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2601 Meacham Boulevard
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Aeronautical Study No.
2012-AWP-7099-OE

Issued Date: 02/08/2013

Gerry J. Bomotti
Board of Regents NSHE obo UNLV
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**** NOTICE OF PRESUMED HAZARD ****

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 Pt. 120
Location:	Las Vegas, NV
Latitude:	36-06-29.16N NAD 83
Longitude:	115-08-54.10W
Heights:	2043 feet site elevation (SE)
	205 feet above ground level (AGL)
	2248 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 106 feet above ground level (2149 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

Any height exceeding 168 feet above ground level (2211 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (425) 227-2791. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2012-AWP-7099-OE.

Signature Control No: 173492578-182887659 (NPH)
Daniel Shoemaker
Specialist

Attachment(s)
Additional Information
Map(s)

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Our study has disclosed that this 205-foot above ground level (AGL), 2248-foot above mean sea level (MSL), point on a proposed sports stadium would exceed 14 CFR Part 77 protected airspace surfaces at McCarran International Airport (LAS) in Las Vegas, NV. The LAS airport elevation is 2181 feet MSL.

This point on the building would penetrate the following Part 77 protected airspace surfaces:

1) Section 77.17(a)(3): A structure that causes less than the required obstacle clearance within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area resulting in increases to an IFR terminal minimum altitude. The proposed stadium, at a height of 2248 feet MSL (205 feet AGL), would impact these LAS instrument procedures:

a) Runway (RWY) 1L: Penetrates the 40:1 departure surface in the initial climb area (ICA) by 45 feet, requiring an increase to the TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, RWY 1L, from standard with a minimum climb gradient of 200 feet per nautical mile, to 300-1 or standard with a minimum climb gradient of 278 feet per nautical mile until reaching 2300 feet MSL. The not-to-exceed height to avoid this IFR effect is 2203 feet MSL (160 feet AGL).

b) RWY 1R: Penetrates the 40:1 departure surface in the initial climb area (ICA) by 76 feet, requiring TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES, RWY 1R, increase from standard to 300-1 or standard with a minimum climb gradient of 360 feet per nautical mile until reaching 2400 feet MSL. The not-to-exceed height to avoid this IFR effect is 2172 feet MSL (129 feet AGL). Requires HOOVER THREE DEPARTURE and LAS VEGAS THREE DEPARTURE, RWY 1R, increase from standard with a minimum climb gradient of 328 feet per nautical mile until reaching 5000 feet MSL, to 300-1 or standard with a minimum climb gradient of 360 feet per nautical mile until reaching 2400 feet MSL. Requires TRALR FOUR DEPARTURE, RWY 1R, increase from standard with a minimum climb gradient of 321 feet per nautical mile until reaching 5100 feet MSL, to 300-1 or standard with a minimum climb gradient of 360 feet per nautical mile until reaching 2400 feet MSL. The not-to-exceed height to avoid this IFR effect is 2172 feet MSL (129 feet AGL).

c) RNAV (GPS) Y RWY 19L (proposed): Penetrates the anticipated glidepath qualification surface (GQS), rendering the LPV decision altitude (DA) not usable. The not-to-exceed height to avoid this IFR effect is 2211 feet MSL (168 feet AGL).

d) RNAV (RNP) Z RWY 19L (pending, est. publication date 17 Oct 2013): Penetrates the RNP 0.30 GQS, rendering the RNP 0.30 DA not usable. The not-to-exceed height to avoid this IFR effect is 2239 feet MSL (196 feet AGL).

2) Section 77.19(d): The approach surface area designated under 77.19 to protect aircraft during the final approach phase of flight at an airport. This point on the sports stadium would exceed the following LAS Part 77 approach slope surfaces:

a) RWY 19L (existing) by 65 feet.
b) RWY 19R (existing) by 31 feet.
c) RWY 19L (proposed, plan on file) by 99 feet.
d) RWY 19R (proposed, plan on file) by 72 feet.

The decision altitude is the minimum altitude to which an aircraft may descend while on a precision instrument approach to the airport when reduced visibility and/or low cloud ceiling conditions exist. If the pilot cannot achieve visual reference to the runway upon reaching the DA, the approach must be abandoned. This results in the aircraft having to re-attempt the approach procedure, wait in a holding pattern for improved weather conditions, or proceed to an alternate airport with better weather conditions or lower instrument approach minimums. Any increase in the DA would have a significant adverse effect on the benefits derived from the instrument procedures and on the airport capacity.

The proposed stadium, along with other existing structures, may combine to adversely impact the operations at LAS. "Cumulative impact" is defined by the FAA as individually minor but collectively significant actions taking place over a period of time. The FAA initial review of this proposal has identified the following concerns for cumulative effect:

a) Identified increases in the instrument takeoff minimums and climb gradients.

b) Standard takeoff minimums are defined as the required minimum visibility of one-half statute mile for aircraft with one or two engines, one statute mile visibility for aircraft with three or more engines, and a minimum climb gradient of 200 feet per nautical mile. Currently, the only runways at LAS with standard takeoff minimums are RWYs 1L and 1R, RWYs 7L and 7R, and RWY 25L.

c) This proposed stadium would require increases to the required weather minimums and climb gradients for three standard instrument departures from RWY 1R. These increases are anticipated to further reduce airport capacity during periods of high temperatures and the resulting high density altitudes.

d) The FAA's Technical Operations Division initial evaluation revealed that the proposed stadium may block radar coverage of low-flying aircraft in a wedge extending beyond the stadium along the line of sight from the radar antenna at LAS.

