Transport for NSW

Yagoona Station Upgrade

Landscape Character and Visual Impact Assessment

May 2021

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Appendices

Appendix A – Photomontages

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Terminology

Term	Definition
Impact	The effect of a proposal, which can be adverse or beneficial, when measured against an existing condition.
Landscape character	The combined quality of built, natural and cultural aspects that make up an area and provide its unique sense of place.
Landscape character zone	An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately adjacent.
Magnitude	The measurement of the scale, form and character of a development proposal when compared to the existing condition. In the case of visual assessment this also relates to how far the proposal is from the viewer. Combined with sensitivity, magnitude provides a measurement of impact.
Proposal	The construction and operation of the Yagoona Station Upgrade.
Proposal area	The area within which all the Proposal construction and operational elements will be contained within.
Sensitivity	The sensitivity of a landscape character zone or view and its capacity to absorb change. In the case of visual impact this also relates to the type of viewer and number of viewers. Combined with magnitude, sensitivity provides a measurement of impact.
Study area	Consists of land in the vicinity of, and including, the Proposal site. The study area is a wider area surrounding the proposal site as defined in this assessment, including land that has the potential to be indirectly impacted by the Proposal.
View	The sight or prospect of a landscape or scene.
Viewpoint	A selected location of view representing a visual receiver.
Viewshed	The view of an area from a specific vantage point.
Visibility	The state or fact of being visible or seen.

Abbreviations

Abbreviations	Definition
AHD	Australian Height Datum
CBD	Central business district
CCTV	Closed-circuit Television
DCP	Development Control Plan
DDA	*Disability Discrimination Act 1992*
DSAPT	*Disability Standards for Accessible Public Transport 2002*
GHD	GHD Pty Ltd
GIS	Geographic Information System
LAP	Local Area Plan
LCZ	Landscape Character Zone
LEP	Local Environmental Plan
LGA	Local government area
LVIA	Landscape and Visual Impact Assessment
PA system	Public Address system
REF	Review of Environmental Factors
TAP	Transport Access Program
TGSI	Tactile ground surface indicator
Transport for NSW	Transport for New South Wales
ZTV	Zone of Theoretical Visibility

1. Introduction

1.1 Purpose of this report

This Landscape and Visual Impact Assessment (LVIA) has been prepared by GHD Pty Ltd (GHD) on behalf of Transport for New South Wales. The LVIA investigates the impacts related to the proposed accessibility upgrades associated with Transport for NSW's Transport Access Program (TAP) at Yagoona Station (the Proposal).

The purpose of this report is to assist in the determination of the Proposal by undertaking a landscape and visual impact assessment as part of the overall Review of Environmental Factors, with a view to making recommendations for managing identified landscape and visual issues that may arise from the Proposal.

This LVIA assesses the landscape character and visual impact of the proposed upgrade of Yagoona Station by Transport for NSW. This includes effects of both construction and operational stages of the Proposal.

The report comprises the following:

- an understanding of the landscape and visual attributes of the study area
- identification of sensitivities in relation to landscape and visual change associated with the Proposal
- assessment of potential landscape and visual impacts associated with the Proposal
- provision of recommendations for managing identified landscape and visual impacts arising from the Proposal.

1.2 Overview of the Proposal

The NSW Government is committed to facilitating and encouraging the use of public transport, such as trains, by upgrading stations to make them more accessible, and improving interchanges around stations with other modes of transport such as bicycles, buses, and cars.

Yagoona Station does not currently meet key requirements of the *Disability Standards for Accessible Public Transport* (DSAPT) or the *Commonwealth Disability Discrimination Act 1992* (DDA). The Yagoona Station concourse and platforms are non-compliant and do not facilitate access for people with a disability, reduced mobility, parents/carers with prams or customers with luggage. There are no lift facilities providing access to the platform, there are no family accessible and ambulant amenities at the station and the tactiles at the station require upgrade to include directional tactiles and compliant contrast with the new surfaces.

The Proposal is in the suburb of Yagoona, within the City of Canterbury-Bankstown local government area, approximately 20 kilometres south-west of Sydney's Central Business District. Yagoona Station is situated just north of the Hume Highway and Yagoona activity centre. The adjoining railway stations are Birrong Station is 1.5 kilometres to the north-west and Bankstown Station is 1.5 kilometres to the south-east.

The station is on the Bankstown Line, with one island platform where Platform 1 (southbound) provides services to Central and the City Circle and Platform 2 (northbound) provides services to Lidcombe and Liverpool.

The Proposal involves the upgrade of Yagoona Station as part of the Transport Access Program, designed to improve accessibility and amenities for customers.

The key features of the Proposal are summarised as follows:

- new station entry concourse from the Hume Highway including a new lift and stairs to provide access to the station platforms
- new station building on the platform for all station facilities, including a new family accessible toilet and new male and female ambulant toilets
- additional platform canopies to provide continuous cover from the new lift and stairs to the boarding assistance zones on both platforms
- two new accessible parking spaces in the Breasley Place commuter car park and upgrade of the two accessible parking spaces in the Ritchie Road commuter car park
- upgrade of footpaths from both commuter car parks to the station entrance
- new kiss and ride bay on the Hume Highway
- platform regrading and resurfacing
- relocating existing bike hoops
- ancillary work including service upgrades and/or relocation, minor drainage work, adjustments to fencing and lighting, relocation of station furniture, new Opal card readers, installation of new tactile ground surface indicators, improvements and modifications to station communications and security systems (including closed-circuit television (CCTV) cameras) and wayfinding signage.

Subject to planning approval, construction is expected to commence in mid-2021 and take up to 18 months to complete.

Further details relating to key elements for the Proposal are outlined in Section 3.

1.3 Structure of report

The report is comprised of the following sections:

- **Section 1 – Introduction:** provides background information and an overview of the Proposal and assessment.
- **Section 2 – Methodology:** describes the methodology used for the purposes of this assessment.
- **Section 3 – Proposal Description:** provides a description of the project components most relevant to this assessment.
- **Section 4 – Existing Environment:** provides an overview of relevant legislation and policy and describes the landscape and visual environment within the Proposal study area. Viewpoint locations are identified, and landscape character zones defined.
- **Section 5 – Impact Assessment:** provides an assessment of impacts to landscape character and visual amenity from the Proposal.
- **Section 6 – Mitigation Measures:** recommends mitigation measures in response to issues arising in the assessment during construction and operation phases of the Proposal.
- **Section 7 – Conclusion:** presents a summary of LVIA findings.

1.4 Limitations

This report has been prepared by GHD for Transport for NSW and may only be used and relied on by Transport for NSW for the purpose agreed between GHD and Transport for NSW as set out in this report. GHD otherwise disclaims responsibility to any person other than Transport for NSW arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on the assumptions made by GHD, conditions encountered and information reviewed at the date of preparation of the report. GHD 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. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Transport for NSW and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Methodology

2.1 Standards and guidance

This LVIA has been prepared in accordance with the following:

- *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2* (Centre for Urban Design, Transport for New South Wales 2020)
- *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

2.2 Landscape and visual existing environment

2.2.1 Review of legislation and policy

A review of key planning designations, policies and guidance was undertaken in relation to landscape and visual amenity within the LVIA study area. The emphasis of the review was to identify elements outlined within legislation, policy and planning documents relevant to landscape and visual character and identity of the study area.

2.2.2 Desktop analysis of the Proposal, landscape and visual resources

Existing data was gathered and reviewed, including:

- proposal concept design information from Transport for NSW and site photographs
- topography, land use and planning, and vegetation maps
- Google Earth and Google Street View.

Using this data, a preliminary assessment of the landscape and visual environment was undertaken to inform the site inspection.

2.2.3 Zone of Theoretical Visibility assessment

Zone of Theoretical Visibility (ZTV) mapping is a computer-generated analysis which identifies land from which it is theoretically possible to view the components of the Proposal. These have been used primarily to guide the area of site analysis and representative viewpoint selection.

ESRI ArcGIS software was used to model the ZTV of the Proposal. A digital elevation model was produced using topographical and design data. The ZTV was mapped using the following parameters:

- a viewing height of 1.7 metres, which is the average within the typical viewing level range of an adult
- 1 metre contour intervals at a resolution of 5 metres
- concept design drawings provided by Transport for NSW (dated 18 March, 2021) to determine the relative height of vertical elements of the Proposal (i.e. concourse canopy and lift shaft).

The GIS software then digitally determines the likely extent over which the feature would be visible or not visible. In interpreting the ZTV, the following issues must be considered:

- it only takes into account the landform and does not include land cover factors such as the presence of buildings and trees, therefore it represents the worst-case scenario of potential visual impact
- it does not take into account the effect of distance. The greater the distance from the Proposal, the lower the impact, as the development will take up a smaller portion of the view, and atmospheric conditions may reduce the visual prominence of the Proposal
- the ZTV is only accurate to the resolution of the elevation model.

It should however be noted that ZTV maps are intended to help assess potential landscape and visual impacts by indicating the extent and distribution of theoretical visibility. They should not be regarded as a measure of impact in themselves.

2.2.4 Site inspection

A site inspection was undertaken by a Landscape Architect and Urban Designer on 4 March 2021. The purpose of the inspection was to:

- inspect the site and appreciate views to/from sensitive visual receivers
- inspect publicly accessible locations identified in the desktop study as likely to provide views of the Proposal, including roads, footpaths, station entry points, and platforms
- identify sensitive visual receiver locations
- assess the landscape character of the study area and identify landscape sensitivities
- undertake site photography suitable for photomontage preparation.

The coordinates of each viewpoint were recorded during the site inspection.

2.2.5 Definition of existing landscape and visual environment

A landscape existing conditions assessment was undertaken to determine the existing natural and cultural features within the study area. This includes determination of key landscape and spatial elements, features and values. Aspects considered include:

- land use and built form
- landform, topography and hydrology
- vegetation
- historical features.

A visual existing conditions assessment was also undertaken to establish the key views, Proposal viewshed, and other visual features within the study area.

2.2.6 Landscape character zones

Landscape character considers common landscape zones defined by typical features and characteristics identified during the desktop assessment and site inspection. Landscape character zones (LCZs) are defined by identifying areas that share the same homogenous environmental or cultural qualities or pattern such as topography, vegetation, hydrology, land use and settlement, built form scale and character, cultural and recreational characteristics.

This approach has been used to establish the existing LCZs around the Proposal area and to provide a framework for measuring the impact of the Proposal. This assists in:

- defining landscape elements that contribute to defining character
- defining landscape character attributes
- identifying landscape value.

The existing environment review also considered factors which have influenced landscape change in the past and those that are likely to do so in the future. Refer to Section 4 for a description of the existing landscape and visual environment.

2.2.6.1 Landscape value

When defining LCZs, the value attached to the landscape also forms the baseline for which the significance of the impact is measured. Landscape value looks at designated and undesignated landscapes and holistically at all the elements such as the environmental, cultural, historical and visual/sensory elements that form the landscape. The value of the landscape from an international, national, local and community level is considered when applying a landscape value. The following factors are taken into consideration when defining landscape value (Land Use Consultants and Swanwick, C. 2011):

- landscape quality (physical state of the landscape)
- scenic quality (appeal of the landscape to the senses)
- rarity (presence of rare elements)
- representativeness (distinct character or features of landscape)
- conservation value
- recreation value
- perceptual aspects/qualities
- associations (with particular people, artists, events in history).

The landscape values for each LCZ are described in Section 4.7. Table 2-1 outlines the landscape value definitions for each rating.

Table 2-1 Landscape value

Landscape value	Definition
High	Landscape character elements in good or above average condition and/or that make a strong positive contribution to landscape character. May include nationally important features.
Moderate	Landscape character elements in reasonably good condition and/or that make an average contribution to the local character, which may include locally important landscape features.
Low	Landscape character elements in below average condition and/or that are not particularly distinctive local features.

2.2.7 Viewpoint selection

Assessment of visual impacts deals with the effects of change and development on the views available to people and their visual amenity. It assesses how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements of the landscape and/or the introduction of new elements.

Visual receivers have been considered in terms of the views they are likely to obtain from within the study area including consideration of any key vantage points, such as lookouts, where there is particular interest in the view. Visual receivers are identified based on:

- proximity of the receivers to the Proposal, as the most affected visual receivers are anticipated to be located closest to the Proposal, unless located at an elevated vantage point
- type of receiver, as different viewer types would have different perceptions of the change.

Based on the analysis of the existing landscape and visual environment, sensitive visual receivers were identified, and viewpoint locations selected as representative locations for assessment.

Refer to Section 4.8 for sensitive visual receivers and viewpoint locations.

2.3 Impact Assessment

2.3.1 Landscape impacts

Landscape character refers to a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape. Particular combinations of geology, landform, soils, vegetation, land use and human settlement create character, which makes each part of the landscape distinct and gives each its particular sense of place.

Assessment of landscape impacts deals with the effect of change and development on landscape as a resource. The concern is how the Proposal would affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. The consideration of potential impacts on landscape character is determined based on the sensitivity of the existing landscape and the magnitude of change that is likely to occur.

The sensitivity of a landscape is judged on the landscape value (refer Table 2-1) and the landscape's susceptibility to change (refer Table 2-2) from a particular type of development. A judgement on the level of sensitivity is made and a rating of high, moderate, or low applied.

The magnitude of change to landscape character depends on the nature, scale and duration of the change expected to occur. The magnitude of change also depends on the loss, change or addition of any feature to the existing landscape. It is based on that part of the landscape character area which is likely to be impacted to the greatest extent by the Proposal.

The sensitivity and magnitude of landscape impacts address the following specific criteria:

- sensitivity of landscape to proposed change, based on the susceptibility to change, and the value of landscape (refer Table 2-1 and Table 2-2 respectively)
- magnitude of landscape effect, based on the size or scale of change, the geographical extent of impacts, and the duration and reversibility of impacts (refer Table 2-3).

A judgement is made on the overall level of significance of the landscape effect in relation to the existing conditions.

The assessment criteria have been derived from the *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

Table 2-2 Landscape susceptibility to change

Landscape susceptibility	Definition
High susceptibility to change	The type of development proposed could have a detrimental effect on the landscape character, condition or value. Mitigation measures are unlikely to reduce the impacts of the change.
Moderate susceptibility to change	Any change caused by the type of development would be unlikely to have a significant adverse effect on the landscape character, condition or value that could not be mitigated.
Low susceptibility to change	Development of this type is unlikely to have an adverse effect on the landscape character, condition or value. Mitigation measures would be effective in neutralising adverse impacts.

Table 2-3 Magnitude of change criteria (landscape)

Rating	Criteria
High	A substantial/obvious change to the landscape character due to total loss of, or change to, elements, features or characteristics of the landscape. Would cause a landscape to be permanently changed and its quality diminished.
Moderate	Discernible changes in the landscape character due to partial loss of, or change to elements, features or characteristics of the landscape, however has potential to be partly mitigated. The change would be out of scale with the landscape character, and at odds with the local pattern and landform and would leave an adverse impact on the landscape character.
Low	Minor loss or alteration to one or more key landscape character elements, features or characteristics, or the introduction of components that may be new but may not be uncharacteristic within the existing landscape character.
Negligible	Almost imperceptible or no change in the landscape character as there is little or no loss of/or change to the elements, features or characteristics of the landscape.

2.3.2 Visual impacts

The evaluation of potential impacts on visual amenity is based on the sensitivity of the viewpoint (and the visual receiver it represents) to change, and the magnitude of change that is likely to occur.

