Ashfield Station Commuter Car Park Upgrade

Transport Access Program

Visual Impact Assessment Report

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Name	Signature	Date
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Glossary and Abbreviations

CPTED	Crime Prevention Through Environmental Design
EP&A Act	NSW Environmental Planning and Assessment Act 1979
FFL	Finished Floor Level
GST	Ground Services Trough – An above ground, galvanised trough which generally houses electrical and communications cables
Landform	The shape and form of the land surface which is the result of the action and interaction of natural and/or human factors.
Landscape Character	A distinct recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse
LED	Light Emitting Diode
LEP	Local Environment Plan
Low rise housing	Single dwelling houses, semi-detached houses town-houses and walk-up apartments, typically 2-4 storeys
LIIEMA	UK Landscape Institute and Institute of Environmental Management & Assessment
Magnitude of Effect	A term that combines the judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration
Medium-high rise housing	Residential apartment buildings, sometimes with cafes or small shops at ground level, typically 8 storeys
Medium rise housing	Residential apartment buildings, sometimes with cafes or small shops at ground level, typically 5-7 storeys
MSCP	Multi-storey car park. Referring to the proposed multi-level, commuter car development subject of this study
REF	Review of Environmental Factors
RMS	New South Wales Roads and Maritime Services
Sensitivity	Applied to visual receivers, combining judgments of susceptibility of the receiver to the specific type of change or development proposed and the value related to that receptor
Spatial Volume	The theoretical area that a three-dimensional object occupies
Stage 1	refers to the early works proposal for removal of overhead High Voltage wires and poles
the proposal	Refers to the proposed multi-storey commuter car park development in Ashfield
TAP	Transport Access Program
TfNSW	Transport for New South Wales
Visual amenity	The overall pleasantness of views people enjoy of their surroundings, that provides an attractive visual setting for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Visibility Envelope	A map, usually digitally produced, showing areas of land within which a development is theoretically visible.
Visual receiver	Individuals / groups of people who have the potential to be affected by a proposal.

1 Introduction

Transport for NSW (TfNSW) has engaged RPS to prepare a Visual Impact Assessment (VIA) report for a proposed multi-storey commuter car park (the Proposal) near Ashfield Station in Ashfield, NSW. The proposal will replace an open, ground-level only public commuter car park on land under RailCorp ownership.

1.1 Background

The proposed upgrade is part of the Transport Access Program (TAP). TAP is a government initiative that is providing accessible, modern, secure and integrated transport infrastructure throughout the wider Sydney rail network.

The NSW Government has identified the need to augment the existing commuter car parking facilities through consideration of previous studies of commuter needs and public feedback with the following architectural and urban design objectives highlighted as informing the development of a preliminary design proposal;

- Maintain elegant simplicity in the architectural planning and detailing
- Ensure compliance with functional and design specification requirements
- Respond sensitively to the current and likely future surrounding built environment
- Design elements for easy maintenance
- Integrate the car park considering the surrounding heritage and biodiversity
- Create a high quality, positive addition in the public domain
- If possible, minimise walking distances to the station
- Respond to security and safety issues and requirements
- If possible, accommodate potential for future growth

1.2 Purpose of the Report

This report is a preliminary visual assessment of the proposal concept design and related Stage 1 early works. The purpose of this report is to identify and summarise the likely visual impacts and outline mitigation measures that will assist in the development of detailed design for the Proposal that would provide for an integrated urban design.

The purpose of the assessment is therefore to help ensure that the Proposal's implementation and operation are considered early in the design process with the ambition of achieving best practice urban design outcomes. This report identifies and advises on key principles that can be considered through further development and refinement of the preliminary concept design.

The VIA is being undertaken as part of the Review of Environmental Factors (REF), also being prepared for the Proposal, in accordance with Director's General clause 228 Guidelines under the NSW Environmental Planning and Assessment Regulations 2000.

1.3 Scope and Limitations

This assessment is intended to be an objective report based on professional analysis of the design. It seeks to establish the anticipated visual impacts of the Proposal on a wide range of viewers. The assessment has been undertaken based on **conceptual** level information and therefore is generally broad in its approach.

Landscape and visual assessment requires qualitative (subjective) judgements to be made. The assessment process aims to be objective and describe any changes factually. Potential changes as a result of the Project have been defined, however the significance of these changes requires qualitative (subjective) judgements to be made. The conclusions of this assessment therefore combine objective measurement and subjective professional interpretation.

The services and the purpose undertaken by RPS under the Contract in connection with preparing this report were limited to those specifically detailed in the Contract and this report, and are subject to the scope limitations set out in the Contract and this report.

Other than as expressly stated in this report to the contrary, the opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. RPS has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by RPS described in this report. RPS disclaims liability arising from any of the assumptions being incorrect.

2 Context

2.1 Site Location

The Ashfield train station and commuter car park are located within the Inner West Local Government Area (formerly Ashfield Council) approximately 8 kilometres west of Central Station and the Sydney CBD on the T1 (North Shore, Northern and Western) and T2 (Airport, Inner West and Southern) lines. Ashfield station is located between Summer Hill and Croydon stations (Figure 1) and is the 19th busiest station on the Sydney Train Network (TfNSW, 2012).

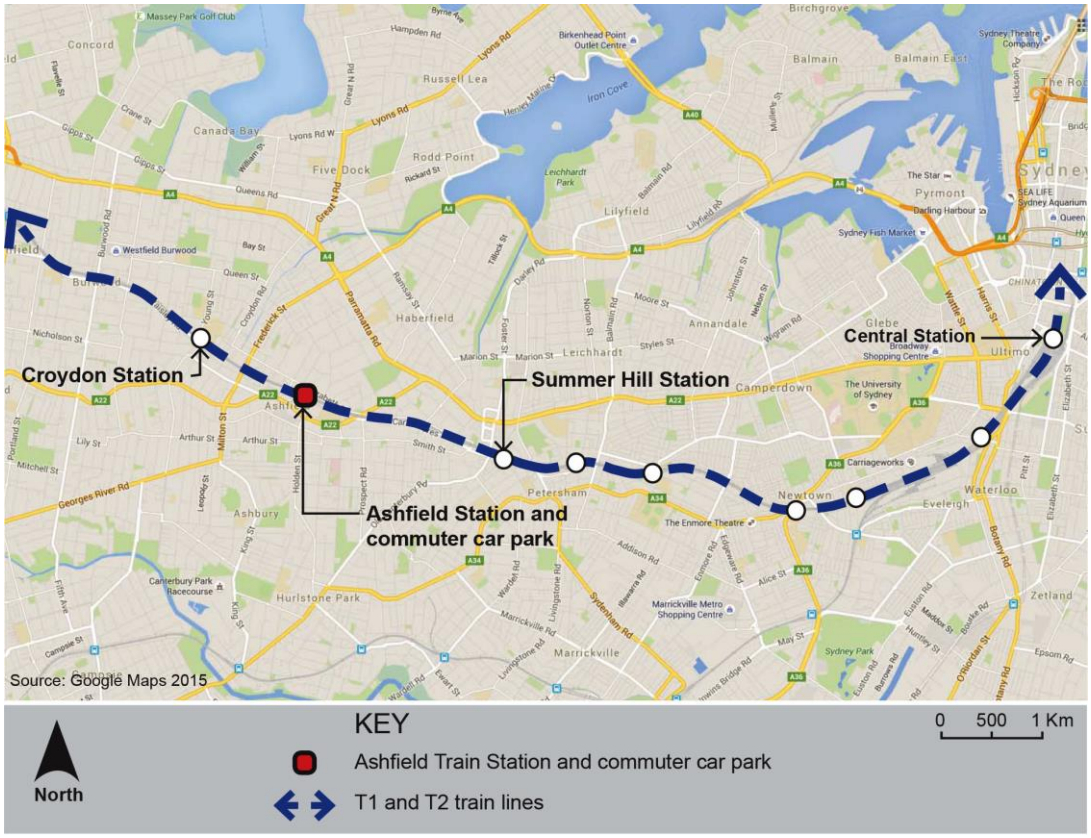

Figure 1: Site Plan

2.2 Local Setting

The existing commuter car park is located near the Ashfield commercial and civic centre which is generally located along Liverpool Road and Hercules Street to the south and west.

Areas to the north are predominantly two to three storey walk-up apartments and single storey residences, some of which are used for commercial activities. Refer also Figure 2.

Figure 2: Local Context

Other notable uses in the immediate surrounding context include:

- Orchard Crescent is a cul-de-sac south of the Proposal providing vehicle access to the Capri Apartment building
- "Capri" is a medium-high rise development with apartment dwellings and ground level commercial activities facing Brown Street. Some of Capri's north facing dwellings have views towards the existing car park and are within close visual proximity
- Immediately north of the Proposal is the rail corridor. The corridor is generally flat and roughly 33 metres in width and accommodates 7 tracks
- North of the railway corridor the land rises abruptly forming an embankment along the corridor's edge. At the top of the embankment are residential apartment buildings with south-facing apartments along Elizabeth Street with views towards the Proposal
- Brown Street provides vehicle access to the existing car park from the south and west. Visual links along Brown Street to the car park diminish as the ground drops away to the west beyond the train station entry to the west and as it rises towards Liverpool Road to the south
- The "Station 2A Apartments" are an apartment development southwest of the Proposal. Some of the dwellings face northeast towards the Proposal and are within close visual proximity. The development also has commercial uses and a public car park entry that are accessed along Brown Street

- Ashfield Station is located approximately 90 metres to the west of the existing commuter car park. Pedestrians can access the station and platforms via stairs and lifts at the northern and southern ends of the station. The station's aerial concourse is glazed and has full or partial views towards the Proposal
- The Metro South Ashfield Signals Depot is located immediately to the east. The depot is accessed through the existing car park and also via a restricted access road to the east. The depot property is fenced with controlled access
- Ashfield Public School and the Ashfield Boys High School grounds are located to the southeast of the existing car park. School buildings and grounds are accessed at the corner of Orchard and Murrell Streets but currently have little visual connection to the Proposal primarily due to existing trees & vegetation between the car park & the school

2.3 Local Planning

The planning instrument relevant to the Proposal site is the Inner West Council's (formerly Ashfield Council) Local Environment Plan, 2013.

The Proposal is within the area designated B4 – Mixed Use, please see Section 2.4. Refer also Figure 3.

