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Aeronautical Study No.
2021-ASW-15279-OE
Prior Study No.
2020-ASW-13068-OE

Issued Date: 03/17/2022

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**** DETERMINATION OF HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Shop
Location:	Spicewood, TX
Latitude:	30-28-44.40N NAD 83
Longitude:	98-07-18.85W
Heights:	824 feet site elevation (SE) 26 feet above ground level (AGL) 850 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure as described above would have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft and/or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would be a hazard to air navigation.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 16, 2022. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on April 26, 2022 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and enroute procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative

impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have a substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Andrew Hollie, at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ASW-15279-OE.

Signature Control No: 496693708-518397176

(DOH)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Case Description

Map(s)

Additional information for ASN 2021-ASW-15279-OE

Abbreviations

AGL = Above Ground Level

MSL = Mean Sea Level

NM = Nautical Mile

Part 77 = Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

The FAA's aeronautical study revealed that the hanger is actually located approximately 273 feet southwest of the runway 17 end and its nearest point is 98 feet perpendicular from the runway centerline. This is closer to runway 17 than the original filed locations. The actual building location is within the protected surfaces at Spicewood Airport (88R), Spicewood, TX. The structure has been built, and is now existing.

The FAA issued a Determination of No Hazard on 12/14/2020 based on the filed location. This determination was terminated on 04/19/2021 when the FAA initiated a new study. This new study was required due to new information discovered during the petition process and a review of updated satellite imagery. The following data is based on satellite imagery showing the hanger was built in a different location (33-28-44.40N 98-07-18.79) than that of the original points (30-28-44.02N 98-07-19.36W) filed. The sponsor has refused the FAA's multiple requests for new filings and updated location data. The survey that has been requested since the initial study was filed, was finally given to the FAA. The coordinates were not given in degree's minutes seconds format and do not appear to be the as built location.

88R has a single runway. RYW 17/35 is 4,185 x 38 feet and is asphalt. There are 115 single engine aircraft, 14 multi engine aircraft, 1 jet and 4 helicopters for a total of 134 based aircraft. The latest information on file for the period ending 05/03/2017 reflects a total of 16,500 operations. The airport authority owns the runway and taxiway. The adjacent properties including the hangers are privately owned.

At the existing height and location, this structure penetrates protected airport surfaces:

> 77.17 (a)(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23.

77.19 (c) Primary surface. A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is 250 feet for utility runways having only visual approaches.

This existing structure exceeds RWY 17/35 primary surface by 29 feet.

The primary surface is an area that must remain clear, except for airport equipment that is fixed by function.

Additionally, the structure is within the lateral boundaries of the Traffic Pattern Airspace (TPA).

The original proposal was initially circularized for public comment on 10/30/2020 to 4,860 email respondents.

This current penetration to the primary surface is considered a hazard and further circulation for public comments would not change that fact. The original study was circularized and those comments have been reviewed for this new location. There were 15 comments submitted for the hanger at the first proposed location further away from the runway. The comments are broken down as follows:

1. A pilot is concerned about the location of the residence as the airport has student pilots and the airport is already a challenging airport with the nearby Colorado River.
2. A pilot is concerned about the location of the residence and feels that the structure would violate the airport airspace.
3. A pilot is concerned about the location and added challenges to an already difficult approach.
4. A pilot is concerned about the location and the possible effects that it may have for a future GPS approach.
5. Two pilots expressed concerns about the location.
6. A pilot is concerned about the location and that it greatly intrudes into the airspace/glide path of RWY 17. He mentioned that a plane had hit the tree's that were removed for the construction of the residence.
7. An airport board member who is in favor of this construction. It was mentioned that the tree's that were there are 20 feet taller than the residence and some were left. Also mentioned that the last time someone hit the trees was in 1975.
8. A pilot, who has flown out of 88R for 8 years, gave his opinion that this house poses no dangers for departing or arriving traffic.
9. A pilot is concerned about the location and pilots trying to land on the grass runway. He feels that the structure should be removed immediately.
10. A pilot discussed the airport group that purchased the runway from the original owners and made it a public use airport. They have spent money to improve the airport and to have a grass runway and an approach published for the runway.
11. A pilot is concerned that the location of the hanger is too close to the turf runway. It was mentioned that an aircraft hit the tree's that were on this lot.
12. A pilot is concerned about financial investment that has been made for the grass runway project and an instrument approach and who would be held accountable if it interferes with either project.
13. A pilot is concerned about the location in regards to the turf runway
14. A former airport board member and user of 88R had several concerns. 1. The location of the building that is penetrating the transitional and approach surface area and is close to the grass runway. They stated this should be protected by the FAA. 2. The building started construction before the study was filed. 3. The construction was completed and building occupied before the final determination.