The sensitivity of each viewpoint is considered to be dependent on the:

- importance of the view, its existing scenic qualities and the presence of other existing man-made elements in the view
- type of visual receiver and their likely interest in the view.

The magnitude of change to views and visual amenity depends on the nature, scale and duration of the change that is expected to occur.

The magnitude of a change also depends on the loss, change or addition of any feature in the field of view of the receiver including an assessment of the level to which the change contrasts with the existing view or expected view of the landscape. This includes the degree of any change to the backdrop to, or outlook from a viewpoint.

The assessment considers the likely impacts of the Proposal. The level of effects on a view depends on factors such as the extent of visibility, degree of obstruction of existing features, degree of contrast with the existing view, angle of view, duration of view and distance from the Proposal.

Steps undertaken to assess visual impacts include:

- identify and map viewpoint locations
- undertake assessment of visual impacts, comprising:
    - sensitivity of visual receivers to proposed change, based on: susceptibility of visual receivers to change, and value attached to views (refer Table 2-4)
    - magnitude of visual effect, based on: size or scale of change; geographical extent of effects, and duration and reversibility of effects (refer Table 2-5).

An assessment is undertaken of the overall level of significance of the visual effects in relation to the existing view (refer Section 2.3.3).

Table 2-4 Sensitivity criteria (visual)

Rating	Criteria
High	Occupiers of residential properties, at home or going to or from, with long viewing periods, within close proximity to the proposed development; Communities that place value upon the urban landscape and enjoyment of views of their setting.
Moderate	Outdoor workers who have a key focus on their work who may also have intermittent views of the study area; Viewers at schools, or similar, when outdoor play and recreation areas are located within close proximity but viewing periods are limited; Occupiers of residential properties with long viewing periods, at a distance from or screened from the study area.
Low	Road users in motor vehicles, trains or on transport routes that are passing through or adjacent to the study area and therefore have short term views; Viewers indoor at their place of work, schools or similar.
Negligible	Viewers from locations where there is screening by vegetation or structures where only occasional screened views are available and viewing times are short; Road users in motor vehicles, trains or on transport routes that are passing through/adjacent to the study area and have partially screened views and short viewing times.

Table 2-5 Magnitude of change criteria (visual)

Rating	Criteria
High	A substantial/obvious change to the existing view due to total loss of, or change to, elements, features or characteristics of the view. Would cause a view to be permanently changed and its quality diminished.
Moderate	Discernible changes in the existing view due to partial loss of, or change to elements, features or characteristics of the view, however has potential to be partly mitigated. The change would be out of scale with the existing view and would leave an adverse impact on the view.
Low	Minor loss or alteration to one or more key view elements, features or characteristics, or the introduction of components that may be visible but may not be uncharacteristic within the existing view.
Negligible	Almost imperceptible or no change in the view as there is little or no loss of/or change to the elements, features or characteristics of the view.

2.3.3 Significance of impacts

The combination of sensitivity and magnitude determines the significance of the impact on the landscape character or representative viewpoint. Refer Table 2-6 for the matrix used to determine the significance of impact.

Table 2-6 Significance of impact matrix

		Magnitude of impact			
		High	Moderate	Low	Negligible
Sensitivity	High	High Impact	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

2.3.4 Panorama and photomontage

All photographic images were captured using a 50 millimetre fixed focal length lens on a 35 millimetre full frame format camera at a camera height of 1.6 metres. All photograph locations were recorded and mapped. A series of six viewpoint locations were chosen for detailed assessment and existing views represented using a panorama technique. This technique involves the stitching together of a number of adjoining images using the Adobe Photoshop software program. Of the six viewpoint locations, three viewpoints were selected for the production of photomontage images to represent proposed views following the completion of the Proposal. The software used to model and render the photomontages was Autodesk 3D Studio Max. In order to achieve an accurate photomontage of the Proposal and surrounding landscape, a digital terrain model was used to model the surrounding landform.

Once the 3D model incorporating both the landscape and new Proposal elements were created, a virtual camera was placed in the software at the same location the photographs were taken. The film, focal lens and height of the virtual camera matches the real camera utilised to take the photographs. The photographs of the site were used in 3D Studio Max as a background to accurately match the 3D model with the Proposal elements to the perspective of the photographs. From the camera view, rendered images of the Proposal were produced to match the daylight exposure of the photographs. The rendered images were imported into Adobe Photoshop for post-production editing and collation of the photomontages. Refer to Appendix A for photomontages of the Proposal. The final result is the 3D model of the Proposal shown in the correct 3D location in the photographs (refer to Appendix A). The final images were produced to a high resolution, suitable for printing.

2.4 Mitigation measures

Potential mitigation measures may include:

- adopting alternative designs or revisions to the basic engineering and architectural design to prevent and/or minimise negative impacts
- remedial measures such as colour and textural treatment of structural features
- compensatory measures such as landscape design to compensate for unavoidable negative impacts and to attempt to generate long-term positive impacts.

2.5 Assumptions

This methodology includes the following assumptions and limitations:

- There is no national guidance on the assessment of landscape and visual impacts specific to Australia, however in NSW, the industry typically refers to the *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2* (Centre for Urban Design, Transport for New South Wales 2020).
- The assessment aims to be objective and describe any changes factually. While potential changes resulting from the Proposal are defined, the significance of these changes requires qualitative (subjective) judgements. This assessment's conclusion therefore combines objective measurement and professional interpretation. While this assessment aims to be objective, it is recognised that visual impact assessment can be subjective and individuals are likely to associate different visual experiences to the study area.
- The assessment is based on the information provided to GHD at the time of writing.
- Existing conditions were assessed during the site inspection on March 4, 2021.
- This assessment assumes some tree removal as outlined in the *Biodiversity and Arboricultural Assessment, (GHD 2021).*
- This assessment does not include landscape and visual impacts from lighting.

3. Proposal description

3.1 Proposal location

3.1.1 Proposal location

The Proposal is located at Yagoona Station within the Canterbury-Bankstown local government area, in the south western Sydney region. The station is situated on the Bankstown Line, approximately 20 kilometres south-west of Sydney's Central Business District. The adjoining stations are Birrong Station (approximately 1.5 kilometres to the north-west) and Bankstown Station (approximately 1.5 kilometres to the south-east).

The station is located just north of the Hume Highway, which is elevated above the rail corridor. The station precinct adjoins a mixture of commercial, residential, community, educational and recreational uses, to the immediate east and west (Refer to Section 3.1.2). Due to the nature of major transport corridors traversing the study area, it is a complex urban environment (Refer to Figure 3-1).

The suburb of Yagoona is primarily residential, with commercial activities centred along the Hume Highway. The surrounding landscape is characterised by a slightly undulating form, with low to moderate canopy tree coverage evident throughout. Yagoona borders larger activity and employment centres at Bankstown, and Chullora and Liverpool, to the south-west.

Regional features of note within the surrounding area include Georges River and National Park (south), Bankstown Aerodrome and Bankstown centre (south-west), Potts Hill Reservoir and Rookwood Cemetery (north and north-east respectively) and Sydney Olympic and Bicentennial Park (further north).

3.1.2 Proposal area

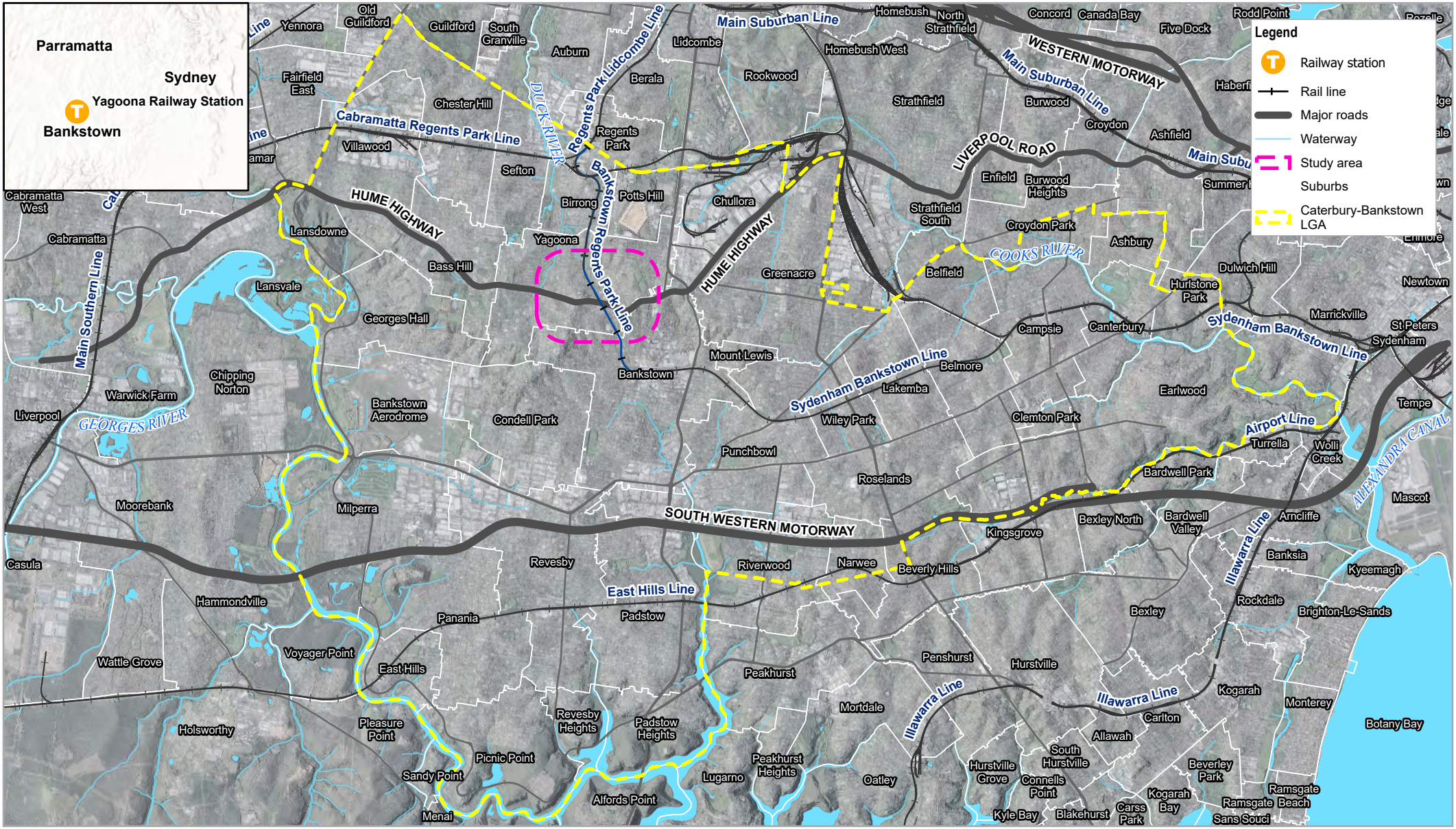
The Proposal area is defined as the area in which the proposed station accessibility upgrades would occur, including both the operational components and the construction works. This includes the rail corridor adjacent to the station, commuter car parks east and west of the station, bus/kiss and ride lanes along the Hume Highway, and Ron Whitehead Place.

Yagoona Station is comprised of a single central island platform, with station amenities located at the concourse level, near the ticket office. Access is currently via stairs from the central concourse along the Hume Highway, immediately south. There are footpath connections from the east and west, connecting patrons with the commuter car parks on either side of the station.

Other station facilities include two commuter car park areas with one accessible car space, bus stop and taxi rank along the Hume Highway.

Land immediately surrounding the station includes:

- commercial properties, both east and west along the Hume Highway
- Council carpark, adjacent to the Breasley Place commuter carpark, to the west
- residential uses, to the east and immediately west along Church Road
- Gazzard Park, Yagoona Community Centre and Ron Whitehead Place to the north-east
- Yagoona Public School to the south-east and Al Sadiq College to the east
- rail corridor further north and south
- Hume Highway to the south.



Paper Size ISO A4

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Kilometres

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

Transport for NSW
Yagoona Station Upgrade
Landscape and Visual Impact Assessment

Proposal location plan

Project No. **1254729**
Revision No. **0**
Date **14/05/2021**

FIGURE 3-1

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Print date: 14 May 2021 - 12:09

Data source: LPI:DCDB/DTDB, 2021. World Hillshade: Esri, CGIAR
World Imagery: Earthstar Geographics. Created by: kpsroba

3.2 The Proposal

The Proposal includes the upgrade of Yagoona Station to improve accessibility, and amenity for customers. The upgrade works includes the construction of a new concourse, lift and stairs, platform work and upgrades to commuter car parks and footpaths. The work is described in further detail below. Further detail on the Proposal is outlined in Section 3 of the Yagoona Station Upgrade REF report.

3.2.1 Station entry upgrade

Details of the proposed work to take place at the station:

- construction of new station entry concourse from the Hume Highway to provide access to the platform
- construction of new stairs to connect the new concourse to the platforms below
- installation of a new 17 person lift to provide access between the new concourse and the platforms below
- removal of existing concourse, including concourse level station facilities and shop front
- removal of existing stairs to platform.

Pedestrian access to the platforms will be maintained during construction of the new concourse and station entry. The existing stairs and concourse would be removed during rail possessions with either temporary stairs, or the new stair access to the platforms installed in the same possession period. The design and staging of the new station entry and concourse would be determined during detailed design phase of the Proposal and staged to ensure customer access to the station is maintained.

3.2.2 Platform works

The Proposal includes the construction of a new station building on the platform to house the station facilities and will include:

- staff room with kitchenette
- staff toilet
- cleaner's storage room including basin
- family accessible toilet
- male ambulant toilet
- female ambulant toilet
- main switchboard room
- station services equipment room
- fan room.

Other work along the platform includes:

- relocation of existing services and utilities from concourse to the new platform building
- upgrade of existing platform surfaces (re-grading and re-surfacing) across the platforms to provide compliant accessible paths
- provision of new hearing induction loops on the platforms
- relocate and suitably reinstate any existing infrastructure including seats, signage, guards indicators, Opal card readers, Opal top up machine, lighting, CCTV, fencing, vending machines and rubbish bins on the station.

- provision of boarding assistance zones and markings on each platform
- new TGSIs, line marking and stencilling.

New canopies will also be installed between the existing canopies and the new station building to achieve continuous cover from the new lift and stairs to the boarding assistance zones on both platforms. The design of these canopies and the station building is yet to be determined and would be finalised in detailed design.

3.2.3 Commuter car parks and footpaths

The following upgrade work would be undertaken to the existing commuter car parks to the east and west of the station:

- upgrade of the existing accessible parking spaces in the Ritchie Road commuter car park to the east of the station including adjustments to the turning bay, relocation of bike hoops, line marking, signage, new kerb ramp and kerb adjustments
- provision of two new accessible spaces in the commuter car park on Breasley Place to the west of the Station, including line marking, signage, tree trimming, new kerb ramp and kerb adjustments.

The existing footpath connecting the car parks to the station entrance would be upgraded to provide compliant accessible paths, the works would include:

- realignment and regrading of the footpath from the eastern commuter car park to the station entrance to provide a compliant accessible path
- realignment and regrading of the footpath from the new accessible parking spaces in the western commuter car park to the station entrance on the Hume Highway
- provision of rest seating and landscaping works as required.

Provision of the new accessible path on the western side of the station may involve partial realignment through part of the rail corridor to achieve the required ramp grades. Some vegetation trimming and removal would be required to accommodate the new path. The existing access to the station from the commuter car parks will be disrupted during the works with temporary detours in place. The design and staging of the new accessible paths would be determined during detailed design.