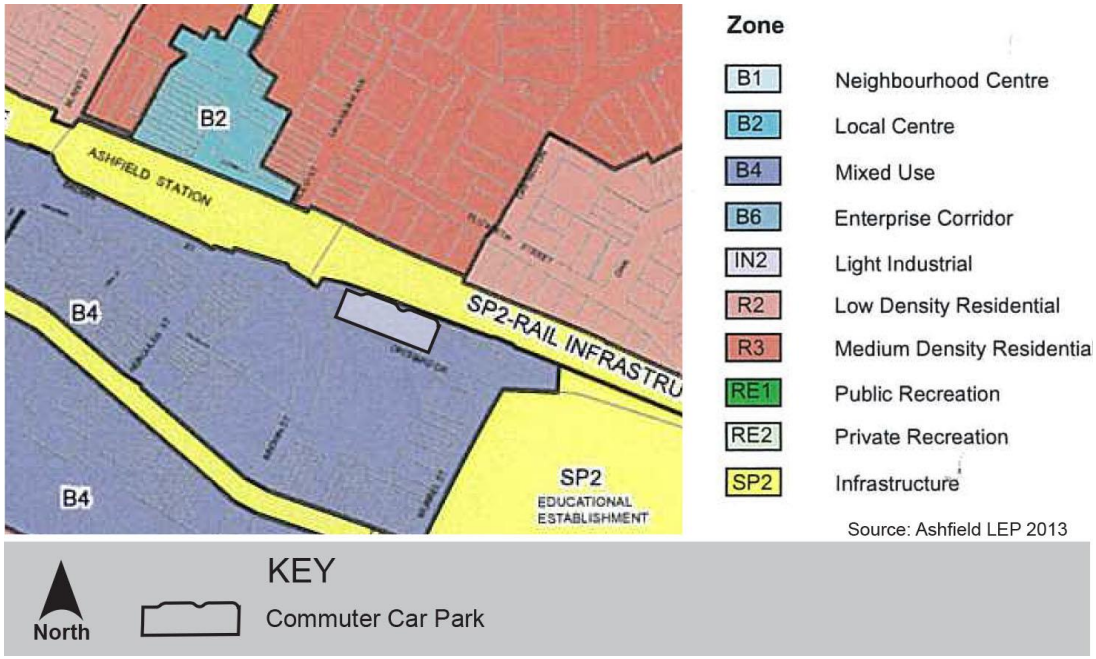

Figure 3: LEP & Zoning Map

2.4 Zone B4 Mixed Use

Objectives of the zone are;

- To provide a mixture of compatible land uses
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling

- To enhance the viability, vitality and amenity of Ashfield town centre as the primary business activity, employment and civic centre of Ashfield
- To encourage the orderly and efficient development of land through the consolidation of lots
- The maximum allowable height for buildings on the site designated within Inner West Council's (formerly Ashfield Council) LEP is 15 (fifteen) metres. The Proposal is well within the height allowance with the second level being approximately 7.15 metres and the top of the lift shaft reaching approximately 10.0 metres above the adjacent ground level.

3 Project Description

The Proposal includes the replacement of an existing, open, ground-level commuter car park with a multi-storey car park structure consisting of 235 vehicle parking spaces over three levels. This includes a ground level, first floor level, and an open, roof top car park level. The main features of the Proposal include:

- Vehicle access/egress is via Brown Street in a one way clockwise circulation direction through all car park levels
- Continuous poured concrete wall facades with “flat face colour” and “grooved pattern”
- Finished Floor Levels (FFL): Roof (stair well): 38.20. Second: 35.35. First: 32.50. Ground: 29.20
- Stair wells with “seamless mesh” security screen panels on all levels. Stair access within the Proposal and a ramp/stair connection to Orchard Crescent
- A fully glazed lift shaft adjacent the western stair well. Accessibility is from within the car park with a ramp connection to Orchard Crescent
- The northern façade consists of curved walls near the centre and at the eastern and western ends. The northern facade also has box-shaped openings that are arranged in a staggered pattern between the ground and second levels and unscreened
- Pedestrian canopy at the south western corner over the public footpath
- Covered bicycle parking near the western vehicle entry

Figure 5 below indicates the ground level plan. The levels above are the same layout as the ground level. Image by ARUP/Design Inc.

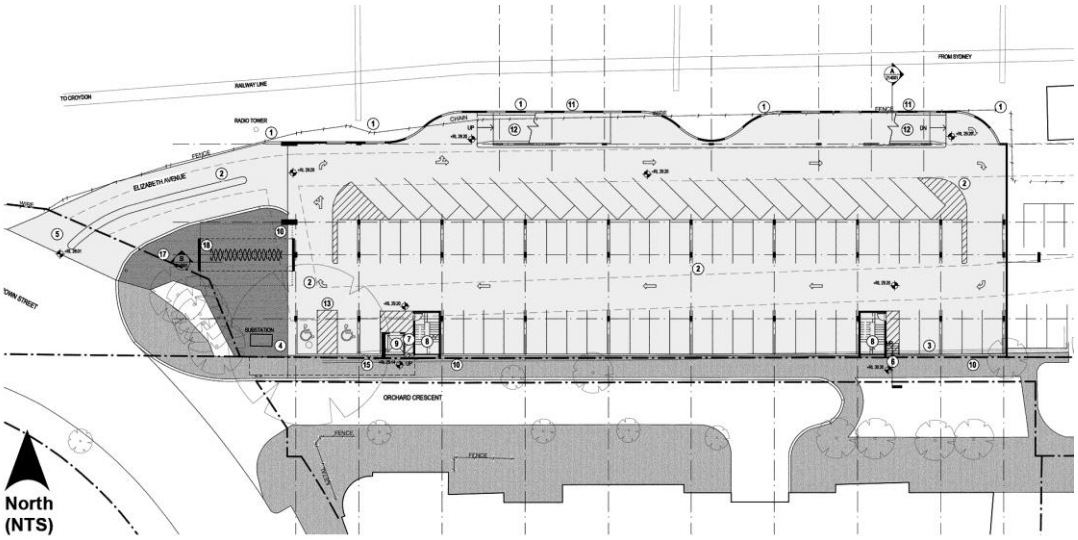

Figure 4: Proposed car park ground level plan (NTS)

3.1 Appearance

The current concept information provides an overall indication of the appearance of the Proposal, which is generally consistent with a modern car park in an urban setting. This is evidenced in the types and use of materials and their arrangement. This includes the use of ribbed concrete, anodized aluminium panels, seamless mesh screens and a glazed lift shaft.

The following is a summary of the main elements that contribute to the Proposal’s appearance:

- Use of continuous poured, reinforced concrete walls with flat face color and grooved pattern, aluminium sheets/fins for vertical screening and seamless mesh screens as the predominant facade materials
- Semi-open structure on all sides, mostly open at ground level w/ see-through opportunities
- The western vehicle entry is defined by an extended roof at the second floor supported by angled walls creating a “portal” effect. A seamless mesh security screen “curtain” fills in the level one floor above the vehicle entry
- Screen walls with “vertical solid aluminium sheets/fins” located on a continuous, horizontal, first floor opening on the western, southern and eastern façades
- Articulated vehicle & pedestrian access with angled, cantilevered, portal style vehicle entry
- Two vertical stairwells (one with a lift) that extends above the roof car park level de-emphasizes a strong horizontal form

3.2 Bulk and Scale

The concept design for the Proposal is a split-level structure generally contained within the extent of the existing car park footprint area with the ground level at an approximately similar ground level.

The overall form of the Proposal is strongly linear which is expressed in its greater proportional width compared to its height.

The overall plan dimension of the Proposal is roughly 30 metres by 90 metres. The adjacent rail corridor to north is also of a similar width at approximately 33 metres. Figure 6 shows the scale relationships of the adjacent land uses with the Proposal.

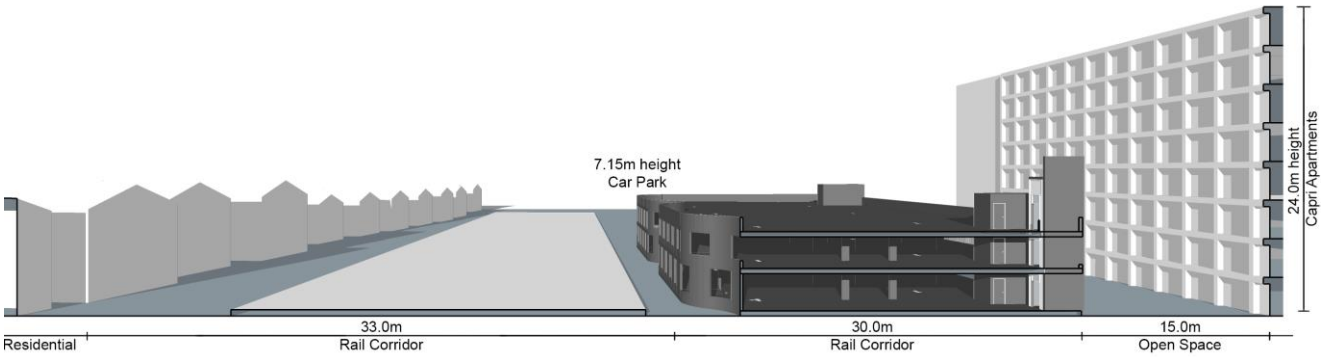

Figure 5: Section showing scale relationships with adjacent uses

The diagram above indicates that the Proposal is of a similar scale to the rail corridor and much lower in height than the nearby Capri apartments to the south.

The top level of the car park does not appear as a full level as it includes only a 1.0 metre high safety barrier along the outer edge giving an overall barrier height of approximately 7.15 metres along the northern and western edges. The ground level varies along the southern and eastern edges decreasing the height by up to approximately 1.5 metres at the north-eastern corner.

At the southwest corner is an expressed stairwell and lift, the roof of which represents the highest part of the structure at approximately 10 metres above existing ground level.

Concept designs indicate the proposed façades along the south, east and west consist of a semi-open ground floor and a continuous horizontal opening with vertical, metal sheets (fins) infill on the first level. The vertical fins, lift and stair wells and support columns will help balance an otherwise strongly horizontal structural form.

A pedestrian canopy extends over the footpath at the south western corner. The canopy provides weather protection from the street corner to the stair well and lift access along Orchard Crescent and will contribute to a more pedestrian scale at the south west corner.

The northern facade edge of the Proposal has a strong visual connection with the rail station and corridor and will also be seen by some of the dwellings to the north of the rail corridor. The undulating wall design includes large openings without vertical screening. Its simplified design treatment is different to the other, more articulated, facade treatments along the east, west and south.

3.3 Pedestrian Access and Circulation

Key to the design of the Proposal is its connectivity to the train station and wider area. NSW Government guidelines such as *Sydney's Walking Future 2013* and Inner West Council's (formerly Ashfield Council) LEP B4 zoning objectives place importance on the consideration of pedestrian amenity. Therefore, the current design needs to adequately address the safety for expected pedestrian movements that will occur from the development of the Proposal.

Figure 7 indicates that there are key vehicle and pedestrian connections from the southern Ashfield station entry along Brown Street and Orchard Crescent to the car park stairwells and lift entry along Orchard Crescent.

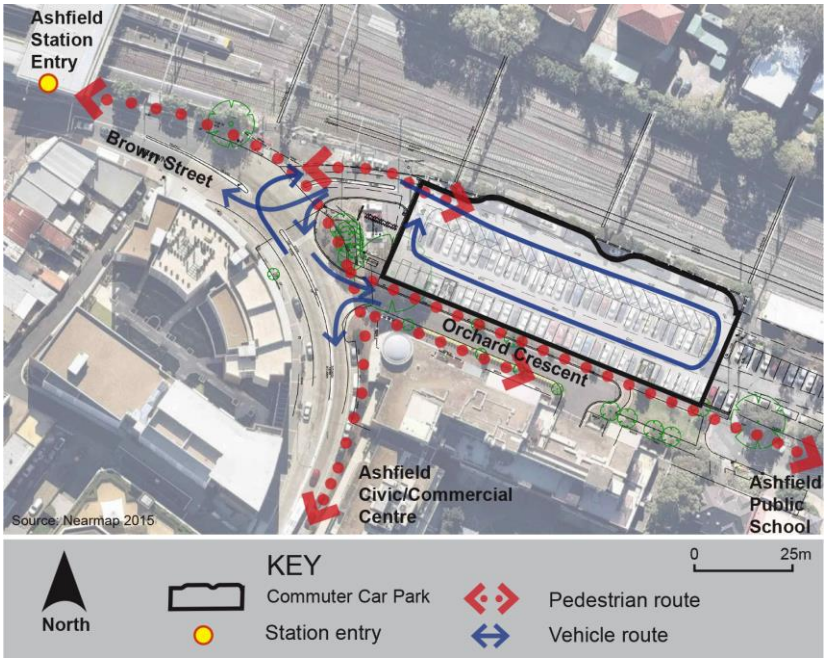

Figure 6: Vehicle and Pedestrian Connectivity

The Proposal will also need to address the connections further east to Ashfield Public School as well as the commercial and residential areas further south of Brown Street.

