

Sustainable Development Group Ltd



**461 Chapel Rd, Bankstown NSW —
Aeronautical Impact Assessment**

Version 1.0

8-Dec-2025

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Document Title: **461 Chapel Rd, Bankstown NSW — Aeronautical Impact Assessment**

Purpose / Abstract: Strategic Airspace (StratAir) has been engaged by Sustainable Development Group Ltd (SDG) to conduct an Aeronautical Impact Assessment (AIA) for a proposed development at 459-461 Chapel Road, Bankstown NSW (the site). The AIA has been prepared to accompany amended plans (in response to submissions) for the Significant State Development Application (SSDA) (SSD-79709963) and an airspace height application under the Airports (Protection of Airspace) Regulations 1996 (APAR) for the construction of a 20-storey mixed-use development comprising a multi-purpose community facility and place of public worship, a childcare centre, and 100% social and affordable housing.

This report assesses the Prescribed Airspace height constraints over the site taking into account existing and known future air traffic operations to/from Bankstown Airport and Sydney Airport as defined in the Airports (Protection of Airspace) Regulations 1996 (APAR).

The development is a single 20-storey mixed-use building assessed with an assessment height of 104.50m Australian Height Datum (AHD), which is based on the top height of the building including any overruns and rooftop features, including landscaping, lightning protection rods and construction tolerances.

The findings include the following:

- *The development would infringe Bankstown Airport's Obstacle Limitation Surfaces (OLS) — triggering a requirement under the APAR to seek approval of the development as a Controlled Activity from the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport & the Arts (DITRDCA) prior to development.*
- *An application under the APAR is technically approvable because the maximum height of the development would not infringe the most constraining PANS-OPS surface.*
- *Applications for cranes for construction of the building development are anticipated to be lodged separately, after DA consent. Preliminary construction feasibility study by the Proponent shows that construction can be completed with a crane that would remain beneath the limiting PANS-OPS surface.*

Given the above, the development based on the proposal herein would not adversely affect the safety, regularity or efficiency of current and future air transport operations to/from Bankstown Airport or any other airport in the Sydney Basin, and thus we anticipate that an airspace height application for the proposed development under the APAR would be approved.

On this basis, the report concludes that from an aviation perspective the proposed mixed-use development is suitable and warrants planning approval.

Contract: -

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1. Executive Summary

Strategic Airspace (StratAir) has been engaged by Sustainable Development Group Ltd (SDG) to conduct an Aeronautical Impact Assessment (AIA) for a proposed development at 459-461 Chapel Rd, Bankstown NSW (the site). The AIA has been prepared to accompany the amended plans (in response to submissions) for a State Significant Development Application (SSDA) (SSD-79709963) and an airspace height application under the *Airports (Protection of Airspace) Regulations 1996* (APAR) for the redevelopment of the St Paul's Anglican Church for the purposes of a new mixed-use development, comprising a multi-purpose community facility and place of public worship, a childcare centre, and 100% social and affordable housing.

The site is approximately 3.9km (2.10NM) from the eastern end of Bankstown Airport's main runway, RWY 11C/29C (see Figure 1-1 below).

The site is mostly affected by the prescribed airspace of Bankstown Airport and some aspects of Sydney Airport's prescribed airspace; other airports are too remote to have any impact. The report examines the current airspace height constraints overhead the site as defined by the APAR, and which would:

- a) trigger the requirement to apply for an airspace height approval,
- b) constrain the maximum permissible building height, and
- c) limit the maximum permissible heights for the cranes that would be required for construction.

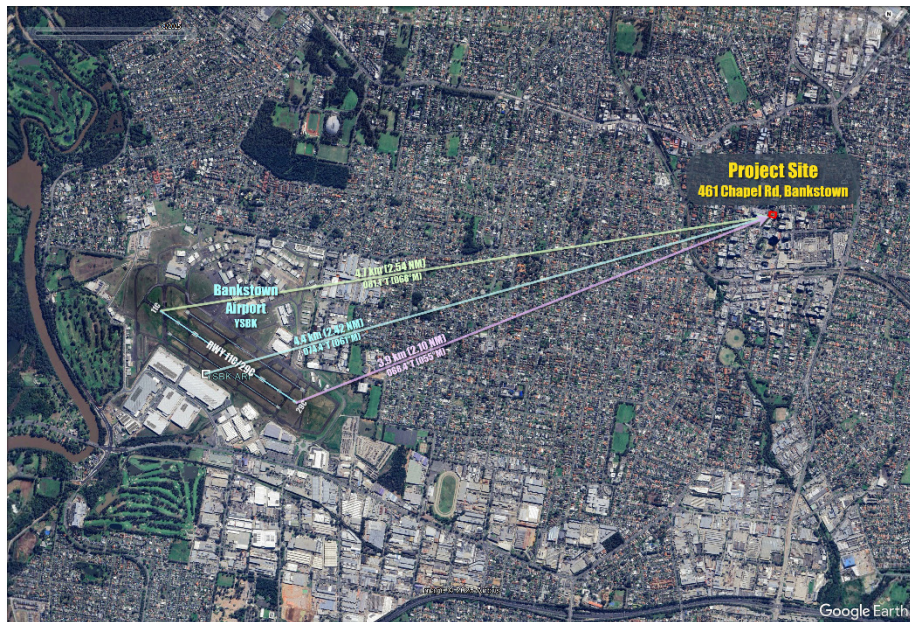


Figure 1-1 — Site Location in relation to Bankstown Airport (Small Format)

The proposed development consists of a single 20-storey mixed-use building. As the building would penetrate the OLS surface overhead, it triggers the need to obtain airspace height approvals for the development. No part of the building would infringe any of the overhead PANS-OPS protection surfaces and so the development is technically approvable under the APAR.

