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CITY OF GAINESVILLE

Memorandum

Office of the City Attorney

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334-5011/Fax 334-2229

Box No. 46

CITY OF GAINESVILLE
CITY COMMISSION

TO: Mayor and City Commissioners

DATE: November 20, 1998

FROM: Marion J. Radson, City Attorney

mjr/afm

SUBJECT: Proposed Amendment to Moratorium Ordinance

The attached letter from Mr. A. J. Roberts, Florida Department of Transportation, Aviation Office, explains how the proposed amendment to the Moratorium Ordinance assures the safety of aviation operations at the airport and complies with the requirements of the FAA regulations. The letter was received via facsimile in my office at 4:00 p.m. on Friday, November 20, 1998.

MJR/afm

Attachment

RECEIVED BY ALL C/COM

FLORIDA

LAWTON CHILES
GOVERNOR

DEPARTMENT OF TRANSPORTATION

605 Sawanner Street, Tallahassee, Florida 32399-0450
<http://www.dot.state.fl.us>THOMAS F. BARRY, III
SECRETARY

Aviation Office

Mail Station 46

November 20, 1998

Mr. Marion J. Radson, Esq.
City Attorney
City of Gainesville
200 East University Avenue, 4th Floor
Gainesville, Florida 32602-1110

Dear Mr. Radson:

This acknowledges your request for technical assistance and an explanation of how the safety of aviation operations at the airport can be assured while allowing some exclusions to the proposed Moratorium Ordinance.

It is my understanding the purpose of the Moratorium Ordinance is to stop any development or construction that could effect the safe and efficient operation of the airport **to comply with requirements of Ch 333, FS., until City's ordinances have been amended to accomplish this function as is also required by this statute.** It is my opinion, the added Subsection (d) cited in your memorandum to the Commission, will assure any construction or development permitted **both** complies with airspace protection requirements of Ch 333, FS. and will not affect the safe or efficient operation of the airport. It is also my opinion, the Subsection (d) proposed by the Gainesville Pilots Association(GPA) will assure neither of these requirements.

The airspace protection requirement of Ch 333.03(c)1., FS, for Gainesville's airport zoning is that a variance is required for the erection, alteration or modification of *any structure* which would exceed federal obstruction standards. Ch 333.03(c)3., FS, establishes City's zoning must require an applicant provide documentation showing compliance with the federal notice of construction requirement of FAR Part 77.13 and a valid aeronautical evaluation of the proposal. The documentation requirement of your Subsection (d) assures compliance with these provisions. The GPA proposal does not address this requirement so can not assure compliance with these provisions.

The purpose of the airspace protection provisions of airport zoning pursuant to Ch 333.03, FS, is the prevention of "airport hazards", a state term. An airport hazard is any structure which **must first** exceed federal obstruction standards **and** then obstructs airspace required for the flight of aircraft. The term 'airspace required for flight' is intended to have the same meaning and utilization as 'navigable airspace by aircraft' in federal aviation directives.

Navigable airspace is that airspace considered available for the 'normal' operation of aircraft conducted in accordance with the appropriate federal aviation operating directives **excluding** operations conducted under waivers or exemptions to those directives. The height boundary of navigable airspace at any site, including all airspace within airport terminal areas, lies

Mr. Marion J. Radson, Esq.
November 20, 1998
Page Two

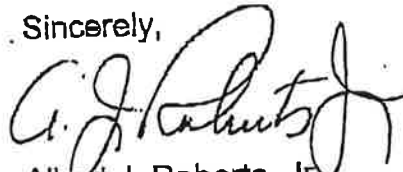
above the height of the lowest obstruction standards at that site. Airspace below the height of the lowest obstruction standard is not in the navigable airspace, therefore is not airspace required for flight. The added Subsection (d) in your Memorandum will assure the safety of aviation operations at the airport as it requires FAA documentation that the proposal being considered does not exceed a federal obstruction standard and thus, can not obstruct airspace required for flight. The GPA proposal does not address a requirement for applicants to product documentation of any type. Staff would have to analyze a proposal to establish its height in comparison to other "existing associated structures" to ensure none "obstruct airspace", a task the staff may not be capable of performing.

The FAA, under authority granted by FAR Part 77, is the only agency who may conduct an aeronautical study to evaluate of the effect of an object on the safe and efficient use of navigable airspace. This study includes evaluation of physical airspace boundaries as well as electronic and electro-magnetic masking or interference. The inclusion of FAR Part 77 standards and evaluations in Ch 333, FS, ensures the federal technical aeronautical expertise is used in state's airspace protection process without conflicting with this authority of federal government. The state statute does not grant state or local government an authority to evaluate the safe or efficient use of airspace for aviation purposes.

