



Scone Airport

Visual Impact Assessment

Landscape Architecture Services

**Prepared for:
Upper Hunter Shire Council**

20 September 2019



Upper Hunter Shire Council

Scone Administration Centre
135 Liverpool Street
PO Box 208
Scone NSW 2337



Version history

Version	Author/Reviewer	Date	Details
1	T Andersen	19/09/2019	Initial, for review
2	T Andersen	20/09/2019	For Approval
3			
4			

Distribution and approval

For approval			
Title	Name	Signature	Dates
For information			
Title	Name		

Confidentiality

This document is copyright of Mara Consulting and is intended for internal use only. This document may contain information of a commercially sensitive nature and should not be made available to any individual or organisation outside of Mara Consulting without the written authority of the Managing Director or Communication and Stakeholder Engagement Manager.

Contents

1. Introduction	4
1.1. Background	4
1.2. The site and context	4
2. Methodology	6
2.1. Background	6
2.2. Existing visual environment	6
2.2.1. Landscape character	6
2.2.2. Site visibility	6
2.3. Assessment criteria	7
2.3.1. Visibility	7
2.3.2. Visual absorption criteria	8
2.3.3. Visual Impact Rating	9
2.4. Viewing zones	9
3. Proposal	12
3.1. Proposed Development	12
4. Visual impact assessment	14
4.1. Viewpoint Analysis	14
4.2. Visual impact assessment summary	23
4.2.1. Views from the immediate vicinity (< 1.5km)	23
4.2.2. Local views (1.5 – 3km)	23
4.2.3. Regional Views (3 – 6km)	23
5. Visual impact mitigation measures	24
5.1. Recommendations	24
5.1.1. Reflectivity considerations	24

1. Introduction

1.1. Background

This report is meant to aid in the approval process for the proposal to develop a vacant area of the Scone Airport. The site is located in the north west corner of the airport, along Bunnan Road. The proposed development consists of a new aircraft hangar/tourist attraction and airport terminal with associated car parking.

This visual impact assessment has been prepared to identify and evaluate the visual impacts on the landscape and to recommend measures to minimise the visual impact of the proposed development.

The report describes the existing visual environment and provides a methodology to assess the visual sensitivity of the site and to assess the visual impact of the planned development. Viewing zones and significant viewing locations within each zone are identified and assessed.

1.2. The site and context

The site is located in the western reaches of the Scone township, which lies within the Upper Hunter Shire Council Local Government Area. It is located at 10 Walter Pye Avenue, Scone and legally described as Lot 51 DP1081052. The development will also include Lot 1 DP 864939, Lot 1 DP 1242555, and a portion of Walter Pye Road.

The development site sits between the Scone Memorial Airport building and runway to the south west and Bunnan Road on the north east. To the south east are private flying clubs and flying school with two hangar buildings. One of these hangars is adjacent to the proposed hangar building. West of the site are vacant lots and more hangar structures belonging to private flying clubs and schools.

Beyond Bunnan Road (to the north) is a veterinarian clinic with the TAFE campus beyond. The closest residential structures are across Bunnan Road (Satur Road) and to the east. Directly across Bunnan Road is an open paddock.

There is a residential community consisting of single detached dwellings under construction located south of the airport (across the runway from the proposed structure).

The township of Scone generally sits in a broad valley that runs north-south. The airport site is located on a plateau that sits slightly higher than the valley floor. From the airport, the land rises gently to the south with the highest point approximately 1km south of the proposed development site. The land slopes slightly down from the site in all other directions.