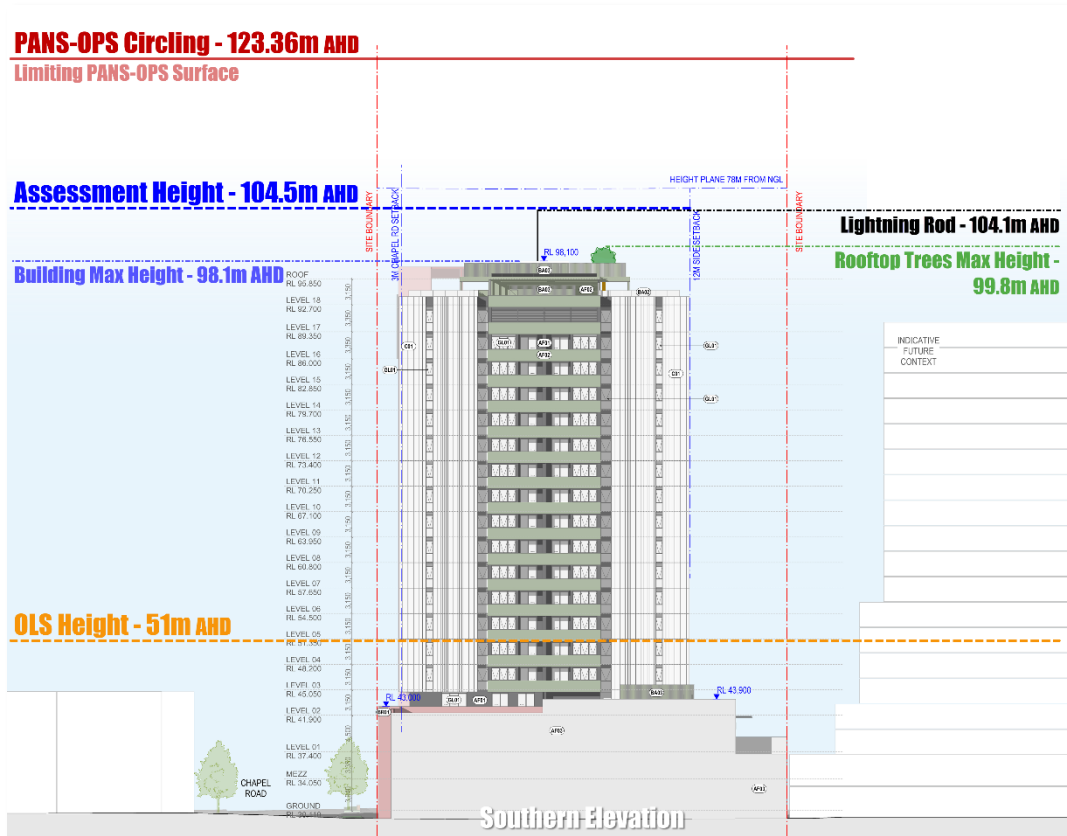


Figure 1-2 — Site in relation to the Obstacle Limitation Surfaces (OLS) & Nearby Taller Comparison Buildings

The critical airspace constraints over the site are summarised in the following table and depicted in Figure 1-3— Visual Height Impact Summary below.

Table 1-1 — Summary — Airspace Height Constraints

Height Limits (AHD)	Height Limit Detail	Comment
104.50	Assessment (& Airspace Application) Height	The assessment height is a rounded-up value of the building design height, including all overruns and rooftop features, and makes provision for installation of vegetation and a lighting antenna, plus construction tolerances.
51.00	Inner Horizontal Surface	APAR THRESHOLD HEIGHT As the proposed building would infringe the OLS Inner Horizontal Surface, it would require a height application under the APAR to be approved by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport & the Arts (DITRDCA) prior to planning approval. Infringement of the OLS in this case is not considered a barrier to approval of an application under the APAR.
123.36	PANS-OPS Surface — Circling Cat A/B	EFFECTIVE HEIGHT CONSTRAINT This is the PANS-OPS height constraint applicable over the building. At this location, it would be ~18.86m clear of (below) this limiting height, and so the building is technically approvable under the APAR. Cranes required for construction could also be considered approvable up to this height without incurring a 3-month maximum operating duration condition.
N/A or Higher	Other Surfaces & Constraints	No other airspace constraints are considered relevant.



Source: Plus Architecture (Elevations – Sheets 1 & 4, Oct-2025), Annotated by StratAir

Figure 1-3 — Visual Height Impact Summary

To conclude:

- The development would infringe Bankstown Airport’s Obstacle Limitation Surfaces (OLS) — triggering a requirement under the APAR to seek approval of the development as a Controlled Activity from the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport & the Arts (DITRDCA) prior to development.
- An application is technically approvable under the APAR, because the maximum development height would not infringe the constraining surface height — in this case, a PANS-OPS approach protection surface at 123.36m AHD.
- The clearance margin between the top of the building structure and the most constraining PANS-OPS surface will be sufficient for a tower crane to be used for the construction. It is anticipated that construction of the building can be completed with a tower crane (TC) that would remain below the limiting PANS-OPS surface. Cranes will require separate approvals once a detailed Construction Management Plan has been developed following SSDA consent.

In summary, we anticipate no barrier to approval under the APAR of an application for the development because the proposed development would not adversely affect the safety, efficiency or regularity of current or future air transport operations at Bankstown Airport or any other airport in the Sydney Basin.

This report concludes that the proposed mixed-use development is suitable and warrants planning approval without any airspace-related mitigation measures.

2. Introduction

Strategic Airspace (StratAir) has been engaged by Sustainable Development Group Ltd (SDG) to conduct an Aeronautical Impact Assessment (AIA) for a proposed development at 459-461 Chapel Rd, Bankstown NSW (the site). The AIA has been prepared to accompany the amended plans (in response to submissions) for a State Significant Development Application (SSDA) (SSD-79709963) and an airspace height application under the *Airports (Protection of Airspace) Regulations 1996* (APAR) for the redevelopment of the St Paul's Anglican Church for the purposes of a new mixed-use development, comprising a multi-purpose community facility and place of public worship, a childcare centre, and 100% social and affordable housing.

The AIA also considers the potential impact of cranes to demonstrate the feasibility of constructing the development without causing an adverse impact on operational airspace.

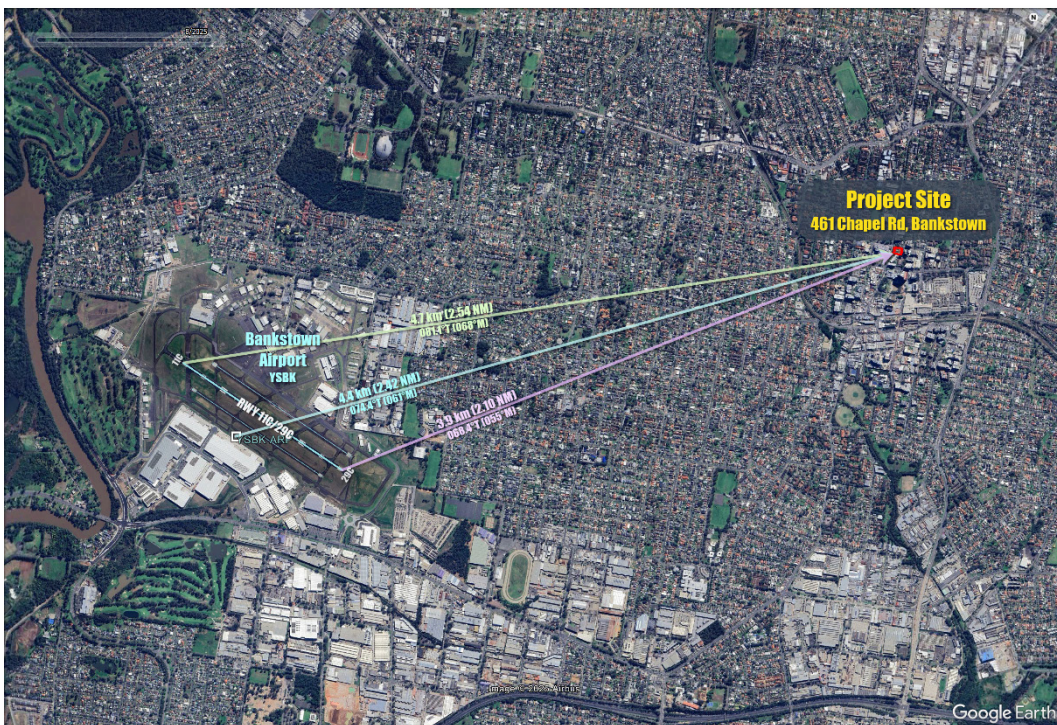


Figure 2-1 — Site in Relation to Bankstown Airport

The site is affected by the prescribed airspace of Bankstown Airport. This report examines the current and forecast regulated airspace height constraints above the site that are related to aviation airspace protection requirements under the APAR, and which would:

- trigger the requirement for an application for an airspace height approval for the proposed building,
- constrain the maximum permissible building height, and
- limit the maximum permissible heights for cranes and potentially limit the time at which cranes are at their maximum height(s).