3.2.4 Interchange facilities

The following works would be undertaken to interchange facilities around the station:

- provision of an accessible kiss and ride space on the Hume Highway including line marking, signage, new kerb ramp and kerb and pavement adjustments
- potential relocation of planter boxes, payphone and public bench adjacent to the Hume Highway, as required to accommodate the new kiss and ride area
- provision of an accessible path between the station entrance and Bus Stop 219911 Yagoona Station, Hume Highway.

3.2.5 Ancillary work

The following ancillary work is required as part of the Proposal and would include:

- re-surfacing of other areas of the platforms where impacted by construction activities, including services trenching work
- adjustments to platform drainage
- services relocation and/or adjustments, including lighting and communications systems (eg CCTV), water, sewage and stormwater

- electrical upgrade work, which could include an upgrade to the existing transformers, main switch board and station distribution boards, and earthing/bonding provisions as required to accommodate the power requirements for the Proposal (specific power requirements to be determined during detailed design)
- improvements to existing station systems (including installing additional CCTV cameras as required, installing new LED lighting, and provision of additional Public Address (PA) system speakers as required)
- adjustments to boundary fencing to accommodate the accessible path on the western side of the station
- adjustment to station ticketing facilities, including new and or relocates Opal card readers to suit the Proposal
- relocation of station furniture including but not limited to seats, boarding ramp cabinets, planter boxes, rubbish bins and lighting as required
- provision of wayfinding signage and other station signage as required for the new work
- temporary site compound areas for site office, sheds, amenities, storage of materials, plant and equipment
- temporary service connections for site compound facilities
- provision of temporary construction and laydown areas
- temporary work (where required) during construction in order to maintain access to the station
- vegetation trimming and removal to accommodate new paths.

3.2.6 Materials and finishes

Materials and finishes for the Proposal have been selected based on the criteria of durability, low maintenance and cost effectiveness, to minimise visual impacts, and to be aesthetically pleasing. Availability and constructability are also important criteria to ensure that materials are readily available and the structure can be built with ease and efficiencies. Materials are also selected for their application based on their suitability for meeting design requirements. Materials selection should also consider sustainability aspects, including consideration of supply chain and sourcing materials locally where possible, prioritising the use of reused and recycled materials where practicable, and investigating use of materials that have environmental labels. Each of the upgraded or new facilities would be constructed from a range of different materials, with a different palette for each architectural element. Subject to detailed design, the Proposal would include the following:

- lift shafts – precast concrete and glass
- concourse and footbridge – concrete base with mesh throw screens, decorative panels and roof
- platform stairs – concrete with mesh throw screens and canopy, stainless steel handrails
- platform building – painted composite cladding, decorative panels and steel roof, internal fittings and fixtures to meet requirements
- platform canopies – steel frame and roofing
- accessible footpaths – concrete with stainless steel handrails where required

The design would be submitted to Transport for NSW's Design Review Panel at various stages for comment before being accepted by Transport for NSW. An Urban Design Plan (UDP) and/or Public Domain Plan (PDP) would also be prepared by the Contractor, prior to finalisation of detailed design for endorsement by Transport for NSW. Figure 3-2 shows the general layout of key elements and Figure 3-3 shows the elevation plan for the Proposal.

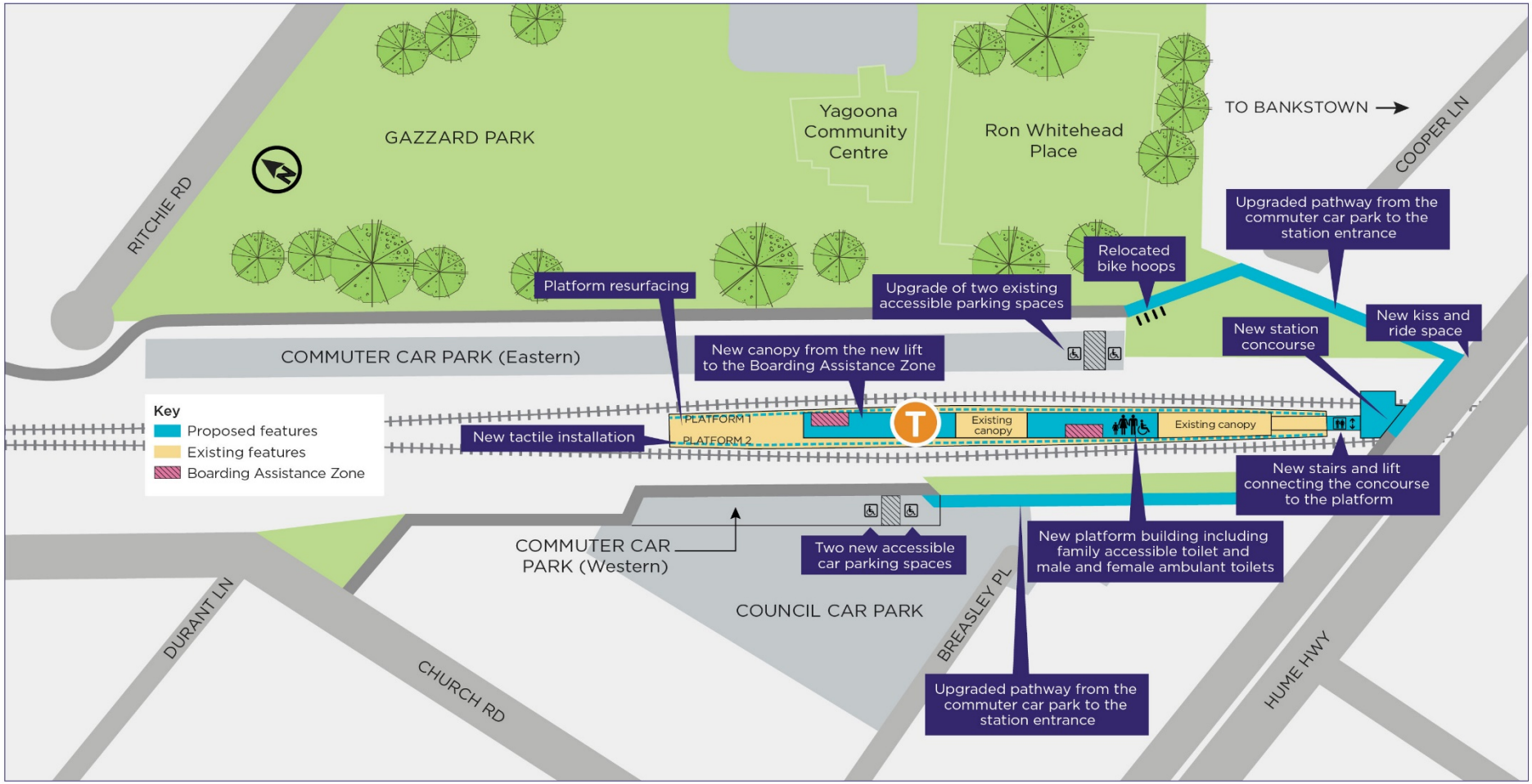


Figure 3-2 Key features of the Proposal

(Indicative only, subject to detailed design)

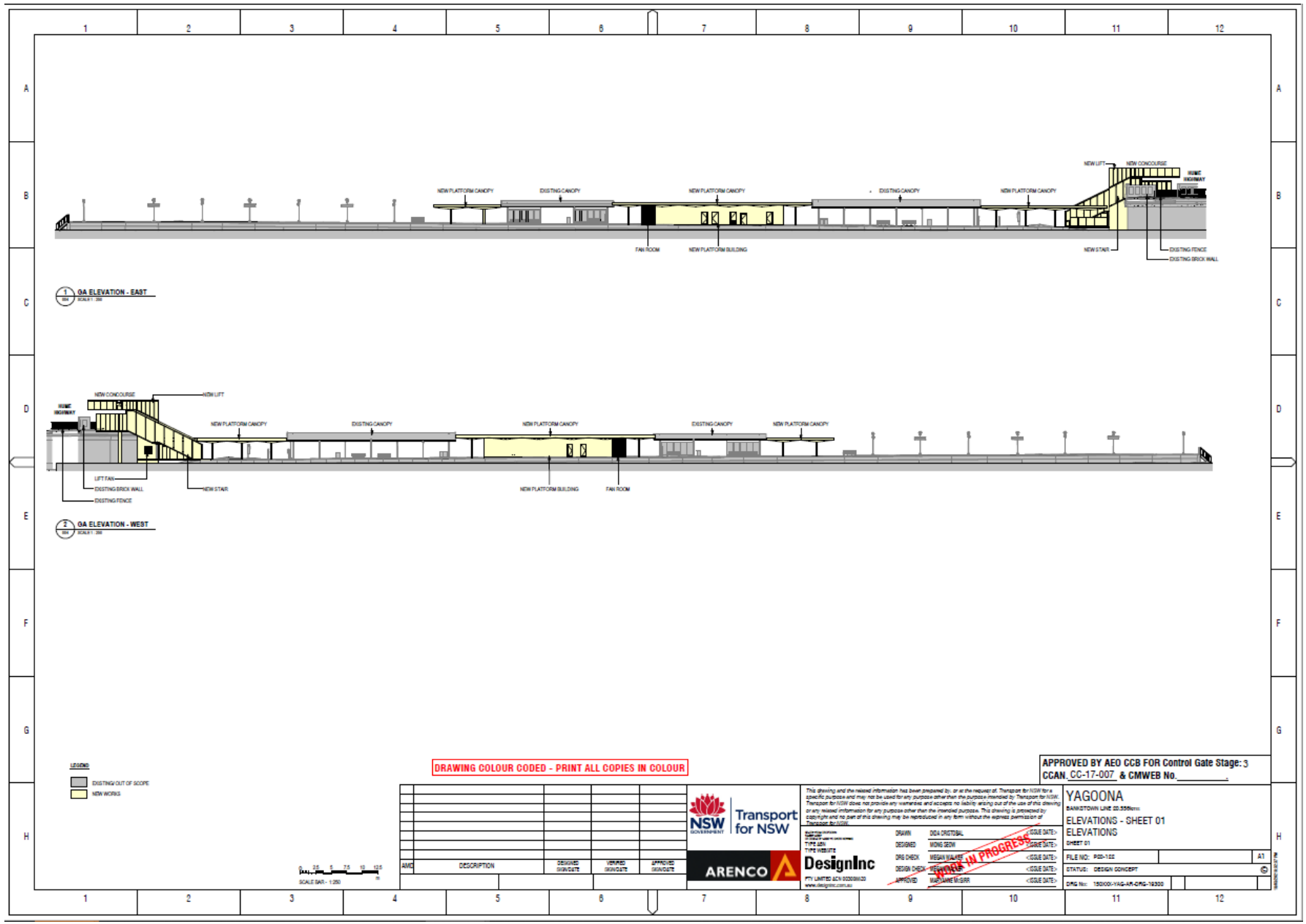


Figure 3-3 Proposal elevations

3.3 Construction activities

3.3.1 Work methodology

Subject to approval, construction is expected to commence mid-2021 and take up to approximately 18 months to complete. The construction methodology would be further developed during the detailed design of the Proposal by the nominated Contractor in consultation with Transport for NSW.

The proposed construction activities for the Proposal are identified in Table 3-1. This staging is indicative and is based on the current concept design and may change once the detailed design methodology is finalised. The staging is also dependent on the Contractor's preferred methodology, program and sequencing of work.

Table 3-1 Indicative construction staging for key activities (subject to detailed design)

Stage	Activities	Duration (months)
Site establishment and enabling work	• site investigations and survey • establishment of site compounds (ie erect fencing, tree protection zones, site offices, amenities and plant/material storage areas) • establish temporary facilities as required (eg temporary access • stairs, temporary toilets, temporary construction lights etc.) • erect temporary site hoarding and fencing as required • relocation of services • installation of power where required • traffic control measures.	1-2
Lift, stairs and concourse work	• excavate lift foundations • demolish existing concourse • construct new stairs • piling for footings and in situ concrete works • waterproofing (as required), install reinforcement, formwork and concrete to form the lift pit • erect precast concrete structures and steel canopies • demolish existing stairs • lift installation and commissioning • architectural fit-out around lift shaft including new awning and anti-throw screens.	8
Platform building enabling works	• excavation of footings and piling for building foundations • installation of in ground services route along platform • pour concrete foundations.	2
Platform building installation	• installation of modular building sections.	2 Weekends
Eastern ramp works	• demolition of existing pathway • concrete footpaths including retaining walls and footings • Landscaping • install handrails.	5

Stage	Activities	Duration (months)
Western (Breasley Street) ramp works	• demolition of existing pathway • concrete existing footpaths including retaining walls and footings • tree removal and landscaping • install handrails • installation of new walkway.	5
Station building works	• fit out of all station building rooms including services, wall and floor finishes.	2
Platform modification work	• regrade platform surface • relocate platform furniture including seating • install new yellow line and along platforms • install new canopy.	1
Track cabling	• excavate and install electrical cabling.	Multiple weekends
Demobilisation	• install other ancillary features and landscaping • remove hoardings • clear site • remove environmental, safety and traffic controls.	1

3.3.2 Earthworks

Excavations and earthworks would generally be required for the following:

- regrading and construction of footpaths
- removal of vegetation within rail corridor
- installation of new lift shaft and stairs
- trenching for services adjustments and relocations.

Excavated material would be reused onsite where possible or disposed of in accordance with relevant legislative requirements.

3.3.3 Traffic access and vehicle movements

Traffic and transport impacts associated with the Proposal are assessed in within Section 6.1 of the Yagoona Station Upgrade Review of Environmental Factors (REF) report, and separate Traffic Assessment Report. The potential traffic and access impacts expected during the construction of the Proposal include:

- impacts to pedestrian, rail customers and cyclists, including temporary detours to pedestrian access from station to car parks
- impact to pedestrian and bicycle rider movements on both sides of the station due to the movement of construction material, traffic diversions and the location of crane/s during construction
- increased vehicle movements may reduce safety
- impacts to off-street parking in the council car park located on the western side of the station (Breasley Street)
- impacts to on-street car parking locations along the Hume Highway.

3.3.4 Ancillary facilities

A temporary construction compound would be required to accommodate a site office, amenities, laydown and storage area for materials. Two areas have been nominated as sites for construction compound:

- Ron Whitehead Place Park to the east of Yagoona Station
- Breasley Street Council car park located to the west of Yagoona Station.

Both these nominated sites are on land owned by Canterbury Bankstown Council. A construction laydown area is also nominated within the rail corridor to the west of the station. The areas nominated for ancillary facilities are shown on Figure 3-2. The extent to which these sites would be utilised will be determined during detailed design. Impacts associated with utilising these areas have been considered in the environmental impact assessment including requirements for rehabilitation.

3.3.5 Public utility adjustments

The Proposal has been designed to avoid relocation of services where feasible, however further investigations may be required. It is likely some services would require relocation or adjustment including:

- If required utility adjustments to accommodate new infrastructure will be identified and developed during detailed design (such as the new footpaths).

Such relocation is unlikely to occur outside of the footprint of the works assessed in this REF. In the event that works would be required outside of this footprint, further assessment would be undertaken. The appropriate utility providers would be consulted during the detailed design phase.

Relocation or other works, including temporary services connections potentially required for construction, that may affect services would be undertaken in consultation with the respective utility authorities.

