

## DIVISION 7. AIRPORT PROTECTION OVERLAY DISTRICT

### Sec. 23-7.7.1. Purpose and intent.

(a) To provide for the safe use of Shannon Airport by creating additional regulation of the use of land surrounding the airport, in addition to existing zoning districts, which will protect over flying aircraft from conflicts with land uses, objects, and natural foliage on the ground.

(b) To protect the safety of air navigation around the airport by limiting the height of structures and foliage under the four (4) approach paths to the airport and generally within nine thousand (9,000) feet of the runway surfaces. Anything above the established height limitations could obstruct aircraft using the airport, create a safety hazard to airport operations, and unnecessarily endanger people, property and land use activities in the vicinity of the airport. Standard zoning height limitations and land use regulations alone are insufficient to provide the required protection for air navigation, according to Federal specifications.

(Ord. No. 23-115, 9-13-05)

**State law references:** Code of Virginia, § 15.2-2294

### Sec. 23-7.7.2. Definitions.

For the purpose of this division the following words and terms shall be defined as:

*Administrator* means the county official charged with the enforcement of this division who shall be the zoning administrator.

*Airport* means Shannon Airport, a general aviation airport in Spotsylvania County, Virginia.

*Airport elevation* means the highest point on any usable landing surface expressed in feet above mean sea level. Eighty-five (85) feet at Shannon Airport.

*Approach surface* means "approach slope". A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope. The perimeter of the approach surface coincides with the perimeter of the approach zone. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

(1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:

(i) One thousand two hundred fifty (1,250) feet for that end of a utility runway with only visual approaches;

(ii) Two thousand (2,000) feet for that end of a utility runway with non-precision instrument approach;

(2) The approach surface extends for a horizontal distance of:

(i) Five thousand (5,000) feet at a slope of 15:1 for all utility and visual runways;

(3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach, existing or planned, for that runway end.

*Approach zone* means airspace zone located above the approach surface.

*Civil airport* means a general aviation airport.

*Conical surface* means a surface extending outward and upward from the periphery of the horizontal surface at a slope of 15:1 for a horizontal distance of four thousand (4,000) feet.

*Conical zone* means airspace zone located above the conical surface.

*FAA Regulations* means Federal Aviation Administration Regulations.

*Hazard to air navigation* means an obstruction determined by the Virginia Department of Aviation or the Federal Aviation Administration to have a substantial adverse effect on the safe and efficient utilization of navigable airspace in the Commonwealth of Virginia.

*Height* means distance above mean sea level unless otherwise specified. Compare with airport elevation (above).

*Heliport primary surface* means a surface area coinciding in size and shape with the designated takeoff and landing area of a heliport. A horizontal plane at the same elevation as the established heliport elevation (FAA Reg. Part 77). At Shannon Airport, the primary surface of the heliport is generally contiguous with that of the airport (Shannon Airport Master Plan).

*Heliport approach surface* means the approach surface that begins at each end of the heliport primary surface, with the same width as the primary surface, and extends outward and upward for a horizontal distance of four thousand (4,000) feet, where its width is five hundred (500) feet. The slope of the approach surface is 8:1 for civil airports.

*Heliport transitional surface* means those surfaces extending outward and upward from the lateral boundaries of the heliport primary surface and from the approach surfaces at a slope of 2:1 for a distance of two hundred fifty feet (250) feet measured horizontally from the centerline of the primary and approach surfaces.

*Horizontal surface* means, for civil airports, a horizontal plane one hundred fifty (150) feet above the established airport, the perimeter of which is constructed by sweeping arcs of specified radii from the center of each end of the primary surface and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

(1) Five thousand (5,000) feet for all runways designated as utility or visual;

The radius of the arc specified for each end of the runway will have the same arithmetic value.

*Horizontal zone* means "airport zone"; airspace zone located above the horizontal surface.

*Non-conforming use* means any pre-existing man made structure or object of natural growth which is inconsistent with the provisions of this division or any amendment to this division.

*Non-precision instrument runway* means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved or planned, and for which no precision approach facilities are planned, or indicated in any FAA planning document, or military service military airport planning document.

*Obstruction* means any structure, growth, or other object, including a mobile object, which exceeds a limiting height, or penetrates any surface or zone floor, set forth in section 23-7.7.3 of this division.

*Primary surface* means a surface longitudinally centered on a runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. For civil airports, when the runway has a specially prepared hard surface, the primary surface extends two hundred (200) feet beyond the end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at the end of each runway. The width of the primary surface is:

- (1) Two hundred (200) feet for utility runways having only visual approaches.
- (2) Two hundred (200) feet for utility runway having non-precision instrument approaches.

The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.