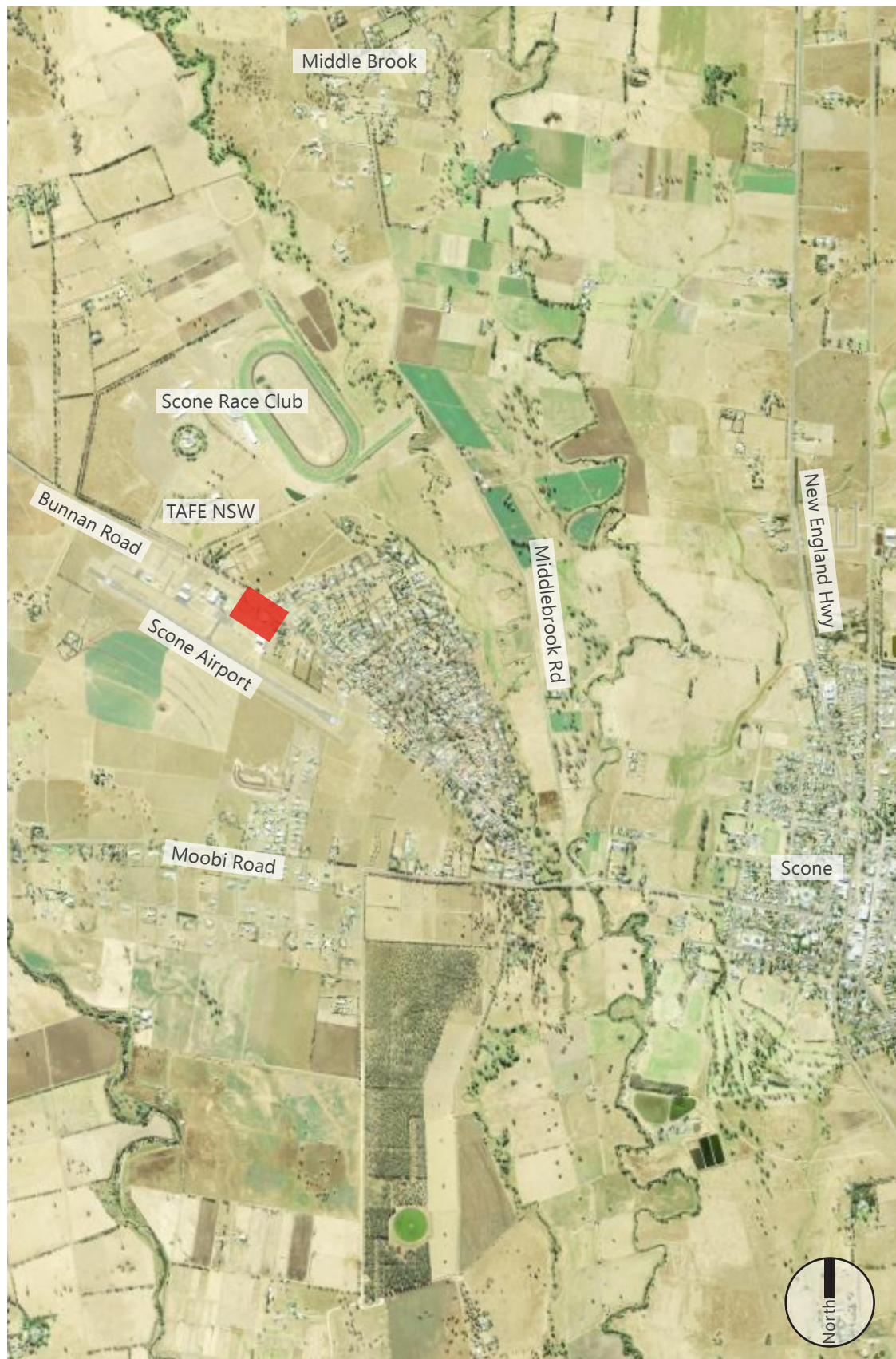


Figure 1.1. Site location (shown in red)
The site is located in Scone, within the Scone Airport boundaries.

2. Methodology

2.1. Background

This section provides a methodology for the visual impact assessment. The methodology used in this assessment has been adapted from the Roads and Maritime Services *Environmental Impact Assessment Guidance Note (2013): Guidelines for landscape character and visual impact assessment*. This methodology has been used as a guide to align with the features and requirements of this Proposal.

The methodology for assessing the visual impact includes the following key processes:

- Section 2.2 identifies the existing visual environment, the significant landscape features of the site and the visibility of the site from the significant vantage points
- Section 2.3 provides an assessment criteria that describes site visibility and visual absorption capacity
- Section 2.4 identifies viewing zones from which the site could be visible from various distances within the immediate vicinity, local area and regional context
- Section 3 provides an overview of the proposed development
- Section 4 assesses the potential visual impact from a variety of viewing locations
- Section 5 recommended mitigation measures.

2.2. Existing visual environment

This section describes the character and visibility of the site from the surrounding area.

2.2.1. Landscape character

The site and surrounding area is characterised by grassy paddocks to the north and west with expanding residential development to the south and existing industrial and residential to the east. It sits on terrain that gently rises to the south and slopes down with varying degrees the other directions.

The vegetation in the surrounding area is mostly grassy paddocks for equestrian purposes. There are sparsely planted trees along Bunnan Road, and along the edges of paddocks. To the east of the site a residential community exists with much denser planting of trees.

2.2.2. Site visibility

The procedure for assessing site visibility involved:

- Determination of various viewing zones (regional, local and immediate vicinity)
- Detailed field investigations to plot those portions of the site that are visible from the various viewing zones.



Figure 2.1: View of the proposed development site with existing airport entrance on the right.

2.3. Assessment criteria

The potential visual impact of planned development would result from the combination of two factors:

- Visibility of development
- Visual absorption capacity of the landscape in which the development occurs.

The visibility and the visual absorption capacity of the site for each representative view location have been assessed to determine the overall visual impact. Visibility and visual absorption capacity are defined below.

2.3.1. Visibility

“Visibility” is a measure of the extent to which particular activities/ components of a proposal may be visible from surrounding areas, the relative number of viewers, the period of view, viewing distance and context of view. The rationale for the assessment is that if a proposal is not visible the impact is nil and if the number of people who would potentially see the proposal is low, then the visual impact would be lower than if a potential large number of people had the same view.

For the purpose of this study, the general categories of visibility have been defined broadly as:

- High (H) – where a large number of people would see new development at short distance over a short, moderate or long period of time
- Moderate (M) – where a small number of people would see new development at a short or medium distance over a moderate or long period of time, or a moderate number of people would see the new development at a medium distance over a short, moderate or long period of time, or a large number of people would see it at a medium or long

distance over a short period of time

- Low (L) – where a small number of people would see new development at long distance over a short (< 1 minute), moderate (< 1-10 minutes) or long (> 10 minutes) period of time.

The procedure for assessing site visibility involved:

- Determination of viewing locations from which parts of the planned development could potentially be visible (eg. by a motorist, visitor, resident)
- A field inspection to determine the extent of site visibility from the various viewing locations.

2.3.2. Visual absorption criteria

“Visual Absorption Capacity” is an estimation of the capacity of the landscape to absorb development without creating significant visual change. The capacity to absorb development is primarily dependent on land form, vegetation cover and the presence of other development.

The extent to which portions of the site can potentially absorb development without reducing the scenic quality of the area has been assessed under this criteria. Given the visual landscape character of the site this capacity is primarily dependent on repetition of built form and vegetation cover. The surrounding building and tree canopies provide capacity to visually absorb development without significantly changing its scenic quality provided vegetation is retained in public and private land.

The potential for development to significantly change the visual character or to reduce the scenic quality of the area will result from removal of portions of the tree cover and creation of visual contrast between development (buildings, roads and new landscape) and the existing landscape of surrounding areas.

The level of contrast is also strongly influenced by the nature of the backdrop against which development is viewed. In particular, structures that are viewed above the skyline will potentially create a higher degree of contrast than the same elements viewed against a backdrop of similar structures or a landscape of similar colour/textures as the building or structure.

The degree of contrast between proposed development and the existing landscape (buildings and vegetation) can be reduced by careful attention to the colour, scale, texture, and reflectivity of building materials and by avoiding development that breaks the height of the existing tree canopy. Where possible these considerations are to be incorporated into the design and siting of buildings, roads and other structures.

Table 2.1: Visual absorption criteria.

Criteria	Definition
High	Existing landscape and built environment able to absorb development. Low degree of visual contrast
Medium	Existing landscape able to absorb some development. Some visual contrast will result.
Low	Existing landscape unable to absorb development (unless the denser future character of an area is to deliberately make a development prominent such as a public building or special focus). High degree of visual contrast will result.

2.3.3. Visual Impact Rating

Table 2.2 provides a matrix that compares the visibility rating with the visual absorption capacity rating to determine the visual impact rating.

Table 2.2: Visual impact rating matrix

		Visibility		
		Low	Moderate	High
Visual Absorption Capacity	High	Low	Low	Moderate
	Medium	Low	Moderate	High
	Low	Moderate	High	High

2.4. Viewing zones

Viewing zones are areas outside the site that have potential views to the site from various distances within the immediate vicinity, local area and regional context.