3.4 Operation and maintenance

The future operation and maintenance of the new station/interchange is subject to further discussions with Sydney Trains, Transport for NSW and Canterbury Bankstown Council. Structures constructed under this Proposal would be maintained by Sydney Trains. It is expected that adjacent footpaths would continue to be maintained by Canterbury Bankstown Council.

4. Existing environment

The following section provides an overview of relevant legislation and policy objectives, land use and built form, topography, hydrology and vegetation, and key views and viewsheds in the vicinity of the Proposal area. These features all contribute to the landscape character and visual amenity of the study area.

4.1 Study area

An indicative study area for the LVIA was defined as land within 750 metres (north-south) to 1 kilometre (east-west) of the station precinct, as shown in Figure 3-1. The study area has been determined based on the following:

- an analysis of the ZTV mapping (refer Section 2.2.3)
- a desktop study examining aerial photographs and topographic maps considering both landform and land cover
- a site inspection was conducted on 4 March 2021 and 20 April 2021 examining the existing visual catchment
- previous studies of a similar nature.

4.2 Summary

Table 4-1 provides a summary of the key legislation and policy objectives relevant to this assessment. Refer to a more detailed overview in Section 4.3 - 4.5.

Table 4-1 Summary of Legislation and Policy

Legislation/Policy	Topic	Relevant Features / Objectives
State		
Local Character and Place Guideline	• Frameworks to maintain, enhance and cultivate the unique character and identity of places in NSW	• Assessing local character • Elements that contribute to/shape and local character and place
Better Placed	• Integrated design policy for the built environment in NSW, to promote well designed public places and environments	• Design objectives with respect to local place character and amenity
Local		
Bankstown Local Environmental Plan 2015	• Local planning provisions relating to land within the Bankstown LGA	• Framework for future land use and development
Bankstown Development Control Plan 2015 (amended 2016)	• Detailed planning and design guidelines to support objectives of the Bankstown LEP 2015	• Planning and development controls • DCP-A2: Corridors • DCP-B2: Commercial Centres

Legislation/Policy	Topic	Relevant Features / Objectives
Bankstown Open Space Strategic Plan	• Inform the Planning, development and management of Council controlled open space • Provide and maintain a network of quality, accessible open spaces that balance the protection of our environment with the ongoing use and enjoyment.	• Section 3.3: Goals and objectives • Section 4.4: North Central precinct – opportunities
Hume Highway Corridor Strategy	• Strategy to improve the visual amenity, safety and accessibility of different parts of the Hume Highway.	• Section 4: Initiatives for Hume Highway Corridor • Section 5.4: Precinct 4 – Yagoona Town Centre.

4.3 State legislation and policy

4.3.1 Local Character and Place Guideline 2019

The Local Character and Place Guideline released in 2019 by the NSW Government seeks to ensure local character is considered in decision making, and the identity and place attributes that make an area distinctive are maintained, enhanced and cultivated. The guideline recognises that places are multi-layered and diverse, and that there are a number of influences that contribute to and impact local character.

The guideline stipulates that a local character statement should be prepared for different areas, to provide a reference for development proposals and decision making. There is presently no character statement available for Yagoona. This LVIA assessment however, outlines the landscape and visual elements that contribute to local character, potential impact of the Proposal and mitigation measures to manage these impacts. Our approach is consistent with the Local Character and Place Guidelines assessment toolkit.

4.3.2 Better Placed

Better Placed is a design guide developed by the Government Architect NSW, recognising the importance of good design to make better places and enhance urban environments across the state. The design guide addresses design process, roles and responsibilities and desired outcomes.

The relevant design principles within this guide include:

- **Better fit:** place-based response informed by and derived by its location, context and resonant with local character and heritage
- **Better look and feel:** encouraging places which are welcoming and aesthetically pleasing, and design which contributes to the visual environment.

This guide prioritises visual amenity and local character. While of greater relevance to the Proposal design, it has also informed the mitigation measures identified in this LVIA assessment.

4.4 Local legislation and policy

4.4.1 Bankstown Local Environmental Plan 2015

The study area is located within the Canterbury Bankstown LGA and therefore the Bankstown Local Environmental Plan 2015 (Bankstown LEP) applies. Relevant aims of the Bankstown LEP include:

- to protect and enhance the landform and vegetation, especially foreshores and bushland, in a way that maintains the biodiversity values and landscape amenity of Bankstown
- to protect the natural, cultural and built heritage of Bankstown
- to provide a range of recreational and community service opportunities to meet the needs of residents of and visitors to Bankstown
- to achieve good urban design in terms of site layouts, building form, streetscape, architectural roof features and public and private safety
- to enhance the quality of life and the social wellbeing and amenity of the community.

4.4.1.1 Zoning

- Refer to Figure 4-1 for land use zones within the study area. The direct proposal area, where permanent works are planned is zoned as SP2 – Infrastructure. Land proposed to be utilised during the construction phase, includes areas zoned as B2 – Local Centre (east and west of the station) and RE 1 – Public Recreation (east).
- The following zones have specific aims relevant to landscape and visual amenity:
  - *R2 - Low Density Residential:* To allow for the development of low-density housing that has regard to local amenity.
  - *RE1 - Public Recreation:* To protect and enhance the natural environment for recreational purposes.

4.4.1.2 Relevant provisions

Planning provisions specific to amenity and views, are as outlined below. Figure 4-2 illustrates the maximum building heights that are permitted within the study area, based on current zoning.

- ***4.3 Height of buildings:*** *The objectives of this clause are as follows—*

  (a) to ensure that the height of development is compatible with the character, amenity and landform of the area in which the development will be located,

  (b) to maintain the prevailing suburban character and amenity by limiting the height of development to a maximum of two storeys in Zone R2 Low Density Residential,

  (c) to provide appropriate height transitions between development, particularly at zone boundaries,

  (d) to define focal points by way of nominating greater building heights in certain locations.

- ***4.4 Floor space ratio:*** *The objectives of this clause are as follows—*

  (a) to establish the bulk and maximum density of development consistent with the capacity and character of the locality of a development site,

  (b) to ensure the bulk of non-residential development in or adjoining a residential zone is compatible with the prevailing suburban character and amenity of the residential zone,

  (c) to encourage lot consolidations in commercial centres to facilitate higher quality built form and urban design outcomes.

- ***5.10 Heritage Conservation:*** *The objectives of this clause are as follows—*

  (a) to conserve the environmental heritage of Bankstown,

  (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views.

4.4.2 Bankstown Development Control Plan 2015 (amended 2016)

The study area is located within the Canterbury Bankstown LGA and therefore is subject to the Bankstown Development Control Plan 2015. This plan supports the Bankstown LEP whilst providing additional objectives and development controls. Of relevance is Part A2: Corridors and Part B2: Commercial Centres. Particular provisions of note within the DCP include:

- The *Hume Highway Corridor* is recognised as a national and historical landmark, functioning as a national highway linking Sydney with Canberra and Melbourne; an entry to Bankstown for motorists; and an employment zone. Within Part A2, Yagoona Village Centre (Precinct 4), it is acknowledged that the centre features a diverse array of uses but that the physical environment and separation created by the Hume Highway, creates challenges for cohesion and amenity. The desired character includes:
  - Encourage consolidation and revitalisation of retail core
  - Encourage further residential development in proximity of transport connections
  - Reinforce and improve access to retail, community anchors and train station
  - Improve physical environment through street tree and median planting, pedestrian crossing points and traffic calming measures.
- The *Yagoona Village Centre* is also addressed in B2: Commercial Centres of the DCP. General objectives identified for major and small village centres include:
  - To have development that is compatible with the desired character and role of the particular centre
  - To have development that achieves good urban design in terms of building form, bulk, architectural treatment and visual amenity
  - To have development that provides adequate amenity to people who live in, work in and visit the village centres and small village centres
  - To ensure the building form and building design of development provide appropriate amenity to neighbouring residential development in terms of access to sunlight and privacy
  - To have transitional areas that are compatible with the prevailing suburban character and amenity of neighbouring residential environments.

4.5 Other relevant policy

4.5.1 Hume Highway Corridor Strategy (2005)

The Hume Highway Corridor Strategy (The Strategy) recognises the Hume Highway Corridor as a historical regional economic zone, and a national and historical landmark associated with the highway link between Sydney, Canberra and Melbourne. This corridor is identified as the front door to the Yagoona activity centre. The Strategy aims to revitalise areas of the Hume Highway through business and infrastructure investment and new housing, improve public transport, safety and amenity for residents, and revitalise the image and environment of the Corridor. Relevant objectives of the strategy include:

- improve the visual appearance of the Corridor by identifying different precincts and highlight the special sites and heritage significance along this route
- provide and reinforce clear gateway sites to the City of Bankstown along the Hume Highway

- improve access and safety for pedestrians, cyclists, and commuters both along the Hume highway and at important intersection
- provide a 'human scale' factor to the Hume Highway by creating shared pathways and artwork links to historical or memorial features with interpretive detail
- enhance the pedestrian and cycling experience by creating a shared path along the entire length of the Hume Highway
- sustain the role of the corridor for regional employment.

Proposed recommendations relating specifically to the Yagoona Town Centre (Precinct 4), for the station precinct and immediate surrounds within the study area include:

- to reinforce the Yagoona Town Centre as a major shopping centre with good access to a bus/rail interchange, improved amenity and potential for high density residential development
- expand on the Remembrance Driveway along the Hume Highway (considered a primary landscape feature), including the development of a specific landscape theme at the Yagoona town centre
- investigate the creation of a new town square, with links to the station and Gazzard Park
- provide an accessible railway station, including pedestrian overpass with lift access, linking the rail station with bus interchange and commuter car parking areas
- amend zoning and development controls to encourage higher-density housing within 800 metres of the station
- address poor amenity and condition of infrastructure along both sides of the Hume Highway, including improvements to footpath areas, landscaping and paving
- address poor pedestrian connectivity within this area and improve access to Gazzard Park
- maintain four to five storey height limit along different parts of activity centre spine, to retain the village character
- promote local identity through a consistent theme for street tree plantings, signs, and outdoor art, particular to the Yagoona community.

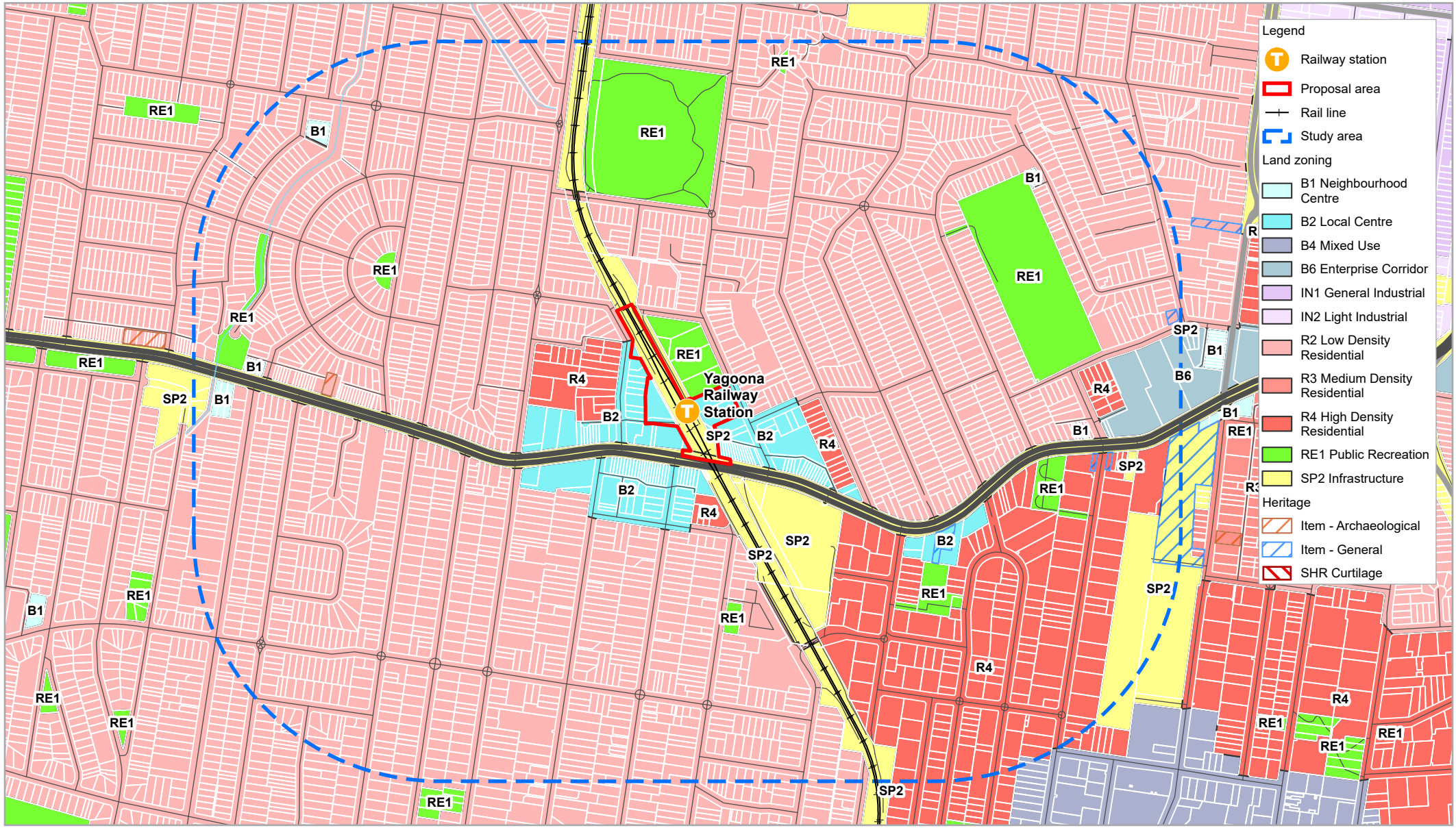
Bankstown Open Space Strategic Plan 2022

This key policy document provides a framework for the effective protection, enhancement and management of open space in Bankstown now and into the future. It established objectives and strategies for the provision of open space to suit current and future community needs.

While there are no specific opportunities or capital works noted, Gazzard Park is identified within the north central area of the strategy. General goals and objectives of relevance include:

- *Access and equity:* improve the connections to existing open space.
- *Diversity and quality:* enhance and promote streetscapes as part of the public open space supply.

Council's operational land (undeveloped reserve) at the end of Martha Street, within the study area, is noted as an open space opportunity requiring investigation. Due to the irregular nature of this parcel and surrounding residential development, clear views of the Proposal are obstructed.