2.1 Revised Development

The SSDA, as exhibited, sought approval for a new mixed-use affordable housing development. The revised scheme will comprise the following scope of works:

- Site preparation and excavation works.

For: SDG

- Construction of a new mixed-use 20-storey development, with a maximum building height of 68.1m and a maximum gross floor area of 12,523 m², including the following uses:
 - 1,577m² multipurpose community facility and place of public worship at Ground Level, the Mezzanine and Level 1.
 - 339 m² childcare centre with outdoor open space, which will be shared with the community facility and place of public worship after hours and on weekends.
 - 10,609 m² residential floor space, comprising a total of 186 dwellings from Level 2 and above, which will be used for the purpose of 100% social and affordable housing, with the exception of 1 x 4-bedroom dwelling on level 2, which will be allocated to the church and therefore, is proposed to be ancillary to the place of public worship.
 - 37 carparking spaces and 91 bicycle spaces, provided at the ground level and mezzanine carpark.
- Vehicular access provided via French Avenue.
- Associated landscaping and public domain works, including footpath embellishments and the creation of a forecourt along Chapel Road.
- Extension and augmentation of physical infrastructure and utilities as required

2.2 Site Overview

The site is located on 459-461 Chapel Rd, Bankstown within the Canterbury-Bankstown Local Government Area (LGA). It is located 500m of the Bankstown Station and City Centre and as such, is located within the Bankstown TOD Accelerated Precinct.

The site comprises three allotments, which are all owned by the Anglican Church Property Trust Diocese and Sydney and are legally described as lots 26A, 27A and 28A in DP7058. Combined, the site has an approximate area of 2,179m². It is located on a corner and has a street frontage of 52m to French Avenue to the north and 43m to Chapel Road to the west. Figure 2-2 below provides an aerial map of the site. The site currently comprises an existing 350 capacity church building, known as Saint Paul's Anglican Church, as well as an associated ministry building and an additional building containing a range of community uses.

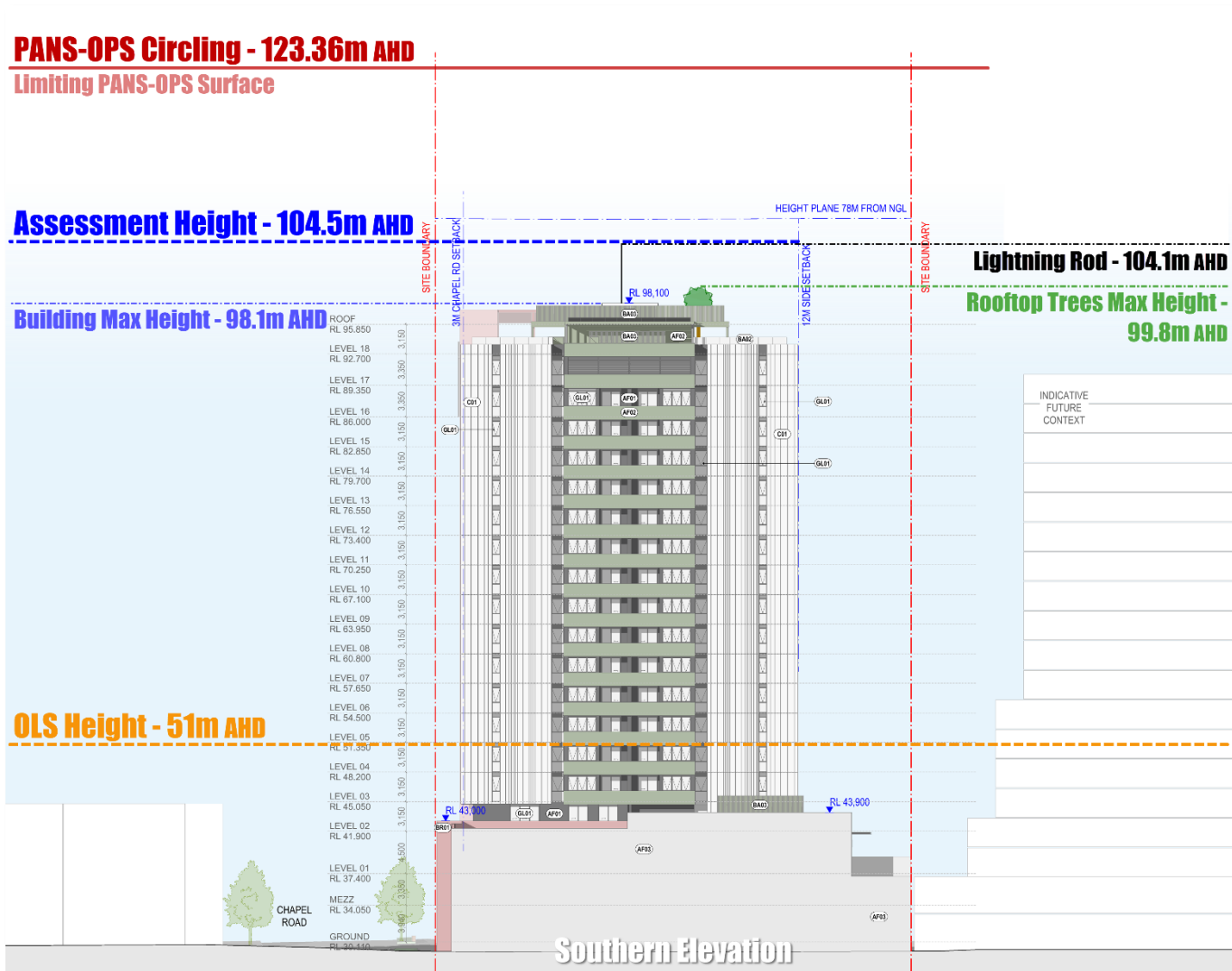


Source: Beam Planning Pty Ltd, 2025

Figure 2-2 — Site Address Overview

3. Aeronautical Impact Context

3.1 Building & Airspace Heights



Source: Plus Architecture (Elevations – Sheets 1 & 4, Oct-2025), Annotated by StratAir

Figure 3-1 — Building & Airspace Heights in Elevation

The proposed development, as amended, consists of a single 20-storey mixed-use building. There will be some open space on the roof, with the highest point of the roof being the overrun housing the elevator machine room.

There is an allowance for trees (based on the floor of the lowest roof level), and a single 6m tall lightning protection rod to be installed on the top of the lift overrun.