An aeronautical study by the FAA results in documentation of its evaluation called a "Determination" and is "issued" with an effective date and an expiration date. Determinations from completed aeronautical studies will have one of three outcomes: (1) Acknowledgment letter stating: "... would not exceed federal obstruction standards ... "; (2) FAA Form 7460-9, Determination of No Hazard to Air Navigation and (3) FAA Form 7460-10, Determination of Hazard to Air Navigation.

I hope this response will be of assistance to you and the Commission. I will mail an original signed copy of this document with its enclosures should you require it for legal purposes. Please do not hesitate to call if you have questions or need additional information.

Sincerely,



Albert J. Roberts, Jr.
Land Use Planning Manager

AR/ajr

Encl

cc: Mr. Lorenzo Alexander, Public Transportation Manager FDOT Dist 2
Mr. Charles Arnold, Planning Administrator
Mr. William Ashbaker, P.E., State Aviation Manager
Mr. Gene Clerkin, Aviation Director, Gainesville Regional Airport

Supporting Data with References

Federal Aviation Administration Order 74002.D, Procedures for Handling Airspace Matters:

"The prime objective of the FAA in administering Part 77 and in conducting aeronautical studies is to ensure the safety of aircraft and efficient utilization of *navigable airspace* by aircraft." (ref: 4-5 Policy)

"*Minimum flight altitudes are prescribed by regulation. Generally, speaking, it may be considered that the navigable airspace includes all airspace 500 feet and more above the surface and that airspace below 500 feet required for: 1. Takeoff and landing, including an airport traffic pattern.*" (ref: 7-21 Navigable Airspace)

"a. The Federal Aviation Act of 1958 does not provide specific authority for the FAA to regulate or control how real estate(land) may be used involving structures that may penetrate the *navigable airspace*. Consequently, Part 77 was adopted to establish notice standards for proposed construction or alteration to protect aircraft from unannounced objects." (ref: 7-1 Policy)

"b. ".... Part 77 establishes standards for determining obstructions to air navigation. Objects that exceed these standards are presumed to be hazards to air navigation unless aeronautical study determines otherwise. Once an aeronautical study has been initiated, other standards in addition to those in (Part 77) shall be used to determine in the object being studied would actually be a hazard to air navigation." (ref: 7-1 Policy)

The FAA, under authority granted by FAR Part 77, is the only agency who may conduct an aeronautical study to evaluate of the effect of an object on the safe and efficient use of navigable airspace.

Navigable airspace, is that airspace above which normal flight operations may be conducted without the need for deviations to meet flight safety standards of the appropriate aviation operating directive for the type of operation and phase of flight being conducted, excluding operations conducted under waivers or exemptions to the FAR's.

The height boundary of navigable airspace at any site, including all airspace within airport terminal areas, lies above the height of the lowest obstruction standards at that site. Airspace below the height of the lowest obstruction standard is not in the navigable airspace.

Aeronautical study seeks to objectively identify **adverse effect** in order to evaluate the safe and efficient use of navigable airspace.

" An object to be considered for adverse aeronautical effect must *first exceed the obstruction standards of Subpart C, Part 77* A proposed structure, if erected, would have an adverse effect if (it) would:

- a. Require a change to an existing or planned Instrument Flight Rules(IFR - published

aircraft operating procedures).

b. Require a Visual Flight Rules(VFR) operation, *excluding* operations under Part 137,, and any operation conducted under a waiver or exemption to Federal Aviation Regulations(FAR's), to change from a regular flight course or altitude." (ref: 7-3 *Adverse Effect*)

The documentation resulting from a completed aeronautical study is called a "Determination" and is "issued" by the FAA with an effective date and an expiration date. Determinations from completed aeronautical studies have three outcomes:

(1) Acknowledgment letter, "... would not exceed federal obstruction standards ...".

Meaning: Does not exceed any obstruction standard and is not a Hazard to Air Navigation. It has no effect on the safe and efficient use of airspace because, at the site it does not penetrate navigable airspace and will not effect any existing or planned aviation activity.

(2) FAA Form 7460-9, Determination of No Hazard to Air Navigation.

Meaning: Exceeds obstruction standard(s) but is not a Hazard to Air Navigation. It does not have an adverse effect on the safe and efficient use of airspace because, at the site, it may not penetrate navigable airspace or there are no existing or planned aviation activities that can or will require use of that airspace it penetrates..

(3) FAA Form 7460-10, Determination of Hazard to Air Navigation.

Meaning: Exceeds obstruction standard(s) and is a Hazard to Air Navigation. It has a significant adverse effect on the safe and efficient use of airspace because, at the site, it penetrates navigable airspace for existing and/or planned aviation activities that can or will require use of the airspace.

Summary:

An adverse effect is a required change to an IFR or VFR flight operation ***that is not being conducted under waiver or exemption to FAR's***. Since an object must ***first exceed*** the obstruction standards to be considered to have an adverse aeronautical effect to the safe and efficient use of navigable airspace; *navigable airspace* height boundaries must lie above the height of the obstruction standards.