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

GHD

Transport for NSW
Yagoona Station Upgrade
Landscape and Visual Impact Assessment

Project No. **1254729**
Revision No. **0**
Date **14/05/2021**

Land use and heritage

FIGURE 4-1

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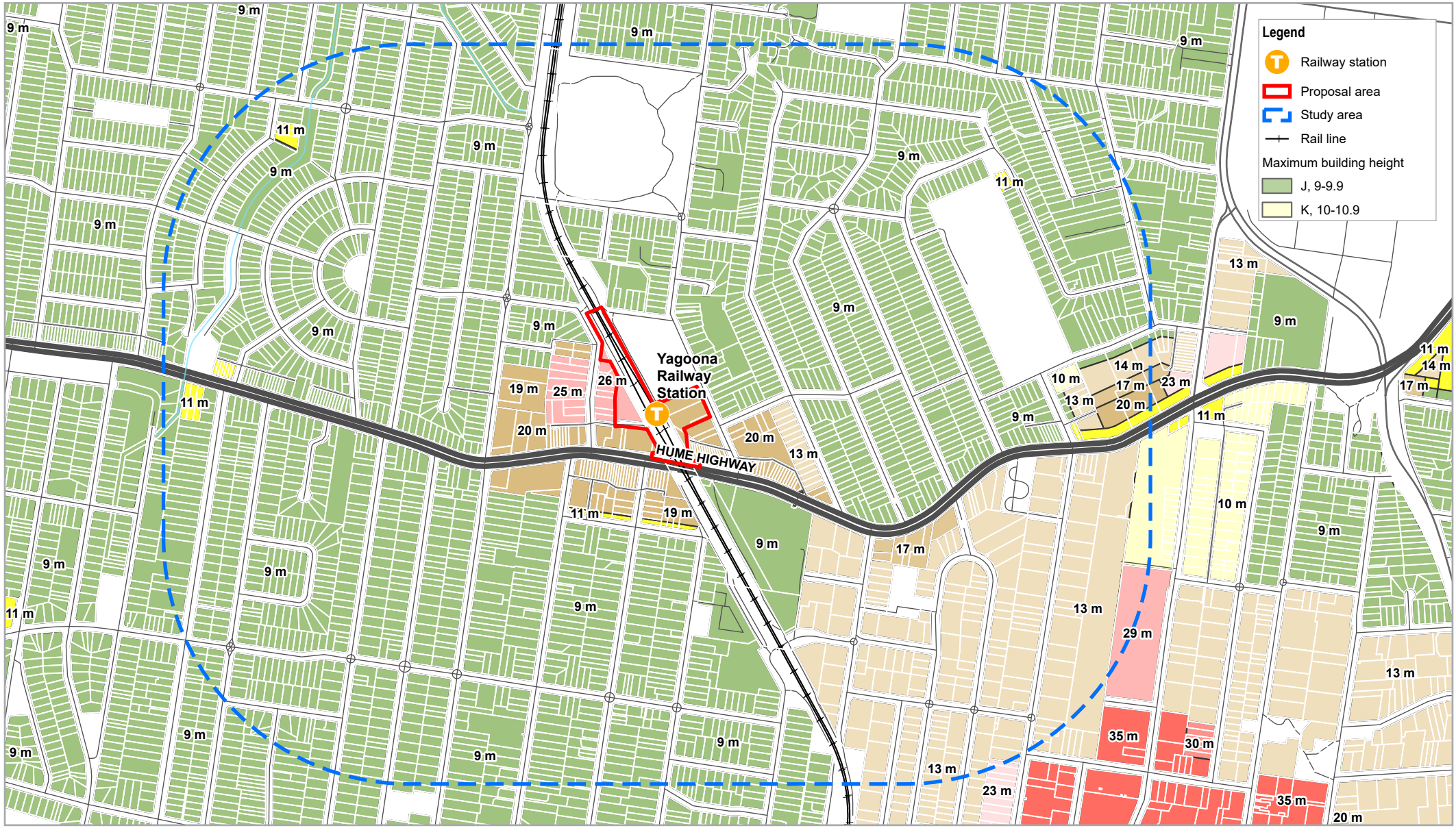
Print date: 14 May 2021 - 12:10

Data source: LPI:DCDB/DTDB, 2021. DPI: Heritage/Land zoning, 2021.. Created by: kpsroba



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Transport for NSW
Yagoona Station Upgrade
Landscape and Visual Impact Assessment

Project No. **1254729**
Revision No. **0**
Date **14/05/2021**

Building height limits

FIGURE 4-2

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Print date: 14 May 2021 - 12:10

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4.6 Landscape and visual existing environment

4.6.1 Land use and built form

The Proposal is planned at the existing Yagoona Rail Station, a focal point within the Yagoona Village Centre. The village centre comprises a traditional strip shopping centred along the Hume Highway, bound by Glassop Street (south), Farnell Road (north), Caldwell Parade (east) and Auburn Road/William Street (west). Retail tenancies along the Hume Highway are characterised by two storey narrow tenancies with frontages of between four to fifteen metres and shop top housing dating back to post war era (1940s onwards). There are some larger tenancies immediately west of the station, providing for a range of service and specialty retail.

The broader study area context is predominately a low to medium density residential setting, ranging in height from single storey to eight storey developments. Housing styles evident in the study area include buildings typical of the post war era through to more contemporary multi-storey developments. There are particular pockets with dual occupancies, villas and seniors housing.

Gazzard Park, Ron Whitehead Place and the Yagoona Community centre is located to the north-east and east of the Proposal area. Gazzard Park has been upgraded by Council and features play equipment and an open reserve for passive and active recreation. The Yagoona Community centre is integrated within this public open space reserve.

4.6.2 Topography and hydrology

The Proposal area and study area is characterised by a gently undulating terrain. The station and Proposal area is positioned at a low point within a slight depression, along the Hume Highway. The concourse is located along the Hume Highway at a height of approximately 46 metres AHD, which drops to height of 40 metres AHD along the rail corridor.

Within the broader study area there are two high points in proximity of the Proposal area. The first is located 360 metres to the west near Auburn Road, at a height of 60 metres AHD. The second is located over 500 metres south-east near Graf Park and Avoca Street, reaching an elevation of 65 metres AHD. There is gradual rise in land levels, south of the Hume Highway along Little Road, near the rail corridor.

There are no water courses are visually apparent within the study area, however a network of open stormwater drains is present in the north western portion of the study area, connecting to Duck River.

Refer to Figure 4-3 illustrating the topographical and hydrology conditions within the study area.

4.6.3 Vegetation

Vegetation consists of canopy trees, domestic garden vegetation and urban park tree and shrub planting, consistent with a typical suburban area. Of note is the dense tree planting and vine planting along the security screen fencing, east and west of the station precinct. These areas feature a predominance of Casuarinas and some endangered and threatened species including *Eucalyptus nicholii*, *Eucalyptus scoparia* and *Acacia pubescens*. Existing vegetation consists of a combination of planted indigenous and exotic trees, shrubs and forbs, growing in association with self-recruited native and exotic species.

Planting along the edge of the rail corridor around the proposal area and within Gazzard Park, gives the area a distinct character and provides a high level of amenity for station patrons and nearby businesses.

An arborist assessment of the vegetation present within the study area has been undertaken, and is presented within the Biodiversity and Arboricultural Assessment report.

Based on the arborist assessment, it was noted that while none of the trees are listed as heritage items or significant trees under the LEP, a number of specimens have higher landscape significance, either because of their dimensions, location or species (refer to Appendix A). These include:

- Trees on the western side of Yagoona Station, as shown in Photo 4-23:
  - Tree 1, Narrow-leaved Peppermint (*Eucalyptus nicholii*) although not a large or mature specimen, has landscape significance because of its location, and also because it is a threatened species
  - Tree 31, Wallangarra White Gum (*Eucalyptus scoparia*) is a large mature specimen and is a planted threatened species
  - Trees 2 to 8, *Callistemon* spp. (*Callistemon* cultivars) are located in the car park adjacent to the station and provide colour and shelter, as well as defining parking areas
- Trees on the eastern side of Yagoona Station, as shown in Photo 4-23 (and including Ron Whitehead Place, as shown in Photo 4-24):
  - Tree 11, Spotted Gum (*Corymbia maculata*) and Tree Group 12 (3 x *Corymbia citriodora x C. maculata* hybrid and Woollybutt (*Eucalyptus longifolia*)) are large, mature trees in a parkland setting
  - Tree Group 19 is a complete, continuous line of Swamp Oaks (*Casuarina glauca*) which provide a screen between public open space and the railway
  - Tree Group 20, a group of Flame Bottletree (*Brachychiton acerifolium*) supplement the screening effect of Tree Group 19 and also provide colour during flowering time
  - Tree group 27 includes a Norfolk Island Pine (*Araucaria heterophylla*) which is visible from the railway platform.

4.6.3.1 Visually important vegetation

Visually important vegetation has been identified within the immediate vicinity of the station precinct Vegetation along the eastern and western edge of the rail corridor provides an effective visual screen, mitigating views from sensitive receiver locations. The combination of different types of vegetation ranging from creeper vines to tall canopy trees of differing species and heights, creates a layered effect to the visual barrier, effective from different distances and elevations, whilst also contributing to the amenity and character of the station precinct (refer to Figure 4-4).

4.6.4 Key visual elements

Key views are typically achieved from elevated locations within the study area. Of note are distant views to the north towards the mountainous region around Yengo National Park, from Gazzard Park, the commuter car park (east), elevated locations such as the pathway near the corner of The Crescent and Little Road, and along Cox Avenue. Other views of note include views along the Hume Highway Corridor from the nearby high points and elevated walkway near Yagoona Public School, to the east. Long range views west to the Blue Mountains are possible from certain vantages along the Hume Highway.

Visually prominent features within the immediate study area include two relatively recent residential developments along Church Road (adjacent to the Breasley Place commuter car park), along the Hume Highway to the west, and at the end of The Crescent, south of the station.

While the Hume Highway corridor itself is relatively exposed and has minimal street planting, canopy coverage within the broader area provides effective screening and filtering of views within the study area. The relative abundance of tree planting adjacent to the station itself with broad canopies and creeping vines growing up and along the security fence at a height of 2.4 metres, currently mitigates the scale and elevation of built form elements. This includes views of the existing concourse and covered seating areas on the platform level. Figure 4-4 illustrates prominent visual elements and viewsheds within the study area.

4.6.5 Zone of theoretical visibility

ZTV mapping undertaken for the proposed lift shaft and canopy adjacent to the road corridor revealed a moderate level of visibility of the project from the surrounding area, as shown in Figure 4-3. However, as this mapping does not take into consideration the presence of built form and vegetation, and elevated road crossings, the site inspection revealed the viewshed for the project is primarily confined to land immediately adjacent to the rail corridor and elevated viewpoints east and west, along the Hume Highway.

The presence of built form to either side of the station and buffer vegetation planted along the eastern and western edge of the rail corridor in this location, combined with a lowered station environment, means that there are few viewing opportunities outside of the immediate Hume Highway corridor, station car parks and Gazzard Park area. This buffer vegetation is therefore visually important as it provides visual screening of the Proposal from many surrounding sensitive visual receivers in public and residential areas.

Paper Size ISO A4

0 75 150 225 300

Metrs

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Topography, hydrography and ZTV

FIGURE 4-3

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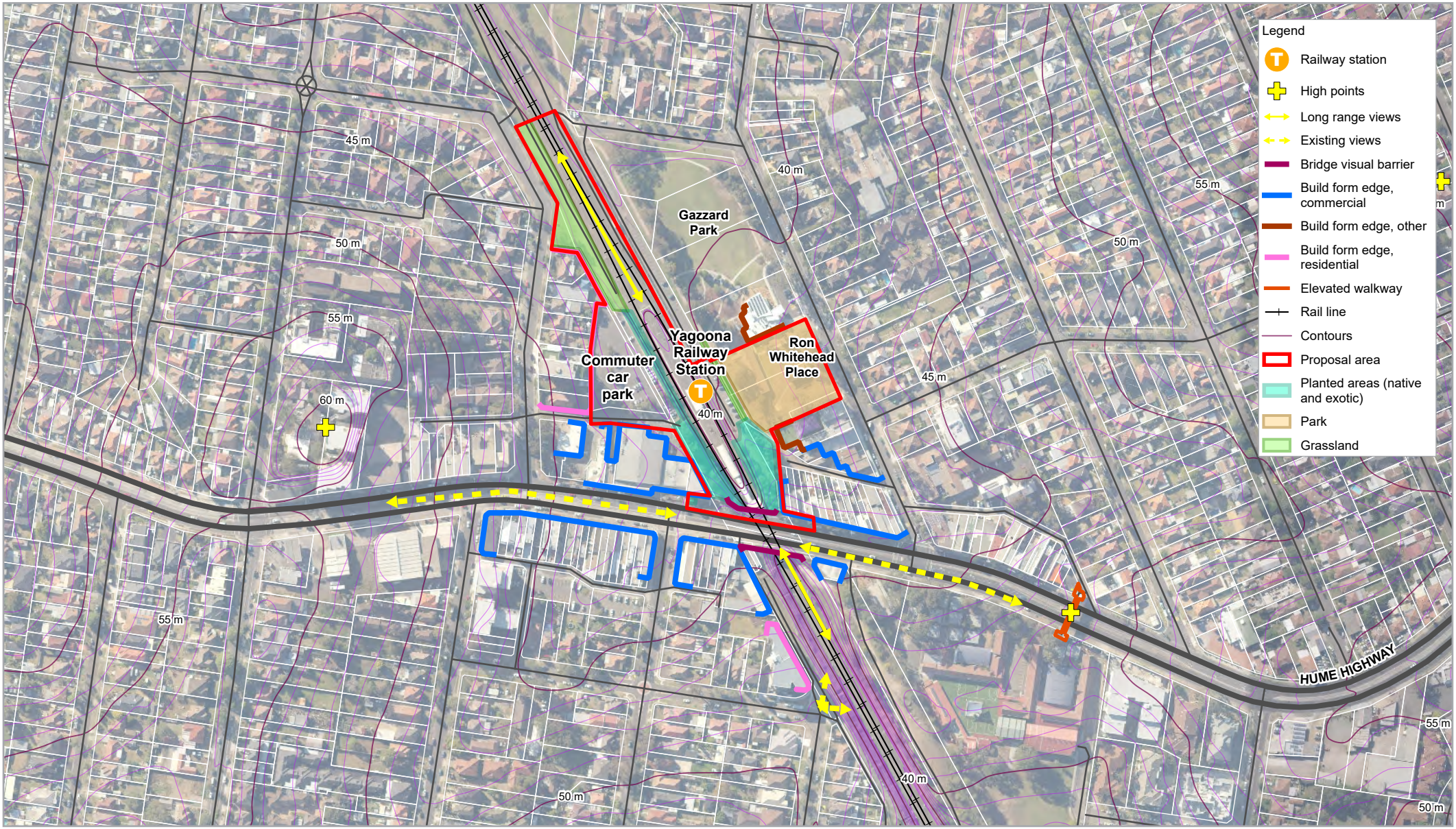

Paper Size ISO A4

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Metrs

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Visual analysis

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FIGURE 4-4

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Print date: 14 May 2021 - 12:10