The site of the proposed bridge is within the river corridor and therefore lower than the surrounding area. The dense vegetation along the corridor limits views of the proposed and existing pedestrian bridge. The only views of the bridges are therefore along Murulla Street itself. As the viewer moves away from the river, the land rises and views are cut off by the tree canopies.

In order to assess the potential visual impacts of the bridge development, viewing zones based on the distance from the proposed development were defined as follows:

- Immediate vicinity (< 1.5km)
- Local area (1.5km – 3km)
- Regional area (3km – 6km).

Representative view locations were selected from each zone and the visual impact of the planned development has been assessed from each location.

Immediate vicinity (< 1.5km)

- View 1: Corner of Murulla Street and New England Highway
- View 2: Murulla Street, near Haydon Street
- View 3: Murulla Street near Sunshine
- View 4: Corner of Murulla Street and Isis Lane

Local area (1.5km – 3km)

- There are no available views of the bridge from this distance

Regional area (3km – 6km)

- There are no available views of the bridge from this distance.

Each view is addressed separately in Section 4 of this report.



Figure 2.2: Viewing Zones

The viewing zones indicated as distance from the subject site. Figure 2.4 shows specific locations of each viewpoint that will be discussed in Section 4.

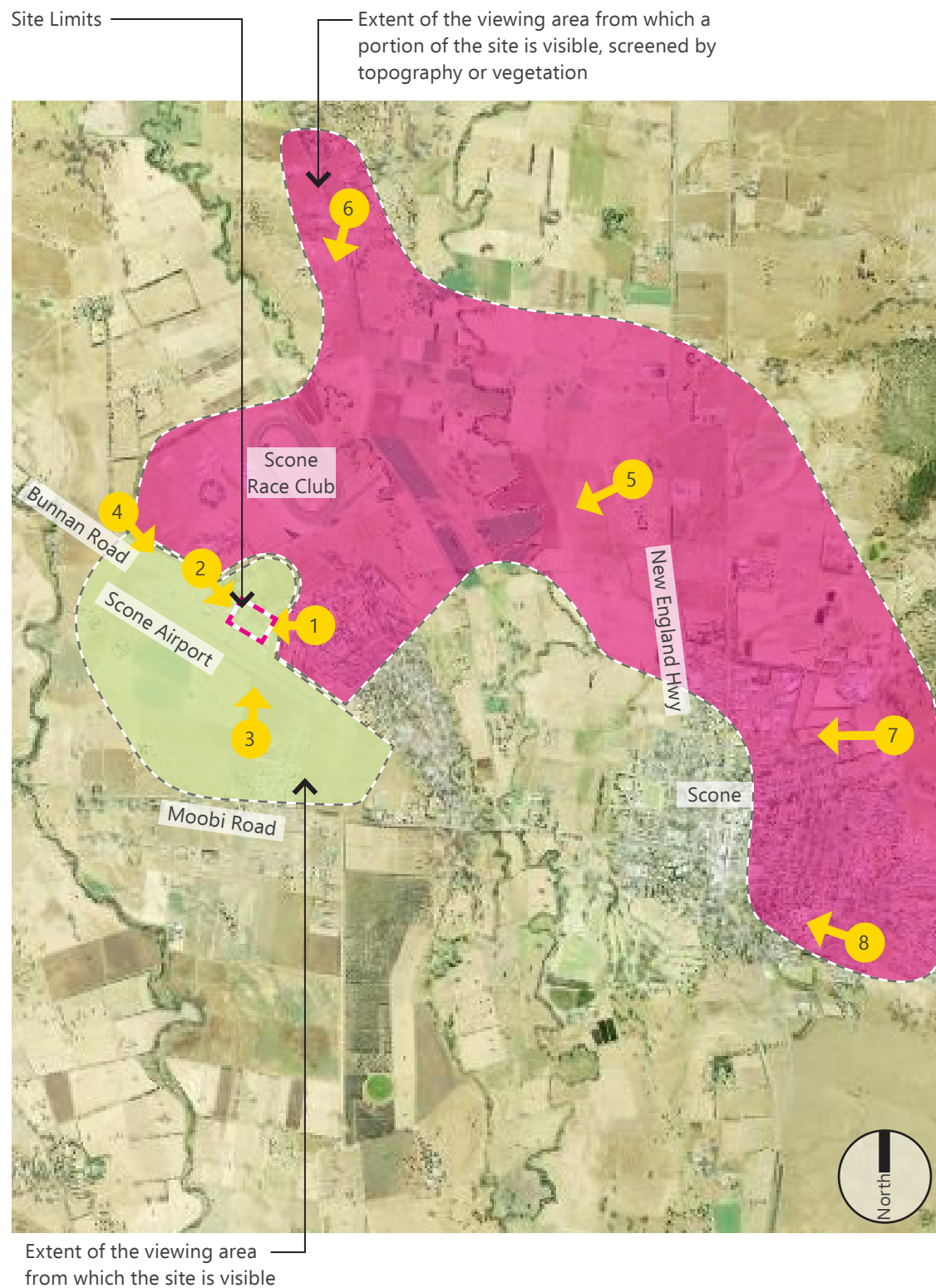


Figure 2.3: Viewing Locations

The view locations are shown with arrows. The number on the arrows are associated with the visual assessment in Section 4 of this report

3. Proposal

3.1. Proposed Development

The proposed development is for the construction of one building that will house an airport terminal as well as an aviation tourist attraction. The existing airport entrance of Bunnan Road will be moved westward approximately 40m to accommodate the new structure. A parking lot will be installed west of the new entry drive. Refer to the illustrations prepared by STEA Astute Architecture below (Figure 3.1).

Additionally, a paved area for aircraft display will be installed to connect the new building with the existing runway access. The vehicular access to the existing structures and parking areas across the airport will be maintained.

The existing vegetation across the site will be removed to accommodate the new hangar and aircraft display areas. To soften the views of the hangar building and parking areas from Bunnan Road, trees will be installed along the road frontage (plans prepared by PDT Landscape dated 10/09/18).