Source: Plus Architecture (Perspectives – Sheet 1, Oct-2025)

Figure 3-2 — Building Visualisation in 3D (Viewed from the North)

Table 3-1 — Building Design Heights

<i>Building Zone</i>	<i>Max Design Height RL (m AHD)</i>	<i>Max Height AGL* (m AHD)</i>
Roof height	95.85	65.74
Roof Overrun — Maximum Building Structure Height	98.10	67.99
Rooftop Vegetation — Maximum Height	99.80	69.69
Rooftop Lightning Rod – Maximum Height	104.10	73.99

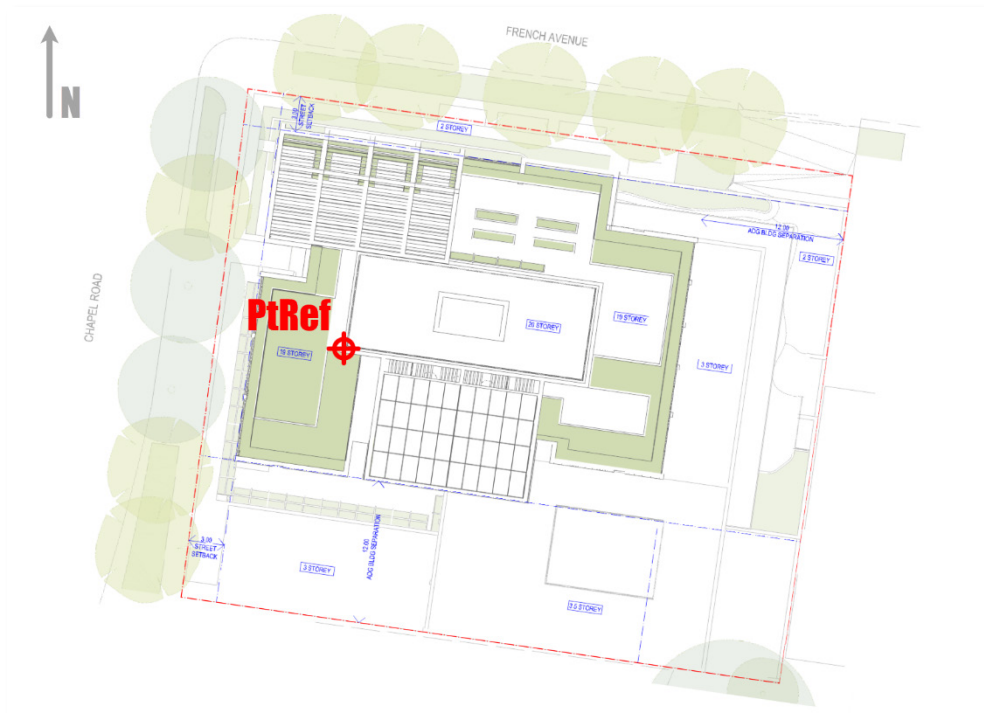
* Height Above Ground Level (AGL). The ground elevation is 30.110m AHD.

For the aviation assessment purposes, the maximum height of the lightning rod plus an additional margin for construction tolerance is used.

The Assessment Height — refer Table 3-2 below — is also the height sought for an airspace height approval under the APAR.

3.2 Key Reference Points used for Analysis

A single reference point is chosen at the highest point of the roof overrun at its point nearest to Bankstown Airport.



Source: Plus Architecture (Proposed Site Plan – Rev B, Oct-2025), Annotated by StratAir

Figure 3-3 — Key Reference Point

Table 3-2 — Assessment Height & Reference Point Coordinates

Key Reference Points	Point	Assessment Heights (m AHD*)	WGS84 Geographic Coordinates	GDA2020 Coordinates (Zone 56)
Max Assessment Height	Pt.Ref	104.50	33° 54' 48.734" S 151° 02' 06.043" E	318340.409 E 6245692.338 N

* Assessment Heights — Indicative Max RLs for of the Proposed Tower Building plus a buffer margin
 m AHD = RL Heights expressed in Metres Australian Height Datum (AHD)
Height Above Ground Level (AGL) — the assessment height Pt.Ref is 74.39m AGL.

3.2.1 Note about Heights: Australian Height Datum (AHD) vs Above Ground Level (AGL)

All “heights” provided in this document (unless expressly signified otherwise) are elevations expressed in metres in the Australian Height Datum (AHD) — and thus they are true elevations, and NOT heights above ground level (AGL).

For estimating maximum development heights AGL, the ground elevation^{AHD} should be subtracted from the airspace height limits^{AHD}. In architectural terms, the height AHD is the equivalent of an RL height.

Note also for aviation-related airspace height limits, any building height approval under the Airports (Protection of Airspace) Regulations is regarded as inclusive of the building itself, plus all rooftop furniture, overruns (plant rooms, lift risers, antennae, etc) and even rooftop vegetation (refer also section 3.4.1, p10).

3.3 Site Location relative to Bankstown Airport

The site is located approximately 4.5 km (2.4 Nautical Miles (NM)) east-north-east of the Aerodrome Reference Point (ARP) of Bankstown Airport, as shown in Figure 3-4 below.

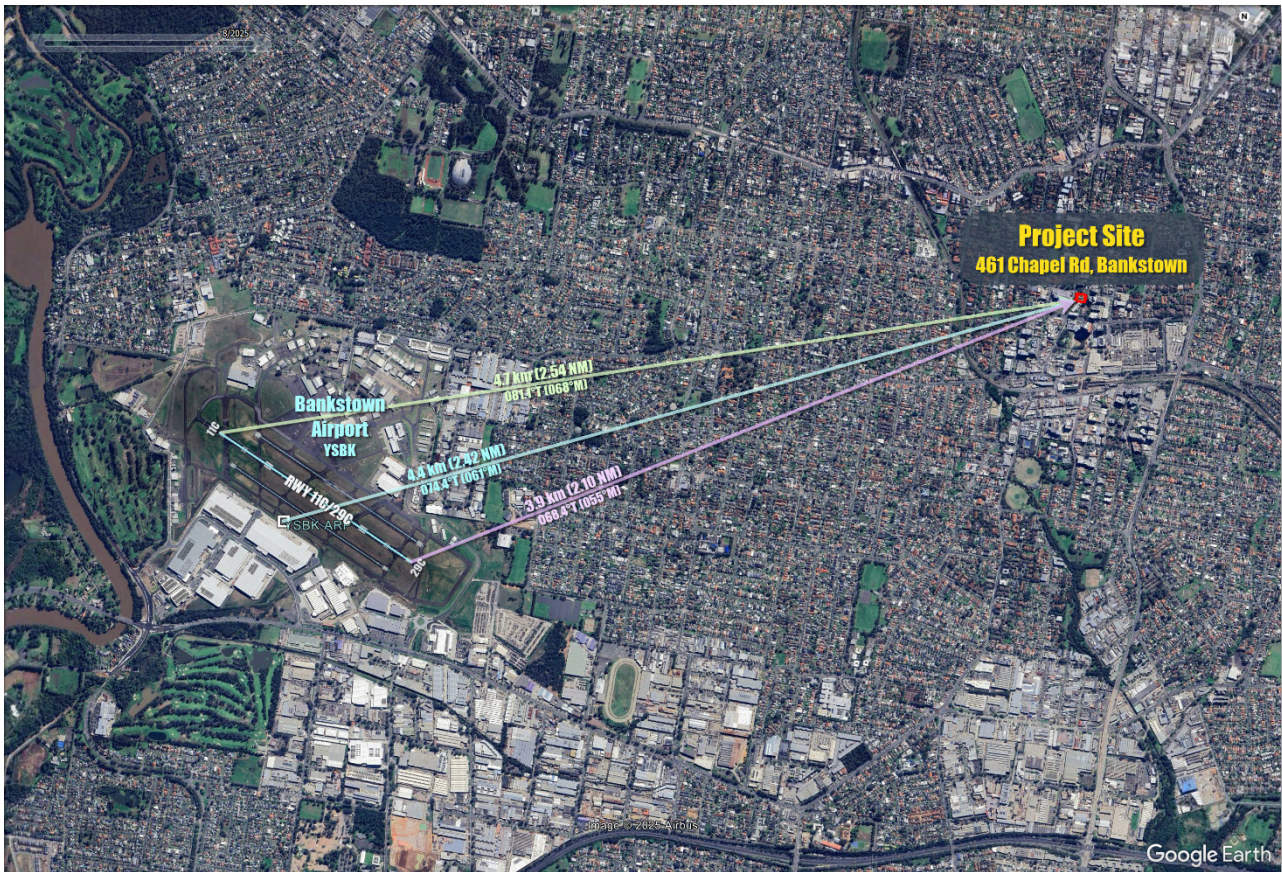


Figure 3-4 — Proposed Development Site in relation to Bankstown Airport (Large Format)

The distance and bearing to the Aerodrome Reference Point (ARP) and the closest end of the main runway RWY 11C/29C are detailed in Table 3-3 below.