Safety should also be considered for pedestrians accessing the car park. The current proposed locations of the stair wells may influence pedestrians to short cut along the vehicle ramps to access the station rather than accessing the stairs or lift along the southern edge of the car park.

3.4 Public Domain

Enhancement of the public domain areas near the Proposal plays an important part in the successful integration of the Proposal. The area directly west of the Proposal is of considerable importance as it is visually prominent from its position along Brown Street from the south and west. Refer also Plate 1.

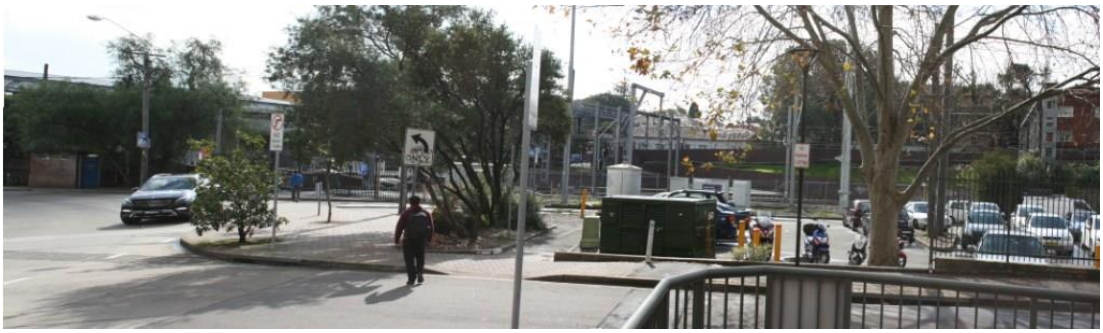

Plate 1: View north of the area west of the proposed MSCP.

Urban and landscape design solutions can seek to integrate the Proposal with the surrounding landscape, refer also Figure 8.

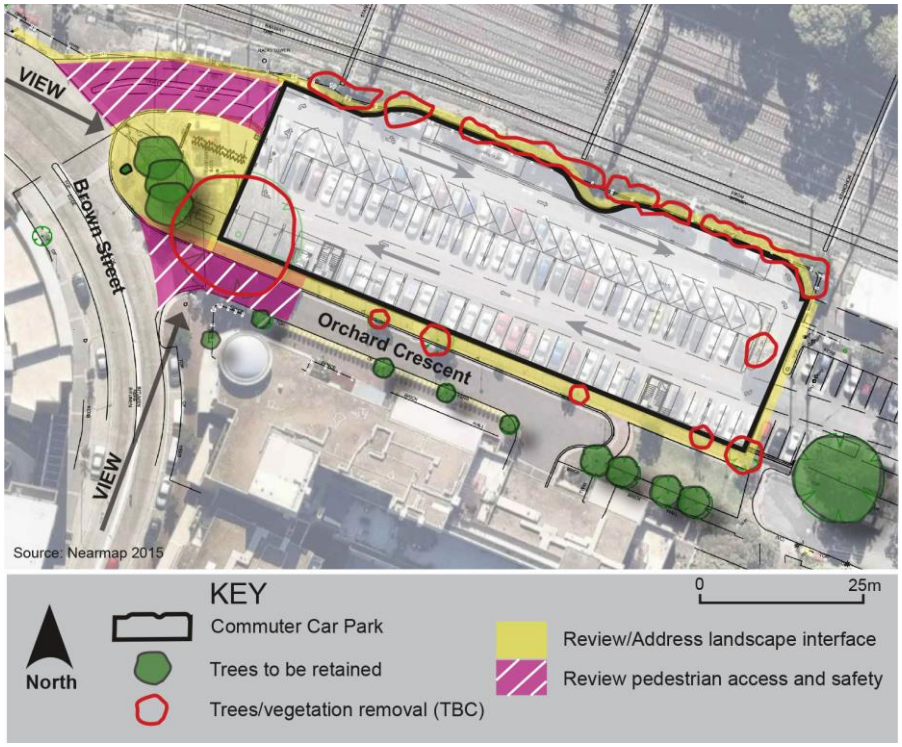

Figure 7: Urban and Landscape Design Considerations Plan

Surrounding Areas that could be considered for improvement and better integrated with the Proposal are:

- The landscape interface of the public domain areas between the Proposal and Orchard Crescent including: the footpath, street trees, paving, fencing and level changes from the street to the ground level car park
- The Signals Depot area interface and access
- Fencing and/or vegetative screening along the railway corridor to replace existing
- Selected tree removal will be required where impacted by the construction of the Stage 2 Proposal. Removal may be needed along the boundaries where excavation may occur as a part of construction.

3.5 Lighting

Lighting for both the construction and operation of the Stage 2 Proposal will be required for safety. The Proposal will therefore need to consider the light spill to nearby areas generated from the Proposal such as headlights and pole top lighting.

The existing car park is currently lit via floodlights mounted on wooden telegraph poles. Street lamps along Brown Street and pole top lights along Orchard Crescent would also likely contribute to lighting of the car park and of the surrounding areas.

Visual impacts from the introduction of new lighting in and around the Proposal must be considered in light of their possible impacts on the surrounding residential dwellings particularly to the south, southwest and north of the site as it may affect existing residents' visual amenity.

Lighting design information has not been reviewed as part of this assessment however all lighting must be designed and installed in accordance with the requirements of AS4282 Control of the Obtrusive Effects of Outdoor Lighting.

3.6 Construction

Construction work for Stage 1 and Stage 2 is likely to be sequential with the early Stage 1 works commencing for undergrounding works prior to the construction of the Stage 2 car park Proposal.

Exact timing of the implementation is not currently known but will likely be governed by budget, site and vehicle access requirements and timing of required approvals.

Activities that would be expected to occur as part of the construction development for both stages and that will likely have visual impacts on the surrounding areas include:

- Placement of temporary barriers around the site such as fencing, signage and hoardings
- Pedestrian and traffic diversions along Brown Street and potentially Orchard Crescent
- Alternate (parking arrangements) including a temporary reduction of vehicle commuter parking
- Construction vehicles
- Temporary site office
- Material stockpiling
- Erection of scaffolding
- Night time lighting for security.

Early works may involve the partial (or full) closure of the Brown Street footpath and/or westbound carriageway to accommodate works along Brown Street. Construction work would likely consist of trenching, hoarding, safety fencing, signage and material stockpiling in areas along or near Brown Street.

Most visual impacts created by construction activities in both Stages 1 and 2 will be temporary and consistent with what might be expected for similar projects. Proposed mitigation strategies regarding construction activities are included in chapter 7.

3.7 Safety and Security

The implementation of Crime Prevention through Environmental Design (CPTED) principles will assist in reducing opportunities for crime. Guiding CPTED principles typically address issues relating to surveillance, access control, territorial reinforcement and space management. These principles are, or can be, incorporated in the design of the Proposal in the following ways:

3.7.1 Surveillance

The design of the Proposal generally allows for surveillance opportunities on all levels due to the open nature of the design. This is demonstrated in generous openings in the facades on four sides at each level which will allow good visual connection to the surrounding areas. The use of a fully glazed lift shaft and seamless mesh security panels to the street for the stair wells also provides visual transparency.

3.7.2 Access control

The Proposal is designated for public use therefore will be accessible to both vehicles and pedestrians. The design of the car park could potentially control vehicle entry via a control gate system which might provide some degree of access control for vehicles wanting to access the car park if needed.

3.7.3 Space management

Space management refers to the operational stage of the car park. This principle can be addressed through ongoing maintenance of the car park to remove vandalism and graffiti, fixing lighting and keeping up with necessary repairs and upgrades.

4 Approach and Methodology

4.1 Assessment Process

This report uses a common approach to visual quality assessment that is systematic, consistent & based on professional, value judgement of commonly accepted & adopted criteria in the industry.

Methods used in this VIA are from the NSW Roads and Maritime Services (2013) *Environmental Impact Assessment Practice Note - Guideline for Landscape Character* and the *Visual Impact Assessment* and involved:

- Desktop study using aerial photography to identify potential the visual catchment and possible visual receivers
- Ground-truthing of assumptions reached through initial desktop studies. Ground-truthing involved visiting the site and reviewing the surrounding vantage points from publicly accessible areas
- Describing and evaluating the existing landscape character and visual environment in order to establish a baseline for the visual assessment
- Mapping the visual envelope based on field studies and data while identifying sensitive visual receivers. Sensitive visual receivers are people who would might experience a visual impact
- Undertaking a visual impact assessment using the grading matrix in Table 1 below, considering visual **sensitivity** (of the visual amenity or viewpoints) and the **magnitude** of the visual change, to arrive at an overall level of effect or impact

	Magnitude					
Impact Rating	**High**	**Moderate-High**	**Moderate**	**Moderate-low**	**Low**	**Negligible**
High	High Impact	High Impact	Moderate-High	Moderate-High	Moderate	Negligible
Moderate-High	High Impact	Moderate-High	Moderate-High	Moderate	Moderate	Negligible
Moderate	Moderate-High	Moderate-High	Moderate	Moderate	Moderate-Low	Negligible
Moderate-Low	Moderate-High	Moderate	Moderate	Moderate-Low	Moderate-Low	Negligible
Low	Moderate	Moderate	Moderate-Low	Moderate-Low	Low	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Table 1: Landscape Character and Visual Impact Grading Matrix

4.2 Visual Impact Grading Matrix

Once a visual sensitivity level and magnitude are determined, they are combined into a visual impact grading matrix to identify an overall level of impact on key viewpoints.

An assessment is largely qualitative and determines the potential level of impact to the visual amenity of the site and its surrounds in general terms, as well as more specific impacts to key surrounding viewpoints such as from residential and other publicly and privately accessible locations. This provides a general understanding of the level of visual impact and is utilised in the assessment of predicted visual impacts.

4.3 Visual Sensitivity

An assessment of the landscape character was undertaken to develop an understanding of the context and the sensitivity of the area's landscape character.

Visual sensitivity refers to the character of a setting, the quality of the view, and how sensitive it is to the proposed change (RMS, 2013). Combined with magnitude, sensitivity provides a measure of impact. Visual sensitivity relates to the direction of view and the composition of the view.

The following terms and definitions are from the Landscape Institute and Institute of Environmental Management & Assessment (LIIEMA 2013). These are generally accepted within the industry to identify visual receiver sensitivity;

High	Private residents at home with prolonged viewing opportunities, heritage properties and landscapes.
Moderate	Commercial properties, Travellers on road, rail or other transport routes with an interest in their environment.
Low	Transient type spaces & people at their place of work whose attention is on their work.

4.4 Magnitude of Effect

The magnitude of a visual effect is the degree of change the visual landscape undergoes as a result of the proposed development. It is the measurement of the overall scale, form and character of a development Proposal when compared to the existing condition (RMS, 2013). Magnitude also takes into consideration the distance between the viewer(s) and the Proposal. Judging the magnitude of visual effects takes account of:

- The scale of the change within the view with respect to the addition (or loss) of elements in the view and change to its composition. This includes the proportion of the view that is taken up by the proposed development
- The degree of change and/or integration of any new features or changes in the landscape in terms of form, scale and mass, line height, colour and texture
- The nature of the view of the proposed development and whether the views are permanent, full, partial or glimpses (LIIEMA 2013)

4.5 Visual Absorption Capacity

Visual Absorption Capacity (VAC) is an estimation of the capacity of the landscape to absorb development without creating substantial visual changes resulting in a reduction in the existing scenic quality. The capacity to absorb development is primarily dependent on vegetation cover, landform and the presence of other development.

