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FOR IMMEDIATE RELEASE

Flagler County awarded FAA ‘Beyond Visual Line of Sight’ waiver that enables long-range drone flights of coastline, other safety monitoring missions

August 12, 2024 – Flagler County received long-awaited word from the Federal Aviation Administration (FAA) Tuesday (August 6) that it was awarded a “Certificate of Waiver” – effective through July 2028 – for its “small, unmanned aircraft system,” or drone, operations that afford the county the ability to fly long-range monitoring missions of the coastline and other public safety monitoring missions.

“This will be huge for Flagler County, as it will allow us to really maximize the use of the new fixed wing drone for any other public safety or environmental monitoring missions we need to accomplish,” said UAS Program Coordinator Bruno Luna. “We had multiple flights planned for today (August 7) to do some post storm (Hurricane Debby) assessments, but with the new waiver granted it will only take one flight.”

The UAS (drone) Program Division is significant in Flagler County and is used for a variety of essential support tasks: emergency response, infrastructure inspections, and public safety operations. Improving the efficiency and safety of the program helps reduce costs and enhances service delivery across the county.

In total, the newest drone cost \$275,000 that includes the drone itself, training, the LiDAR payload (remote sensing method that uses light in the form of a pulsed laser to measure variable distances to earth), and thermal payload (essential for spotting heat signatures not visible by the naked eye). By contrast, Flagler County in the past paid for coastal LiDAR scans – per flight – to the tune of \$33,000 for an engineering consultant to fly manned aircraft and between \$22,000 and \$72,000 to contract with a drone consultant to collect this same data.

“These LiDAR surveys have to be done before and after a storm to get the data we need to calculate volume of sand lost,” Luna said. “If we have just two storms this year, we’ll have our return on investment in two years. If we have more than 2 storms this year, which according to NOAA (National Oceanic and Atmospheric Administration) we might have, the drone would pay for itself within the first year. I should also mention that we can swap the payload on the aircraft and then go focus on wildfire mitigation or search and rescue missions.”

Andy Dance
District 1

Greg Hansen
District 2

David Sullivan
District 3

Leann Pennington
District 4

Donald O’Brien, Jr.
District 5

The news was music to the ears of Coastal Engineering Administrator Ansley Wren-Key.

“It is so important for us to get this information as quickly as possible,” Wren-Key said. “Storms, of course, tend to affect more than one area of the coastline, and doing these LiDAR surveys in house with the ability to fly the entire 18 miles of our county’s coastline as soon as the weather subsides saves a lot of time in our storm response and assessment efforts.”

The FAA does not hand out these waivers casually, as only one other governmental agency nationwide with this type of approval. Flagler may well be the first county government in the United States with a Certificate of Waiver that covers: operations beyond the visual line of sight of the remote pilot in command; operations in which a participating Visual Observer (VO) is not able to see the unmanned aircraft; operations over human beings; and, operations over a moving vehicle.

“This milestone positions us as possibly the first county government agency to achieve this status, underscoring our commitment to innovation and technological advancement,” County Administrator Heidi Petito said. “This approval will enhance our capabilities in various sectors, including emergency response, infrastructure inspection, and environmental monitoring, ultimately contributing to the safety of our community, enhancing our operations and to continue delivering exceptional service to our residents.”

The FAA worked quickly on the waiver for Flagler County.

“We are very grateful for the quick turnaround and efforts from the FAA on our behalf,” Luna said. “Most of the commercial operations are restrained by the line of sight – how far away you can fly the drone. Our new fixed-wing drone has a detect-and-avoidance (DAA) system built within so it can fly beyond our visual sight and still be able to monitor for other aircraft. The onboard technology this drone has can also perform automated avoidance maneuvers when it detects an intruding aircraft.”

This FAA waiver enhances how the drone team can be deployed.

Infrastructure Inspection and Maintenance

- Roads and bridges: LiDAR can generate precise 3D models of roadways and bridges, identifying structural issues, cracks, or deformations. Thermal imaging can detect heat anomalies indicating underlying problems.
- Utility Networks: Inspecting power lines, pipelines, and water systems. LiDAR helps in mapping and monitoring structural integrity, while thermal imaging can detect leaks and overheating issues.

Emergency Response and Management

- Disaster Assessment: After natural disasters like floods, tornados, hurricanes, or wildfires, drones can quickly assess damage, locate survivors, and identify hazardous areas.
- Search and Rescue: Thermal cameras can detect body heat, aiding in locating missing persons or survivors in challenging conditions.

Environmental Monitoring and Management

- Forest and Vegetation Health: LiDAR can map forest canopies and identify areas where ladder fuels are present which help spread wildfires if not properly managed, while thermal imaging can detect hotspots during prescribed burns or active wildfires, giving ground crews valuable and actionable data.

Urban Planning and Development

- Land Surveying: High-precision LiDAR mapping helps in creating accurate topographic maps, essential for urban planning, zoning, and development projects.

- Construction Monitoring: Monitoring ongoing construction projects for compliance with design specifications and detecting any deviations early.

Advantages of BVLOS Capabilities

- Extended coverage: drone can cover large areas without need for multiple take-offs and landings, increasing efficiency overall.
- Cost-Effective: Drones reduce the need for manned aircraft or ground surveys, leading to significant cost savings over time.

Flagler County has 11 drone pilots within seven departments: Fire Rescue, Land Management, Emergency Services, Growth Management, General Services, Innovation Technology, and Flagler Schools.

“This is a huge step for our operational capabilities,” said Chief Information Officer Matt Rivera. “I know this has been a long road, but we have crossed the finish line strong. We continue to lead the way in what local governments can accomplish for its citizens.”

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