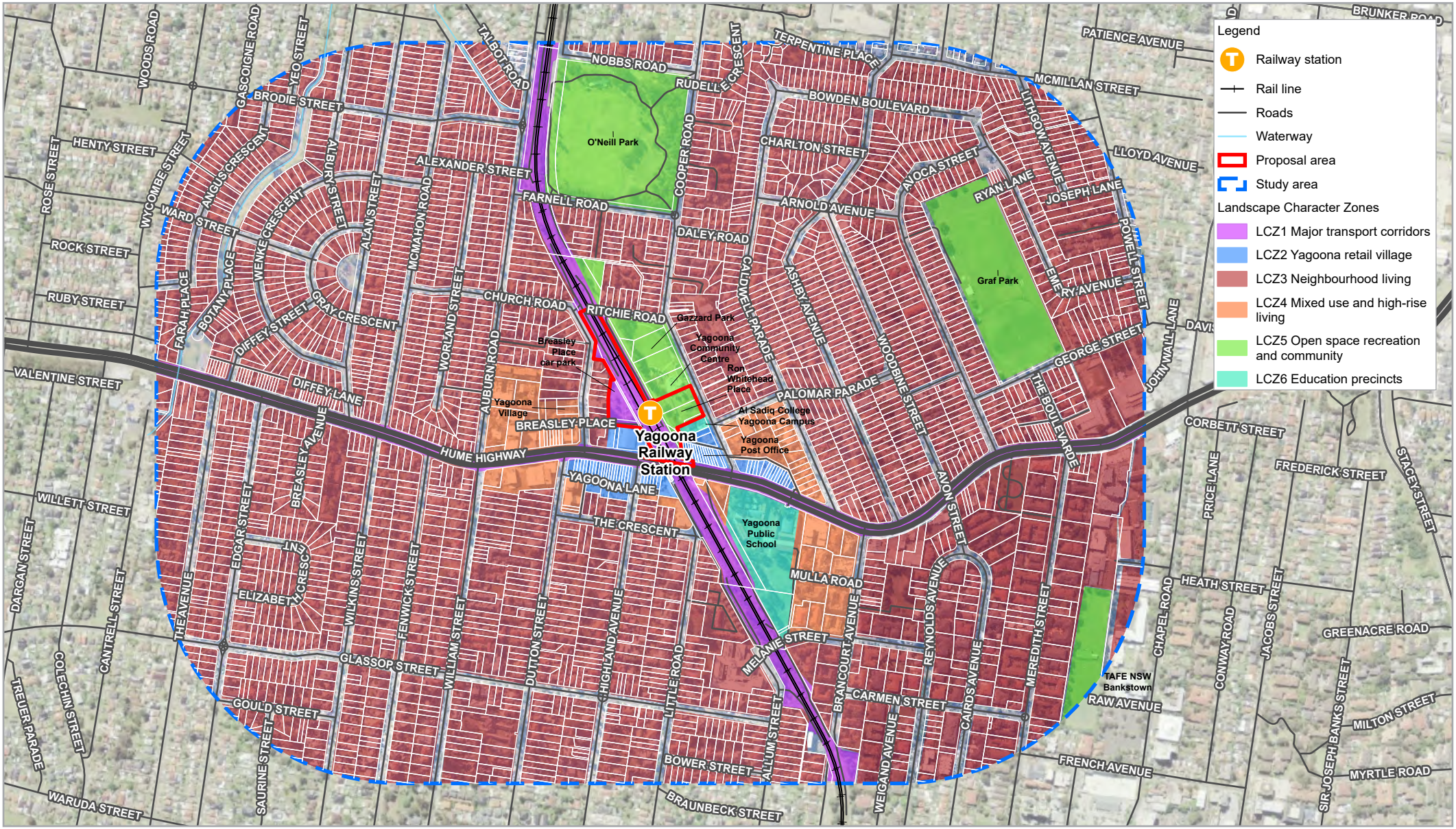
Data source: LPI:DCDB/DTDB, 2021. Image: . Created by: kpsroba

4.7 Landscape character zones

Based on the assessment of natural and cultural influences shaping the landscape, Landscape Character Zones (LCZ's) have been defined representing broadly homogenous characteristics and urban patterns. The following LCZ's have been identified for the study area:

- LCZ1 Major transport corridors
- LCZ2 Yagoona retail village
- LCZ3 Neighbourhood living
- LCZ4 Mixed use and high-rise living
- LCZ5 Open space recreation and community
- LCZ6 Education precincts.

Refer to Figure 4-5 Landscape character zones plan.



Paper Size ISO A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Landscape character zones

FIGURE 4-5

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4.7.1 Landscape character zone 1: Major Transport Corridors

LCZ1 is comprised of the major transport corridors along the Hume Highway running east-west through the study area, and the rail corridor, running in a north-south direction. This also includes the commuter car parking areas, pathways to the station concourse and elevated walkway above the Hume Highway, near Yagoona Public School. Key characteristics of LCZ1 include:

- The rail corridor, comprising two rail lines with an informal maintenance access road along its western edge, near the station precinct (Refer to Photo 4-1). The rail station is somewhat concealed beneath the Hume Highway, with dense vegetation cover immediately east and west. Along the rail corridor edge, there are also a number of advertising billboards, visible from along the Hume Highway and for patrons along the station platform (Refer to Photo 4-5).
- There are two at-grade car parks along the edge of the rail corridor, to the east and west. The western car park features some tree planting and vines growing along the security screen fencing, filtering views to within the rail corridor (Refer to Photo 4-6). This car park is located at the rear of retail tenancies with a shared access for commuters, retailers and servicing vehicles from Breasley Place. The eastern carpark is linear and runs parallel to Gazzard Park and Ron Whitehead Place. Along this section of the rail corridor, the car park is more exposed due to limited vegetation.
- Hume Highway linear road corridor, measuring 20 to 30 metres wide, with three lanes in each direction and central median and vehicle barriers in part along its length. Street pavements vary along the Hume Highway, with wider pavements, seating and landscaped areas near certain crossing points (refer to Photo 4-2 and Photo 4-3).
- A distinguishing feature along the Hume Highway is the brick bridge barrier, immediately adjacent to the station concourse.
- The Hume Highway is a relatively exposed bitumen environment, with limited roadside and median planting and high levels of traffic. Retail tenancies (LCZ2) fronting the Hume Highway are largely built to boundary, particularly around the immediate station environs (Refer to Photo 4-4). The interface between LCZ1 and LCZ2 transitions from active frontages near and around the station to larger inactive frontages beyond Dutton Street and Church Road, to the west.
- An elevated walkway is present near Yagoona Public School, providing a grade separated connection for students and commuters over the Hume Highway. It is elevated a height of approximately six metres above the road centreline, encased by an anti-throw mesh.

As identified in Section 4.3, local landscape values associated with LCZ1 include:

- The *Hume Highway Corridor* is recognised as a national and historical landmark, functioning as a national highway linking Sydney with Canberra and Melbourne; and as entry to employment zones around Bankstown.

No specific values were noted in policy and legislation with respect to the rail corridor and station. However, from the site assessment, the station entry is a visual marker within the retail village. In particular, the concourse, entry signage and historic bridge wall adjacent to the station entry. Dense vegetation cover along the edge of the rail corridor around the station, also contributes to the landscape amenity of LCZ1 and LCZ2.

LCZ1 has been assigned a **moderate** landscape value.

Photo 4-1 Rail corridor looking south from end of platform

Photo 4-2 Hume Highway looking east from station entry

Photo 4-3 Hume Highway looking west from near station entry and bus stop

Photo 4-4 Rail corridor environs – retaining structure and vegetation along eastern edge

Photo 4-5 Rail corridor environs – billboards and dense screening vegetation along western edge

Photo 4-6 Breasley Place commuter and Council car park (west of station)

4.7.2 Landscape character zone 2: Yagoona retail village

LCZ2 comprises the Yagoona retail village, centred on the Hume Highway. The retail village was established in the late 1920s, with some of the original shopfronts remaining intact. This is the primary activity centre for the suburb of Yagoona and is busy with traffic and pedestrians throughout the day and early evening. The station entry is located centrally within the Yagoona retail village. Key characteristics of LCZ2 include:

- Commercial and retail uses including specialty and service retail (Chemists, Hairdressing salons, Barbers, Dentist surgeries), produce markets, cafes and fast-food premises, and a Foodworks supermarket (Refer to Photo 4-7 and Photo 4-8). Servicing, parking areas and laneway access to larger tenancies generally enabled from the rear of premises.
- Built form for this LCZ is typically one to two storey shop fronts, with narrow frontages ranging between four to fifteen metres and shop top housing dating back to post war era (Refer to Photo 4-8). There are some larger tenancies immediately west of the station.
- Retail laneways extending off the Hume Highway, immediately west of the station concourse and on the opposite side of the Hume Highway, connecting to The Crescent. There were a number of vacancies evident during the site visit, however roller doors and shop fronts open out into the laneways contributing to the finer grain retail village character (Refer to Photo 4-11 and Photo 4-12)
- Architectural styles are mixed, with older brick veneer retail tenancies, complete with architraves and detailing typical of the post war era, through to more modern constructions, particularly west of the Station.
- Planting and vegetation is limited to raised garden beds and small planters around seating areas and near crossing points, and a small number of street trees (Refer to Photo 4-7). Feature street trees appear to include Brachychiton and Waterhousia floribunda species.
- Shop awnings, particularly the older style premises east and to the south-west, cover most of the street pavement area, creating shade protection but also restricting long range views in part, along the Hume Highway (Refer to Photo 4-9).
- A public art mural is also present on the external facing wall, immediately east of the station and along the pathway connecting the commuter carpark and station concourse (Refer to Photo 4-10).

As identified in Section 4.3, local landscape values associated with LCZ2 include:

- The Hume Highway corridor, which includes LCZ2, is recognised as a national and historical landmark, functioning as a national highway linking Sydney with Canberra and Melbourne; and as entry to employment zones around Bankstown.

In addition, based on site observations, LCZ2 is a functioning ‘high street’ with representative value, attributed to the conservation of several post-war retail shops and shop top housing remaining, giving the area a distinct landscape character.

LCZ2 has been assigned a **moderate** landscape value.

Photo 4-7 Yagoona Retail village – small plaza near intersection of Hume Highway and Highland Avenue

Photo 4-8 Typical two storey retail frontages, with shop top housing along Hume Highway

Photo 4-9 Awnings along retail spine, south-west of Yagoona station

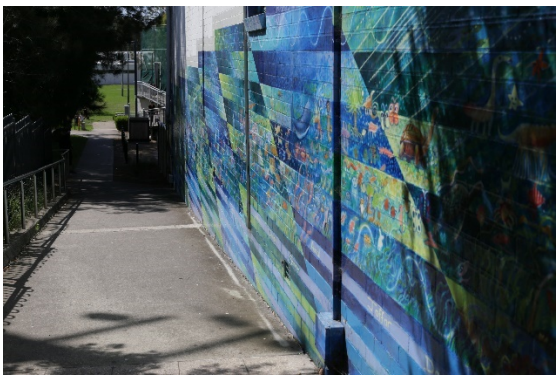


Photo 4-10 Mural artwork on retail tenancies, east of the station

Photo 4-11 Retail laneway along pathway to station concourse from Breasley Place commuter car park

Photo 4-12 Retail laneway connecting activity centre/Hume Highway and The Crescent

4.7.3 Landscape character zone 3: Neighbourhood living

LCZ3 comprises low-density residential development within the study area, typical of suburban neighbourhoods. These areas are located further north-east, north-west and south-west of the station precinct. LCZ3 includes areas which are predominately zoned as Low-Density Residential (R2). Key characteristics of LCZ3 include:

- Predominance of one to two storey single detached dwellings, with some attached dwellings emerging. Setbacks are typically three to eight metres from the street, with buildings oriented towards the street and generous landscaped settings (Refer to Photo 4-13 and Photo 4-14). Apartments, villas/townhouses and seniors housing varies in both its form and orientation.

- The era and style of housing varies across the study area, with a large proportion of housing typical of the brick veneer style, constructed between 1960-1990. Housing is typically brick facades of red and brown brick, with tiled hip and gable style roofs. More contemporary housing is also evident.
- Residential fencing styles and heights also vary but by and large comprise low-level brick fencing typical of brick veneer housing, timber and standard metal fencing (Refer to Photo 4-15).
- The main street pattern within the study area is a rectilinear grid, with some concentric routes and irregularity with cul-de-sacs and truncated streets around the rail corridor and public open space network. Streets typically comprise concrete footpaths on one side or both sides of the street.
- Street trees and shrubs are common throughout the study area, comprising a mix of native and exotic species. Canopy coverage in the area is also attributed to tree planting within private properties (Refer to Photo 4-15 and Photo 4-16).

There were no values identified in Section 4.3 or as part of the site assessment, in respect of local landscape values associated with LCZ3. LCZ3 has therefore been assigned a low landscape value.

Photo 4-13 Typical low-density housing along Cooper Road

Photo 4-14 Typical brick veneer housing styles along Cooper Road

Photo 4-15 Typical street profile and residential interface, Church Road

Photo 4-16 Street amenity along Auburn Road, a key local connector

4.7.4 Landscape character zone 4: Mixed use and high-rise living

LCZ4 comprises mixed use commercial and high-rise living developments, west of the station precinct. This area is undergoing change with greater building heights and densities supported within strategic frameworks and plans, particularly land in proximity of the activity centre and rail station. Key characteristics of LCZ4 include:

- Large format and plaza style retail tenancies, which are in part set back slightly from the Hume Highway and have private parking and servicing areas (Refer to Photo 4-17). The height of retail tenancies is generally one to two floors, which is consistent with the traditional shopfronts, to the east and south-west.
- Built form is predominately comprised of rendered brick and modern pre-fabricated constructions with flat roofs and glazing. Buildings within this LCZ feature a mixture of inactive and active frontages, according to the use.
- Contemporary high-rise residential towers are evident with several new developments currently under construction, particularly along the Hume Highway Corridor west of the station (Refer to Photo 4-18, Photo 4-19 and Photo 4-20). Strategic frameworks allow from between 18-25 metres in areas within easy walking distance of the station. At present, there are high-rise under construction of up to eight floors.
- Larger canopy vegetation is limited to within parking areas and along the adjoining streets within this LCZ, featuring a range of mix of native and exotic species.

There were no values identified in Section 4.3 or as part of the site assessment, in respect of local landscape values associated with LCZ4. LCZ4 has therefore been assigned a low landscape value.

Photo 4-17 Large format commercial/ high-rise living – Hume Highway

Photo 4-18 Childcare centre and high-rise apartments - Church Road

Photo 4-19 High-rise residential apartments off The Crescent

Photo 4-20 Transitioning landscape west of the rail corridor

4.7.5 Landscape character zone 5: Recreation and community

LCZ5 comprises Gazzard Park, Yagoona Community centre and Ron Whitehead Place, adjacent to Al Sadiq College and the station precinct. Further pockets of open space are located south of the station. Key characteristics of LCZ5 include:

- Recently upgraded park setting, with passive and active recreation facilities, including a sporting field and play equipment (Refer to Photo 4-21).
- Modern, architecturally designed community centre building, approximately four metres high (Refer to Photo 4-22). The facility without any form of boundary fencing is well integrated within the park setting. The building can be accessed directly from Gazzard Park and along Cooper Road.
- Network of pedestrian and cycle paths within Gazzard Park and along its edge, connecting to the Station concourse entry along the Hume Highway (Refer to Photo 4-23).
- Ron Whitehead Place with large canopy trees around its perimeter, which formerly contained a Senior Citizens centre (Refer to Photo 4-24). The reserve features a truncated path and seating, adjacent to the community centre.
- Council owned reserve adjacent to the rail corridor, providing a connection between Gazzard Park, Community centre and the station precinct with O'Neill Park, further north.
- Range of shrub and taller canopy tree planting throughout the area, which features a mix of native and exotic species.

As identified in Section 4.3, local landscape values associated with LCZ5 include:

- Gazzard Park and adjacent reserve connecting to Martha Street, O'Neill Park and broader open space assets comprising LCZ5 are identified as key local open assets under the Open Space Strategy and have recreational value.

In addition, based on site observations, the physical state of the parks, reserves and community centre within LCZ5 is in good condition. It makes a positive contribution to the landscape and scenic qualities of this LCZ. LCZ5 has therefore been assigned a moderate landscape value.