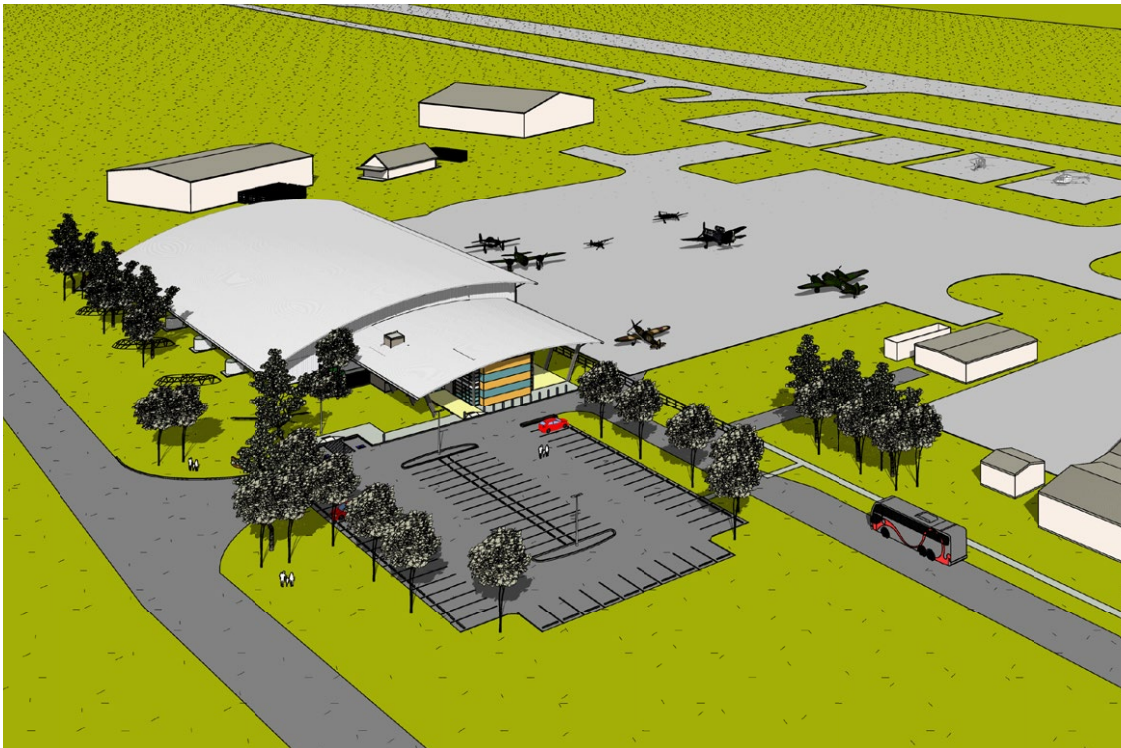


Figure 3.1: Overview of proposed development (STEA Astute Architecture).



Figure 3.2: Artist's impression of proposed entrance drive



Figure 3.3: Artist's impression of the proposed terminal with the hangar extending to left.

4. Visual impact assessment

4.1. Viewpoint Analysis

This section of the visual assessment considers the likely impact that the proposed development may have on the views toward the site. This is done by identifying and selecting particular sites, referred to as viewpoints, conducting inspections and determining what part of the development will be visible from those viewpoints and the visual impact of that development proposal.

The viewpoints, as shown on Figure 2.4, were selected on the basis of where the development would appear to be most prominent either based on degree of exposure or the number of people likely to be affected. Sites were further selected on the basis of significant features, significant viewpoints and significant ridge lines.

The following viewpoint worksheets provide photographs and analysis data from each of the viewpoints. The images were taken using a digital camera with a focal length equal to a standard 50mm for a conventional 35mm camera. This focal length is widely accepted as closely approximating the vision of the human eye.

The outlines of the proposed bridge options have been superimposed over the photographs to illustrate the extents and massing of the building.

Viewpoint 1



Viewpoint 1	139 Satur Road, Scone
Viewing situation	Satur/Bunnan Rd looking toward the proposed building
Category of view	Immediate vicinity
Context of view	From adjacent roadway
Relative number of viewers	High
Distance of view	60m
Likely period of view	Low (traffic) Long (2 residents across the road)
Visibility	High
Visual absorption capacity	Low
Visual impact rating	High

Description:

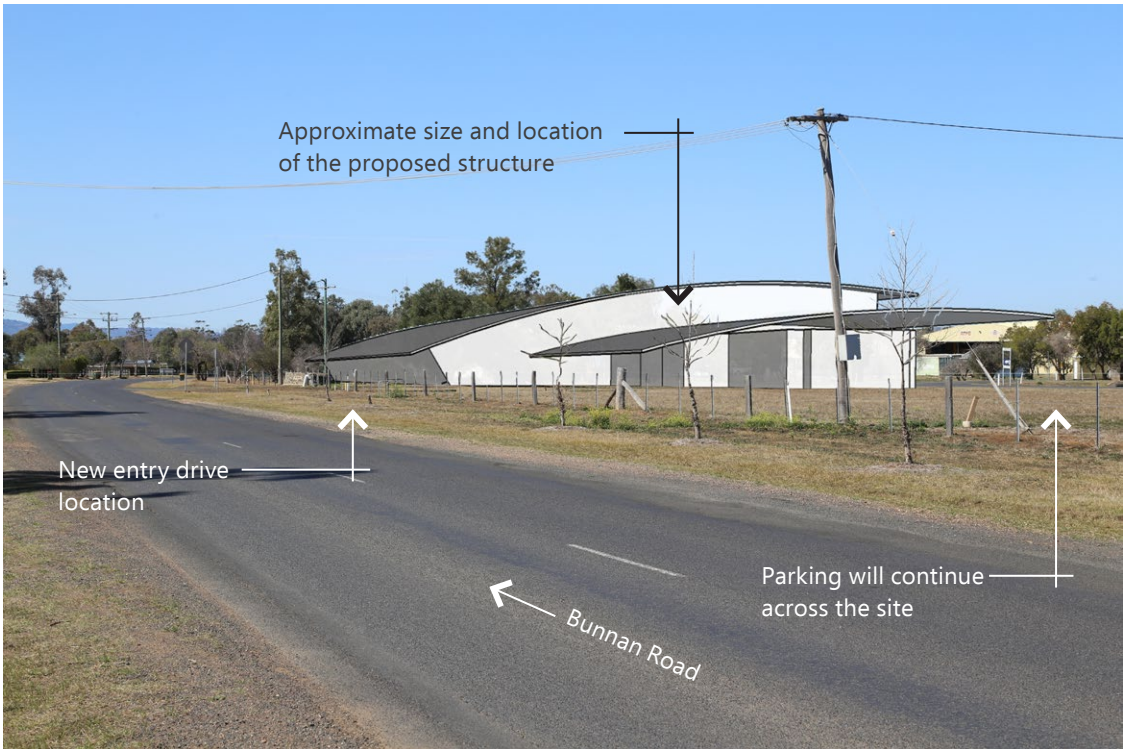
View from the Bunnan Road adjacent to the site looking toward the proposed building.

