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Aeronautical Study No.
 2013-AWP-5597-OE

Issued Date: 01/09/2015

Lynn Roxas
 San Diego Unified School District
 4860 Ruffner Street
 San Diego, CA 92111

**** DETERMINATION OF NO 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: Light Pole F3 Light Pole
 Location: San Diego, CA
 Latitude: 32-44-19.41N NAD 83
 Longitude: 117-13-36.04W
 Heights: 172 feet site elevation (SE)
 72 feet above ground level (AGL)
 244 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 72 feet above ground level (244 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 07/09/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.

- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before February 08, 2015. 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, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on February 18, 2015 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 Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

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.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route 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 no 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 Robert van Haastert, at (907) 271-5863. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2013-AWP-5597-OE.

Signature Control No: 197666418-239729486

(DNH)

Sheri Edgett-Baron

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

AERONAUTICAL STUDY NO. 2013-AWP-5595 thru 5600-OE

Abbreviations

| | | |
|--|---------------------------|--------------------|
| AGL - above ground level | MSL - mean sea level | RWY - runway |
| IFR - instrument flight rules | VFR - visual flight rules | nm - nautical mile |
| Part 77 - Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace | | |

1. LOCATION OF PROPOSED CONSTRUCTION

This proposal is for a press box, elevator, and four (4) light poles, which would be located west of the RWY 09 threshold at San Diego International (SAN) Lindbergh Field Airport, CA. SAN elevation is 16 MSL. The original proposal included 90 AGL light poles which were reduced in height to remain below the VFR Traffic Pattern airspace.

| Aeronautical Study | Heights | Identification | Distance from RWY 09 threshold |
|--------------------|------------------|----------------|--------------------------------|
| 2014-AWP-5595-OE | 72 AGL / 247 MSL | Light Pole F1 | 6,772 feet |
| 2014-AWP-5596-OE | 72 AGL / 247 MSL | Light Pole F2 | 6,549 feet |
| 2014-AWP-5597-OE | 72 AGL / 244 MSL | Light Pole F3 | 6,888 feet |
| 2014-AWP-5598-OE | 72 AGL / 246 MSL | Light Pole F4 | 6,686 feet |
| 2014-AWP-5599-OE | 39 AGL / 205 MSL | Press Box | 6,789 feet |
| 2014-AWP-5600-OE | 45 AGL / 211 MSL | Elevator | 6,704 feet |

2. OBSTRUCTION STANDARDS EXCEEDED

The proposed structures are identified as an obstruction under these Part 77 standards:

a. 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. These structures will penetrate the 40:1 departure surface in the RWY 27 initial climb area (ICA) by the following amounts:

| Aeronautical Study | Exceeds by |
|--------------------|------------|
| 2014-AWP-5595-OE | 66 feet |
| 2014-AWP-5596-OE | 72 feet |
| 2014-AWP-5597-OE | 61 feet |
| 2014-AWP-5598-OE | 63 feet |

b. Section 77.19(a) -- The surface of a takeoff and landing area of an airport or any imaginary surface. These proposed structures would exceed the VFR maneuvering areas for Category A and Category B aircraft (horizontal surface) at SAN by the values below:

| Aeronautical Study | Exceeds by |
|--------------------|------------|
| 2014-AWP-5595-OE | 81 feet |
| 2014-AWP-5596-OE | 81 feet |
| 2014-AWP-5597-OE | 78 feet |
| 2014-AWP-5598-OE | 80 feet |
| 2014-AWP-5599-OE | 39 feet |
| 2014-AWP-5600-OE | 45 feet |

c. Section 77.19(d) -- The approach surface area designated to protect aircraft during the final approach phase of flight at an airport. These proposed structures would exceed the SAN RWY 09 approach surface by the values below:

| | |
|--------------------|------------|
| Aeronautical Study | Exceeds by |
| 2014-AWP-5595-OE | 104 feet |
| 2014-AWP-5596-OE | 109 feet |
| 2014-AWP-5597-OE | 78 feet |
| 2014-AWP-5598-OE | 80 feet |
| 2014-AWP-5599-OE | 39 feet |
| 2014-AWP-5600-OE | 45 feet |

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR follows: None. The SAN VFR Traffic Pattern airspace is not impacted. Additionally, SAN RWY 27 is Right Traffic which restricts VFR traffic pattern aircraft north of the runway and away from this location. SAN operations are also restricted to full stop landings where low-approach/touch-and-go's are not permitted.

The SAN Airport Master Record can be viewed/downloaded at <http://www.gcr1.com/5010web/airport.cfm?Site=SAN>. It states there are no single-engine, no multi-engine, and six (6) jet aircraft based there with 201,720 total operations for the 12 months ending 31 May 2012(latest information).

