

## **8800.1200 CRITERIA FOR DETERMINING AIR NAVIGATION OBSTRUCTIONS.**

Subpart 1. **Application.** An existing object, including a mobile object, is, and a future object would be, an obstruction to air navigation if it is of greater height than any of the heights or surfaces established herein.

Subp. 2. **Traverse ways.** Except for traverse ways whose activities are coordinated with adjacent controlled airports, the standards of this part apply only after the heights of traverse ways are increased by: 17 feet for interstate highways; 15 feet for all other public roadways; ten feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for private roads; 23 feet for railroads; for waterways and all other traverse ways not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

Subp. 3. [Repealed, L 2003 1Sp19 art 2 s 79]

Subp. 4. **General obstructions.** The following objects will be considered general obstructions to air navigation:

A. objects extending more than 500 feet above ground level at the site of the object;

B. objects more than 200 feet above the ground or more than 200 feet above the established airport elevation, whichever gives the higher elevation, within three nautical miles of the nearest runway of an airport, and increasing in height in the proportion of 100 feet for each additional nautical mile of distance from the airport but not exceeding a maximum of 500 feet above ground;

C. objects which would increase the minimum obstruction clearance altitude of a federal airway or approved off-airway route;

D. objects whose elevation will increase a precision or nonprecision instrument approach flight altitude minimum or flight visibility minimum.

Subp. 5. **Obstructions to public airports.** An object will be considered an obstruction to a public airport (excluding seaplane bases and heliports) if it is of greater height than any of the following airport imaginary surfaces:

A. Primary surface: an imaginary surface longitudinally centered on a runway and extending 200 feet beyond each end of a runway with a specially prepared hard surface or coinciding with each end of other runways.

The width of the primary surface is 120 feet for visual runways at special-purpose airports, 250 feet for visual utility runways, or 500 feet for nonprecision instrument runways and for visual runways other than utility, or 1,000 feet for precision instrument runways and

for nonprecision instrument runways having visibility minimums as low as three-fourths of a statute mile.

The primary surface for each end of a runway has the same arithmetical value. The value is the highest determined for either end of the runway.

The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

B. Horizontal surface: an imaginary horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

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

(2) 10,000 feet for all other runways. The radius of the arc specified for each end of a runway has the same arithmetical value. The value is the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc must be disregarded in the construction of the perimeter of the horizontal surface.

C. Conical surface: an imaginary conical surface extending upward and outward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet as measured radially outward from the periphery of the horizontal surface.

D. Approach surface: an imaginary surface longitudinally centered on the extended centerline at each end of a runway. The inner edge of the approach surface is at the same width and elevation as, and coincides with, the end of the primary surface.

The approach surface inclines upward and outward at a slope of: 15:1 for a horizontal distance of 3,000 feet for visual runways at special-purpose airports, 20:1 for a horizontal distance of 5,000 feet for utility runways and visual other than utility runways, or 34:1 for a horizontal distance of 10,000 feet for all nonprecision instrument runways other than utility.

The approach surface expands uniformly to a width of 1,020 feet at a distance of 3,000 feet from the end of the primary surface for visual runways at special-purpose airports, or 1,250 feet for visual utility runways, or 1,500 feet for visual runways other than utility, or 2,000 feet for utility runways with a nonprecision instrument approach, or 3,500 feet for nonprecision instrument runways other than utility, having visibility minimums greater than three-fourths statute mile, or 4,000 feet for nonprecision instrument runways other than utility, having visibility minimums as low as three-fourths of a statute mile.

E. Precision instrument approach surface: an imaginary surface longitudinally centered on the extended centerline at the end of a precision instrument runway. The inner edge of the precision instrument approach surface is at the same width and elevation as, and

coincides with, the end of the primary surface. The precision instrument approach surface inclines upward and outward for a horizontal distance of 10,000 feet at a slope of 50:1, expanding uniformly to a width of 4,000 feet, then continues upward and outward for an additional horizontal distance of 40,000 feet at a slope of 40:1, expanding uniformly to an ultimate width of 16,000 feet.

F. **Transitional surface:** an imaginary surface extending upward and outward at right angles to the runway centerline and the runway centerline extended at a slope of 4:1 for visual runways at special-purpose airports, or 7:1 for all other runways. The transitional surfaces incline upward and outward from the sides of the primary surfaces and from the sides of the approach surfaces until they intersect the horizontal surface or the conical surface. Transitional surface for those portions of the instrument approach surface that project through and beyond the limits of the conical surface extend a distance of 5,000 feet measured horizontally from the sides of the approach surface and at right angles to the extended instrument runway centerline.

Subp. 6. **Obstructions to public heliports.** An object will be considered an obstruction to a public heliport if it is of greater height than any of the following heliport imaginary surfaces:

A. **Heliport primary surface:** the primary surface of a heliport coincides in size and shape with the designated takeoff and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

B. **Heliport approach surface:** the heliport approach surface begins at each end of the primary surface, with the same width as the primary surface and extends outward and upward at a slope of 8:1 for a horizontal distance of 4,000 feet where its width is 500 feet.

C. **Heliport transitional surface:** the heliport transitional surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach surfaces at a slope of 2:1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

Subp. 7. **Obstruction marking and lighting.** The standards for marking and lighting structures are contained in FAA Advisory Circular 70/7460-1K, Obstruction Marking and Lighting, and any subsequent changes. These standards are incorporated by reference, are not subject to frequent change, and are conveniently available to the public through the Minitex interlibrary loan system.

Subp. 8. **References.** See Minnesota Statutes, sections 360.061 et seq. and 360.081 et seq. for airport zoning statutes and for rules of structure height.

**Statutory Authority:** *MS s 360.015; 360.018; 360.03; 369.90*

**History:** *L 2003 1Sp19 art 2 s 79; 30 SR 215*

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