The site and surrounding area of the Proposal at Ashfield would generally be considered to have a relatively **High** visual absorption capacity as it is a complex, urban landscape which includes a mix of building scales, types, densities, forms and surrounding vegetation cover both within and in the surrounding visual environment.

5 Landscape Character Assessment

The landscape character provides a picture or sense of the landscape and is defined by the area of visually distinct common features. Defining the landscape character and its values aids in determining the capacity for the landscape to accommodate any changes from the introduction of development (RMS 2013).

An understanding of the visual character of the existing landscape and the type and extent of potential views acts as a baseline for the visual impact assessment. A landscape character assessment aids in understanding how the Proposal will affect the elements that make up the existing landscape, the aesthetic and perceptual aspects of the landscape and its unique character.

In order to gain a full understanding of the site's visual character in Ashfield, it was first necessary to undertake an assessment that determined its individual site features and that contributed to the overall character of the area. Site visits to the local area identified the visual "catchment" or areas that would have the predominant visual connection with the site including any key view-points.

5.1 Existing Environment

The site and surrounding area is generally typical of a Sydney inner-city area near an active train station and a commercial and civic centre hub. The existing character in the areas immediately surrounding the Proposal is largely defined by multi-storey residential building development to the south and north of the site, refer also Plates 2, 3, 4 and 5.

Plate 2: View south west from the existing car park.

Plate 3: View south east from the existing car park towards the Signals Depot.

Plate 4: View north from the Capri Apartments western entry.

Plate 5: View north east from Orchard Crescent at Brown Street.

The existing train station and railway corridor forms the northern edge of the Proposal and strongly contributes to the urban character of the area. Views of trains, gantries, platforms, tracks as well as other infrastructure are possible from the areas surrounding the existing commuter car park. Refer also Plate 6.

Plate 6: Existing view north of Ashfield Train Station and aerial concourse.

Existing telegraph poles & wires, light poles, street signs, a radio tower, mobile phone tower, ventilation stacks, bollards, chain wire fencing, electrical kiosks & other ancillary urban infrastructure elements help to reinforce the urban character of the area. Refer also Plate 7.

Plate 7: View east from Brown Street.

5.2 Landform

The railway is cut into the existing landform creating a flat corridor with an embankment along its northern edge. The embankment is partly retained by a continuous retaining wall along the northern edge of the rail corridor and is vegetated. Residential apartment blocks are positioned along the crest of the embankment with views towards the Proposal. Refer also Plate 8.

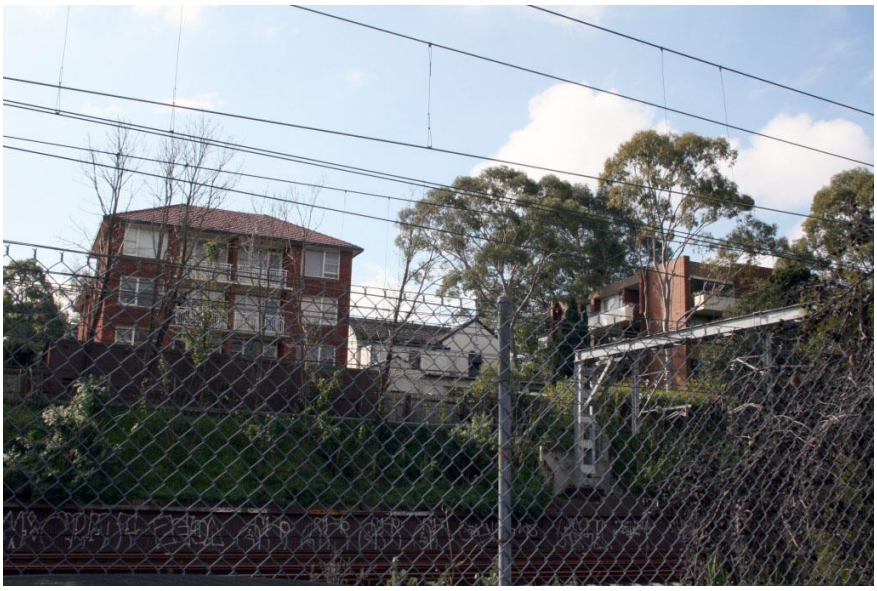

Plate 8: View north across railway corridor of wall and embankment.

Existing ground levels fall away from the Proposal towards the west becoming more pronounced from near the station's main entrance on Brown Street. Areas west of the train station entry on Brown Street quickly lose their visual connection from the site due to landform and other factors like buildings, structures, trees and vegetation. Refer also Plate 9.

Plate 9: View east from Foxs Lane near station entry.

Ground levels rise to the east along Orchard Crescent but the existing commuter car park is cut into the landscape in order to maintain a continuous ground level. The result is that ground levels are higher in areas to the south and east of the Proposal.

Retaining walls are therefore used along the southern car park edge in order to absorb the transition in levels between the car park and Orchard Crescent. The result of this change in level is that some of the car park in the south eastern corner is visually hidden or has only partial views of the tops of vehicles, Refer also Plate 10.

Plate 10: View northwest from the Orchard Crescent open space.

Ground levels also rise south along Brown St towards Liverpool Rd allowing greater visual exposure of the western end of the Proposal from street level. Refer also Plate 11. The existing Capri Apartment building (at right in photo) prevents visibility of most of the Proposal to the east.

Plate 11: View north from Brown Street.

5.3 Existing Trees and Vegetation

Areas surrounding the Proposal consist of a mix of native and exotic tree and plant species of varying size, age and condition.

Street trees have been planted along Brown Street and Orchard Crescent in the areas immediately south and southwest of the Proposal. Many of the street trees are either small species such as Tristaniopsis (Water Gum) or Callistemon (Bottle Brush) or have been planted relatively recently and therefore have only a small visual presence in the landscape.

It is likely necessary to remove trees in the footpath on the northern edge of Orchard Crescent adjacent the Proposal to facilitate construction of the car park. A small tree in the eastern end of the car park will also require removal, refer also Plate 12.

Plate 12: View North-West from Orchard Crescent toward carpark.

An existing semi-mature Platanus species (Plane Tree) will also require removal due to its proximity to the construction envelope. Refer also Plate 13.

Plate 13: Plane tree (Platanus) to be removed.

Boundary screening vegetation along the northern edge of the car park that currently provides visual screening between the railway corridor and dwellings to the north and the Proposal, will also likely need to be removed due to its proximity to the Proposal.

Large, mature trees are visible to the north, east and south east in the surrounding visual catchment. These trees moderate the urban character of the area created by residential building development as well as the station and rail corridor. Refer also Plate 14.

Plate 14: View of the urban tree canopy to the east of the car park.

5.4 Surrounding Built Form

Surrounding buildings play an important part in defining the urban character of the area. The most visually overbearing are two, eight story buildings south and south east of the commuter car park, the “Capri” and “Station 2A” apartments. The buildings visually define the areas south of the Proposal, blocking views to and from beyond.

The “Capri” building at 1 Brown Street, has dwellings that face north towards Orchard Crescent and the Proposal over eight levels. The building is accessed from two entries and a car park entry from Orchard Crescent as well as gated entries to individual ground floor courtyards. Refer also Plate 15. Northern oriented dwellings and the open streetscape of Orchard Crescent promote a strong visual link between the building and the Proposal.

Plate 15:View of typical Capri apartment courtyards and vehicle entries.

The *Station 2A Apartments* on Brown Street have dwellings above street level that orientate towards the north and north east along a curved facade. These apartments therefore also have a strong visual connection with the car park site and the Proposal.

Ashfield rail station is a large, modern structure. The station and its adjacent brick boundary walls, gantries and original station buildings provide strong urban forms along the street edge and to the local area.

The station has a cantilevered roof and glazed façades that create a distinctive visual landmark for the immediate surrounding area. Its aerial concourse has direct visual connections to the Proposal through its east facing windows. Refer Plate 16.

Plate 16:View east from the Ashfield Station aerial concourse.

More traditional brick, two and three storey apartment buildings and residential dwellings line Elizabeth Street north of the railway corridor and the landscape embankment provide visual definition to the north of the Proposal, refer also Plate 17.

Residences along Elizabeth Street are at a higher ground level than the Proposal resulting direct or partial views towards the Proposal from a higher level. Views however from each dwelling are dependent on orientation, existing screening vegetation, out-buildings, garages and fencing.

Plate 17:View south between properties from Elizabeth Street.

Heritage

An understanding of the area's historic landscape is considered important in a landscape character assessment as it looks at the material remains of the past in order to help understand the present-day landscape and inform the overall landscape character.

The only heritage item within the vicinity of the Proposal is the Ashfield Railway Station Group, listed by RailCorp on their register of heritage items under s170 of the *Heritage Act 1977*. The curtilage however does not include the existing commuter car park. Refer Figure 9.

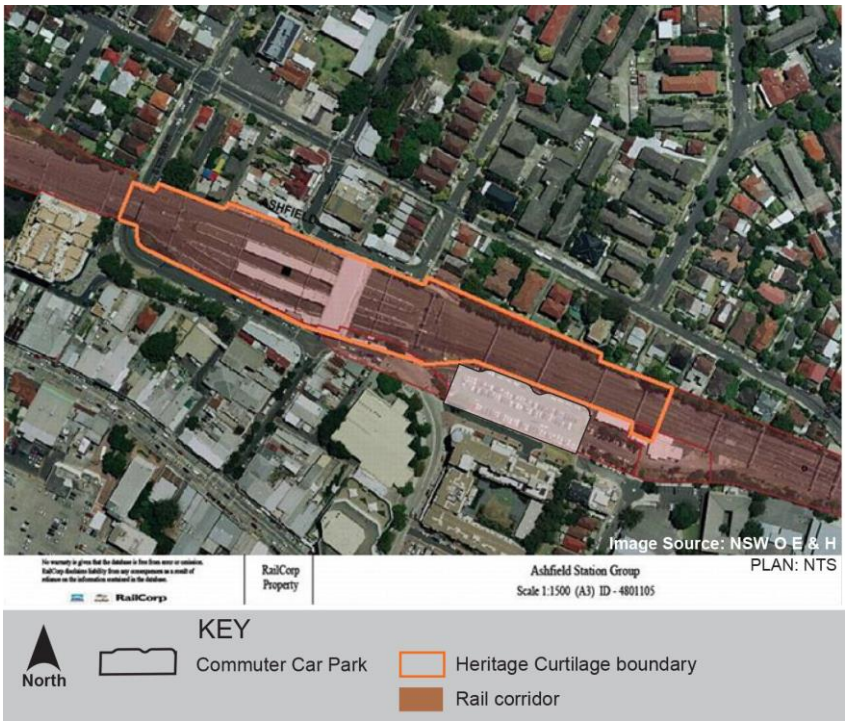

Figure 8: Ashfield Railway Station Group Curtilage

Although a large area has been included in the curtilage, this seems to be so that a number of disparate heritage elements comprising the station group are captured in the listing, including station buildings to the west and a signal box in the east. The signal box within the curtilage of the station group is located approximately 35 metres to the east of the boundaries of the commuter car park.

Three of the items within the station group have been assessed as having aesthetic heritage significance, being the former parcel office, the signal box and the Bland Street underbridge. Both the former parcel office and the Bland Street Underbridge are located near the station platforms, approximately 100 metres to the west of the commuter car park.

Given the amount of relatively recent construction between these structures and the proposed car park, there is little to no impact to the aesthetic significance of these buildings and therefore no visual impact on the Proposal. In relation to the former signal box, it is now surrounded by modern ancillary buildings which provide a buffer to the heritage listed signal box. The Proposal therefore is not anticipated to have a visual impact on the signal box.