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR follows: At 72 AGL/247 MSL, the light pole structures would penetrate RWY 27 40:1 departure surface by the values listed above, however, the required climb gradient caused by the light poles would be less than what is currently published, therefore, no additional IFR impacts.

The SAN Takeoff Minimums and (Obstacle) Departure procedures can be viewed/downloaded at <http://aeronav.faa.gov/d-tpp/1413/sw3to.pdf> and are extracted below

SAN DIEGO INTL (SAN)

TAKEOFF MINIMUMS:

RWY 9, 400-1 3/4 w/min. climb of 290 ft/nm to 900.

RWY 27, 400-2 1/2 or std. w/min. climb of 353 ft/nm to 500.

DEPARTURE PROCEDURE:

RWY 9, climb heading 092 degrees to 900, then climbing left turn direct MZB VORTAC. Thence ...

RWY 27, climb heading 272 degrees to 900, then climbing right turn direct MZB VORTAC. Thence ... Aircraft departing MZB VORTAC R-180 CW R-360 climb on course. All others climb in MZB VORTAC holding pattern (hold West, right turns, 075 degrees inbound) to cross MZB VORTAC at or above 2300 before proceeding on course.

NOTE:

RWY 9, obstruction light, sign, and trees beginning 11 feet from DER, 258 feet left of centerline, up to 38 AGL/77 MSL.

Antenna on building, pole, and lighted barrier beginning 18 feet from DER, 5 feet right of centerline, up to 35 AGL/50 MSL.

Obstruction light on localizer 272 feet from DER, on centerline, 19 AGL/38 MSL.

Vent on building, multiple buildings, and trees beginning 741 feet from DER, 104 feet right of centerline, up to 173 AGL/317 MSL. Electrical system, pole, multiple antennas on lighted buildings, and trees beginning 792 feet from DER, 135 feet left of centerline, up to 66 AGL/138 MSL.

Buildings and trees beginning 5834 feet from DER, 19 feet right of centerline, up to 280 AGL/394 MSL.
Lighted stack, poles, and trees beginning 1 NM from DER, 492 feet left of centerline, up to 132 AGL/419 MSL.

RWY 27, light pole 195 feet from DER, 348 feet right of centerline, 20 AGL/30 MSL.
Obstruction light on DME 287 feet from DER, 315 feet left of centerline, 18 AGL/28 MSL.
Trees beginning 633 feet from DER, 321 feet left of centerline, 52 AGL/62 MSL.
Trees beginning 777 feet from DER, 163 feet right of centerline, 55 AGL/78 MSL.
Light on flagpole 2517 feet from DER, 706 feet left of centerline, 99 AGL/118 MSL.
Tower and trees beginning 2595 feet from DER, 15 feet right of centerline, 97 AGL/196 MSL.
Trees beginning 4772 feet from DER, 532 feet left of centerline, 92 AGL/269 MSL.
Building and trees beginning 5418 feet from DER, 96 feet right of centerline, 88 AGL/253 MSL.
Trees beginning 1.7 NM from DER, 1301 feet left of centerline, 100 AGL/379 MSL.

c. The impact on all planned public-use airports and aeronautical facilities follow: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures follows: The cumulative impact of the proposed building structure, when combined with other proposed or existing structures and terrain, is not considered to be significant and would have no greater effect upon the safe and efficient utilization of the navigable airspace.

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circularized for public comment on 5 February 2014 and five (5) comments objecting to the proposal were received.

Alaska Airlines expressed concern for their Special RNAV (RNP) instrument approach in design phase and that they have concerns about any additional manmade structure development near airports because they tend to have adverse impacts even though some of these impacts are not foreseeable today. Adding obstructions near aircraft flight paths decreases the margin of safety. The continued growth of obstructions to the airspace has the potential to reduce our flexibility to operate efficiently at SAN.

Three concerned citizens expressed that the project site is located less than 6,000 feet from the western end of the runway at San Diego International Airport and directly in the airport's primary take-off path. The terrain is already 175 feet above the elevation of the runway. The proposed light standards, at 90 AGL, would top out at 265 feet above that level. These would not only be the tallest man-made structures anywhere in the take-off pattern, they would be the highest man-made structures in that area when measured from the elevation of the airport runway. The take-off pattern from San Diego International is already precarious. This would simply make it more so. I read recently that the FAA is growing more concerned about hazards to air navigation in take-off paths, specifically in connection with the prospects of a plane losing power to one of its engines. This project is a perfect case in point where more obstructions are ill-advised. This doesn't even touch on the issue that San Diego International often experiences and very low cloud deck and the possible hazards associated with reflected glare from these lights. I urge you to not make a finding of "no hazard" and deny any permits for this project that will simply add risk and danger to the surrounding residential community and air travel.