Table 3-3 — Project Reference Point Location in Relation to Bankstown Airport

Airport Feature	Distance (m)	Dist (NM)	Bearing (°T)	Brg (°M)
Aerodrome Reference Point (ARP)	4482	2.42	074.4	061
RWY11C Threshold	4720	2.54	081.1	068
RWY29C Threshold	3892	2.10	068.4	055

Procedures related to Sydney Airport and other airports in the Sydney basin are considered irrelevant as they are considerably further removed from the site and less restrictive than the procedures associated with Bankstown Airport.

3.3.1 Sample Comparison Sites in the Vicinity

There are two buildings nearby which have been used for comparison to demonstrate that the proposed development will not have an impact on the airspace. Both comparison sites are taller, closer to the airport, and closer to the RWY29C departure procedure.

Table 3-4 — Example Comparison Reference Sites in Relation to Bankstown Airport

Airport Feature	Comparison Reference Site	Distance (m)	Approx Hght (m AHD)	Comment
RWY29C THR	Western Sydney University 74 Rickard Rd, Bankstown	3841	~106	~2m taller, and closer to Bankstown Airport. ~120m from the proposed development.
	Compass Centre 83-99 North Tce, Bankstown * APAR Height Approval status TBC	3692	107.97	~4m taller, and closer to Bankstown Airport. ~360m from the proposed development.

3.4 Methodology

The report considers the airspace of the closest major airport, Bankstown Airport.

With regard to the influence on the proposed development, the following elements of the airport's prescribed airspace have been considered.

3.4.1 Airspace Regulations

The proposed development site is subject to the Airports (Protection of Airspace) Regulations (APAR), under the Commonwealth's Airports Act, 1996), because of its proximity to Bankstown Airport and because of its proposed height. These regulations define both: how building height limitations due to airspace safety can be determined; and the process for gaining approval of the proposed development under the regulations.

The Prescribed Airspace Regulations, and their impact upon building height limitations, are described below.

Where a proposed development would infringe the Prescribed Airspace, a height approval must be obtained from DITRDCSA prior to the intrusion into the airspace. A permanent intrusion, such as a building, is termed a *controlled activity*, and temporary intrusions that are not expected to continue longer than 3 months, such as cranes, are termed *short-term controlled activities*.

Applications for approval under the APAR are usually submitted via the nearest relevant airport (in this case, Bankstown Airport), which then contacts relevant stakeholders and ultimately forwards the application to DITRDCSA for the final determination.

Height approvals under APAR are not required for rezoning applications. They are however usually required by local planning authorities prior to, or as consent conditions of, approval of Development Applications (DAs).

3.4.2 Prescribed Airspace

Prescribed airspace, under these regulations, includes at minimum:

■ Obstacle Limitation Surfaces (OLS)

- The OLS are used to identify buildings and other structures that may have an impact upon the safety or regularity of aircraft operations at an airport. This impact depends upon both the type of operations at the aerodrome and which OLS surfaces are penetrated by a (proposed) building or structure.
- The OLS are flat and rising (invisible) surfaces around the airport. They are based on the geometry of the airport and its runways and therefore they rarely change.
- If a permanent building development (or temporary crane) that is proposed at a height that will penetrate (exceed) the height limit of an OLS, then an application must be made to the Commonwealth Department of Infrastructure, Transport,

Regional Development, Communications, Sport & the Arts (DITRDCSA) — via the closest airport, and with copies to any other potentially affected airport — for an airspace height approval prior to construction of the permanent development &/or erection of the temporary crane obstacle. Such applications should demonstrate the proposed building does not penetrate or adversely affect surfaces protecting the instrument flight procedures (PANS-OPS surfaces); radar vectoring; navigation infrastructure; or anything else that might affect the safety or regularity of operations at the airport.

■ PANS-OPS Surfaces

- PANS-OPS surfaces represent the protection surfaces for published instrument flight procedures to and from the airport. These surfaces comprise flat, sloping and complex surface components.
- PANS-OPS surfaces must not be penetrated by permanent buildings or structures. However, for a variety of reasons, PANS-OPS surfaces can and do change over time. Approval may be granted, under certain conditions, for temporary obstacles (such as cranes) which at their maximum height would infringe the limiting PANS-OPS surface, and in such cases operation at such heights would most likely be capped by the RTCC surface constraint (see below) and limited to 3 months duration.
- As flight procedures are changed from time to time (usually by Airservices), the PANS-OPS Surface Plan published by an airport may not reflect the current situation — which is why we not only reference the airport's plans but also review the published charts for current (or pending) instrument flight procedures and evaluate the associated PANS-OPS height limits. The regulations also make a provision for any factor which may be deemed to adversely affect the safety, regularity or efficiency of aircraft operations at an airport. In light of this, it is necessary to consider the following factors.

■ Other Considerations

- **Bankstown & Sydney Airport's Declared Airspace Plans¹** additionally include:
 - Radar Terrain Clearance Charts (RTCC), which depict the areas and height limits related to the Minimum Vector Altitude (MVA) sectors used by Air Traffic Controllers when vectoring aircraft. In areas where the airport's published RTCC chart covered is known to be superseded, analysis is based on the current MVA sectors used by Airservices Australia to determine the actual RTCC surface limits.
 - Lighting and visual guidance protection plans — used for approach guidance by aircraft, especially at night and in times of poor visibility.
 - Navaid and radar evaluation / protection surface plans.
- **Bankstown Airport's Master Plan**
- **Other Factors** — include but are not limited to:
 - Shielding by existing permanent, taller structures, where relevant.
 - Proximity to the critical parts of flight paths to/from Strategic Helicopter Landing Sites (SHLS), which are usually limited to the helipads used by Helicopter Emergency Medical Services (HEMS) at major trauma hospitals. Assessment of this aspect stems from the National Airports Safeguarding Framework (NASF).
 - Other miscellaneous factors that may be considered as potential safety issues by any of the key stakeholders, and the Civil Aviation Safety Authority (CASA) in particular.

3.4.3 Mitigations

Mitigations, including the potential need for obstacle lighting, are also considered where relevant.

¹ Airspace that is approved by DITRDC as Declared Airspace is considered part of an airport's Prescribed Airspace.

4. Analysis

4.1 OLS Analysis

The site falls within the extent of the Inner Horizontal Surface of Bankstown Airport's OLS. Its location in relation to the OLS is shown in Figure 4-1. The extent of infringement in relation to some other buildings (for which 3D models are available in Google Earth™) which also infringe the same surface is depicted in Figure 4-2 below.