The removal of the overhead high voltage wires and poles in the Stage 1 early works is a positive visual amenity outcome as it reduces the overall amount of competing infrastructure elements near the Bland Street underbridge and the former parcel office thereby simplifying the overall visual environment. Construction work for the Stage 1 early works will be temporary and therefore have only a short term visual impact on the existing heritage fabric.

The visual impact from the possible introduction of a GST will depend on its location, size and extent. These design parameters are not currently known however given the existing urban and industrial nature of the railway station and its corridor, it may be possible to minimise any impacts by incorporating it near the rail corridor boundary.

5.5 Landscape Character Impact

The landscape character of the site and surrounding area of the Proposal was assessed in order to determine the degree of change that would occur from the result of the development.

The overall landscape character has been assessed as being predominantly an urban character due to the amount and general density of the built elements. This includes tall and relatively

modern buildings, paved surfaces, railway corridor and related infrastructure and limited amount of tree canopy within the site and immediate surrounding area.

Because of the diversity of land uses and built form, the local area does not have a particularly cohesive character, nor does it have a character or visual qualities that would generally be highly valued by the local community. In this regard, the Sensitivity to change of the landscape character is considered to be **Low.**

The height of the Proposal is low in comparison to the apartment buildings to the south and south west and the overall scale and bulk is consistent with the apartment's railway station concourse, platforms and rail corridor to the north and west.

Furthermore, the site's existing character is already largely defined by its use as a car park and this remains unchanged, therefore the Magnitude of change introduced by the Proposal is assessed as being **Moderate-Low**.

Taking into account both the Sensitivity and Magnitude, the overall impact on the existing landscape character is assessed as being **Moderate-Low.**

Magnitude

Sensitivity

Impact Rating	**High**	**Moderate-High**	**Moderate**	**Moderate-low**	**Low**	**Negligible**
High	High Impact	High Impact	Moderate-High	Moderate-High	Moderate	Negligible
Moderate-High	High Impact	Moderate-High	Moderate-High	Moderate	Moderate	Negligible
Moderate	Moderate-High	Moderate-High	Moderate	Moderate	Moderate-Low	Negligible
Moderate-Low	Moderate-High	Moderate	Moderate	Moderate-Low	Moderate-Low	Negligible
Low	Moderate	Moderate	Moderate-Low	Moderate-Low	Low	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Table 2: Landscape Character Impact Assessment

6 Visual Impact Assessment

The availability of views to a new element in the environment is a prerequisite for visual impact. The severity of visual impact is determined by the relative importance of such views in the context of the view shed and the value placed on the landscape in and around the site where the element is placed.

A qualitative assessment of the visual impact for this project was undertaken. The process aims to be objective and describe any changes factually. However, rating these changes requires subjective judgements to be made. The conclusions of this assessment therefore combine objective measurement and subjective professional interpretation.

6.1 Project Visibility

The visual catchment of a site is the extent of the landscape that can be viewed from the site and, by extension, the extent of locations from which the site can be seen. Landscape vegetation, land use and landform all play large roles in determining the visual catchment.

An initial desktop survey was undertaken to identify and consider possible representative viewing points from which the Proposal may be visible. A field survey was then conducted to 'ground truth' the desktop survey. Ground truth means to check and confirm decisions made in the desktop survey by visiting locations and confirming that the conclusions are generally as anticipated. This might also include discounting expected views and/or adding others.

LiDAR digital imagery was then used to create a Visual Envelope Map (VEM) showing areas of land within which a development is theoretically visible.

LiDAR is specialised Radar, Light Detection and Ranging (LiDAR) data and satellite imagery which depict height information, vegetation and other special conditions and features. LiDAR sensors use light to profile ground contours and also the elevation of buildings, trees, and other objects on the ground. From LiDAR data, depictions of multiple surfaces can be generated – for instance, the tree canopy surface relative to the ground surface.

Figure 10 is an indicative Visual Envelope Map (VEM) for the Proposal. It shows the potential visual catchment of the Stage 2 proposed car park based on existing topography, buildings and vegetation. The VEM gives an indication of potential views helping to inform the selection of representative viewpoints for assessment.

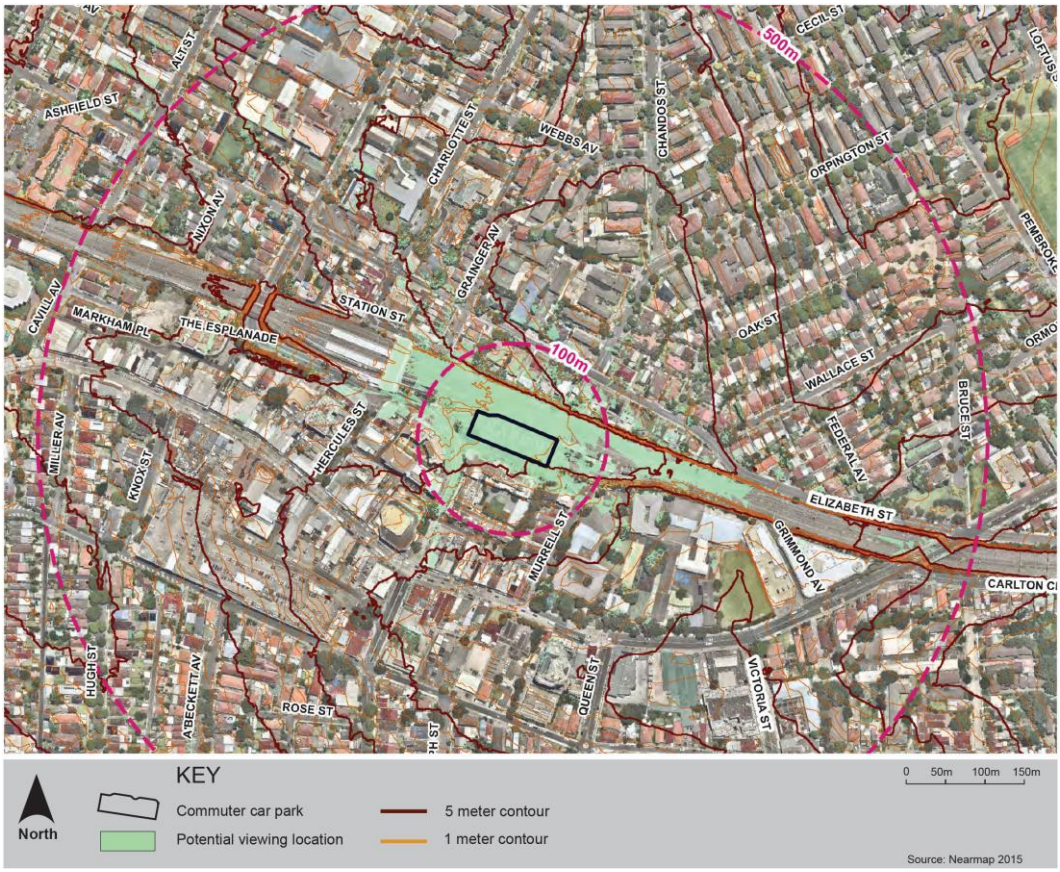

Figure 9: Visual Envelope Map (VEM).

The Visual Envelope Map (VEM) represented by figure 10 is based on a ground plus two-storey car park with a roof balustrade level of RL36.35. The VEM indicates that the primary visual envelope is limited to view opportunities predominantly within 100 metres of the Proposal due to;

- Buildings to the south and southwest
- The train station to the west
- Trees, vegetation, buildings and landform to the north
- Trees and existing vegetation to the east

6.2 Representative Viewpoints

The viewpoints selected in this assessment are intended to represent selected views and not every possible view of the Stage 2 Proposal. Figure 11 indicates the location of the selected viewpoints from which assessments of visual impacts were made.

The viewpoints chosen are representative and aggregate anticipated visual impacts from dwellings. Furthermore, north facing views from the Capri building were divided between upper and lower floors due to the varying nature of visual impacts expected and types of views expected from different levels.

Views from the rear of the Elizabeth Street dwellings are also aggregated into a single representative viewpoint. Viewpoint assessments from view locations V02 and V03 are assumed based on the available information as access to private dwellings is not included as part of this visual assessment scope. In this regard, some assumptions were made with regard to the anticipated visual impacts based on field assessments.

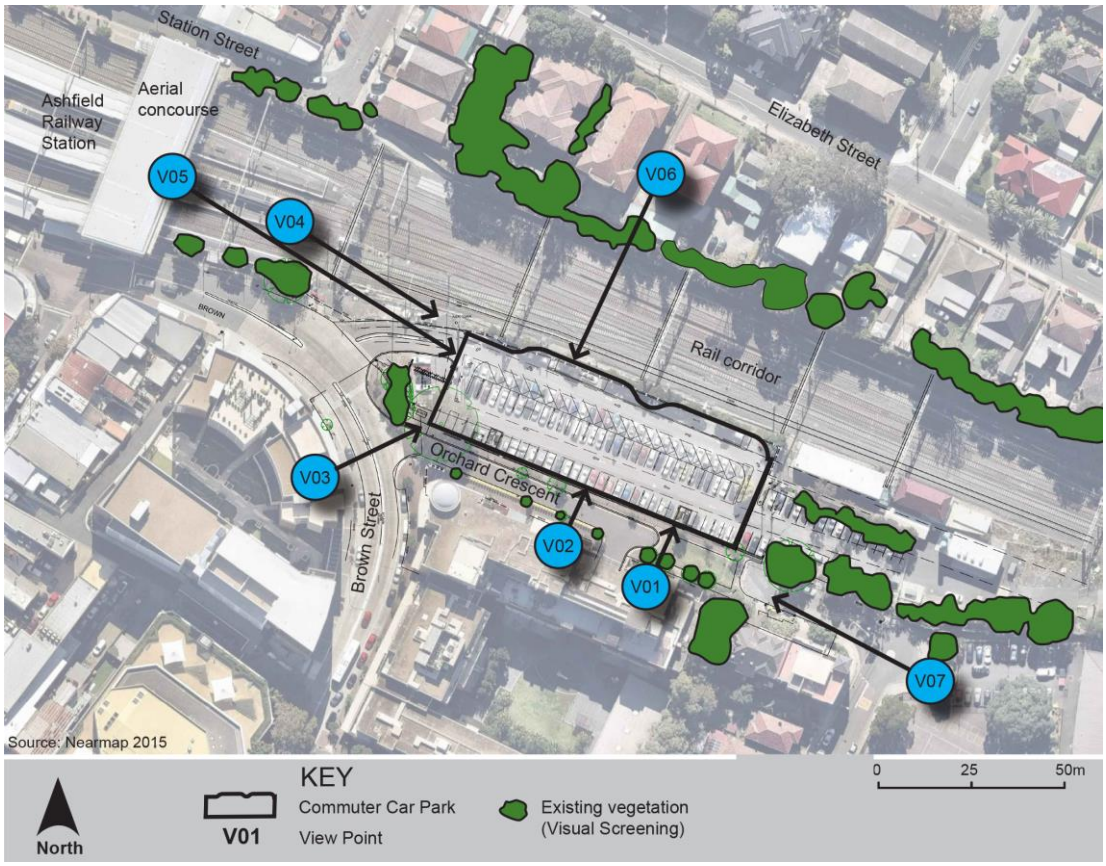

Figure 10: Representative Viewpoints

6.3 Viewpoint Assessment

The extent of visual impact of the Proposal is largely determined by the visual prominence of the Proposal, the extent the Proposal reduces pre-existing views and the number and distance of visual receivers likely to be impacted by any change in the visual landscape character of the site post development.