The majority of responses are concerned about the location at the approach end of RWY 17 and the encroachment on an unofficial grass runway. Five comments referred to a grass runway but there is no grass runway published or proposed for 88R. Any use of a non-published grass area that is located between the asphalt runway and the existing hangers is not protected or considered in this determination. The concern for any future instrument approach was reviewed and at the present time there are no planned instrument approaches on file with the FAA. Turf runway plans could have been discussed and actions accomplished

locally at the airport, however, plans have not been filed with the FAA, and are not considered. The concern about the displaced threshold is not part of the Part 77 calculations as the full runway must be evaluated.

After a Notice of Preliminary Findings was sent to the sponsor for this current study, correspondence was received indicating a belief that he owned the Primary Surface. The FAA then provided clarification that the Primary Surface was one of the Part 77.17(a)(5) imaginary surfaces and not physical property to be owned. It was further stated that these have nothing to do with land use or ownership. Our evaluation concerns the safe and efficient use of the navigable airspace and these obstruction standards help to ensure adequate airspace for safe aircraft operations. The imaginary surfaces do not consider property lines. A short response was then received stating: "The building is on private property and is there to stay."

DETERMINATION - HAZARD TO AIR NAVIGATION

It is determined that the existing hanger has a substantial adverse effect on the safe and efficient use of navigable airspace by aircraft and is therefore a hazard. The building's unsafe proximity to aircraft in a critical phase of flight is untenable.

BASIS FOR DECISION The FAA guidelines that apply to evaluating the effect of a proposed or existing structure on the navigable airspace are detailed in FAA Order 7400.2N. The hanger creates a substantial adverse effect by exceeding the Part 77 primary surface.

The existing hanger creates a substantial adverse effect by exceeding the runway 17 protected airspace in the primary surface.

Structures in the airport primary are considered hazards to aviation if not fixed by function (required for aviation) and frangible. The nearby existing trees and power lines also appear to be in the primary surface and would likely result in determination of hazard if studied. The airport does not own the property for the entire primary surface. Civil airport imaginary surfaces are established surfaces, based on the runway, that are used to identify objects that may impact airport plans or aircraft departure/arrival procedures or routes. Per FAA Order 7400.2N, Procedures for Handling Airspace Matters, paragraph 6-3-7.a.1., the physical ends of the specific runway surface that is usable for either takeoff or landing are used for establishing the primary surface and the approach, transitional, horizontal, and conical surfaces are based on the primary surface.

It is recommended that objects which are determined as obstructions to air navigation within the primary and approach departure surfaces should be removed. Where a structure would exceed an obstruction standard and, in addition, would be located within a runway clear zone or the part of the primary surface extending beyond the end of the runway, the structure would be a hazard to aviation. The primary surface is expected to be clear of obstructions for aircraft landing short of the threshold, winds causing runway overshoot, and providing a clear area in case of a mishap causing aircraft to stray from the runway.

The hanger's presence within the primary reduces that margin of safety to an unacceptable level. Also FAA Order 7400.2N, , paragraph 6-3-4, Determining Significant Volume of Activity states, "The type of activity must be considered in reaching a decision on the question of what volume of aeronautical activity is "significant." For example, if one or more aeronautical operations per day would be affected, this would indicate regular and continuing activity, thus a significant volume no matter what the type of operation. With 16,500 operations per year, 88R meets the threshold for significant volume as outlined in this paragraph.

Paragraph 7-1-3.e states, in part "Issue a Determination of Hazard (DOH) if the structure would have or has a substantial adverse effect; negotiations with the sponsor have been unsuccessful in eliminating the substantial adverse effect; and the affected aeronautical operations and/or procedures cannot be adjusted to accommodate

the structure without resulting in substantial adverse effect." The structure lies within the primary surface. The airport master record indicates that an average of at least one VFR operation would be affected per day.

On two separate occasions, since the determination was remanded based on the new imagery indicating the hanger was built in the primary surface, the FAA requested that the proponent refile for the two corners of the hanger that now appear to be within the boundaries of the primary surface and to submit a survey with the filing. The proponent has declined to refile a new study.

The location of the hanger combined with the significant volume of operations at 88R constitutes substantial adverse effect; therefore, the structure at the existing height and location is a hazard to air navigation.

Case Description for ASN 2021-ASW-15279-OE

Residence and shop off airport on private property

Re filing by request of Andrew Hollie