Figure 4-1 — Site in relation to Bankstown Airport's OLS (Plan View)



Figure 4-2 — Site in relation to Bankstown Airport's OLS & Nearby Taller Buildings (in 3D)

Table 4-1 — OLS Height Impact & APAR Application Implications

Location	Assessment Height (m AHD)	OLS Height		Approvability Comment
		Surface Height (m AHD)	Clearance / Infringement (m)	
Pt.Ref	104.50	51.00	-53.50	The development requires prior approval under APAR; approval being subject to the maximum building heights being below the most limiting PANS-OPS or RTCC surface heights.

4.2 PANS-OPS Analysis

Assessment was conducted of the following instrument procedure types for Bankstown Airport, as published in the Australian Aeronautical Information Publication (AIP) Departure and Approach Procedures (DAP), up to Amendment 185 (effective 27-Nov-2025 to 18-Mar-2026).

- The Circling Minima and Minimum Sector Altitudes (MSAs) for existing PANS-OPS procedures
- The discrete minima for the Instrument Approach Procedures.
- Missed Approaches — as part of the evaluation of Approach Procedures
- The existing Standard Instrument Departure Procedures (SIDs)
- Minimum Sector Altitude — 10 NM Sector

4.2.1 “Area” Procedures

A Minimum Sector Altitudes (MSAs)

At 2500ft the 10NM MSA for Bankstown Airport is less restrictive than the 10NM MSA for procedures to Sydney Airport. The 10NM MSA for procedures to Sydney Airport has a 2100ft minimum flight altitude, so this has been used as a conservative measure.

Procedure	Feature and / or Restriction	Description
10NM MSA	Horizontal Surface: <ul style="list-style-type: none"> • 340m 	Covers the entire site. This surface height is based on the ICAO minimum obstacle clearance of 300m, giving a calculated value of 340.08m AHD. The value published in Sydney Airport's PANS-OPS chart is 340m AHD.

B Circling Minima

The site is located within the lateral limits of the circling area for aircraft categories A and B. The published minima of 800ft AMSL translates into a protection surface with an elevation of 123.36m AHD over the site.

C STARs

While there are no Standard Arrival (STAR) procedures published for Bankstown Airport, certain Sydney Airport STARs do pass in the vicinity of the site. Considering the minimum segment altitude on any of the Sydney Airport STARs is 2,100ft, which would have a protection surface of 340m AHD or higher, a detailed study of the extent of impact by STARs is not included.

4.2.2 Instrument Approaches & Missed Approaches

The impact of each of the relevant PANS-OPS protection surfaces for current approach and departure procedures for Bankstown Airport were evaluated.

A RWY29C Approach Procedures

There is no dedicated procedure for Bankstown Airport RWY 29C. The NDB-A non-precision procedure comes in from the north-east but depends on the circling minima for the final approach to the runway.

The site sits under the final segment of the NDB-A approach. The lowest protection surface for this approach is the protection surface for the circling approach (see Section 4.2.1B, above).

B RWY11C Approach Procedures — Missed Approaches

The site is within the missed approach areas related to the RWY11C approaches. Considering the lowest possible approach surface for any of the procedures to RWY11C is the surface protecting the RNP RWY11C approach at 126.78m², the missed approach surface for that procedure and other procedures³ will be significantly higher than the surface protecting the circling minima.

4.2.3 Departures

The departure procedure from RWY 11C is the most restrictive departure procedure. Departures from RWY 29C will climb in the opposite direction from the site prior to any turns that may bring them overhead the site.

The site sits outside the Turn Initiation Area (TIA), meaning aircraft will climb on the runway heading to a height of 500ft AMSL prior to any turns that may bring them overhead the site. The estimated surface height protecting aircraft turning away from the runway centreline is listed in the table below:

Table 4-2 — Summary of Limiting PANS-OPS Departure Surface Height & Building Height Clearance

Location	Assessment Height (m AHD)	PANS-OPS Departure Surface		
		Procedure	Surface Height	Clearance / Infringement
Pt.Ref	104.50	Bankstown One Departure RWY 11C	156.93	52.43

4.2.4 PANS-OPS Assessment Summary

Table 4-3 below summarises the analysis results of the PANS-OPS procedures. Details for the analysis of various PANS-OPS procedure types can be found further below.

Table 4-3 — Sydney (YSSY) PANS-OPS Height Limit Summary

Procedure	Height Limit (m AHD)	Description
Circling Area	123.36	The site falls within the protection area for Category A & B circling areas. This is the most restrictive PANS-OPS surface.

- The surface height is calculated using MDA height and applying the MOC for final MA, ie the height the surface would be at if aircraft would fly the missed approach without climbing at all. This is a very conservative way of confirming that the missed approach climb with a 3.3% gradient would in all cases be higher than the calculated height.
- The only other procedure for RWY 11C is the NDB approach. The NDB approach has a higher MDA (20ft higher than the MDA for the RNP approach) and has the missed approach point further in front of the threshold meaning aircraft performing the missed approach will start climbing sooner and gain more altitude.

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<i>Procedure</i>	<i>Height Limit (m AHD)</i>	<i>Description</i>
Approaches and Missed Approaches to all Runways	≥ 123.36	The circling minima associated with the NDB-A approach is the lowest of the approach and missed approach related surfaces.
Departures	≥ 156.93	The most limiting departure surface constraint is that for the departure from RWY11C.
Minimum Sector Altitude (MSA)	340	The YSSY 10 NM Minimum Sector Altitude of 2100 ft imposes this surface height constraint across the entire site.
STARs	≥ 340	Outside the lateral protection areas or too high overhead to have any impact on the proposed development.

4.3 Other Assessment Considerations

The following table provides a brief assessment of other considerations.

Table 4-4 — Other Assessable Height Limitations — including the RTCC MVA Limit

<i>Procedure</i>	<i>Height Limit (m AHD)</i>	<i>Description</i>
Radar Terrain Clearance Chart (RTCC)	152.4	This height constraint is applicable over the entire site. Refer 4.3.1 below.
Navigation Infrastructure Surfaces	N/A	The proposed development is too far from the airport to affect any ground-based navigation infrastructure.
Approach Lighting & VGSI Surfaces	N/A	The site is outside the lateral extent of published approach lighting surfaces.
Minimum Obstacle Clearance Gradients	N/A	Not applicable
Airlines Engine Out Procedures	N/A	The site is outside the assessment area for Engine-Out procedures for take-offs, as defined by CAO 20.6.
Helicopter Procedures related to the Nearest Strategic Helicopter Landing Site (SHLS)	N/A	There are no nearby SHLS that would be adversely affected by the development. Note: the site is also clear of any of the visual helicopter routes to/from the airport.

There are no other considerations that might limit the building height at the project site.

4.3.1 Radar Terrain Clearance Chart (RTCC) / Minimum Vector Altitude (MVA) Surface

The Radar Terrain Clearance Chart (RTCC) overhead the site protects the airspace used by air traffic controllers as the lowest Minimum Vector Altitude (MVA) they can use for vectoring aircraft. With an MVA of 1500ft over the site, the RTCC surface height limit is 152.4m AHD⁴ — but on Sydney Airport’s RTCC chart they use the value rounded to the nearest metre, 152m AHD.

⁴ This is based on conservative minimum obstacle clearance of 1000ft, as used by Air Traffic Control, instead of the ICAO value of 300m.