San Diego County Regional Airport Authority reviewed and commented that the proposed light poles penetrate the Part 77 34: 1 surface for Lindbergh Field in excess of existing manmade obstacles which would in effect create a new hazard to air navigation for the approach to Runway 9 and Departure Surface for Runway 27.

The Airport objects to the installation of these light poles at the proposed elevations of roughly 90-feet AGL. Further the California Public Utility Code section 21659 provides guidance as to what is and is not permitted with regard to obstacles around airports.

At present, the tallest manmade obstacle for Runway 9 penetrates the current Part 77 34: 1 surface by 16.8 feet. This is a building that predates the airport located on Alcott Court in Point Lorna. If all of the proposed obstacles were reduced by 30-feet (max height of 60-feet AGL), they would be below the existing controlling manmade obstacle and therefore not introduce a new hazard to air navigation.

We also ask that a lighting study be conducted to ensure the installation does not introduce any issues to flight crew visibility on approach given its proximity to the extended runway centerline and decision point for the approach to Runway 9.

The Airport requests the obstacle is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting due to location in the initial climb area for nighttime departures.

The FAA disagrees with the commentors and offers the following remarks.

Part 77 establishes standards for determining obstructions to air navigation. A structure that exceeds one or more of these standards is presumed to be a hazard to air navigation unless the obstruction evaluation study determines otherwise. Just because a proposed structure exceeds a Part 77 surface does not automatically make it a hazard.

The FAA concurs with the recommendation to incorporate obstruction lighting to provide additional conspicuity for VFR and IFR pilots flying in this vicinity. Additionally, the FAA concurs that at the originally submitted 90 AGL heights, the light poles would penetrate the VFR Traffic Pattern airspace and negotiated the light pole height reduction to remain below the VFR Traffic Pattern airspace.

These proposed light poles at the lower 72 AGL would not impact any IFR approach minimums and will not increase any current climb gradients for published IFR departure routes. The SAN VFR Traffic Pattern airspace is not impacted as the structure heights are below the VFR Traffic Pattern airspace. SAN RWY 27 is designated as Right Traffic. Right Traffic restricts VFR traffic pattern aircraft north of the runway and away from this proposal. SAN airport remarks (http://aeronav.faa.gov/afd/13NOV2014/sw_190_13NOV2014.pdf) indicate practice approaches and touch and go landings are prohibited.

The FAA cannot protect for every possible emergency contingency which include possible one-engine operations or pilots flying below minimums during an instrument approach procedure - these are beyond the scope of an aeronautical study. The project would not penetrate any required minimum obstacle clearances for any IFR arrival or IFR departure procedures.

This aeronautical study evaluated the impact of the proposed structures on the National Airspace System and on the SAN IFR and VFR operations. This Determination is not a permit for construction. California Public Utility Codes are beyond the scope of this aeronautical study.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient use of navigable airspace by aircraft.

6. BASIS FOR DECISION

This proposed athletic field project would exceed the horizontal surface and approach surface by the values above, however, there are no IFR impacts to any approach or departure procedure. At 72 AGL, the VFR Traffic Pattern horizontal surface is not impacted. SAN operations are restricted to full stop landings where low-approach/touch-and-go's are not permitted. The FAA cannot protect for every possible emergency contingency which may include possible one-engine operations or pilots flying below minimums during an instrument approach procedure - these are beyond the scope of an aeronautical study. The project would not penetrate any required minimum obstacle clearances for any IFR arrival or IFR departure procedures. This aeronautical study evaluated the impact of the proposed structures on the National Airspace System and on the

SAN IFR and VFR operations. This Determination is not a permit for construction. California Public Utility Codes are beyond the scope of this aeronautical study. The incorporation of obstruction marking and lighting would mitigate the horizontal surface and approach surface penetrations and provide additional conspicuity for IFR and VFR pilots flying in this vicinity.

7. CONDITIONS

These structures, 2014-AWP-5595 thru 5600-OE, shall be marked and lighted as outlined in chapters 4, 5(Red), and 12, of Advisory Circular AC 70/7460-1K. The advisory circular is available online at http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%2070%207460-1K.pdf.

The maximum light pole heights, with all appurtenances, are 247 MSL. Any height greater than 247 MSL will create a significant adverse effect and a Determination of Hazard will be initiated.

Light spillage is likely to create glare that will be visible to pilots when the poles extend into low clouds or fog. Proponent should ensure shielding to limit the lateral illumination area to the athletic field and preclude upward illumination.

Within five days after the structure reaches its greatest height, proponent is required to file a FAA form 7460-2, Actual Construction notification, at the OE/AAA website (<http://oeaaa.faa.gov>). This Actual Construction notification will be the source document detailing the site location, site elevation, structure height, and date structure was built for the FAA to map the structure on aeronautical charts and update the national obstruction database.

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