27 August 2021

Futuro No 1 Pty Ltd Group
48 Hunter St
Sydney NSW 2000

Email: Peter@FuturoCapital.com.au

Attn: Peter Adam

Dear Peter,

**Re: 378-390 Pacific Hwy, Crows Nest NSW —
       Aeronautical Impact Statement for Planning Proposal**

Strategic Airspace (StratAir) provides this statement of the preliminary aeronautical impact assessment in support of a Planning Proposal for a project located at 378-390 Pacific Highway, Crows Nest NSW.

The assessment is made based on the proposed maximum height and considers the likelihood of the proposal being considered approvable under the Airports (Protection of Airspace) Regulations 1996 (APAR).

THE PROJECT

The proposed development is a 24-storey building comprising podium levels and a tower above, having a maximum top height of 180m Australian Height Datum (AHD). A schematic 3D model view of the proposed building is depicted in Figure 2 below.

Further, it is located directly across the road from a tower of the same height, the tower on Site A of the Crows Nest Metro Over Station Development (OSD) which is currently under construction.

Figure 1: Site Location Plan

SITE LOCATION IN RELATION TO SYDNEY AIRPORT & THE NEAREST HELIPAD

The site is located approximately 13.4 km (7.25 Nautical Miles (NM)) north of Sydney Airport's Aerodrome Reference Point (ARP). A single reference point has been used for assessment — the point chosen is the site boundary corner closest to the airport, the southern corner (on Hume Street) (the map coordinates are in Table 2).
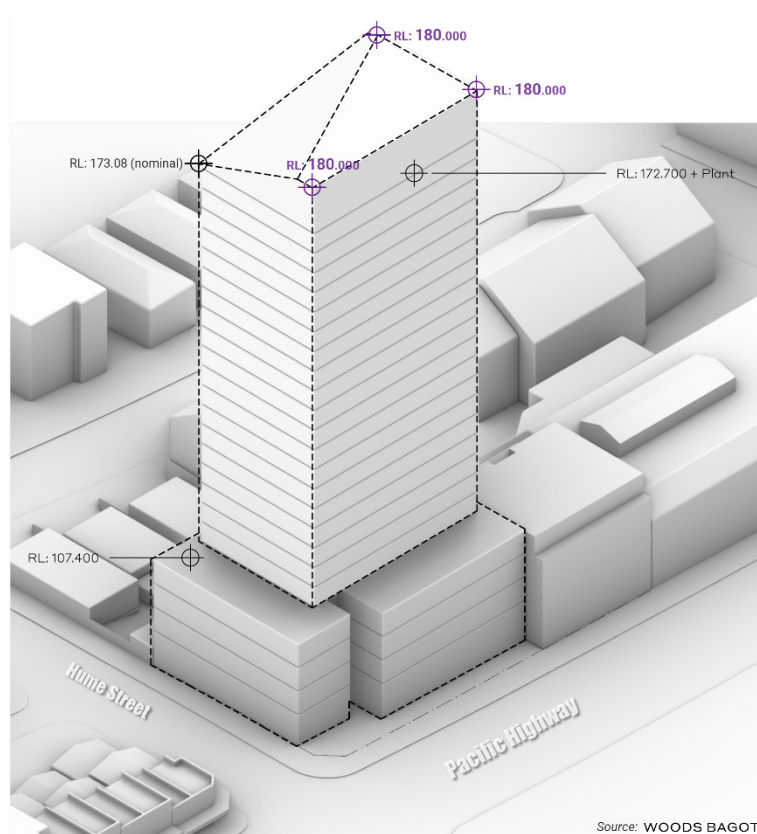
Figure 2: 3D Model View from the North

Table 1: Building Assessment Height

Site	Height m AGL	Highest Envelope* Elevation m AHD	Max Assessment Elevation m AHD*
Tower	~90	180.00	**180.00**

* The building envelope depicted in the Planning Proposal includes the Plant and Lift Overrun.

Table 2: Site Reference Point Coordinate

Location	WGS84 Latitude Longitude		Coordinate MGA94 Zone 56	
Southern Corner of Site Boundary	Latitude:	33° 49′ 34.57″ S	Easting:	333,308.330
	Longitude:	151° 11′ 55.43″ E	Northing:	6,255,647.720

Table 3: Site Reference Point in relation to Sydney Airport & Nearest Helipad

Airport	Distance Km	Distance NM	Bearing ° Magnetic	Bearing ° True North
Sydney Airport (YSSY) *(ARP)*	13.43	7.25	356° M	008.6° T
Royal North Shore Hospital Helipad (YXNS)	0.84	0.45	118° M	131° T

ABOUT PRESCRIBED AIRSPACE

Prescribed airspace, under the Airport (Protection of Airspace) Regulations, includes at minimum:

❑ **Obstacle Limitation Surfaces (OLS)**

➢ These are flat and rising (invisible) surfaces around the airport, based on the geometry of the airport and its runways, and therefore rarely change.