Comments:

This will be the initial view of the proposed building for those travelling west along Satur Rd / Bunnan Rd. It will be noticeable due to the size of the building and the proximity to the road. However, there is an existing hangar building adjacent to the site that blocks views from Satur Rd to this point. This will mitigate the visual impact of the new building.

This is also the view from the closest residential property, but will only affect two properties.

Viewpoint 2

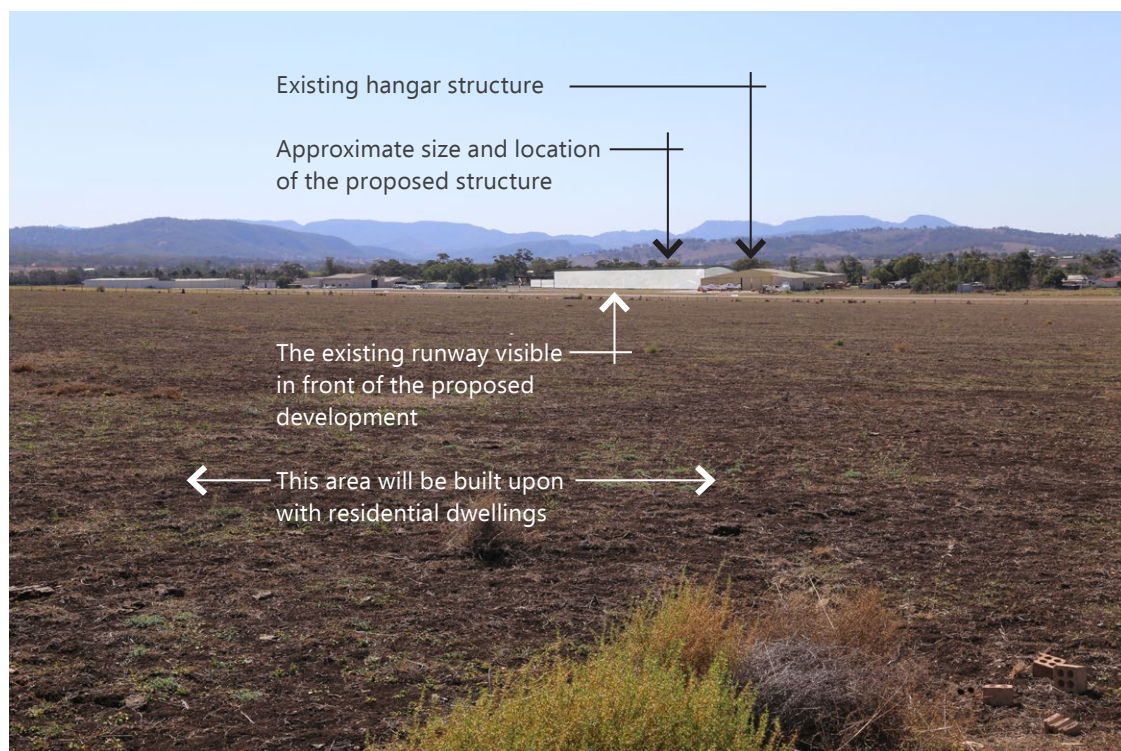


Viewpoint 2	410 Bunnan Road, Scone
Viewing situation	Bunnan Road looking eastward into the site
Category of view	Immediate vicinity
Context of view	From Bunnan Road - adjacent to site
Relative number of viewers	High
Distance of view	180m
Likely period of view	Low (traffic)
Visibility	High
Visual absorption capacity	Low
Visual impact rating	High

Description:
View from the corner of the site on Bunnan Road looking toward the site. The proposed parking area will be directly in front of this viewpoint with the terminal building behind.
This is the view when approaching the airport from the west.

Comments:
There are proposed trees (not shown) along the road frontage that will help soften the visual mass of the building as they mature.

Viewpoint 3



Viewpoint 3	11 Ibis Place, Scone
Viewing situation	Slightly above the site looking across the runway
Category of view	Immediate vicinity
Context of view	Edge of a new residential community with open paddocks between viewpoint and site
Relative number of viewers	Low
Distance of view	800m
Likely period of view	Low (traffic) Long (residents)
Visibility	Moderate
Visual absorption capacity	Medium
Visual impact rating	Moderate

Description:

Looking down the slope and across the runway to the airport building complex. The proposed building will be visible, but will be among similar sized structures.

This is one of the few viewing locations from the south.

Comments:

This view is only available temporarily, until the residential development is completed. Upon completion, there will be no public access to this view. Any views from across the runway will be from private yards of the homes that abut the runway.

There is little that can be done to screen or hide the building, due to its function and position adjacent to the runway. It should be noted that its function is to serve the runway and celebrate the historical roles of the aircraft on display.

Viewpoint 4



Viewpoint 4	510 Bunnan Road, Scone
Viewing situation	Bunnan Road looking at the proposed bridge
Category of view	Immediate vicinity
Context of view	From Bunnan Road
Relative number of viewers	High
Distance of view	1km
Likely period of view	Low (traffic)
Visibility	High
Visual absorption capacity	Medium
Visual impact rating	High

Description:

View from Bunnan Road looking toward the east. The proposed building will be visible due to its proximity along the road.

There will also be a parking area along the road that will be visible.

Comments:

This represents the first place from which the site is visible from the west.

The proposed building will appear as an extension of the existing building cluster. It will be a similar size and type, and thus it will visually 'belong' in that space.