Photo 4-21 Play equipment and setting within Gazzard Park

Photo 4-22 Yagoona Community Centre entry from Gazzard Park

Photo 4-23 Shared use path link along edge of Gazzard Park

Photo 4-24 Ron Whitehead Place

4.7.6 Landscape character zone 6: Education precincts

LCZ6 comprises the two main education precincts within the study area - Yagoona Public School and Al Sadiq College. While the two precincts are quite distinct, key characteristics of LCZ6 include:

- Al Sadiq College, immediately east of the station precinct is a compact campus layout with one single building of three storeys and external play/sporting areas. There is a slightly elevated open-air hardcourt, with ramped access to the rear, near Ron Whitehead Place and pathway leading to the station (Refer to Photo 4-25 and Photo 4-26).
- Yagoona Public School is located more than 250 metres from the station precinct but is a much larger campus with several longer 'L' shaped classroom buildings of one storey, outdoor play and seating areas, internal parking and sporting grounds. There is an elevated walkway connecting to the school entry across the Hume Highway.

There were no values identified in Section 4.3 or as part of the site assessment, in respect of local landscape values associated with LCZ6. LCZ6 has therefore been assigned a low landscape value.

Photo 4-25 Al Sadiq College entry from Cooper Road

Photo 4-26 Elevated hardcourt area and ramp entry at Al Sadiq College

4.8 Sensitive visual receivers and viewpoints

Based on the existing environment analysis and site visit, sensitive visual receivers were identified and viewpoint locations selected for assessment.

4.8.1 Sensitive visual receivers

Sensitive visual receivers within the Proposal viewshed include the following:

- residential properties along the eastern side of Church Road
- residential properties east of Cooper Road, primarily between Ritchie Road and Palomar Parade
- medium density residential apartment blocks along Church Road, Hume Highway and at the end of The Crescent
- commuters using Yagoona Station, including platforms, concourse, commuter car parks and graded footpaths, east and west
- commuters using bus stops immediately west near concourse entry and further east, near Yagoona Public School
- pedestrians and road users on the Hume Highway and elevated walkway, Breasley Place, Cooper Road and Cooper Lane
- Gazzard Park and Yagoona Community centre users
- Al Sadiq College users.

4.8.2 Viewpoint locations

Table 4-2 and Figure 4-6 identify representative viewpoints for assessment of views from the most sensitive visual receivers. Refer to Section 5.2 for a discussion of impacts on these views.

Table 4-2 Viewpoint locations

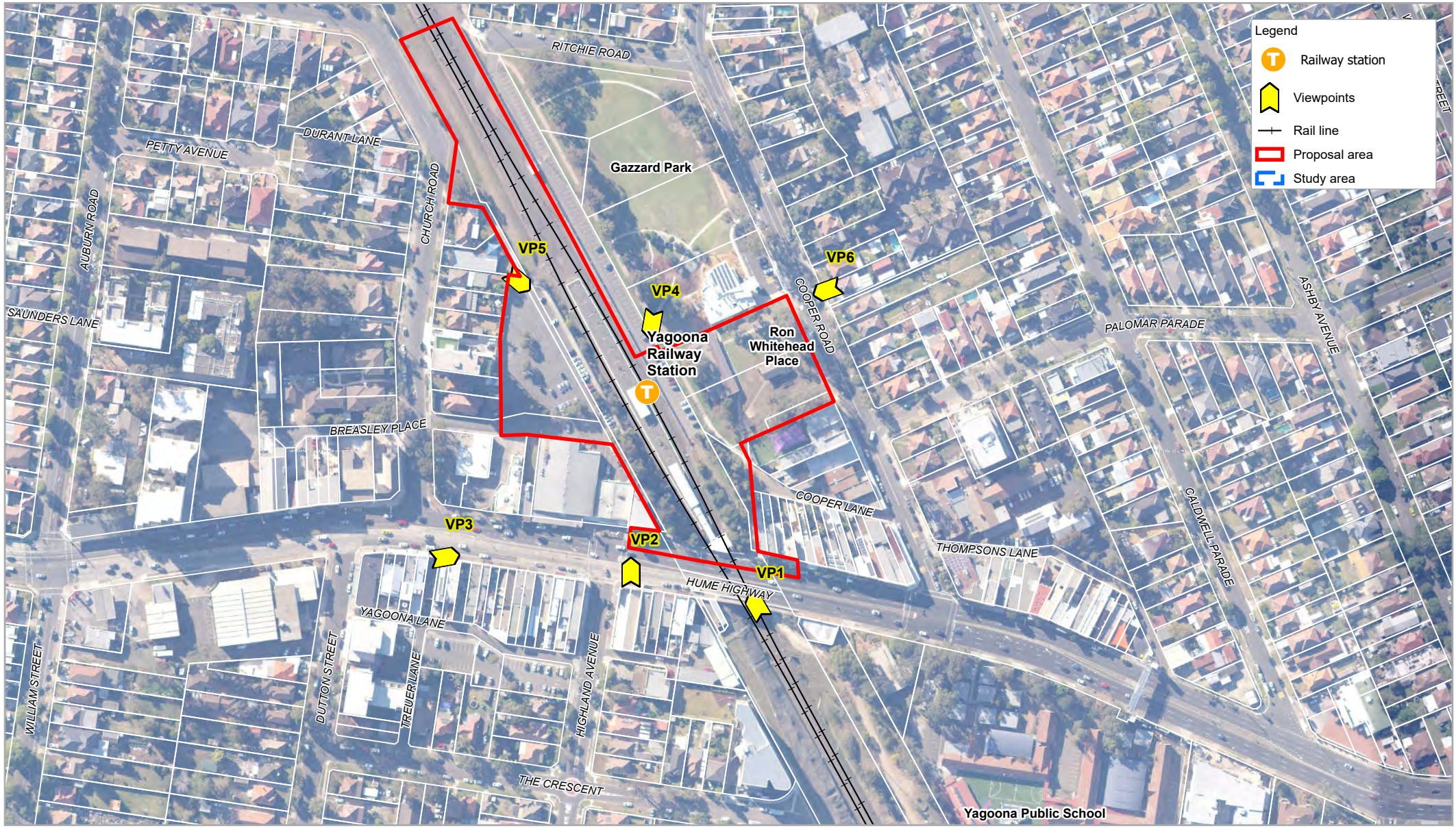
Viewpoint	Location	Description
VP1	Hume Highway	This view represents road users and pedestrians along the Hume Highway, directly opposite the concourse and station entry.
VP2	Hume Highway (median)	This view represents road users and pedestrians along the Hume Highway, upon approaching the station precinct from the east.
VP3	Hume Highway (west)	This view represents pedestrians and businesses, from a crest along the Hume Highway, west of the Proposal area.
VP4	Gazzard Park and Ron whitehead Place	This view represents park and community centre users, pedestrians and cyclists using the path within Gazzard Park and Ron Whitehead Place.
VP5	Council and commuter car park (off Breasley Place)	This view represents that of car park users and occupants at properties along Church Road/backing onto the Council car park.
VP6	Cooper Road	This view represents that of pedestrians at the crossing point and occupants of nearby residential properties.

4.9 Other viewing locations

Other viewing locations were initially considered however a full assessment was not provided due to the distance of the viewing location from the Proposal and/or limited viewing opportunity, therefore negligible visual effects were anticipated. Refer to Table 4-3 for an outline of other viewing locations and Section 5.3 for a discussion of these views.

Table 4-3 Other viewpoint locations

Viewpoint	Location	Description
VP7	Near Cooper Lane / Al Sadiq College	This view represents pedestrians, school users and that of businesses backing onto Cooper Lane.
VP8	Laneway connecting Hume Highway and The Crescent	This view represents pedestrians along the laneway connecting The Crescent and Hume Highway, and notional view from adjacent residential properties.
VP9	Elevated walkway (near Yagoona Public School)	This view represents pedestrians and school users crossing the Hume Highway, from an elevated perspective.



Paper Size ISO A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Viewpoint locations

FIGURE 4-6

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Paper Size ISO A4

0 20 40 60 80

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

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Other viewing locations

FIGURE 4-7

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Print date: 14 May 2021 - 12:10

Data source:LPI:DCDB/DTDB, 2021, Sixmaps Imagery, 2021. Image: . Created by: kpsroba

5. Impact assessment

5.1 Landscape impact assessment

This section includes an assessment of impacts to landscape character from the Proposal. Refer to Figure 4-5 for location of LCZs.

5.1.1 Landscape character zone 1: major transport corridors

Refer to Table 5-1 below for LCZ1 impact assessment.

Table 5-1 LCZ1 impact assessment

Landscape character zone 1: major transport corridors	
Anticipated change to landscape character	The Proposal is located within LCZ1. The anticipated change to landscape character includes a new concourse and lift opening out to the Hume Highway entrance. The height of the canopy and lift shaft within the concourse area is approximately 5.5 metres above the road level. The bridge wall is a distinguishing feature at the station entry but is proposed to be maintained. At the platform level, the Proposal comprises a new station building and extension of the covered canopy area. The relative height of the canopy and lift is approximately nine metres from the top of platform. Other external works to improve accessibility would include a new suitably graded ramp pathways, which will result in some vegetation clearing west of the station concourse. The trees to be removed are described as tree Groups 27, 28, 29 and 30 (see Appendix A). All occur along the top and upper slopes of a batter, west of the station within a fenced area. There are numbers of self-recruited shrubs and small trees, including several invasive species, including Lantana, Mulberry, African Olive and Privet that shall also be removed. All other trees will be retained, although the tops of the Swamp Oaks in Tree Group 19 will need to be removed in addition to two Callistemon cultivars on the edge of the car park.
Landscape value	The landscape value is assessed as **moderate** as identified in Section 4.7.1.
Landscape susceptibility to change	The landscape susceptibility is assessed as **moderate**. As an existing station and given the complex urban environment along the Hume Highway Corridor, the Proposal is unlikely to have a significant adverse effect on the landscape character, condition or values of LCZ1, that could not be mitigated.
Sensitivity to change	The sensitivity to change is **moderate**. This is based on a moderate susceptibility to change to accept this type of development into a landscape of moderate value.
Magnitude of change	Assessed as **moderate.** while the primary built form change is constrained to within the current station footprint, vegetation removal along the upper slope of the rail corridor, west of the station due to a new segment of elevated walkway, will result in discernible changes to the landscape character of LCZ1. This is considered to adversely impact the vegetated character of the immediate area, particularly along the Hume Highway. These impacts could however be partly mitigated. The canopy and lift proposed within the concourse area are in keeping with the scale of adjacent retail tenancies within LCZ2. While new elements are proposed, they are not uncharacteristic within the existing landscape.
Significance of impact	**Moderate**

5.1.2 Landscape character zone 2: Yagoona retail village

Refer to Table 5-2 below for LCZ2 impact assessment.

Table 5-2 LCZ2 impact assessment

Landscape character zone 2: Yagoona retail village	
Anticipated change to landscape character	The station is a focal point and creates activity within the retail village. Given the Proposal is located on the edge of the LCZ2 areas, key changes to the landscape character within LCZ1 would be discernible from LCZ2. The anticipated change expected within LCZ2 would be the removal of the public art mural immediately east of the station and along the pathway connecting the commuter carpark and station concourse. There are no other anticipated changes expected to impact the key features of LCZ2. However, as vegetation removal is proposed along the upper slope, to the west of the station and adjacent to retail tenancies, some change is anticipated to the landscape character of LCZ2. The new elevated pathway will also redirect some foot traffic between the commuter car park and station, which would normally pass these retail tenancies.
Landscape value	The landscape value is assessed as **moderate** as identified in Section 4.7.2.
Landscape susceptibility to change	The landscape susceptibility is assessed as **low**. As an existing station and given the complex urban environment within which LCZ2 sits along the Hume Highway Corridor, the Proposal is unlikely to have a significant adverse effect on the landscape character, condition or values of LCZ2, that could not be mitigated.
Sensitivity to change	The sensitivity to change is **low**. This is based on a low susceptibility to change to accept this type of development into a landscape of moderate value.
Magnitude of change	**Low,** as the anticipated change is predominantly confined to the new station concourse and pathway connections east and west, including the potential loss of the public art mural, which has the potential to be partly mitigated. The extent and scale of the change within the adjoining LCZ1 area, is largely consistent with the current context. While some vegetation removal is proposed, it would not substantially alter the landscape character of LCZ2.
Significance of impact	**Low**

5.1.3 Landscape character zone 3: neighbourhood living

No impact as the Proposal does not affect nor change the elements that define the landscape character zone as described in Section 4.7.3.

5.1.4 Landscape character zone 4: mixed use and high-rise living

No impact as the Proposal does not affect nor change the elements that define the landscape character zone as described in Section 4.7.4.

5.1.5 Landscape character zone 5: recreation and community

Refer to Table 5-3 below for LCZ5 impact assessment.

Table 5-3 LCZ5 impact assessment

Landscape character zone 5: recreation and community	
Anticipated change to landscape character	The Proposal would occur adjacent to LCZ5. The anticipated changes close to LCZ5 include the new station concourse and lift, station building, extension of canopy area along the platform and upgrade to the access pathway connecting to the eastern car park (from Ritchie Road), Gazzard Park and Yagoona Community Centre. The Proposal would not impact any of the key features for LCZ5, however there are multiple vantage points from Gazzard Park, Ron Whitehead Place and Yagoona Community centre, overlooking the station precinct, which contributes to the landscape character in this location. The consequential level of change to LCZ5 on account of vegetation removal within LCZ1, would not substantially change the value or character of LCZ5.
Landscape value	The landscape value is assessed as **moderate** as identified in Section 4.7.5.
Landscape susceptibility to change	The landscape susceptibility is assessed as **low**. The Proposal is unlikely to have a significant adverse effect on the landscape character, condition or values of LCZ5, that could not be mitigated.
Sensitivity to change	**Low** as the Proposal is expected to have limited impact on the values associated with park and community setting comprising LCZ5. Impacts are expected to be isolated to the path upgrades on the eastern edge of the station and associated vegetation removal, which connects to Gazzard Park and Ron Whitehead Place.
Magnitude of change	**Low**, as there is little change to the landscape character due to the additional Proposal components and vegetation clearing, and all Proposal components are within LCZ1 and the existing station precinct footprint.
Significance of impact	**Low**

5.1.6 Landscape character zone 6: education

No impact as the Proposal does not affect nor change the elements that define the landscape character zone as described in Section 4.7.6.

5.2 Visual impact assessment

The following section provides a visual impact of the Proposal from the following selected representative viewpoint locations. Refer to table Table 4-2 and Figure 4-6 for locations.

Photomontages representing the viewpoint before and after the Proposal have been prepared for Viewpoints VP01, VP02 and VP04 and are provided in Appendix A.

5.2.1 Viewpoint location VP01: Hume Highway (south-east)

VP01 is located along the Hume Highway. This viewpoint represents views of local pedestrian along the local retail village and motorists on the Hume Highway. VP01 is facing north-west towards Yagoona station as shown in Photo 5-1. Refer to Table 5-4 for assessment.