This in fact is the case. Enroute and airport terminal navigable airspace heights above the ground vary at specific locations depending on type terrain, density of ground development, nearby runway operating capability and type using aircraft. Obstruction standards heights above the ground also vary at specific locations depending on nearby runway operating capability, type using aircraft and civil or military airport ownership. ***The lowest obstruction standard height is always below(lower than) the navigable airspace height at any specific location.***

Obstacle Clearance Assurances for Operations in Navigable Airspace

Enroute Structure:	IFR - 1,000' minimum	VFR - 500' minimum
Terminal Area(final/departure):	IFR - Up to 350' <u>maximum</u>	VFR - 20:1 from primary surface
Terminal Area(outside final):	IFR - 500' minimum	VFR - 350' minimum in pattern

Comments Concerning Aviation Operations Outside of Navigable Airspace.

Certain rotary wing and other VFR flight operations, are authorized by waiver to operate outside of navigable airspace boundaries, in particular, obstacle clearance assurances established for operations conducted under provisions of FAR 91. When operating outside of navigable airspace under these waivers, the pilot accepts responsibility to see and avoid any obstacle along the route of flight. Except when landing or taking off from a designated landing area or over open water, flight operation below 500' AGL is outside navigable airspace. In built up areas, this height increases to 1000' AGL.

It is recognized that LifeFlight as well as the Civil Air Patrol, Coast Guard, forestry, law enforcement, mosquito control and the military among others, operate rotary and fixed wing aircraft that provide various functions vital to the public health, safety and welfare. These flights occur not only along all major roadways, but randomly over the entire state and offshore waters. While these operations are vital, because of their random nature it is not feasible nor in the public interest to extend physical airspace protection below that provided the established navigable airspace structure. It should be pointed out, these operations are to be conducted by highly experienced, well qualified professionals. When the pilot descends below the VFR enroute structure, he does so under conditions of the waiver established for his operation.

Comments Concerning Emergency or Unauthorized Aviation Operations

Airspace height zoning based on speculation about possible aircraft malfunction or the unauthorized/unqualified IFR operation of aircraft are not aeronautically supportable. Speculation of this nature creates an almost limitless number of situations with no way to establish reasonable standards to evaluate effect or impact on aviation.

An object that does not enter the navigable airspace including airport IFR or VFR terminal airspace presents no greater risk to the operation, control and safe recovery of a malfunctioning aircraft than any other such object or structure in the airport vicinity. Such an object also presents no greater risk to human life due to weather conditions impairing pilot visibility than any other object or structure in the vicinity. At this airport and in any area outside of the airport's terminal IFR airspace, IFR operation of aircraft is prohibited at altitudes where objects that do not exceed obstruction standards would physically impair safe flight.

Chapter 333, Florida Statutes, Airport Zoning:

The intent of Ch 333, FS, is stated in Ch 333.02, FS, the declaration by the State Legislature of the public interest in preventing "airport hazards".

Airport hazard is a state established term.

"(3) *"Airport hazard"* means any structure or tree or use of land which would exceed the federal obstruction standards as contained in 14 C.F.R. ss. 77.21, 77.23, 77.25, 77.28, and 77.29 and which obstructs the *airspace required* for the flight of aircraft in taking off, maneuvering, or landing (ref Ch 333.01 Definitions)

The specific intent here is the object MUST first exceed a federal obstruction standard and then MUST obstruct airspace required for flight.

"... airspace required for flight ..." means that airspace necessary to conduct flight without course, altitude or other deviation to assure the obstacle clearance for the operation under FAR 91 or other appropriate federal operation directive.

The intent of Ch 333 is for local government to adopt adequate airspace protection by an airport zoning ordinance. The purpose of Airport Zoning adopted pursuant to Ch 333.03(1)(c) is to prevent the creation or establishment of *airport hazards*. (ref: Ch 333.03(1)(a)).

Until an adequate airspace protection ordinance has been adopted by local zoning, "... each person shall secure from the Department of Transportation a permit for the erection, alteration, or modification of any structure ... which would exceed the federal obstruction standards as contained in 14 C.F.R. ss. 77.21, 77.23, 77.25, 77.28, and 77.29 ..." (ref Ch 333.025(1)).

Ch 333.025(8) and Ch 333.03(c)5. both state no permit or variance "... shall be approved solely on the basis that such proposed structure *will not exceed federal obstruction standards* as contained in 14 C.F.R. ss. 77.21, 77.23, 77.25, 77.28, and 77.29, or any other federal aviation regulation. ...",

This language is meaningless because the specific regulatory language in Ch 333.025(1) and Ch 333.03(1)(c)1. require a permit or variance to exceeds these standards when taken in context of the statute's purpose using the definition of *airport hazards*.