

AVIATION SEARS RESPONSE: CAMPBELLTOWN HOSPITAL REDEVELOPMENT (CHR) V1.2

References:

- A. Campbelltown Hospital SEARS Review – Final
- B. NSW Health Policy GL2018_010 Guidelines for NSW Hospital HLS

INTRODUCTION

The following document addresses the aviation considerations for the CHR as they apply to Reference A. It includes the following:

- SEARS General Requirements:
 - Regulatory Review,
 - Preferred Flight Path Directions,
- SEARs Key Issues.

SEARS GENERAL REQUIREMENTS – REGULATORY REVIEW

The CHR development is located well clear of any of Sydney's main airports and the protected airspace normally associated with them. As a consequence, the development of the hospital, and in particular vertical obstructions such as cranes, can be addressed from a 'safety to flight' requirement for helicopters approaching to, operating from, the Campbelltown Hospital helicopter landing site (HLS). It is not expected there would be any constraints imposed by prescribed airspace associated with airports or airport instrument approach profiles.

AirServices Australia

It is envisaged the new facility will NOT penetrate any of the surrounding prescribed airspaces.

Reference A indicates the requirement to submit the relevant application and associated detailed CHR development and crane drawings to AirServices. In this instance, it is planned that airspace protection will be contacted by email with details of the development. The response is usually available within 6 weeks.

Details of the stakeholder consultations is included in the SEARS Key Issues section of this Report.

CASA

The engagement with CASA is not a normal part of an application for a development. CASA is normally only informed by AirServices Australia if there is deemed to be a risk to safety for a development.

HLS Compliance and Standards

Currently within Australia, there are no set rules or regulations applicable to the design, construction or placement of HLSs. The appropriate legislation at present for the use of HLSs is Civil Aviation Regulation (CAR) 92 which places the onus on the helicopter pilot to determine the suitability of a landing site.

CASA, as the regulator of aviation in Australia, divested itself of direct responsibility in the early 1990s and currently provides only basic operating guidelines via Civil Aviation Advisory Publication (CAAP) 92-2 (2) Guidelines for the Establishment and Operation of Onshore Helicopter Landing Sites. CASA does not provide design, structural information or advice beyond that provided in the CAAP.

CASA, as a component of a Regulatory Reform Program, does propose to prepare rules for helicopter landing sites and currently has a panel established for this purpose. The new rules will form CASR Part 139R, however it is not expected that they will be completed any time soon. If and when they are introduced, there will be an implementation phase and “grandfather” clauses. Standards set by NSW Ambulance were established to meet or exceed those requirements.

Considerable work internationally has been undertaken over many years in this area, particularly through the International Civil Aviation Organisation (ICAO) and the US Federal Aviation Administration (FAA). The resulting documents on the subject provide excellent advisory material, guidelines and best practice standards.

ICAO sets out international Standards and Recommended Practices (SARPS) for the safe conduct of civil aviation activities in the Annexes to the Convention on International Civil Aviation (Chicago, 1944), with the following Annexes applicable to helicopter operations:

- Annex 6: Operation of Aircraft - Part III: International
- Operations - Helicopters 6th Edition July 2004
- Annex 14: Aerodromes - Volume II: Heliports 4th Edition 2013

ICAO Annex 14 Volume II provides SARPS for the planning, design, operation and maintenance of HLS facilities for use by the providers of these facilities, CAAP 92-2(2) provides only limited guidance material on the minimum physical parameters required to assist helicopter pilots and operators in meeting their obligations under CAR 92.

As a signatory to the Convention on International Civil Aviation, Australia has undertaken to apply the ICAO SARPS, except where specific differences have been notified to ICAO.

The Supplement (Second Edition, Amendment No.1, 18 February 1999) to Annex 14 Volume II, lists seven CASA Australia recommended differences to the ICAO SARPS relating to heliports. This document is now out-of-date and the differences remain. Subject to differences, CASA supported the adoption of Annex 14, SARPS for heliports.

CASA has for some years been undertaking a Regulatory Reform Program in the rotary wing area and it is assumed that the ICAO SARPS with some of the differences removed, will form the basis of the proposed Civil Aviation Safety Regulations.

Proposed new CASRs include:

- Part 133 pertaining to Commercial Air Transport Operations;
- Part 138 pertaining to Aerial Work operations; and
- Part 139R pertaining to helicopter landing sites.

