mowing season
  - To pick up an average of 100 tons of litter per year
  - To sweep 245 miles of County paved roads on a 60-day cycle
- To Submit a Work Order
  - Deb Lancaster, Staff Assistant
    - Phone: (352)374-5245 ext. 1215
    - Email: [dlancaster@alachuacounty.us](mailto:dlancaster@alachuacounty.us)
- Examples of equipment used (may be on display during presentation)
  - Grader



- Used daily to grade all unimproved roads with in the counties system of 500 miles. The motor grader is also used on various types of constructions projects, such as sidewalk programs, road and drainage projects and assist other county departments.
- Grade-All
  - The grade all is a multipurpose machine primarily used for stormwater basin and ditch cleaning work. All County ROW ditches are cleaned yearly to insure stormwater systems are clean of debris and flowing correctly. The grade all can also be used for various types of road work including loading and unloading construction materials.
- 48" CAT Brush/Limb Cutter
  - Large scape tractor for trimming brush and small tree limbs within the county ROW Systems alongside the roadways. Generally supported by an Inmate Labor Crew and large scale pincher truck or supported by a brush and limb chipper.
- New Mower tracker/Batwing
  - Large 15" mower deck pulled behind a large tractor for mowing heavy grasses in the county ROW. Generally two tractors will work in tandem on either side or same side or roadway for maximum utilization. Mowing season is from April until late Nov each year.
- Street Sweeper
  - The County has one vacuum street sweeper that is utilized each day, with the exception of heavy rain. A designed set of roadways with curb and gutter are on a street sweeping cycle. Most of the county street sweeping in accomplished in the Subdivision and close communities. We have two leaf seasons in Alachua County, spring and fall. All material is staged at a designed holding area and later transported to the County Transfer Station for disposal. The street sweeper meets our Stormwater Phase II Regulations for keeping our stormwater systems clean of debris.





## SURVEY/REAL PROPERTY



In January 2002, the Alachua County Public Works Survey Department was created, with a primary goal to save on the cost of survey work and to speed up the response time. Previously, the County hired private firms whenever a survey was required by the County. Along with the higher cost of the work, there was a significant amount of time lost preparing a work scope, receiving a cost proposal and obtaining a purchase order from a private firm to survey for the County. This process would usually take over a month, from work conception to receiving the completed survey documents.

The Alachua County Public Works Survey Department achieved the goal of cost savings immediately. Some of the cost savings included wages, benefits and equipment, Alachua County saves 40% on the hourly cost of field work by using the in-house team as opposed to a private firm. The total savings for office work such as drafting is closer to 50%. For example, by having the in-house team do the survey work required for the paving of N.W. 132<sup>nd</sup> Avenue, Alachua County saved over \$9,000.00 on the field alone.

By having a survey crew on staff, we have reduced the response time for work from a month to merely days. The survey crew can respond to the needs of the other departments usually the next day. For example, Road & Bridge does not have to keep its work crews on hold for weeks waiting on a survey team to determine the information needed to complete their tasks.

Additionally, communication has been improved. The person requesting the work speaks directly with the County Surveyor, a position that is currently vacant while a replacement is being recruited, to discuss the nature and requirements of the job being requested. These duties are currently being handled by the Development Program Manager and the Senior Survey Technician until the position is filled. The County Surveyor is often able to adjust the work scope to better achieve the original purpose of the request. For example, when Waste Management needed to ascertain if the Southeast Landfill site was subsiding, they requested a complete Topographical Survey of the entire forty-four (44) acre parcel. This would have been extremely time-consuming and costly. During the dialogue, between the Survey Department and Waste Management, it was determined that they actually needed a grid of permanent elevation markers instead. These markers could be quickly set, and easily re-checked as needed. By discussing the job, time and money was saved, and the utility of the work was increased.

- Real Property Division
  - Type of Services
    - Acquires and maintains property records for all County real property and easements
    - Provides the review and recommendation related to all plat vacations and road closures
    - Obtains real property, right-of-way and various easements as may be needed by the County
    - Obtains the proper execution of all agreements and/or documents necessary to acquire or dispose of real property
    - Reviews all new record plat documents for compliance with State and County regulations
  - Recent Major Projects
    - S.W. 8<sup>th</sup> Avenue Connector – Construction and Right of Way Staking





- S.W. 8<sup>th</sup> Avenue Extension – Construction Staking and Right of Way Staking
- Tower Road Construction Staking
- S.W. 62<sup>nd</sup> and S.W. 63<sup>rd</sup> Boulevard
- Updating Benchmark Data Base
- S.W. 24<sup>th</sup> Avenue Right of Way Staking
- Courthouse Location and Topography Survey
- Maintenance Map – S.E. 75<sup>th</sup> Street from S.E. 185<sup>th</sup> Avenue - North to S.E. 179<sup>th</sup> Place
- Maintenance Map – S.E. 182<sup>nd</sup> Avenue from S.E. 82<sup>nd</sup> Terrace - to West line of the Town of Evinston
- Maintenance Map – N.W. 62<sup>nd</sup> Avenue from N.W. 186<sup>th</sup> Street to N.W. 290<sup>th</sup> Street
- Maintenance Map – N.W. 122<sup>nd</sup> Street from N.W. 270<sup>th</sup> Avenue - North to N.W. 278<sup>th</sup> Avenue
- Maintenance Map - N.W. 165<sup>th</sup> Street from N.W. 262<sup>nd</sup> Avenue - North to N.W. 278<sup>th</sup> Avenue
- Maintenance Map – N.W. 170<sup>th</sup> Street from N.W. 270<sup>th</sup> Avenue –North to N.W. 278<sup>th</sup> Avenue
- Maintenance Map – N.W. 270<sup>th</sup> Avenue from County Road 241 – East to N.W. 122<sup>nd</sup> Street
- Maintenance Map – N.W. 278<sup>th</sup> Avenue from East Line of Rolling Hills Subdivision – East to County Road 241
- Types of equipment used
  - TopCon GPT 2003 Pulse Total Station, with Prismless Mode. Workhouse of the Survey Crew, used in a standard two (2) or three (3) man crew



- TopCon GTS 802A Autotracking “Robotic” Total Station. A single person can be a ‘crew’ with this robotic instrument



- TopCon HiPer GPS with 2 Rover Units. Sub-centimeter accuracy, precise enough for Survey crews



- DL 101C Electronic Digital Level. Incredibly precise, less than one (1) inch of error in over nine (9) miles