➢ If a permanent building development (or temporary crane) that is proposed at a height that will penetrate (exceed) the height limit of the applicable Obstacle Limitation Surface, then a height application under the APAR must be made to the Department of Infrastructure — 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.

➢ Bankstown Airport is the closest airport to the proposed development.

❑ **PANS-OPS Surfaces**

➢ PANS-OPS surfaces represent the protection surfaces for published instrument flight procedures to and from the airport. These comprise flat, sloping and complex surfaces.

➢ As flight procedures are changed from time to time, 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 Declared Prescribed Airspace 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 airspace.

❑ **Declared Airspace Plans** additionally include:

➢ The Sydney Radar Terrain Clearance Charts (RTCC), which depict the areas and height limits related to the Minimum Vector Areas (MVAs) used by Air Traffic Controllers when vectoring aircraft;
NB: The RTCC declared for Sydney Kingsford Smith Airport covers the entire Sydney basin.

➢ Lighting and visual guidance protection plans — used for approach guidance by aircraft, especially at night and in times of poor visibility; and

➢ Navigation aid (navaid) and radar evaluation / protection surface plans.

❑ **Sydney Airport Master Plan 2039**

❑ **Other Factors**

➢ Airline Engine-Out (Contingency) Take-Off Splays
These are generally assessed independently by the airlines as part of their own evaluations of any given airspace height application, but it is prudent to evaluate any potential impact in advance.

➢ Other miscellaneous factors that may be considered as potential safety issues by any of the key stakeholders including Airservices Australia, and the Civil Aviation Safety Authority (CASA) in particular.

➢ Vicinity to nearby hospital-based Strategic Helicopter Landing Sites (SHLS), to ensure no adverse impact on critical helicopter flight paths (reference the National Airports Safeguarding Framework (NASF) Guideline H).

All heights are expressed in metres Australian Height Datum (AHD).

SUMMARY EVALUATION OF AIRSPACE IMPACT

The key height restrictions across the site, and their impact on the planning proposal, are summarised in Table 4 and depicted in Figure 5 and Figure 6.