Viewpoint 5



Viewpoint 5	13 New England Highway, Scone
Viewing situation	Slightly lower and viewing from across the valley
Category of view	Regional area
Context of view	From New England Highway
Relative number of viewers	High
Distance of view	3.1km
Likely period of view	Low (traffic) Long (residents and visitors to Hotel)
Visibility	Moderate
Visual absorption capacity	High
Visual impact rating	Low

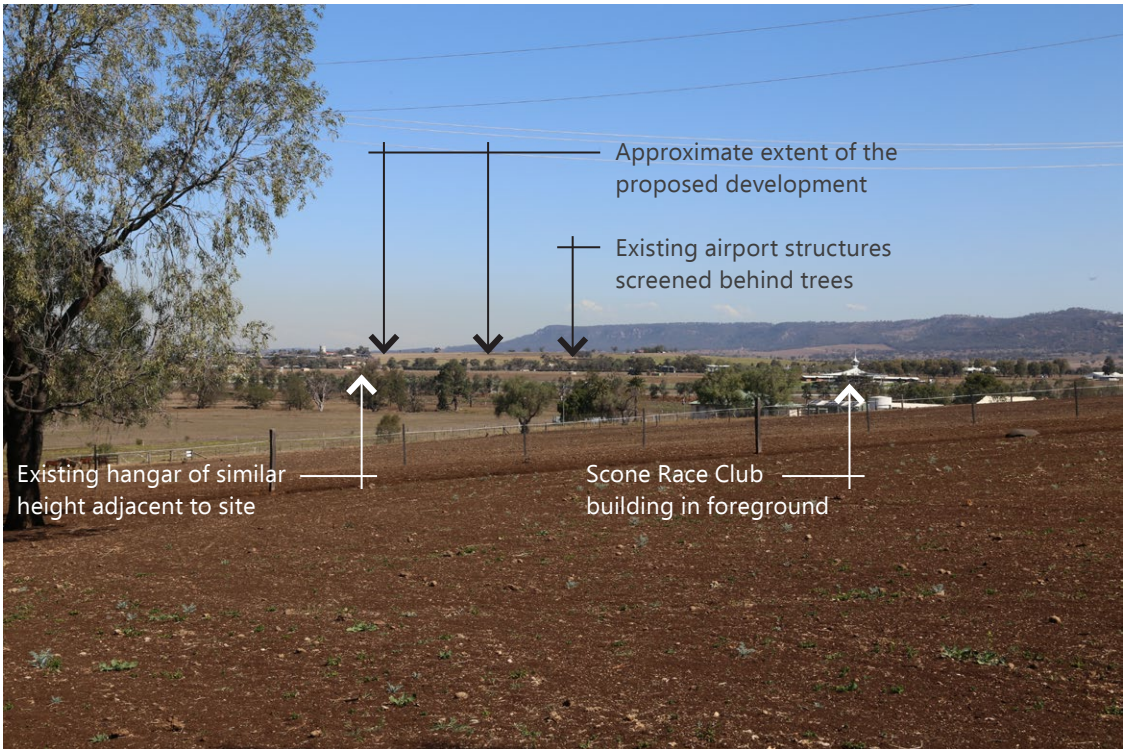
Description:

View from the New England Highway across the valley toward the airport. Grassy paddocks dominate the valley floor with trees along the residential properties. The undulating terrain, residential development and trees obscure most of the airport structures from this distance.

Comments:

This is a representative view from along the New England Highway.

Viewpoint 6



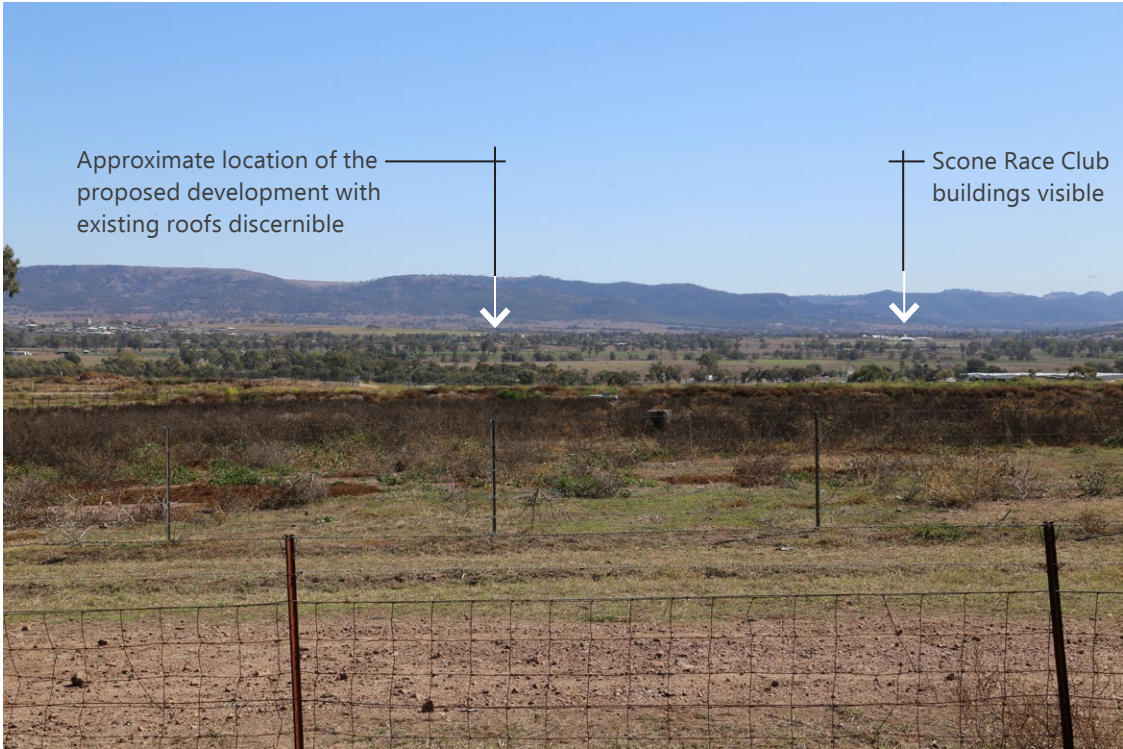
Viewpoint 6	415 Middlebrook Road, Middle Brook
Viewing situation	Elevated, looking across paddocks and race track
Category of view	Local area
Context of view	From roadway
Relative number of viewers	Low
Distance of view	2.5km
Likely period of view	Low (traffic) Long (residents)
Visibility	Moderate
Visual absorption capacity	Medium
Visual impact rating	Moderate

Description:
View from elevated position looking across to the airport. The existing structures are screened, with a few roofs visible. The hangar structure adjacent to the proposed building gives an indication of what the visibility will be.

Comments:
This is one of very few locations that are elevated with views of the development site. Even so, there are trees screening the views and the proposed development will be similar in size and colour to the existing aircraft hangars at the airport.

This view also shows the full width of the development and existing airport buildings.