In making a judgement about what is a high impact, the following points were taken into consideration:

- The sensitivity to changes in views and visual amenity
- Large-scale changes which introduce new, non-characteristic, discordant or intrusive elements into a view

The assessment of permanent visual impacts associated with the Proposal on the representative viewpoints are summarised in Table 3 below. For purposes of clarity, the assessment reviews the impacts from the Stage car park proposal only. Stage 1 visual impacts are discussed in Section 3.1.

Table 3: Visual Impact Assessment			
V01 Capri Apartments Ground level to level three			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
This viewpoint is representative of visual receivers at the Capri development entry and of lower level north-facing residences with potentially long duration views towards the Proposal. Views are generally from internal living spaces, courtyards and balconies at a distance of approximately 30 metres. Existing views are of an urban landscape characterised by residential buildings, vehicles, the rail corridor, trains and other urban infrastructure. Sensitivity therefore is considered to be Moderate-Low. The Proposal is a new, two-story, functional use structure that replaces an existing at-grade car park. The Magnitude rating is therefore considered to be Moderate.	Moderate	Moderate-Low	Moderate
Construction Tree removal both within the project boundaries and on Orchard Crescent will allow open and unobstructed views of the site. There will be either direct or indirect views of site security fencing and signage and possibly material and earth stockpiles and heavy machinery. Viewers in residences above ground level may also see cleared and excavated ground prior to construction of the structure and scaffolding as the project progresses through the construction of the car park structure. Construction and delivery vehicles will result in moderate visual impacts if they access the site from Orchard Crescent. Visual receivers in residences may also incur a loss in visual amenity as a result of the introduction of site security lighting. Removal of existing telegraph poles and wires, flood lighting and existing boundary fencing would be undertaken in the Stage 1 early works and are considered a positive, however relatively minor, improvement to the existing visual amenity.			
Operation The Proposal introduces a new element in the foreground of the view. Potential visual impacts include direct or partial views of the southern facade of a three-storey parking structure including the stair wells and a lift shaft, moving and stationary vehicles and people using the facility which will replace longer distance views of the railway corridor, trains, vegetated embankment and dwellings north of the rail corridor. The wider view of the urban landscape being replaced by a closer view of a car park structure is considered to be a reduction in visual amenity. Visual receivers in residences may also incur a loss in visual amenity as a result of the introduction of security lighting at night.			

Figure 11: Artist impression looking north from Capri Apartment Entry.

Note: The height and location of the proposal has been established by referencing the height of the existing boundary palisade fence which is assumed to be 1.8 to 2.0 meters above the Orchard Crescent footpath level. The image is intended only to give a general indication of the view.

Table 3: Visual Impact Assessment			
V02 Capri Apartments Levels four and above			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
The viewpoint is representative of visual receivers at the Capri development upper level north-facing residences with potentially long duration views towards and over the Proposal. Views are direct from balconies as well as indirect or partial views from internal living spaces at a distance of approximately 30 metres or more. Existing views are of an urban landscape characterised by residential buildings, vehicles, the rail corridor, trains and other urban infrastructure. Sensitivity therefore is considered to be Moderate-Low. The Proposal is a new, two-story, functional use structure that replaces an existing at-grade car park. The more elevated views of visual receivers take in wider and more distant views of the landscape therefore the Magnitude rating is reduced to Low.	Low	Moderate-Low	Moderate-Low
Construction Potential visual impacts are greatest from external balconies and north facing windows where they are open and direct of all aspects of the construction. The removal of telegraph poles, flood lights and overhead wires will contribute to a minor improvement in visual amenity initially. As the project progresses through construction, views of open excavated ground and ground works would be replaced predominant by views of scaffolding surrounding the exterior however little, if any, of the proposal's construction will occupy views from internal residences until construction of the upper levels of the proposal.			
Operation Visual impacts from higher level residences as views to the surrounding areas will largely be maintained with only the top of the roof structure, lift shaft and vehicles visible. Visual receivers in residences may incur a loss in visual amenity as a result of the introduction of site security lighting on the roof level at night. Existing views of the wider landscape are generally maintained and the Proposal will only introduce a relatively low loss of visual amenity of existing views.			
Please note: Photographs from private residences in V02 have not been taken as they are not included as part of the scope of this report.			

Table 3: Visual Impact Assessment			
V03 Station 2a Residences and ground level commercial units			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
The viewpoint is represents a number of visual receivers both in upper level residences and in ground level commercial spaces with potentially long duration views towards the northeast. Views of the Proposal are possible from internal living and working spaces and external balconies at a distance of approximately 50 metres or more. Current views include; Brown Street, a car park and an urban landscape characterised by apartment buildings, vehicles, trains, the rail corridor and urban infrastructure. Sensitivity therefore is considered to be Moderate-Low. The Proposal is a new, two-story, functional use structure that replaces an existing at-grade car park. The Magnitude rating is therefore considered to be Moderate.	Moderate	Moderate-Low	Moderate
Construction Viewers will be able to see directly into the construction site. A majority of views are from elevated positions with open views of the site security fencing and signage, material and earth stockpiles. A group of existing Bottlebrush trees at the corner Orchard Crescent and Brown Street will assist in screening views from ground and lower level residences of the southwest corner. Viewers in residences above ground level may also see cleared and excavated ground prior to construction of the structure and scaffolding as the project progresses through the construction of the car park structure. Construction and delivery vehicles accessing the site may also create a visual impact depending on frequency, time of day, type of vehicle and site access point. Visual receivers in residences may also incur a loss in visual amenity as a result of the introduction of site security lighting. Removal of existing telegraph poles and wires, flood lighting and existing boundary fencing would be undertaken early in the project and are considered a positive, but relatively minor, improvement to the existing visual amenity.			
Operation The Proposal introduces a new element in the foreground of the view. Potential visual impacts include direct or partial views of the southern and western facades of a three-storey parking structure including the western stair wells and lift shaft and vehicle entry, moving and stationary vehicles and people using the facility. Ground and lower level views of the Proposal will partially obscure longer distance views of the railway corridor, trains, vegetated embankment and dwellings north of the rail corridor. Wider views of the landscape from upper level residences, above level three, are preserved and lower level views of the rail corridor will be buffered resulting in a minor improvement in visual amenity. Visual receivers in residences may also incur a loss in visual amenity as a result of the introduction of security lighting at night.			
Please note: Photographs from private residences in V03 have not been taken as they are not included as part of the scope of this report.			

Table 3: Visual Impact Assessment			
V04 Ashfield Train Station aerial concourse			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
The viewpoint is indicative of views from the Ashfield train station elevated, aerial concourse. Visual receivers are primarily users of the station with only temporary views as well as station workers with longer duration views. Gantries, platforms, trains and the rail activities occupy the foreground of the view while an eight story residential development is also a prominent visual element. Sensitivity of this view is considered to be Low. The Proposal replaces an existing at-grade car park with a two-storey car park structure. The overall bulk and scale of the Proposal is much less than the adjacent apartment development in the view. Magnitude is therefore considered to be Low.	Low	Low	Low
Construction During construction, there will be partially obstructed views of construction activities which are in the middle ground of the view. Viewers are elevated above the site and so will be able to see most aspects of the construction and related activities such as; site security fencing, stockpiling of materials, plant and machinery, site sheds, heavy machinery including; dump trucks, excavators, cement mixers, flatbed trucks, cranes as well as other vehicles supplying materials to the site, machinery and workers.			
Operation From this view, the western facade and vehicle entry and northern facade will be visible as well as the lift well above the rooftop level. The proposal is in the middle ground of the view and views are partially obstructed by the existing rail gantries in the foreground. The overall bulk and scale of the Proposal will be visible however the type of development is visually consistent with adjacent rail and civic precinct uses. At night there will be additional lighting created by the Proposal however light levels will be seen in the context of other lighting from streets, residences and the rail station. The Proposal therefore presents only a small loss of visual amenity in the view.			

Figure 12: Indicative view north from Station concourse.

Note: The height and location of the proposal has been established by using references such as the approximate location of the northern and western car park boundaries and other vertical elements such as the Capri building to the south. The image is intended only to give a general indication of the view.

Table 3: Visual Impact Assessment			
V05 Train Station platform eastern end			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
The viewpoint represents views from the eastern ends of the Ashfield Station central platforms at a distance of approximately 50-70 meters. Visual receivers are primarily users of the station and platforms as well as station workers with longer duration views. Gantries, platforms, trains and the rail infrastructure occupy the foreground of the view while an eight story residential development is also a prominent visual element. Sensitivity of this view is considered to be Low. Existing views are of a high use rail corridor, an eight storey apartment development with tree canopies in the background of the view. The Proposal is a new two-story structure occupying a generally large portion of the mid-foreground view. Magnitude is therefore considered to be Low.	Low	Low	Low
Construction Views of the early works will be of the site security fencing and signage positioned near the northern and western boundaries and possibly also of the site vehicle access if entering off of Brown Street. Views may also be evident of material and earthwork stockpiles depending on their location as well as views of scaffolding as the project progresses through the construction of the car park structure.			
Operation From this location, views will be of the western vehicle entry and facade and the northern facade although partially obstructed by the existing rail gantries, rail infrastructure and temporarily by trains. The Proposal will become a prominent visible element in the view however the type of development is visually consistent with adjacent rail infrastructure use. Views of the Capri development will be partially obscured by the Proposal. This could be considered as having a neutral overall visual impact on the amenity of the view however the loss of the ability to see existing trees in the background of the view is considered to contribute to a minor loss of visual amenity. At night there will be additional lighting created by the Proposal however light levels will be seen in the context of other ambient lighting from streets, surrounding buildings and the rail station.			

Table 3: Visual Impact Assessment			
V06 Elizabeth Street (Southern side)			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
The viewpoint is indicative of visual receivers in south facing properties along the southern side of Elizabeth Street with potentially long duration views towards the Proposal from internal living spaces, balconies, rear and side yards. There are direct and indirect views of the Proposal possible at distances beyond 60 metres. Views however may be partially screened by existing trees, vegetation, fences and/or other structures. Sensitivity is considered to be Moderate-Low due to the urban nature of the view including a rail corridor with trains, views of the existing car park and eight story residential buildings. The overall bulk and height of the proposal is generally lower than nearby buildings also in the view. Magnitude is therefore considered to be Low.	Moderate	Moderate-Low	Moderate-Low
Construction Potential visual impacts will be on views from external balconies and north facing windows where they are open and direct of all aspects of the construction. The removal of telegraph poles, flood lights and overhead wires will initially contribute to a minor improvement in visual amenity. Removal of trees and vegetation, within the project boundaries and along the northern boundary edge will increase views of the site. As the project progresses through construction, views of open excavated ground and ground works would be replaced predominant by views of scaffolding surrounding the exterior. During construction there would be additional light and heavy vehicular traffic seen in the background of this view. At night there will be security lighting of the site which might lead to a loss of visual amenity depending on location and extent.			
Operation There will be open or partial views of the northern facade the eastern lift shaft, the rooftop, moving and stationary vehicles and people using the facility. The Proposal will become a prominent visible element in the view however the type of development is visually consistent with adjacent rail infrastructure and existing use as a car park. Views of lower level residences in the Capri development and Brown Street will be obscured by the Proposal. This however is not considered to have either a positive or negative impact on visual amenity. At night there will be additional lighting created by the Proposal however light levels will be seen in the context of other ambient lighting from streets, surrounding buildings and the rail station.			

Figure 13: Indicative view east from Elizabeth Street through apartments

Note: The height and location of the proposal is generalised in the view and assumed using existing buildings as reference points. The image is intended only to give a general indication of the view.