*Runway* means a specified area on an airport prepared for the landing and takeoff of aircraft.

*Shadowed* means that at some point during the day, during any part of the year, the proposed new construction shall fall within the shadow of the existing structures or vegetation.

*Slope*, for purposes of this division, means the vector of approach for fixed-wing aircraft that land on an airport runway.

*Transitional surface* means those surfaces extending outward at right angles to the runway centerline[s], extended at a slope of 5:1 from the sides of the primary surface and from the sides of approach surfaces.

*Transitional zone* means the airspace zone located above the transitional surface.

*Utility runway* means a runway that is constructed for, and intended to be used by, propeller-driven aircraft of twelve thousand five hundred (12,500) pounds or less. All runways at Shannon Airport are, for purposes of this division, utility runways.

*VDA* means Virginia Department of Aviation.

*Vegetation* means any object of natural growth.

*Visual runway* means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority (FAA Reg. Part 77).

*Zone*, for purposes of this division, means airport safety zones.

(Ord. No. 23-115, 9-13-05)

### Sec. 23-7.7.3. Establishment of airport safety zones.

(a) In order to carry out the provisions of this division, there are hereby established certain zones which include all the area and airspace of the County of Spotsylvania lying equal to and above the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to Shannon Airport. These zones are established as overlay zones, superimposed over the existing base zones, being more specifically zones of airspace that do not affect the uses and activities of the base zones except as provided for in this division. An area located in more than one (1) of the following zones is considered to be only in the zone with the most restrictive height limitation. These zones are as follows:

- (1) *Airport zone*: A safety zone centered on the primary surface and located one hundred fifty (150) feet above the airport elevation or a height of two hundred thirty-five (235) feet above mean sea level. This zone extends for a radius of five thousand (5,000) feet away from the perimeter of the primary surface.
  - (2) *Conical zone*: A safety zone located above the 15:1 slope beginning along the periphery of the airport zone (two hundred thirty-five (235) feet height), and extending four thousand (4,000) feet outwards and two hundred (200) feet upwards to a height of four hundred thirty-five (435) feet above sea level.
  - (3) *Non-precision instrument approach zone [Runway 24]*: A safety zone located above the 15:1 slope which is two hundred (200) feet wide, centered longitudinally on the primary surface, and extending five thousand (5,000) feet until it is two thousand (2,000) feet wide and three hundred thirty-three and one-third ( $333 \frac{1}{3}$ ) feet above the primary surface or four hundred eighteen and one-third ( $418 \frac{1}{3}$ ) feet above mean sea level. This zone is located roughly to the northeast of the airport.
  - (4) *Visual approach zone(s) [Runways 6, 15 and 33]*: A safety zone located above the 15:1 slope which is two hundred (200) feet wide, centered longitudinally on the primary surface, and extending five thousand (5,000) feet until it is twelve hundred (1,200) feet wide and four hundred eighteen and one-third ( $418 \frac{1}{3}$ ) feet height above mean sea level. These zones are located roughly to the northwest, southeast and southwest of the airport.
  - (5) *Transitional zone*: A safety zone located above the 5:1 slopes, beginning at the primary surface, and extending outward and upward from the lateral edges of the approach surfaces until they reach the horizontal surface (one hundred fifty (150) feet above the primary surface) or conical surface (one hundred fifty (150) feet to three hundred fifty (350) feet above the primary surface). It does not extend higher than the top of the conical surface (four hundred thirty-five (435) feet height above mean sea level).
- (b) Any portions of the aforementioned zones which extend into the City of Fredericksburg or Stafford County are outside the jurisdiction of Spotsylvania County and should be addressed by those jurisdictions.

(Ord. No. 23-115, 9-13-05)

**State law references:** Code of Virginia, § 15.2-2294.

#### Sec. 23-7.7.4. Source and design of zones.

The required geometry of the zones described in section 23-6A.3.1 is based upon technical information about Shannon Airport depicted on the Shannon Airport Master Plan. Surface requirements depicted on the Shannon Airport Master Plan are based on state standards; the more restrictive federal standards were not used in this division. The required geometry for heliports is outlined in FAA Reg. § 77.29. All four (4) airport approach zones are larger (more protective against proposed development) than the state and federal requirements for heliport approach zones. The airport approach zones, therefore, also serve as approach zones for the heliport located at the airport.

(Ord. No. 23-115, 9-13-05)

#### Sec. 23-7.7.5. Height restrictions.

(a) Except as otherwise provided in this division, in any zone created by this division no structure shall be erected, altered, or maintained, and no vegetation shall be allowed to

grow to a height so as to penetrate any referenced surface, also known as the floor, of any airport safety zone established by this division at any point.