Table 4: Airspace Height Restrictions & Evaluation Against the Reference Design

| Airspace Restriction Type	Height Limit m AHD	Relevance	Impact based on Current Master Plans
Sydney OLS (Outer Horizontal Surface)	**156**	Application under APAR will be required in the future	The Planning Proposal would infringe the OLS threshold height, and therefore requires airspace height approval prior to construction. The maximum penetration of the OLS Outer Horizontal Surface would be 24m. The amount of the infringement of the OLS in this location does not present a risk to aviation and would be considered approvable by the aviation authorities. Cranes for construction of these towers would require a separate airspace height application and approval prior to their erection.
Sydney RTCC	**335**	Height constraint on buildings	The site is under a 2100ft Minimum Vector Altitude (MVA) sector that is charted on Sydney Airport's RTCC chart with a surface height of **335**m AHD. Because this surface is lower than the lowest of the PANS-OPS procedure surfaces, it is considered the restrictive height for buildings and cranes that could operate without duration and other operational conditions. **The proposed maximum height of the Planning Proposal is below the height of this surface**, with a clearance of 155m — a substantial margin. **As such, any application for the buildings as planned is technically approvable under the Airports (Protection of Airspace) Regulations.** The clearance margin of this magnitude also means that it can accommodate cranes that could operate without infringing this surface, as so they could be approved without any operating duration constraints.
PANS-OPS 10NM MSA	340	Not restrictive	N/A
PANS-OPS Departures & Other Surfaces	N/A	N/A	The PANS-OPS Departure surfaces are not restrictive (calculations of the Omnidirectional Departure procedures from RWY07 and RWY34R indicate that the lowest departure surface would be >500m). The proposed development would not interfere with other of the airport's airspace protections for navaids or lighting, nor with the airspace height limits that might be required to protect engine-out (contingency) take-offs by airlines. Whilst less than 1km to the south-east of the Royal North Shore Hospital Helipad, a Strategic Helicopter Landing Site (SHLS), the Planning Proposal will not have any adverse impact on the flight procedures to/from the helipad — firstly because it is not under the published recommended flight paths, and secondly because helicopters will have to fly high enough to clear the Crows Nest Metro OSD building of the same height across the road from the proposed development.
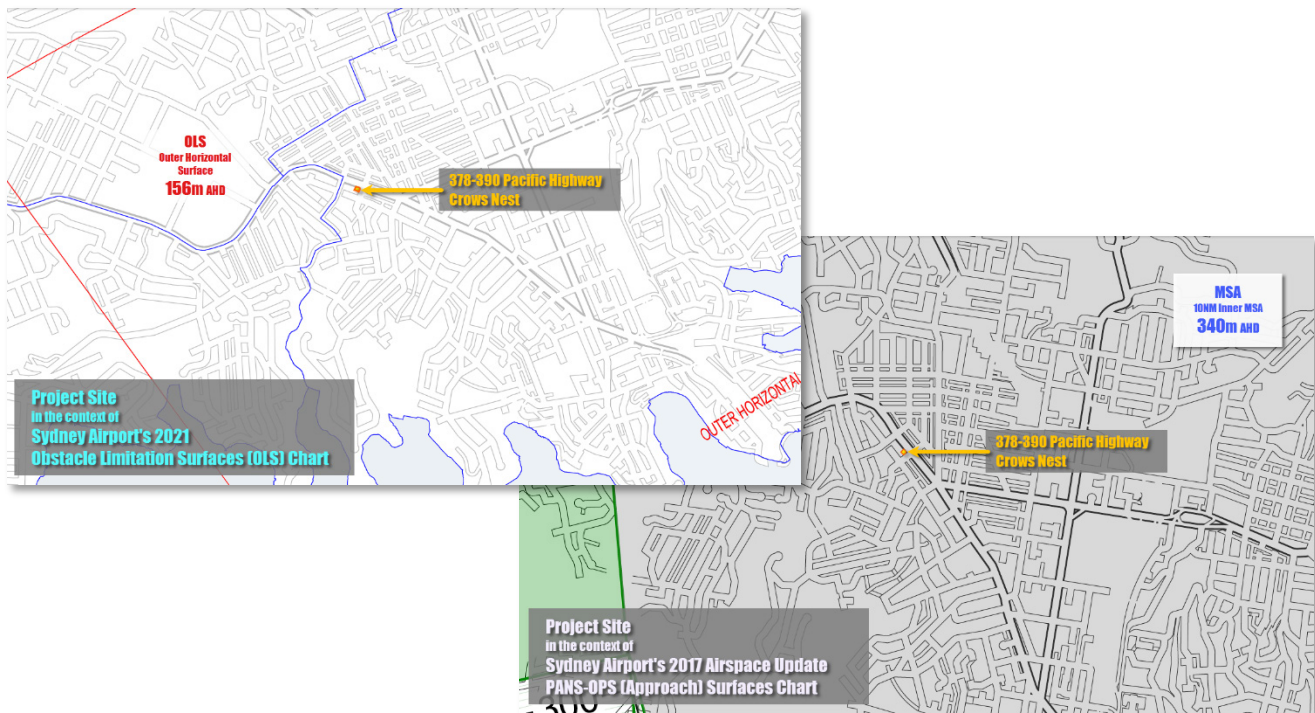
Figure 3: Site in relation to Sydney Airport's OLS & PANS-OPS (Approach) Surfaces Charts

Figure 4: Visual Height Impact Summary

CONCLUSION

Based on the assessment of the Planning Proposal, with reference to the Sydney Airport prescribed airspace charts and other relevant data, the findings are:

❑ The proposed building would require prior airspace approval because it would infringe the OLS height of 156m AHD.

❑ At the maximum assessment height of 180m AHD the Planning Proposal would not infringe any PANS-OPS surfaces nor the lower RTCC surface.

❑ Cranes required for construction would also require airspace height approval under the APAR prior to the time they exceed the OLS height, and there is sufficient height margin that they could operate at heights that would not infringe the PANS-OPS or RTCC surfaces.

In summary, the maximum building height of the Planning Proposal would not cause an adverse impact to the current or future air transport operations at Sydney Airport, nor to helicopter traffic to the nearby hospital helipad.

Therefore, the Planning Proposal is technically approvable under the Airports (Protection of Airspace) Regulations.
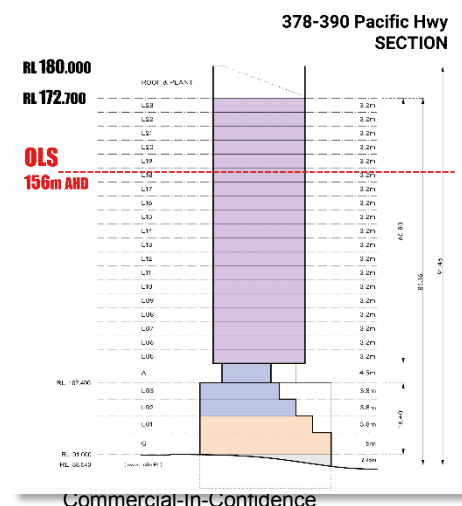
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Should you require clarification on any point or have other questions in relation to this letter, please do not hesitate to contact me directly via phone (M: 0411 389 317) or email (Cathy.PakPoy@StrategicAirspace.com).

Yours sincerely,
STRATEGIC AIRSPACE

Cathy Pak-Poy
Joint CEO