Viewpoint 7



Viewpoint 7	Noblet Road, near Susan Street
Viewing situation	Slightly elevated looking across the valley
Category of view	Regional area
Context of view	From Noblet Road, on hillside above Scone
Relative number of viewers	Low
Distance of view	4.4km
Likely period of view	Low (traffic)
Visibility	Low
Visual absorption capacity	High
Visual impact rating	Low

Description:
View from a slightly elevated position looking across the valley. Trees dominate the view and screen the airport buildings effectively.

Comments:
The existing hangar roofs are visible from this location. It is reasonable to assume the proposed building will be visible as well. Most of the township is located at a lower elevation and will not have open views like this.

There are a number of large buildings and building clusters visible. The proposed development should appear similarly and will not be the largest structure visible.

Viewpoint 8



Viewpoint 8	Barton Street and Birrell Street
Viewing situation	Slightly elevated looking across the valley
Category of view	Regional area
Context of view	From a roadway adjacent to a vacant lot
Relative number of viewers	Low
Distance of view	4.5km
Likely period of view	Low (traffic) Long (residents)
Visibility	Low
Visual absorption capacity	High
Visual impact rating	Low

Description:

View from an elevated position behind the Scone hospital. Views through the trees and buildings are infrequent. Trees dominate the distant views over the valley.

Comments:

Views from the Scone township are very limited. The site is only visible from the upper reaches of the town along the eastern hills. This view is from behind the helipad at the hospital as is available only because of the cleared lot behind the hospital.

This view illustrates that the proposed structure will be hard to see from these slopes.

4.2. Visual impact assessment summary

This section of the report summarises the findings of the visual impact assessment of views in the immediate vicinity, local views and regional views of the site.

4.2.1.Views from the immediate vicinity (< 1.5km)

The proposed development is likely to have a high visual impact from the adjacent roads. This is especially true of Bunnan Road and Satur Road as these run beside the development. They are also the only publicly accessible places with full views of the development. This impact is primarily due to the addition of structures and roof lines where none existed prior to development.

Beyond the streets surrounding the development, views of the site reduce significantly. Where views exist, they are limited to small portions of the proposed building.

The visual impact can be mitigated by introducing new trees for canopy cover within the site and screen planting along northern boundary. Trees will help break up the visual mass of the building to reduce the visual dominance.

4.2.2.Local views (1.5 – 3km)

There are few locations where the site is visible from this distance. The only publicly accessible locations are located north of the site due to the topography and existing development. As illustrated in the photographs, the viewpoints north of the site are screened by buildings and trees.

Views from this distance are only obtained when the viewer is situated at a higher elevation than the airport. These locations are limited.

The visual impact is minimal due to the small number of locations where views are available. Secondly, when views are available, the roofs of entire communities and larger structures become visible, minimising the impact of one structure.

4.2.3.Regional Views (3 – 6km)

The only regional views occur north and east of the site. As with the local views, only roof lines are be visible from this distance.

Where views are available, the proposed structures blend into the existing hangars at the airport and the large structure at the TAFE NSW campus and the Scone Race Club.

5. Visual impact mitigation measures

5.1. Recommendations

The visual impact assessment in Section 4 of this report assigns either a high, medium or low visual impact rating when viewed from the immediate vicinity, local views and regional views. The following mitigation measures should be considered in the design and assessment of the proposed building.

Visual character

To maintain this character, the following recommendations are suggested.

- The site and immediate surrounds contains a number of mature trees that provide visual screening. Most of the trees that screen the site are on private lots adjacent to the subject site and therefore will remain in place. The proposed development will remove most of the trees from the site. These trees should be replaced with trees that will provide canopy cover to continue the visual character along the front of the site
- Trees planted within the site (parking areas and open space) and along the boundaries should be selected for their canopy size and ability to blend into the existing trees.

Built form, materials and colours

- Building height should not overwhelm the adjacent buildings, and should be limited to ensure the roof lines do not rise above the adjacent buildings and trees to dominate the skyline
- Materials, textures and colour selection are to relate to the natural palette of the surrounding environment in areas of high visibility and potential for visual impact
- Bright and contrasting colours should be no more than 10% of the facade of a building
- Rooftops should utilise non-reflective colours and materials and/or match existing roof colours and materials
- Lighting
 - Lighting treatments are to be sensibly designed to minimise light spill in areas such as street lighting and floodlighting outdoor spaces
 - Lighting to be directed toward the ground to limit visibility
 - Adopt a “dark sky” approach to lighting by directing the lighting in parking areas and streets toward the ground and limiting light spill.

5.1.1. Reflectivity considerations

There is some concern with the use of Zinalume roofing for the roof due to its light and reflective colour. There are two elements related to this concern. First is the colour of the roof has the potential to be highly visible for great distances. The second element is glare from the reflective roofing that can be a nuisance and interfere with vision.

Visibility

There are environmental and thermal advantages to using light coloured materials for roofing and cladding. Visual reflection should be evaluated within the context of potential

benefits of the material, and not as a sole criteria. Consideration should be given to the local surroundings and environment, including vegetation and surrounding structures. The configuration, location and aspect of the material (structure) are also important considerations.

In the context of this study, other large roof structures in the Scone area were noted and photographed. Most of the large structures had light-coloured roofs, including the existing hangar structures around the airport.

Glare

Glare from buildings can result from the reflection of sunlight from any surface. New glossy surfaces are particularly prone to glare, including steel roofs, glazed tiles and other glazed surfaces. This will dull over time, reducing the amount of glare.

The degree of glare will depend on the age and type of material used, its location, surrounding environment, position and gradient. The particular time of day and year also affect glare due to the constantly changing position of the sun.

Of particular importance to this study is that modelling (by others) has shown that the main potential position of concern is a viewing position located to the south and above the roof (refer to Figure 5.1 for diagram). This can potentially present glare issues with aircraft approaching the airport.

Summary

Visibility from using the light colour Zincalume is similar to a light coloured painted surface. In this instance the size of the building is more significant in terms of visual impact. There are large structures adjacent to the development site that are visible from various locations around Scone (as illustrated in section 4 of this report). The proposed building will sit amongst these existing structures and will appear to fit into the site. The Zincalume material may initially be brighter than the adjacent painted buildings, but this alone does not increase the building's visibility. The building will be visible mainly because of its bulk.