4.4 Obstacle Lighting

As the height of the building structure itself is ~67.99 m AGL — less than 100m above ground — obstacle lighting is not mandated by the relevant regulations. Further, the proposed development is further from the airport than another building in the vicinity that is taller (ie, the University of Western Sydney Building at 74 Rickard Rd, Bankstown).

However, CASA may still recommend obstacle lighting as a condition of approval as the building penetrates the OLS surface. In the unlikely event of such lighting being required, the installation, monitoring and maintenance of an obstacle light on the top of the building would be the responsibility of the building owner.

4.5 Summary

The impact of the various building height limitations, from lowest to highest, is summarised in the following table.

Table 4-5 — Analysis Summary — Airspace Height Constraints

<i>Height Limits (m AHD)</i>	<i>Height Limit Detail</i>	<i>Comment</i>
51.00	Inner Horizontal Surface	The site falls within the extent of the OLS Inner Horizontal Surface, which is a flat surface extending all around the aerodrome up to 4km radius from all of the runway ends, with the intention of protecting the aerodrome from uncontrolled developments. As the proposed tower would infringe the OLS, it would require a height application under the Airports (Protection of Airspace) Regulations 1996 (APAR) to be approved by DITRDCSA prior to construction. Infringement of the OLS in this case is not considered a barrier to approval of an application under the APAR.
123.36	PANS-OPS Surface — Circling Cat A/B	EFFECTIVE HEIGHT CONSTRAINTS The minimum PANS-OPS height constraint of 123.36m AHD applies across the site. At the proposed maximum elevation of the building, it would be 18.86m clear of (below) this limiting height, and so is technically approvable under the APAR. Cranes required for construction up to a height of 123.36m could also be considered approvable without incurring a 3-month maximum operating duration condition.
N/A or Higher	Other PANS-OPS Surfaces & the RTCC Surface	Above the most limiting surface, other constraining surfaces include the RTCC surface and the Departure surface for RWY 11C.

5. Construction Crane Considerations

This section is provided to support the airspace application for the building under the APAR, by showing that the feasibility of constructing the proposed development and potential impact on airspace has been duly considered.

Any cranes required for construction will require separate approvals under the APAR before they exceed the OLS height.

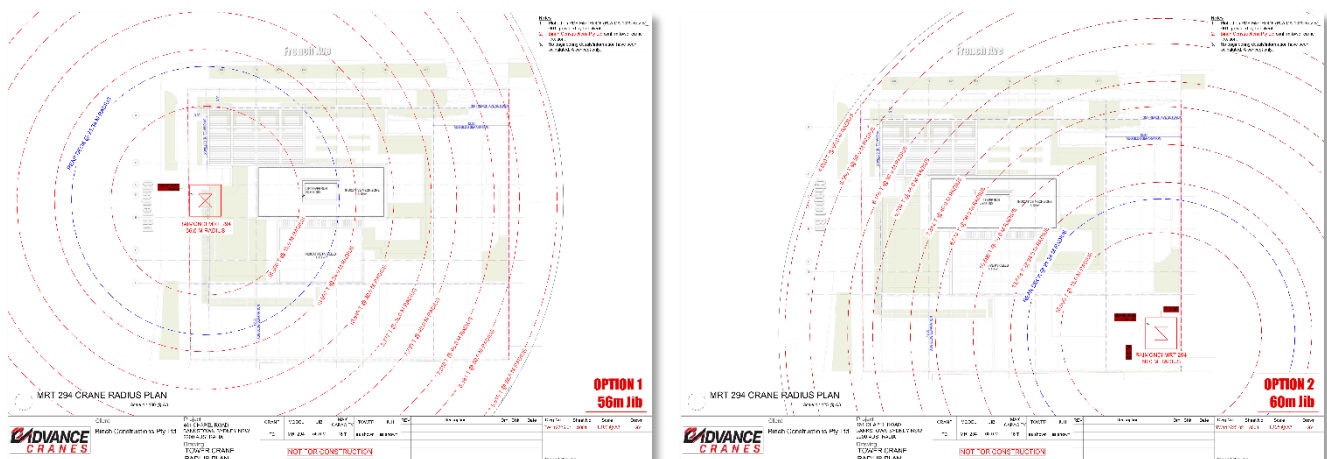
Cranes which could operate without infringing the limiting PANS-OPS surface would be considered approvable under the APAR, without operating duration constraints.

5.1 Preliminary Crane Plans

Various crane options have been examined as part of preliminary construction feasibility assessment. The use of a single hammerhead tower crane (TC) would enable construction to be completed with the crane remaining below the PANS-OPS surface height at all times. As such, the hammerhead crane option would have no impact on airspace and would be considered approvable under the APAR.

Table 5-1 — Crane Height Clearances below PANS-OPS Surface

Location	Point	Max TC Height (m AHD*)	PANS-OPS Height Limit	Clearance / Infringement (m)	Comment
Tower Crane TC Centre Point	TC1	115.40	123.36	7.96	A hammerhead TC is proposed as the only feasible type of crane which could be used without impacting the PANS-OPS surface for the entire construction period. The crane height has been set based on clearance required above the top of the lift overrun.



Source: Advance Cranes, Annotated by StratAir

Figure 5-1 — Preliminary Crane Location Plans (Options 1 & 2)

Two alternatives for the location of such a TC have been considered, as indicated in Figure 5-1 above. Option 2 would require a slightly longer jib arm. The maximum height would be the same for each alternative — as shown in Table 5-1 above and depicted in Figure 5-2 below.

6. Conclusion

The limiting OLS across the entire project site is the Inner Horizontal Surface at height of 51m AHD, which means that the building (and ultimately cranes required for construction) would infringe the OLS. Consequently, airspace-related height approvals under the APAR will be required. Infringement of the OLS in this case is not considered a barrier to approval.

The limiting PANS-OPS surface over the entire site, which is related to the Circling Minima for Cat A & B aircraft, is 123.36m AHD — that is, 18.86m higher than the Assessment Height. The Assessment Height allows for the building structure itself, plus an allowance for rooftop trees and a maximum 6m tall lighting protection rod. There are no other prescribed airspace surfaces or other operational factors that would be adversely affected by the proposed development itself.

Therefore, the proposed building development is technically approvable under the APAR. Although the assessment shows that obstacle lighting is not required for the development, approval may be subject to obstacle lighting conditions (to be advised by CASA).

It is also noted that a preliminary crane plan demonstrates that construction of the building is possible with a TC that remains clear of the most constraining PANS-OPS surface.

The proposed building development will not adversely affect the safety, efficiency or regularity of current or future air transport operations at Bankstown Airport or any other airport in the Sydney basin. As such, there is no technical impediment foreseen to approval of the development under the APAR.

On this basis, the report concludes that from an aviation perspective the proposed mixed-use development is suitable and warrants planning approval.