(b) The height restrictions, or floors, for the individual zones shall be those planes delineated in successor regulation (Civil Airport) and § 77.29 (Heliports), Subchapter E (Airspace), of Title 14 of the Federal Code, or in successor regulations. The applicable design standards for these surfaces are excerpted in the definition section of this division. There are no military airports in Spotsylvania County.

(c) The Federal Aviation Administration requires notice of certain proposed construction or alteration, as prescribed in § 77.13 of Title 14 of the Federal Code. No construction of towers, monopoles, or other similarly tall structures shall commence within twenty thousand (20,000) feet of the runway until FAA Form 7461-1 has been completed and reviewed by the FAA.

(Ord. No. 23-115, 9-13-05)

#### Sec. 23-7.7.6. Use restrictions.

Notwithstanding any other provision of this division, and within the area below the horizontal limits of any zone established by this division, no use may be made of land or water in such a manner as to:

1. Create electronic interference with navigational signals or radio communications between the airport and aircraft;
2. Diminish the ability of pilots to distinguish between airport lights and other lights;
3. Result in glare in the eyes of pilots using the airport;
4. Impair visibility in the vicinity of the airport;
5. Create the potential for bird strike hazards (e.g., birds striking aircraft or their engines); or
6. Otherwise in any way interfere with the landing, takeoff, or maneuvering of aircraft in the vicinity of and intending to use the airport; including:
  - a. Raise the grade of any road or railway that crosses under the approach surfaces of this airport, by resurfacing or other means, to where passing vehicles (esp. trucks or loaded rail cars) could be higher than approach surfaces or otherwise create a safety hazard for aircraft intending to use the airport.

#### Sec. 23-7.7.7. Exceptions.

Except as provided in this division, the regulations prescribed by this division shall not require the removal, lowering, or any other change or alteration of any structure or vegetation not conforming to the regulations as of the effective date of this division, or otherwise interfere with the continuance of a nonconforming use. Nothing contained in this division shall require a change in the construction, alteration, or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this division, and is diligently pursued.

(Ord. No. 23-115, 9-13-05)

#### Sec. 23-7.7.8. Markers and lights.

Notwithstanding the provisions of the previous paragraph, the owner of any existing nonconforming structure or vegetation is hereby required to permit the installation, operation, and maintenance thereon of whatever safety markers and lights deemed

necessary by the Federal Aviation Administration, the Virginia Department of Aviation, or the administrator to indicate to operators of aircraft the presence of that obstruction. These markers and lights shall be installed, operated, and maintained at the expense of the airport owner, and not the owner of the nonconforming structure in question.  
(Ord. No. 23-115, 9-13-05)

Sec. 23-7.7.9. Restoration of damaged buildings.

Whenever the administrator determines that a nonconforming structure has been abandoned or more than seventy-five (75) percent destroyed, physically deteriorated, or decayed, no application approval shall be granted that would enable such structure to be rebuilt, reconstructed, or otherwise refurbished so as to exceed the applicable height limit or otherwise deviate from the zoning regulations contained in this division, except with the relief provided for by variance, below.  
(Ord. No. 23-115, 9-13-05)

Sec. 23-7.7.10. Variances.

Any person desiring to erect or increase the height or size of any structure not in accordance with the regulations prescribed in this division may apply for a variance from such regulations to the board of zoning appeals. Prior to being considered by the board of zoning appeals, the application for variance shall be accompanied by a determination from the Virginia Department of Aviation (VDA) and the Federal Aviation Administration (FAA) as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace.  
(Ord. No. 23-115, 9-13-05)

Sec. 23-7.7.11. Variance conditions

Any variance granted may, if such action is deemed advisable to effectuate the purpose of this division and is reasonable under the circumstances, be so conditioned as to require the owner of the property in question to install, operate, and maintain at the owner's expense, such markings and lights as may be deemed necessary by the Federal Aviation Administration, Virginia Department of Aviation, or the administrator.  
(Ord. No. 23-115, 9-13-05)

Sec. 23-7.7.12. Application forms.

Applications for variances shall be made on forms available from the zoning administrator, with such forms allowing for enough specific detail so that proper analysis can be given the request (e.g., site plan with front and side elevations).  
(Ord. No. 23-115, 9-13-05)

Sec. 23-7.7.13. Conflicting regulations.

Where there exists a conflict between any of the regulations or limitations prescribed in this division and any other regulations, state or federal, applicable to the same subject, where the conflict is with respect to the height of structures or vegetation and the use of land, or any other matter, the requirement shall govern unless there is a clear intent under federal law to preempt such requirement, in which case, the more stringent federal standard shall govern.

(Ord. No. 23-115, 9-13-05)