Table 3: Visual Impact Assessment			
V07 Ashfield Public School entry and grounds			
Description	Magnitude of Visual Effect	Sensitivity of the viewpoint	Overall Visual Impact
Visual receivers are students, staff and visitors to the school using the school grounds and school entry from at a distance greater than 70 metres. Views will be only of short duration and only of the southern edge as views are blocked by existing trees and/or buildings. Because of the short term nature of the views, distance and lack of visual connection due to tree cover, Sensitivity is considered to be Low. The Proposal is lower than adjacent developments in the left of the view as well as existing surrounding vegetation. Views of the Proposal are generally at oblique angles. The Magnitude rating of the Proposal is therefore considered to be Low.	Low	Low	Low
Construction Views of the construction are limited by the existing vegetation with only the southern edge visible. Views will initially be of security fencing and signage however views of scaffolding will be possible as the project progresses through construction of the structure.			
Operation Views from the school ground entry are of the southern facade including the eastern stair well and western lift and stair well. The new structure will form a prominent visual edge to Orchard Crescent particularly if existing trees on Orchard crescent are removed. The Proposal will prevent a visual connection with the train station although this is considered only a minor visual impact. The likely visual impact from this location is Low due to there being only a minor deterioration in the amenity of the existing view.			

Figure 14: Indicative view south from Ashfield Public School entry

Note: The height and location of the proposal has been established by using site references such as existing trees along the southern car park boundary. The image is intended only to give a general indication of the view.

6.4 Summary of Visual Impacts

	Sensitivity	Magnitude	Overall Score
V01	Moderate	Moderate-Low	Moderate
V02	Low	Moderate-Low	Moderate-Low
V03	Moderate	Moderate-Low	Moderate
V04	Low	Low	Low
V05	Low	Low	Low
V06	Moderate	Moderate-Low	Moderate-Low
V07	Low	Low	Low

Table 3: Summary of Visual Impact Assessment

The Proposal will further contribute to an increasing urban character of the Ashfield commercial and transport precinct however its use as a car park and its bulk and scale are generally compatible within an area of mixed uses and an urban, inner city character.

There are few, if any visual impacts beyond 100 metres, therefore the majority of visual receivers in the wider area are not impacted by the Proposal. This is largely due to a contained view catchment area that limits external views of the Proposal.

The study has determined that the Proposal will have a mix of primarily local visual impacts ranging from Moderate to Low depending on receiver type and location.

6.4.1 V01 Capri Apartments Ground Level To Level Three

The most considerable visual impact will be on the ground, first and second floor dwellings of the Capri development to the south. Visual receivers have been assessed as being of a Moderate rating as visual receivers are residents with potentially long term views of the southern facade of the Proposal. Although the existing visual environment is not of high aesthetic value due to its views of the car park and rail corridor, the Proposal will introduce a large, new visual element in the view, curtailing wider views of areas to the north.

6.4.2 V02 Capri Apartments Levels four and above

Views from upper level apartments in the Capri are expected to have Moderate-Low visual impacts as views of the wider landscape are generally maintained and the type, scale and appearance of the Proposal is generally concordant with existing views of an urban area.

6.4.3 V03 Station 2a Residences and Ground Level Commercial Units

A moderate visual impact ratings will occur at both upper level residences and at ground level commercial spaces. Although employees of the office space will view the proposal intermittently and are relatively unaffected, greater visual receivers are residents with potentially long term views of the southern-western corner of the Proposal.

6.4.4 V04 & V05 Train Station platform

Low visual impact ratings will occur at the Ashfield train station where visual receivers are temporary. Views from the aerial concourse are considered to be of a low aesthetic value as they

consist of strong urban elements such as the rail corridor and gantries in the foreground and large, residential development in the background.

6.4.5 V06 Elizabeth Street (Southern side)

Visual receivers in properties along the southern side of Elizabeth Street are assessed as being Moderate-Low. Existing views are of an urban setting that includes the existing car park, rail corridor, trains, station, eight storey buildings, roads and landscape. Although the Proposal replaces an existing car park with the same use, the new car park will introduce a more prominent visual element in the view.

6.4.6 V07 Ashfield Public School entry and grounds

A Low visual impact rating is attributed to the Ashfield Public School entry as the school currently has little visual connection with the car park site and visual receivers are only temporary. Moreover, there is larger scale development in closer proximity to the school.

6.4.7 Early Works & Construction

Option 2b of the early works is expected to have a low to negligible visual impact.

Construction will be temporary but may potentially create visual impacts on residences to the north and south depending on placement and extent of any security lighting, equipment, sheds and the site access point(s). Construction activities should therefore seek to limit these impacts wherever possible during the course of the entire construction period.

7 Overshadowing

7.1 Overshadowing

Overshadowing analysis has been undertaken to determine the extent to which the proposed development will affect neighbouring buildings and structures in terms of the distance and direction of the shadow it casts. Shadow analysis has been addressed for both summer and winter solstice, and also in the Autumn Equinox, to provide a thorough interpretation:

1. March 9:00am, 12:00pm and 3:00pm (Autumn Equinox)
2. June 9:00am, 12:00pm and 3:00pm (Winter Solstice)
3. December 9:00am, 12:00pm and 3:00pm (Summer Solstice)

The shadow analysis diagrams overleaf illustrate the influence of the proposed development, which is summarised below, and further in Table 5:

- March: no notable impact on surrounding development
- June: Minimal to moderate impact on the Capri Apartm.ents. Most notable is at 9:00am where the car park would cast a shadow onto the north face of the building.
- December: no notable impact on surrounding development

	Month & Time	**Period**	**Influence**
1	March 9:00am	Autumn Equinox	None
2	March 12:00pm	Autumn Equinox	None
3	March 3:00pm	Autumn Equinox	None
4	June 9:00am	Winter Solstice	Moderate
5	June 12:00pm	Winter Solstice	Moderate
6	June 3:00pm	Winter Solstice	Minimal
7	December 9:00am	Summer Solstice	None
8	December 12:00pm	Summer Solstice	None
9	December 3:00pm	Summer Solstice	None

Table 4: Summary of overshadowing analysis.

With respect to overshadowing, the proposed development will have an overall minimal influence on adjoining development. There will be a moderate influence in June where the proposed car park will cast a shadow on the road/open space to the north of the Capri Apartment complex.

Changes in Solar Access to the site resulting from the proposed development will be minimal, due to the overall low height of the complex, and the articulated nature of the car parking facilities façade. During June, when overshadowing is the greatest, solar access will be slightly reduced.

7.2 Shadow Diagrams

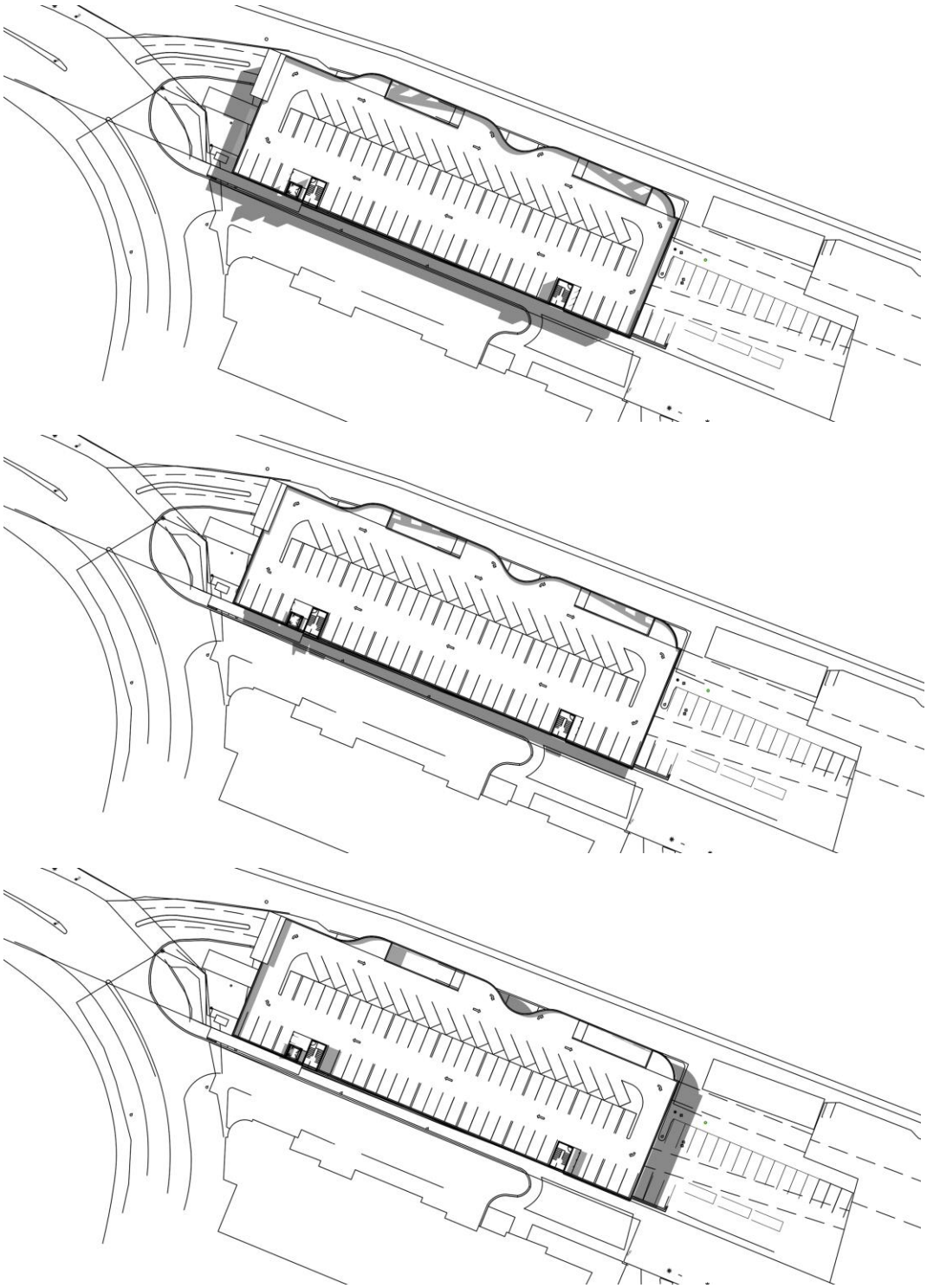

Figure 15: Autumn Equinox Overshadowing in March, 9:00am, 12:00pm and 3:00pm.