APPENDICES

APPENDIX 1 — ABBREVIATIONS

Abbreviations used in this report and/or associated reference documents, and the meanings assigned to them for the purposes of this report are detailed in the following table:

Abbreviation	Meaning
AC	Advisory Circular (document supporting CAR 1998)
ACFT	Aircraft
AD	Aerodrome
AGL	Above Ground Level (Height)
AHD	Australian Height Datum
AHT	Aircraft Height
AIP	Aeronautical Information Publication
Airports Act	Airports Act 1996, as amended
AIS	Aeronautical Information Services
ALARP	As Low As Reasonably Practicable
ALC	Airport Lease Company
Alt	Altitude
AMAC	Australian Mayoral Aviation Council
AMG	Aeria Management Group, operators of Bankstown Airport
AMSL	Above Minimum Sea Level
ANEF	Australian Noise Exposure Forecast
ANSP	Airspace and Navigation Service Provider
APCH	Approach
APARs, or A(PofA)R	Airports (Protection of Airspace) Regulations, 1996 as amended
ARP	Aerodrome Reference Point
AsA	Airservices Australia
ASDA	Accelerated Stop Distance Available
ATC	Air Traffic Control(ler)
ATM	Air Traffic Management
BA (Planning)	Building Application or Building Approval (Planning)
CAAP	Civil Aviation Advisory Publication
CAO	Civil Aviation Order
CAR	Civil Aviation Regulation
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulation
Cat	Category
CBD	Central Business District
CG	Climb Gradient
CMP	Construction Management Plan
CNS/ATM	Communications, Navigation, Surveillance / Air Traffic Management
CoS	City of Sydney (Council)
DA (Aviation)	Decision Altitude (Aviation)
DA (Planning)	Development Application or Development Approval (Planning)
DAH	Designated Airspace Handbook
DAP	Departure and Approach Procedures (published by AsA)
DEP	Departure
DER	Departure End of Runway
DEVELMT	Development
DH	Decision Height
DITRDCA	Department of Infrastructure, Transport, Regional Development, Communications, Sport & the Arts(Commonwealth) (former abbreviations include DIRD, DIRDC, DITCRD, DITRDC)
DME	Distance Measuring Equipment
Doc nn	ICAO Document Number nn
DoD	Department of Defence
DODPROPS	Dependent Opposite Direction Parallel Runway OPERations
DPE	Department of Planning & Environment (NSW)
EIS	Environmental Impact Study

<i>Abbreviation</i>	<i>Meaning</i>
ELEV	Elevation (above mean sea level)
ENE	East North East
ERSA	EnRoute Supplement Australia
ESE	East South East
FAF	Final Approach Fix
FAP	Final Approach Point
Ft	Feet
GDA2020	Geocentric Datum of Australia 2020
GDA94	Geocentric Datum of Australia 1994
GLS	GNSS Landing System – a precision landing system like ILS but based on augmented GNSS using ground and satellite systems.
GNSS	Global Navigation Satellite System
GP	Glide Path
HIAL	High Intensity Approach Light
HLS	Helicopter Landing Site
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
IHS	Inner Horizontal Surface, an Obstacle Limitation Surface
ILS	Instrument Landing System, a precision approach landing system
IMC	Instrument Meteorological Conditions
IPA	Integrated Planning Act 1997, Queensland State Government
ISA	International Standard Atmosphere
IVA	Independent Visual Approach
Km	Kilometres
Kt	Knot (one nautical mile per hour)
LAT	Latitude
LDA	Landing Distance Available
LEP	Local Environment Plan (Planning)
LLZ	Localizer
LNAV	Lateral Navigation
LONG	Longitude
LSALT	Lowest Safe ALTitude
M	Metres
MAPt	Missed Approach Point
MDA	Minimum Descent Altitude
MDH	Minimum Descent Height
MDP	Major Development Plan
MGA2020	Map Grid Australia 2020, based on GDA2020
MGA94	Map Grid Australia 1994, based on GDA94
MOC	Minimum Obstacle Clearance
MOCA	Minimum Obstacle Clearance Altitude
MOS	Manual Of Standards, published by CASA
MP	Master Plan
MSA	Minimum Sector Altitude
MVA	Minimum Vector Altitude
NASF	National Airports Safeguarding Framework
NDB	Non-Directional Beacon
NE	North East
NM	Nautical Mile (= 1.852 km)
nnDME	Distance from the DME (in Nautical Miles)
NNE	North North East
NNW	North North West
NOTAM	NOTice to AirMen
OAR	Office of Airspace Regulation
OCA	Obstacle Clearance Altitude (in this case, in AMSL)

<i>Abbreviation</i>	<i>Meaning</i>
OCH	Obstacle Clearance Height
ODPROPS	Opposite Direction Parallel Runway OPERations
OHS	Outer Horizontal Surface, an Obstacle Limitation Surface
OLS	Obstacle Limitation Surface, defined by ICAO Annex 14; refer also CASA MOS Part 139
PANS-OPS	Procedures for Air Navigation – Operations, ICAO Doc 8168; refer also CASA MOS Part 173
PAPI	Precision Approach Path Indicator (a form of VGSI)
PBN	Performance Based Navigation
PBSA	Purpose Built Student Accommodation
PRM	Precision Runway Monitor
RAAF	Royal Australian Air Force
REF	Reference
RL	Relative Level
RNAV	aRea NAVigation
RNP	Required Navigation Performance
RNP AR	Required Navigation Performance – Authorisation Required
RPT	Regular Public Transport
RTCC	Radar Terrain Clearance Chart (refer also MVA)
RWY	Runway
SACL	Sydney Airport Corporation Limited
SHLS	Strategic Helicopter Landing Site
SID	Standard Instrument Departure
SODPROPS	(Independent) Simultaneous Opposite Direction Parallel Runway OPERations
SSD	State Significant Development
SSDA	State Significant Development Application
SSP	State Significant Precinct
SSR	Secondary Surveillance Radar
STAR	STandard Arrival
TAR	Terminal Approach Radar
TAS	True Airspeed
TfNSW	Transport for NSW
THR	THReshold (of Runway)
TMA	TerMinal Area
TNA	Turn Altitude
TODA	Take-off Distance Available
TORA	Take-Off Runway Available
VFR	Visual Flight Rules
VIS	Visual
VMC	Visual Meteorological Conditions
V _n	Aircraft critical velocity reference
VNAV	Vertical Navigation
VNC	Visual Navigation Chart
VOR	Very high frequency Omni-directional Range
VSS	Visual Segment Surface
VTC	Visual Terminal Chart
WAM	Wide-Area Multilateration
WNW	West North West
WSW	West South West
WGS84	World Geodetic System 1984
WSA	Western Sydney Airport
WSI	Western Sydney International (Nancy-Bird Walton) Airport

APPENDIX 2 — PANS-OPS PROCEDURES

For: SDG

The versions of the IFPs consulted were from the AIP Amendment 185, effective from 27-Nov-2025 to 18-Mar-2026, current as of the date of this report — as indicated in Table 6-1 below.

**Table 6-1 — Appendix: PANS OPS Instrument Flight Procedure Charts for Bankstown Airport
(AIP Amendment 185 – Effective 27-Nov-2025 to 18-Mar-2026)**

SYDNEY / BANKSTOWN (YSBK)

Chart	Effective Date	(Amdt No)
AERODROME CHART PAGE 1	04-Sep-2025	(Am 184)
AERODROME CHART PAGE 2	20-Mar-2025	(Am 182)
SID BANKSTOWN ONE DEPARTURE RWY 11C/29C	12-Jun-2025	(Am 183)
RNP RWY 11C	13-Jun-2024	(Am 179)
NDB RWY 11C	13-Jun-2024	(Am 179)
NDB-A	13-Jun-2024	(Am 179)

Last Modified: 20-11-2025

Source: AIP Book via <http://www.airservicesaustralia.com/aip/aip.asp>

Last Accessed: 2025-11-20