Currently within Australia HEMS comes under Aerial Work however it is proposed by CASA that helicopter aeromedical functions come under the proposed Air Transport operations category as Medical Transport within Part 133. Should this eventuate, the highest standards required of Air Transport (the carriage of passengers for hire and reward) will apply to Medical Transport.

Although CASA has not historically been active in the HLS field, many countries have, and in particular the US. Many years of experience operating large numbers of helicopters in a range of roles, have resulted in the production of comprehensive helicopter landing site and heliport design and operating procedures. The US Federal Aviation Administration (FAA) has produced an Advisory Circular, the content of which is actually required in the US, detailing the necessary standards. Within the AC is a comprehensive section devoted to hospital based “helicopter landing sites”, and where more than one HLS is co-located, “heliports”.

Standards applied to HLS development for NSW Health

The following documents provide excellent advisory material, guidelines and best practice standards and led to the development of the HLS Policy GL2018_010 – Reference B.

Key current documents are as follows:

- ICAO Annex 14, Vol II, Heliports.
- ICAO Heliport Manual Doc 9261-AN/903.
- US FAA Advisory Circular AC 150/5390-2C, Heliport Design, (covers both operational and design criteria, particularly for hospital based HLSs in Chapter 4, Hospital Heliports).
- Australian Civil Aviation Safety Authority (CASA) Civil Aviation Advisory Publication (CAAP) 92-2 (2) Guidelines for the Establishment and Operation of Onshore Helicopter Landing Sites. (covers essentially operational specifications only and is produced around European commercial helicopter airport based operations).
- NSW Ministry of Health (MoH) Guidelines for Hospital HLS, Rev 07d of August 2016.

The Policy GL2018_010 was prepared primarily around the ICAO and FAA guidelines and standards, utilising the most appropriate recommendations and practical HEMS operating procedures. The Guidelines are the standards used in this report.

SEARS GENERAL REQUIREMENTS

Preferred Flight Path Directions

Image 1 illustrates the planned flight paths to the CHR HLS.