The following two options are available to you:

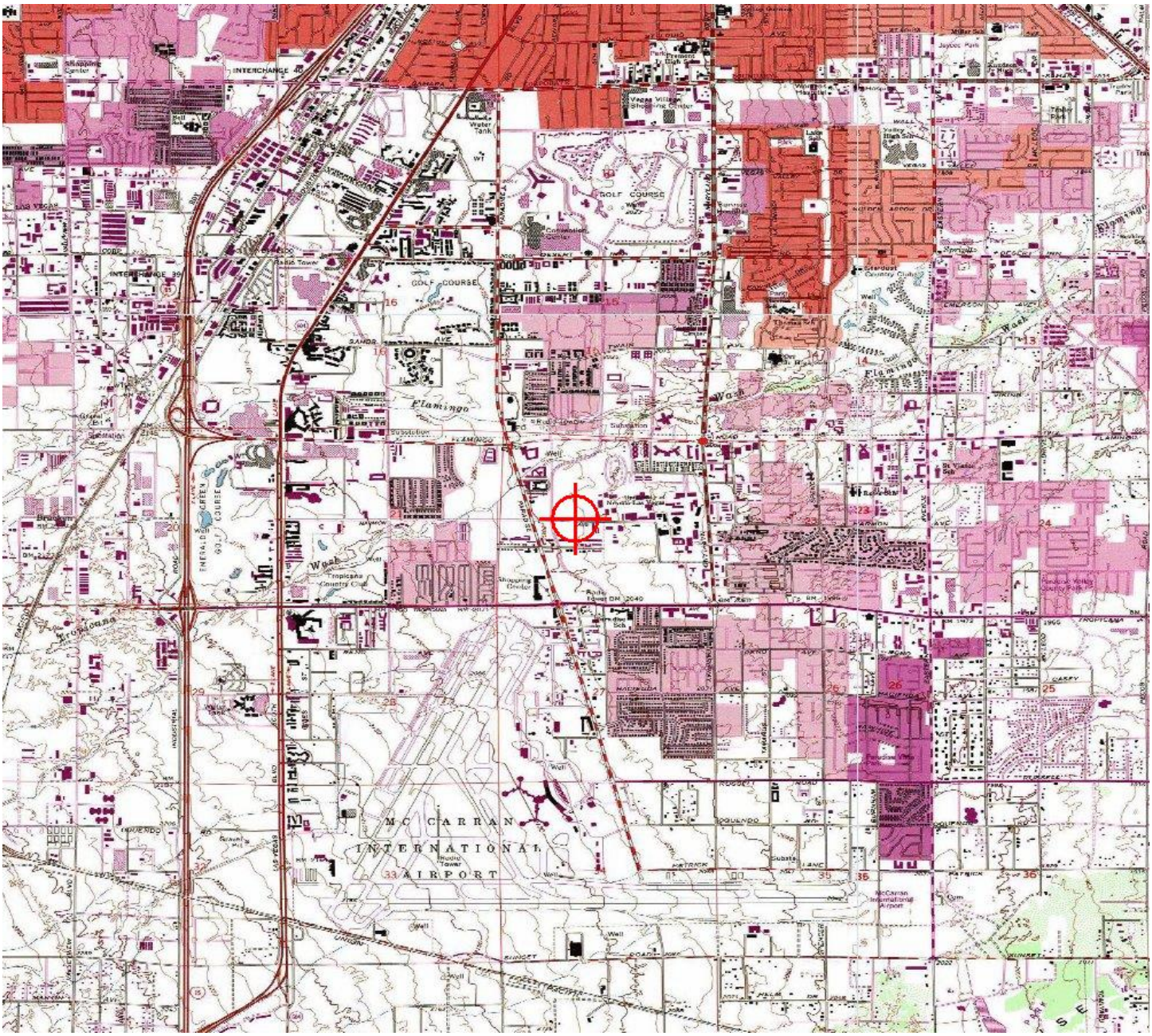
1) If you agree to limit this structure height to 2149 feet MSL (106 feet AGL), the FAA will withdraw its objections and a favorable determination can be written.

2) You may also request further study of the structure up to a height of 2211 feet MSL (168 feet AGL), which is the not-to-exceed height to avoid adversely impacting the proposed RNAV (GPS) Y RWY 19L approach procedure. Further study would evaluate the effects that the stadium's penetration of the RWY 19L and 19R Part 77 approach surfaces and the RWY 1L and 1R instrument departure surfaces would have on operations and capacity at LAS. Further study will involve circularization for public comment, and a 37-day public comment period.

You do not have the option to request further study at the originally proposed height of 2211 feet MSL (168 feet AGL). Any height exceeding 2211 feet MSL/168 feet AGL will have a significant adverse impact on the identified precision instrument approach procedures.

Please email me at Dan.Shoemaker@faa.gov with your intentions and any questions you might have regarding this aeronautical study.

TOPO Map for ASN 2012-AWP-7099-OE



Sectional Map for ASN 2012-AWP-7099-OE