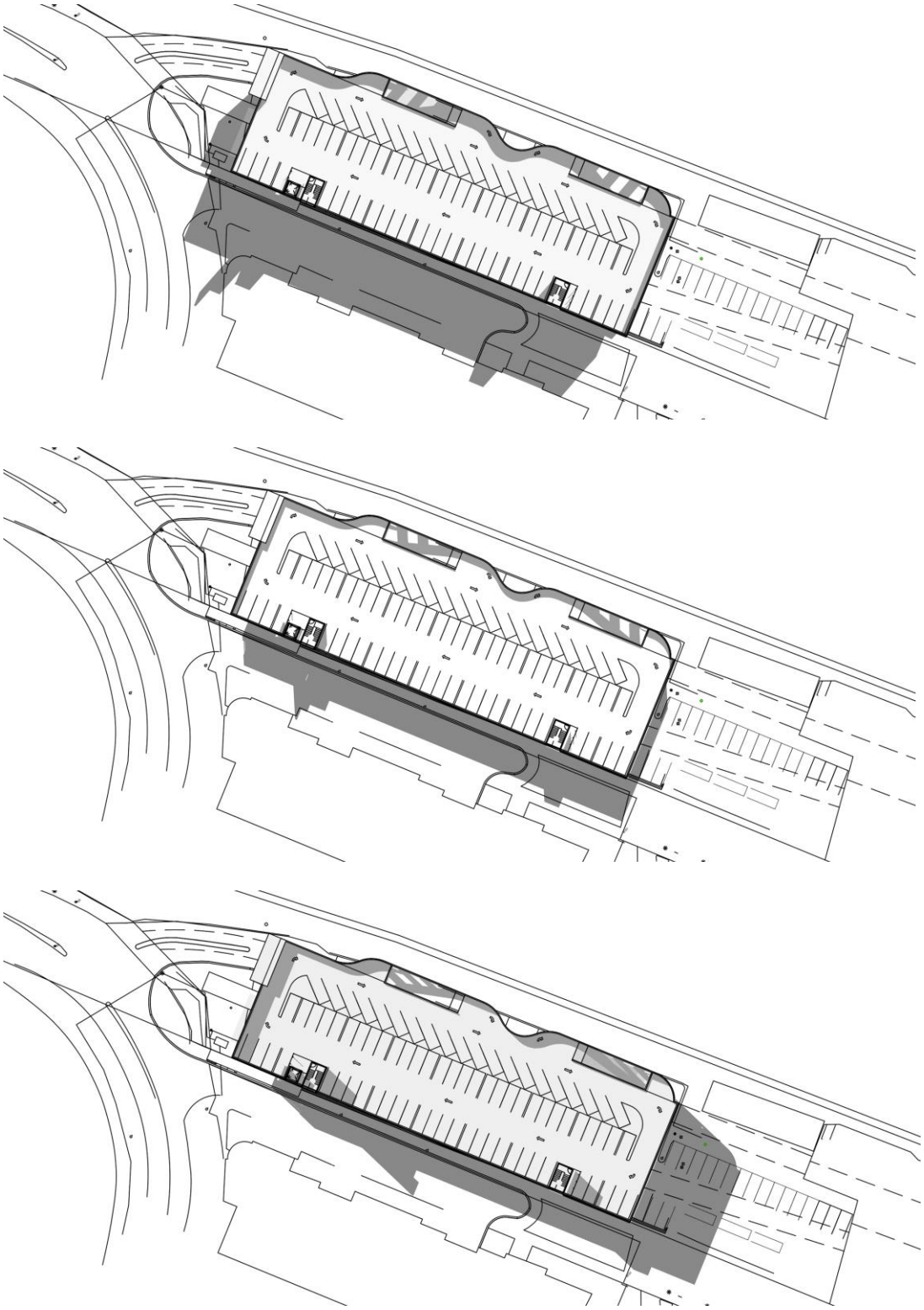

Figure 16: Winter Solstice Overshadowing in June, 9:00am, 12:00pm and 3:00pm.

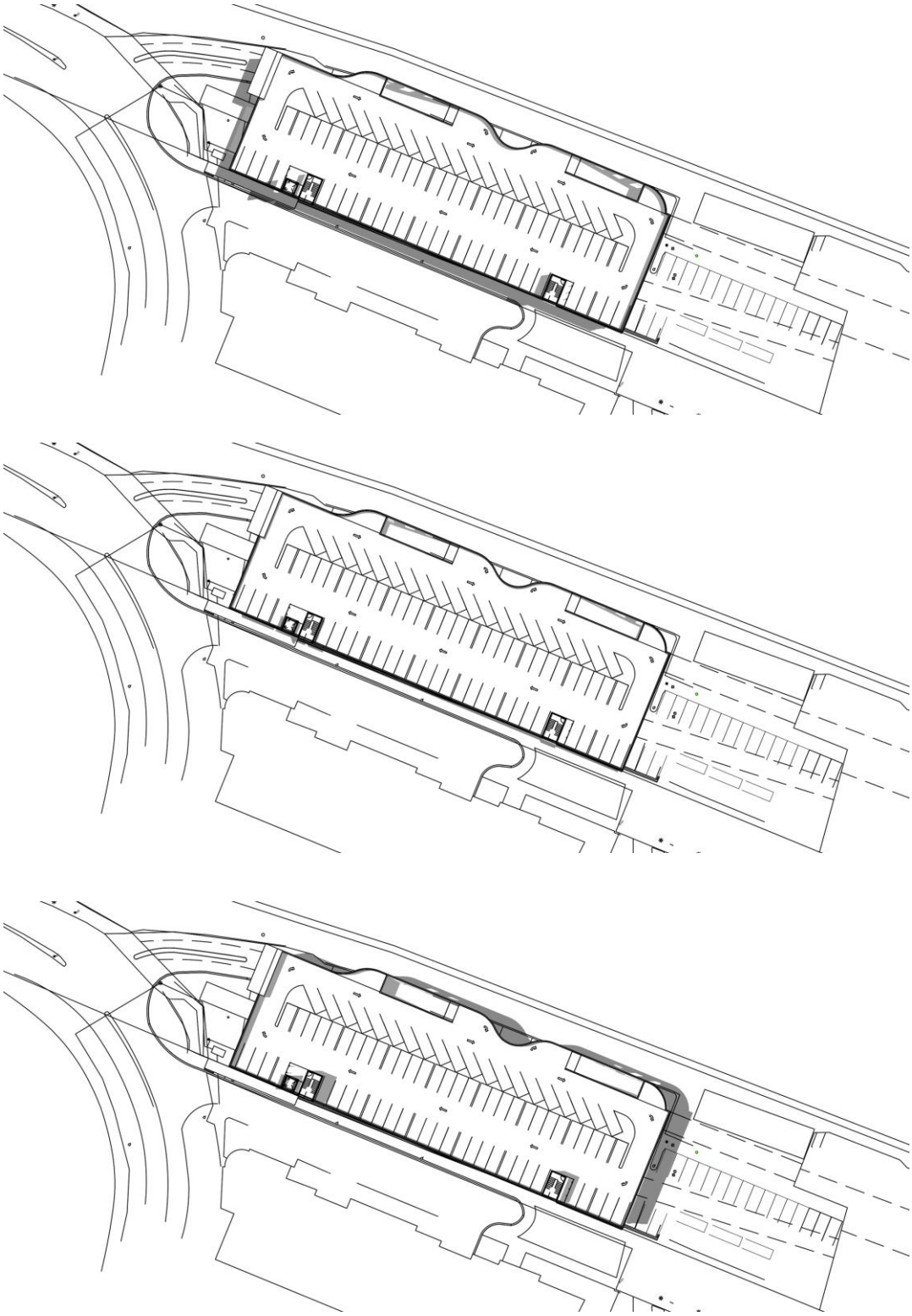

Figure 17: Summer Solstice Overshadowing in December, 9:00am, 12:00pm and 3:00pm.

8 Mitigation Measures and Recommendations

The following mitigation measures and urban design recommendations are based on the findings in this report. Mitigation measures are proposed in response to the Moderate and Moderate-Low assessment ratings in order to help moderate visual impacts of the Proposal for both the construction and operational stages.

Design recommendations relate to the findings of the urban design issues discussed in this report with the aim of meeting the following key urban design objectives;

- Integration of the car park with its current and future urban context
- Creation of a high quality, positive addition to the public domain

8.1 Mitigation Measures

The following measures may help in reducing the Moderate-Low assessment ratings if successfully implemented:

- Utilise finishes and materials of a high standard complementary to the existing locality and landscape
- Minimise reflective surfaces with a preferred use of muted/less intrusive colours particularly regarding the northern and western facades
- Where feasible, use trees and/or other screening vegetation to assist in reducing the visual prominence of the structure particularly along the northern and southern facade
- Undertake investigations to better understand overshadowing impacts particularly from the lift structure. Where practicable, address shadowing impacts if they impact on residents' amenity
- Prepare lighting models for the proposed lighting of the car park during its operation. Develop lighting that addresses Australian Standards AS4282 *Control of the Obtrusive Effects of Outdoor Lighting*. Ensure that all light spill is contained within the boundary limits of the car park wherever possible
- Locate the GST in a location that will be the least visually obtrusive

8.2 Construction

- Retain and protect existing trees and vegetation wherever practicable
- Construction and delivery vehicles to avoid using Orchard Crescent and instead access via the current car park entry off Brown Street
- Minimise or eliminate light spill, wherever possible, on adjacent properties
- The site to be kept tidy and well maintained, including removal of all rubbish at regular intervals. There should be no storage of materials beyond the construction boundaries
- Locate site sheds away from residences to avoid disturbance
- Graffiti to be removed during construction in accordance with TfNSW's standard requirements
- Work/site compounds should be screened, with shade cloth or similar material (where necessary) to minimise visual impacts on key viewing locations
- Temporary hoardings, barriers, traffic management and signage to be removed when no longer required

- Restore any areas that are impacted by construction with appropriate landscape treatments

8.3 Operation

- Implement ongoing maintenance and repairs of the car park and any other elements that form part of the development
- Replace damaged or missing elements as required
- Undertake regular landscape maintenance works
- Address vandalism, such as graffiti, by removing it in a timely manner

8.4 Design Recommendations

- Although views from residences to the north and south of the Proposal have been assessed as Moderate, there is likely to be little opportunity to screen views using trees or vegetation. It is therefore a recommendation of this report to provide a higher standard of design resolution to these facades as well as the western facade
- In light of the above recommendation, further consideration should be given to the design articulation of the northern facade in order to create greater consistency between all façade treatments including their materials, forms, size of openings and screening elements which help to visually unify the structure
- Further consideration should be given to the design articulation of the southwestern pedestrian canopy as a design opportunity that provides a visual connection between the Proposal and the train station
- Consider further safety measures for pedestrians and cyclists crossing road intersections at Orchard Crescent and Brown Street
- Enhance the public spaces relating to the car park, such as the area west of the car park given its direct visual relationship with the Proposal and Brown Street. Consider its use as an urban plaza/arrival point and meeting place that incorporates public art, seating, cycle parking and shade planting
- Consider integrating the covered bicycle parking within the car park as the elements currently appear as two distinct elements. Alternatively, consider incorporating the bicycle parking into the redesign (if any) of the plaza space as mentioned above

  In light of the above recommendation, the quantity of bicycle parking appears excessive. User demand studies should be sought to determine the amount of bicycle parking required.

9 Reference Documents

1. ARUP/Design Inc, February 2015, Appendix D, 30% Concept Design Report.
2. ARUP/Design Inc, 2015, Design drawings package, Ashfield_TAP_0770_ binder Rev B_150218.
3. Ashfield Local Environmental Plan 2013, Clause 4.3A (2) and Clause 4.3A (3), Current version for 17 July 2015 to date (accessed 7 October 2015).
4. Ashfield Local Environmental Plan 2013, Land Zoning Map – Sheet LZN_001, (accessed 7 October 2015).
5. Ashfield Local Environmental Plan 2013, Height of Buildings Map – Sheet HOB_001, (accessed 7 October 2015 at 09:50).
6. Google Maps, 2015, Ashfield, Sydney, viewed 14 September 2015.
7. Landscape Institute and Institute of Environmental Management & Assessment, (2013) Oxon, UK, Guidelines for Landscape and Visual Impact Assessment Third Edition.
8. Nearmaps, 2015, Sydney, Nearmaps, viewed 14 July 2015.
9. NSW Department of Urban Affairs and Planning, Crime prevention and the assessment of development applications, Guidelines under section 79C of the Environmental Planning and Assessment Act 1979, 2001.
10. Transport for NSW, Sydney's Walking Future, Connecting people and places, New South Wales Government, 2013.
11. Roads and Maritime Services, 2013, EIA-N04 Environmental Impact Assessment Practice Note, Guideline for Landscape Character and Visual Impact Assessment.