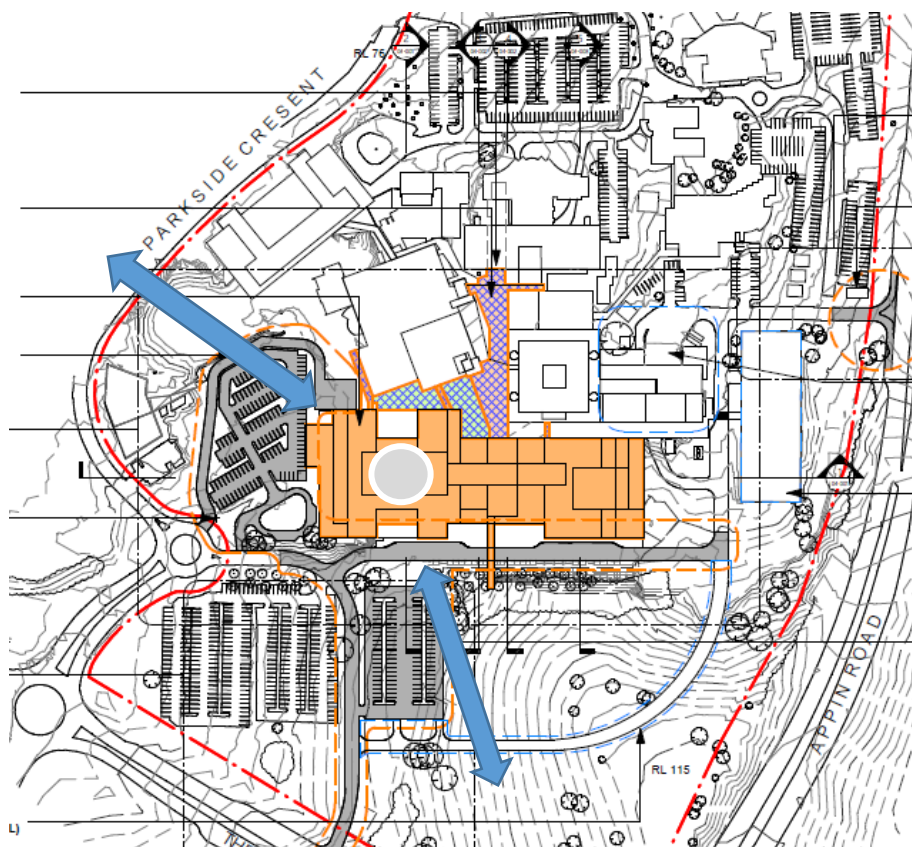


Image 1: Flight path illustration at CHR

The proposed VFR approach and departure paths run west-northwest to south-southeast. It is expected these paths will need to be adjusted and surveyed to achieve an obstacle free gradient of 2.5° (4.5% or 1:22 vertical to horizontal), measured from a point 1.5 m. above the forward edge of a 25 m. diameter final approach and take-off area (FATO), to a height of 500 feet above the FATO at a distance of ~3,500 m.

Due to the urban and industrial environment, it is not possible to position the Visual Flight Rules approach and departure paths clear of housing or occupied buildings.

Obstruction Management - Cranes

There is a probability that the cranes expected for the development may obstruct the flight paths to/from the existing CHR HLS. This will need to be managed once the crane footprint is known.

If the crane footprint causes an unacceptable risk to the safety of flight, then decisions will need to be made as to the continued use of the existing CHR HLS during the construction period.

A crane obstruction assessment will be required to advise the following options:

- a. The CHR HLS can remain open but with a Crane Operations Procedure developed and in-place to coordinate crane and helicopter activities. This will include detailed lighting requirements for the crane; or
- b. The CHR HLS is open 'day-only'; or
- c. The CHR HLS is closed for the construction period.

SEARS KEY ISSUES

Key Issue 1: Statutory and Strategic Context

Permissibility. Permissibility from an aviation perspective needs to be confirmed from AirServices Australia.

Development Standards. The standards applying to this HLS are NSW Health Policy and represent best practice and exceed any standards required by current legislation. Development Standards from an aviation perspective does not apply.

Key Issue 2: Policies

NSW Health Policy. The HLS will meet the compliance requirements of NSW Health Policy GL2018_010 Guidelines for NSW Hospital HLS.

Key Issue 4: Environmental Amenity

Acoustic Impacts. There will be acoustic impacts associated with the conduct of helicopter flight operations to/from the proposed rooftop HLS. This will require a degree of engineering to ensure noise is not transferred into the structure.

The flight paths are essentially the same as previous at-grade HLS so the acoustic impacts can be expected to remain unchanged.

Key Issue 10: Noise and Vibration

Noise. The typical helicopter 'noise' event includes the following components:

Helicopter arrival:

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

Helicopter departure:

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

Total elapsed noise event is approximately 6 minutes.

As helicopter noise has been present at the site for a long period of time, it is recommended this be considered an existing issue.

Key Issue 12: Contamination

The main source of contamination from a HLS is that of fuel product spillage. In the case of CHR HLS, this risk is significantly mitigated by:

- not conducting refuelling operations on the HLS
- not conducting maintenance on the HLS.

If there was a fuel leak of any sort from the helicopter, the installation of the fuel/water separator will mitigate the contamination risk.

Key Issue 15: Drainage

The HLS will have appropriate drainage to ensure standing water is drained from the deck. A slope of up to 2° will ensure water does not pool and the integrity of the anti-slip surface is maintained.

Consultation

During the course of the CHR Program, AviPro has consulted with the following organisations:

- Health Infrastructure through Root Partnerships (Program Management)
- NSW Ambulance Service (the helicopter retrieval capability Director)
- Toll Helicopters (the helicopter operator)

Future Consultation

AviPro will continue to engage with the following organisations:

- Health Infrastructure through Root Partnerships (Program Management)
- NSW Ambulance Service (the helicopter retrieval capability Director)
- Toll Helicopters (the helicopter operator)

AviPro may also engage with the following additional organisations:

- CASA if regulatory change occurs that materially impacts the program
- AirServices Australia for airspace protection issues
- Campbelltown Hospital for operational procedures development
- CHR team for program services

Conclusion

In summary:

- Campbelltown Hospital already has a HLS and the transition to a rooftop location will increase the safety of flight operations to/from the location.
- The HLS will be compliant with Reference A – NSW Health Policy and other Policies as they may apply.

- Planned flight paths essentially replicate the existing flight paths to the on-grade HLS at Campbelltown Hospital.

Sincerely,

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

Steve Graham

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