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RANDWICK CAMPUS REDEVELOPMENT (RCR) STAGE 1: FLIGHT PATHS, NOISE AND VIBRATION - AVIATION COMPONENT

The following comments are provided to inform the State Significant Development Application from an aviation perspective.

Helicopter Approach and Departure Paths

The RCR Acute Services Building (ASB) will have a helicopter landing site (HLS) positioned on the top level of the building. This HLS will enable helicopters to use prevailing wind conditions to reduce the level of power needed for the approach and landing, therefore reducing noise impact on nearby residents. It also means the helicopter can approach and depart from the HLS in the safest manner – into wind.

When considering noise in or around a HLS, it is important to understand that the existing Randwick Hospitals' Campus is already a busy helicopter destination with the Sydney Children's Hospital and the Prince of Wales Hospital (POW) both using the existing HLS. Image 1 illustrates the existing (blue) and proposed (orange) helicopter preferred flight paths and the Sydney Airport Runway 07/25 centre line.



Image 1: Sydney Airport runway 07/25 (white), existing HLS (blue) ASB HLS (orange)

Given the location of the proposed HLS being inside the Sydney Airport control zone (near the extended runway centre line of runway 05/27 – indicated on Image 1) there may be occasions when the helicopter needs to remain on the HLS until an airways clearance has been issued by Sydney Tower. Normally in these circumstances, noise impact would be minimised due to the pilot starting the helicopter only after receipt of the airways clearance. This procedure therefore reduces the noise impact of a helicopter running for extended periods of time on the HLS.

The positioning of the new HLS on top of the ASB provides for a number of approach/departure paths depending on the prevailing wind. Image 1 also shows a comparison between the current flight path routes (blue) and the new flight path routes (orange). These are indicative only as helicopters often turn immediately after departure depending on the wind and the airways clearance issued by Sydney Tower.

Noise and Vibration

In 2016, NSW Ambulance introduced a standard type of helicopter to perform the critical medical transfer of adult, neo-natal and paediatric patients. This helicopter is the AW139 (Image 2).



Image 2: NSW Ambulance AW139 emergency medical helicopter

This helicopter is a modern and capable aircraft that meets all the mission requirements of the State. Its modern design and five blade main rotor system results in a significant reduction in vibration and noise for surrounding residents. It is the helicopter that is currently using the POW HLS.

A typical helicopter helicopter event includes the following time components:

Helicopter arrival:

- 1-minute approach and land
- 2 minutes engine idle

Helicopter departure:

- 1-minute start-up
- 1-minute hover and back-up
- 1-minute departure

Total elapsed noise event is approximately 6 minutes.

Airspace Approval

Civil Aviation Safety Authority (CASA) and Airservices Australia (Airservices) approvals for this site are required as primary prescribed airspace will be penetrated. Primary prescribed airspace includes an airport's Obstacle Limitation Surfaces (OLS) involving a set of imaginary surfaces associated with an aerodrome that should be kept free of obstacles. This is the airspace that will be impinged. Airspace above and around the hospital is to be considered as the proposed building is within an aerodrome Control Zone and/or under a flight path involving airport OLS.

Additionally, the Procedures for Air Navigation Services – Aircraft Operations (PANS- OPS) that takes account of the airspace associated with aircraft instrument procedures, must be considered.

In early December 2017, a request for approval for OLS and PANS-OPS airspace intrusions at the RCR was submitted Airspace Protection at Sydney Airport. In March 2018, Sydney Airport returned with advice from Air Services Australia, that the requested height of the two cranes would not be accepted and that a maximum RL of 126.4 was nominated for the site.

After further consultation with the RCR project team, a revised request for a crane elevation of RL131.00 was submitted to Airspace Protection on 19 April for approval as a short-term controlled activity (three months maximum). The remaining time the cranes would be below the Airservices advised RL126.40.

The application has been forwarded by Sydney Airport to the Federal Department of Infrastructure & Regional Development & Cities for determination on 19 April 2018. An updated elevation and associated drawings of Acute Services Building at RL110.8 were also submitted for approval for intrusion into the OLS.

Following clarification requests from CASA on 21 May, an updated submission was provided to Sydney Airport and they have distributed the submission to the necessary stakeholders and we await the outcome of their review.

A handwritten signature in blue ink, appearing to read "Steve Graham".

Steve Graham

Director

AviPro

Aviation Management and Safety Advisers

Accredited Aviation Safety & Compliance Auditors