Glare from the Zincalume may be a concern. However the curve of the roof and the corrugations/ridges will diffuse the glare significantly. The roof is also positioned toward the north side of the building. As indicated in the diagram below, this minimises glare and reflection toward the south.

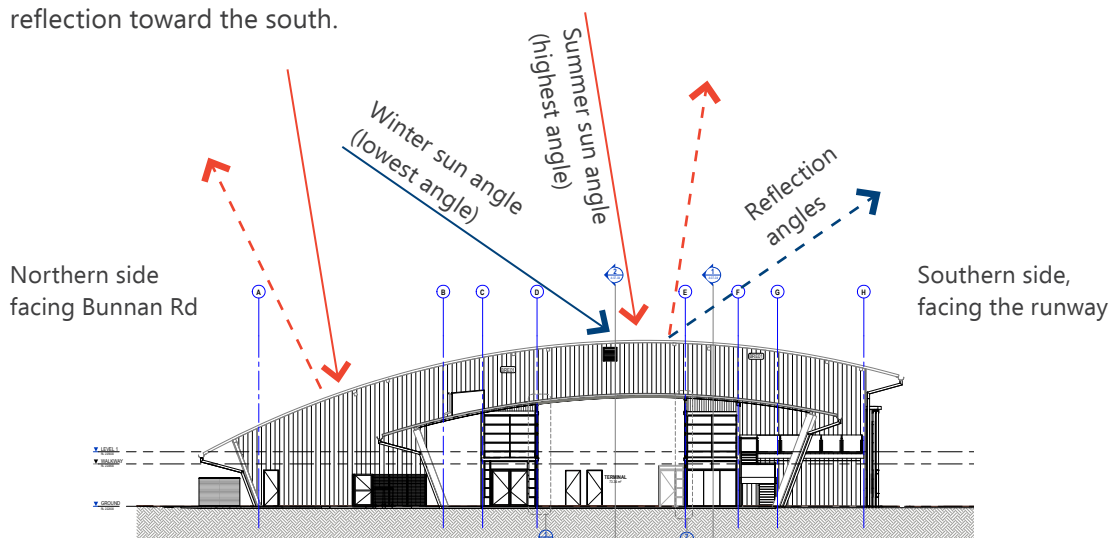
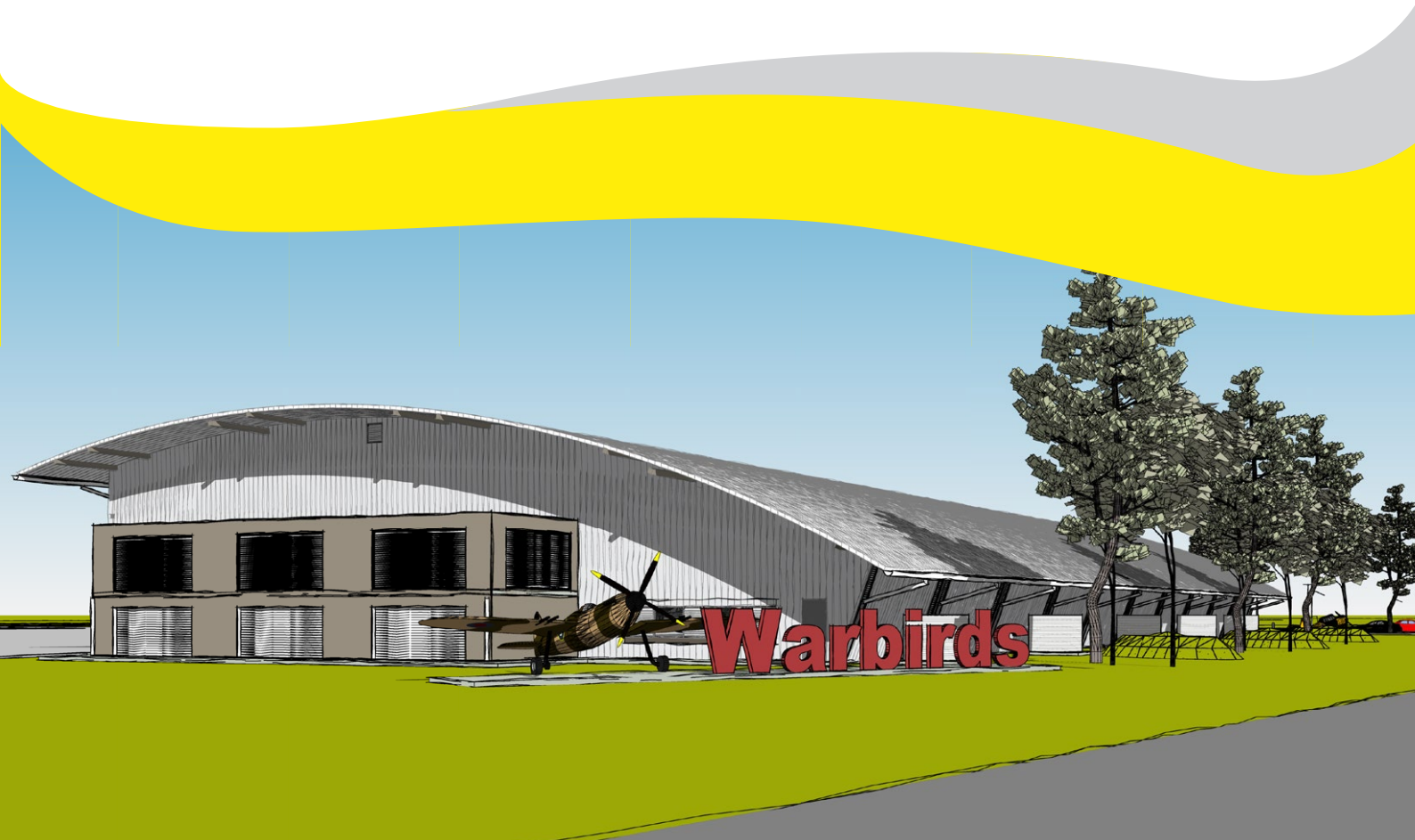


Figure 5.1: Sun angles and reflection angles off of the Zincalume roof



Creating vibrant communities through powerful conversations

Consultation and urban design working together



Level 1, 161 King Street
Newcastle, NSW, 2300

Level 6, 307 Queen Street
Brisbane, QLD, 4000

Phone 02 4965 4317
mara@maraconsulting.com.au
maraconsulting.com.au
ABN 13 168 093 918



MARA
MARA CONSULTING