Photo 5-1 View north-west from footpath along the Hume Highway, adjacent to medical centre

Table 5-4 VP01 impact assessment

Criteria	Comments
Location and View Direction	VP01 is located on a footpath along the southern side of Hume Highway. VP01 is located approximately 35 metres from the Proposal, looking north-west. This viewpoint represents views experienced by pedestrians along the Hume Highway and motorists.
Description of Existing View	VP01 comprises a view over the Hume Highways major transport corridor which is a highly modified setting. A median safety barrier fence runs along the entire length of the station interface. The Yagoona Station sits within the centre of view between the surrounding commercial buildings. The existing stations brick wall façade adds to the local character of the station. Beyond the brick wall, vegetation can be seen in varying heights along the rail corridor. Other ancillary elements can be also be seen overhead including power lines, telecommunications equipment, lighting poles and a large marketing billboard above the station.
Anticipated Change to View	Anticipated changes would include an increase in height for the station concourse canopy and lift shaft. There will also be changes to the station entry including location of stairway and new lift access. Changes to the pathways connecting to commuter car parks east and west, are also to be upgraded to be DSAPT compliant, which will result in vegetation removal along the upper slope of the rail corridor west of the station, and visible from this viewpoint. Vegetation on the lower slope of the rail corridor to the west, won't be visible from this viewpoint and as such, vegetation clearing will substantially impact the visual amenity and green character of the rail corridor, resulting in a more exposed setting.
Sensitivity to change	**Low**, as road users and pedestrians along the footpath, are typically passing through the area, with transient views towards the train station.
Magnitude of change	**Moderate,** as the proposed vegetation clearing would be a discernible change to the view, altering the nature of the context and existing conditions.
Significance of impact	**Low – Moderate**

5.2.2 Viewpoint location VP02: Hume Highway (median)

VP02 is located within the pedestrian median of the Hume Highway. This viewpoint represents views of local pedestrian users within the local retail village and motorists on the Hume Highway. VP02 is facing north-east as shown in Photo 5-2. Refer to Table 5-5 for assessment.

Photo 5-2 View north-east from pedestrian median along the Hume Highway

Table 5-5 VP02 impact assessment

Criteria	Comments
Location and View Direction	VP02 is located on a pedestrian median of the southern side of Hume Highway. VP02 is located approximately 30 metres from the Proposal, looking north-east. This viewpoint represents views experienced by local pedestrian in their retail village and motorists on the Hume Highway.
Description of Existing View	VP02 represents a view over the Hume Highway, a major transport corridor within a highly modified setting running through the local retail village. A median and sidewalk safety barrier fence runs along the entire length of the station interface. Yagoona Station is located within a slight elevation change, making it more prominent from VP02. The adjacent retail tenancies are built to the boundary and are typically built up to two stories. A bus stop can be seen at the edge of the railway corridor boundary next to the east commuter car park walkway. Beyond the retail building, the bus stop and the station brick wall, some vegetation can be seen in varying heights along the rail corridor, screening views towards the railway corridor and station precinct. Other ancillary elements can be seen overhead including power lines, lighting poles and a large marketing billboard above the station.
Anticipated Change to View	Anticipated changes would include an increase in height of the station concourse canopy and lift shaft that may be seen above the station brick wall. The proposed changes to the car park walkway alignment west of the station, would change the surface grade which will result in the removal of prominent vegetation along the western upper slope along the rail corridor, visible from along the Hume Highway. The removal of this screening vegetation may create new views towards the rail corridor and station precinct but will substantially impact the visual amenity and green character of the rail corridor, resulting in a more exposed setting.
Sensitivity to change	**Low**, as road users and pedestrians along the footpath are typically passing through the area, with transient views towards the train station.
Magnitude of change	**Moderate,** as the proposed vegetation clearing would be a discernible change to the view, altering the nature of the context and existing conditions.
Significance of impact	**Low – Moderate**

5.2.3 Viewpoint location VP03: Hume Highway (south-west)

VP03 is located along the footpath of the Hume Highway. This viewpoint represents views of local pedestrian users within the local retail village and motorists on the Hume Highway. VP03 is facing east as shown in Photo 5-. Refer to Table 5-6 for assessment.

Photo 5-3 View east from footpath along the Hume Highway

Table 5-6 VP03 impact assessment

Criteria	Comments
Location and View Direction	VP03 is located on a footpath along the southern side of Hume Highway. VP03 is located approximately 130 metres from the Proposal, looking east. This viewpoint represents views experienced by local pedestrian in the retail village and motorists on the Hume Highway.
Description of Existing View	VP03 comprises a view over the Hume Highway and along the local retail village. The traffic volume along the highway corridor buffers views across the roadway and reduces the quality within the pedestrian environment. The retail village interface runs along both sides of the Hume Highway and is typically one to two stories in height. The Yagoona Station can be seen in the distance on a slight elevation change along the road. The brick bridge wall of the station and the vegetation cover above the rail corridor provides visual screening to the station precinct. Other ancillary elements can be seen within view including road signage, distant power lines, lighting poles and a marketing billboard above the station.
Anticipated Change to View	Anticipated changes would include an increase in height of the station concourse canopy and lift shaft that may be seen above the station brick wall. The changes to the east and west walkway of the station precinct would result in the removal of some of the prominent vegetation along the upper slope, west of the rail corridor, which would visually alter the density of vegetation cover seen from VP03.
Sensitivity to change	**Low**, as road users and pedestrians along the footpath, are typically passing through the area with transient views towards the train station.
Magnitude of change	**Low**, as there would only be some visible alterations to the view, however they would not be uncharacteristic within the existing scale and nature of the viewpoint's context and existing conditions from this distance.
Significance of impact	**Low**

5.2.4 Viewpoint location VP04: Gazzard Park and Ron Whitehead Place

VP04 is located between Gazzard Park and Ron Whitehead Place. This viewpoint represents views of local park and community centre users, pedestrians and cyclists. VP04 is facing south as shown in Photo 5-. Refer to Table 5-7 for assessment.

Photo 5-4 View south from Gazzard Park and Ron Whitehead Place

Table 5-7 VP04 Impact Assessment

Criteria	Comments
Location and View Direction	VP04 is located between Gazzard Park, Ron Whitehead Place and the east commuter car park. VP04 is located approximately 30 metres from the Proposal, looking south. This viewpoint represents views experienced by local park and community centre users, and people in transit along the pedestrian / cycling path, and those parking within the west commuter car park.
Description of Existing View	VP04 comprises a view over the open park reserve from a pedestrian / cyclist pathway within Gazzard Park and Ron Whitehead Place. There is a direct view towards the community car park within the centre of view. The adjacent train station and associated infrastructure can be seen directly as the land elevation drops down from the footpath. The boundary fence line, platform, platform canopy and signage can all be seen directly from VP04. Some distant vegetation along the pedestrian / cyclist path and across on the far side of the railway corridor begins to screen further views of the area, with some glimpses of residential and commercial buildings. Other ancillary elements can be seen including power lines, power poles and lighting features.
Anticipated Change to View	Anticipated changes would include an increase in height of the station concourse canopy and lift shaft that may be visible. The station stairway would be repositioned to the left of the concourse and a new platform canopy structure will connect into the existing platform canopy structures, along with an extension to the end canopy closest to this viewpoint. The end of the shared use path leading up to the station concourse, is visible and would be regraded. The regrade will result in some vegetation trimming, but this is not anticipated to result in substantial changes to the view. A new bike rack would be installed towards the end of this pathway that is currently visible. To the west of the station, vegetation clearing and the new elevated walkway will also be visible.
Sensitivity to change	**Moderate**, as recreational users of the nearby park area and community centre will have intermittent views of the study area when outside and passing the western side of the Community Centre and playground. The viewers would be located within proximity to the change, but their viewing periods would be limited.
Magnitude of change	**Low**, as there would be visible alterations to the view. However, they would not be uncharacteristic within the existing scale and nature of the train stations existing view from this distance.
Significance of impact	**Moderate – Low**

5.2.5 Viewpoint location VP05: Breasley Place Council and Commuter Car park

VP05 is located within the Breasley Place Council and Commuter Car park. This viewpoint represents views of commuters and occupants at properties along Church Road. VP05 is facing south-east as shown in Photo 5-5. Refer to Table 5-8 for assessment.

Photo 5-5 View south-east from Breasley Place Council and commuter car parks

Table 5-8 VP05 impact assessment

Criteria	Comments
Location and View Direction	VP05 is located within the Council and Commuter car parks off Breasley Place. The viewpoint is located approximately 20 metres from the Proposal, looking south-east. This viewpoint represents views experienced by occupants within the nearby residential properties along Church Road, the nearby childcare centre and by motorists parking within the car parks.
Description of Existing View	VP05 comprises a view over a sealed car park. The car park offers enclosed views of the harsh impervious car park condition. A concrete footpath and high fence line run along the car park and rail corridor interface along the left of view, screening views towards the platform. The distant vegetation canopy cover screens further views, allowing only some glimpses towards the retail village's commercial buildings and other residential buildings beyond the car park. Other ancillary elements can be seen including power lines, power poles and lighting features throughout the view.
Anticipated Change to View	Anticipated changes may include the alterations to the height of the existing station, bringing the new concourse into view above the fence line. The new platform canopy structures may become visible above the fence. The regrading of the car park walkway and segment of new elevated walkway to the west of the station, will result in vegetation removal from the upper slope of the rail corridor, impacting the canopy cover and screening. This will result in new views to the Hume Highway and Retail Village (LCT2). The reduced distant vegetation canopy cover from this viewpoint would increase the harsh visual nature of this car park environment.
Sensitivity to change	**Moderate**, as there are occupants within the nearby residential properties that have long viewing periods which are typically screened views from ground level but will be more visible from elevated levels. The childcare centre also has partially screened views towards the study area and has a moderate sensitivity as the centre is located within a proximity, but the viewing periods for this use would be limited. Car park users are typically passing through the area, with transient views. Therefore, the sensitivity is moderate due to the residential properties and the childcare centres' views from along Church Road.
Magnitude of change	**Low**, as the Proposal components would be relatively undiscernible and there is only anticipated changes to the distant view from an elevated height. The alterations is not uncharacteristic in the existing scale and nature of the existing view over the car park.
Significance of impact	**Moderate – Low**

5.2.6 Viewpoint location VP06: Cooper Road

VP06 is located on Cooper Road. This viewpoint represents views of pedestrians at the Cooper Road crossing point and occupants of nearby residential properties. VP06 is facing west as shown in Photo 5-6. Refer to Table 5-9 for assessment.

Photo 5-6 View west from Cooper Road

Table 5-9 VP06 impact assessment

Criteria	Comments
Location and View Direction	VP06 is located along Cooper Road and looks over Ron Whitehead Place park. VP06 is located approximately 120 metres from the Proposal, looking west. This viewpoint represents views experienced by pedestrians crossing Cooper road and occupants of the nearby residential properties along Cooper Road.
Description of Existing View	VP06 comprises a view over Cooper Road and towards the open grassed area of Ron Whitehead Place. Towards the right of view is a pedestrian crossing and the building visible is the Yagoona Community Centre. To the centre of view is the Ron White Place park. Allowing views through a generally open park that has some large trees, screening views beyond. Behind the park a row of cars can be seen at the train stations community car park. Adjacent this car park is the train station platform and platform canopy, which can only partially be seen from VP06 due to the distance from the train station and the screening vegetation from the park. Other ancillary elements can be seen within the view including signage and lighting elements.
Anticipated Change to View	Anticipated changes include the new platform canopy structure, which will potentially be visible from a distance within VP06. Other changes within view may be more prominent during construction (Refer Section 5.5).
Sensitivity to change	**High**, as the view is representative of residential properties with long viewing periods, and within a close proximity to the proposed development.
Magnitude of change	**Negligible**, as there is almost imperceptible or no change in the view as there is little change to the elements and features of the view.
Significance of impact	**Negligible**

5.3 Other views

Three other viewing locations within the study area were initially considered however a full assessment was not provided due to the distance of the viewing location from the Proposal and/or limited viewing opportunity, therefore negligible visual effects were anticipated.

Table 5-10 Other viewing locations

Viewpoint / Location	Sensitive Receivers
VP07 Cooper Lane / Al Sadiq College	School users / pedestrians
VP08 Laneway off The Crescent	Residential properties
VP09 Elevated walkway above Hume Highway	School users / pedestrians

5.3.1 Viewpoint location VP07: Cooper Lane / Al Sadiq College

Photo 5-7 View west from Cooper Lane / Al Sadiq College

VP07 is located near Cooper Lane. This view represents pedestrians, school users and that of businesses backing onto Cooper Lane. VP07 is taken facing west, as shown in Photo 5-7. VP07 is situated along a high use footpath and the users are typically passing through the area with transient views. The existing view towards the train station precinct is heavily filtered from the surrounding vegetation, enabling glimpses through the vegetation towards the station concourse from VP07. The ramp grade is anticipated to be regarded for the proposed accessible walkway along this pathway visible. The associated works to achieve the required grade for pathways east, will result in some vegetation trimming but is not anticipated to impact the quality of vegetation screening and canopy cover present in this view. The magnitude of changes would be relatively negligible due to the scale of changes within this current view and the nearby vegetation filtering views towards the proposed changes of the train station precinct. Therefore, the significance of change would be considered negligible.

5.3.2 Viewpoint location VP08: Laneway off The Crescent

Photo 5-8 View north-west Laneway off The Crescent

VP08 is located along a laneway connecting The Crescent and the Hume Highway. This view represents pedestrians along the laneway and notional views from adjacent residential properties. VP08 is taken facing north-east, as shown in Photo 5-8.

VP08 existing view is directed down the laneway and the views towards the station precinct is partially filtered through the wire fence. Anticipated changes for VP08 would be associated with the changing height of the train station concourse, the addition of the lift shaft and the potential removal of some vegetation canopy along the rail corridor. The magnitude of changes would be negligible due to the scale of changes within this current view and the filtering views from the wire fence and built form within view, towards the proposed changes of the train station precinct. Therefore, the significance of change would be considered negligible.

5.3.3 Viewpoint location VP09: from elevated walkway

Photo 5-9 View east from Hume Highway crossing

VP09 is located at an elevated walkway near Yagoona Public School. This view represents pedestrians and school users when crossing the Hume Highway at a height of approximately 7.5 metres above the road level. VP09 is taken facing east, as shown in Photo 5-9. Due to the anti-throw mesh caging around the walkway, a complete panoramic photo was not possible at this location.

VP09 represents transient views over the station precinct. The walkway has a mesh caging around the elevated walkway, which partially screens views. The anticipated changes are associated to the increase in the station's concourse height and the potential removal of vegetation along the railway corridor. The magnitude of change seen from VP09 is anticipated to be negligible due to the scale of change within this view. Therefore, the significance of change would be considered negligible.

5.4 Summary of Impacts

The following Table 5-11 and Table 5-12 provides a summary of landscape and visual impacts for the Proposal.

Table 5-11 Summary of landscape impacts

LCZ	Description	Sensitivity to change	Magnitude of change	Overall Rating
LCZ1	Major Transport Corridors	Moderate	Moderate	**Moderate**
LCZ2	Yagoona Retail Village	Low	Low	**Low**
LCZ3	Neighbourhood living	Negligible	Negligible	**Negligible**
LCZ4	Mixed use and high-rise living	Negligible	Negligible	**Negligible**
LCZ5	Recreation and community	Low	Low	**Low**
LCZ6	Education precincts	Negligible	Negligible	**Negligible**

Table 5-12 Summary of Visual Impacts

Viewpoint	Location	Sensitivity to change	Magnitude of change	Overall Rating
VP01	Hume Highway (south-east)	Low	Moderate	**Low – Moderate**
VP02	Hume Highway (median)	Low	Moderate	**Low – Moderate**
VP03	Hume Highway (south-west)	Low	Low	**Low**
VP04	Gazzard Park	Moderate	Low	**Moderate – Low**
VP05	Breasley Place Council and commuter car parks	Moderate	Low	**Moderate – Low**
VP06	Cooper Road	High	Negligible	**Negligible**

5.5 Landscape and Visual Impacts during Construction

Construction works would result in temporary landscape and visual impacts which will extend beyond the Proposal area. Landscape and visual impacts associated with construction activities are generally of greater magnitude than those associated with operation however, these are temporary in nature. Details of the proposed construction duration, activities and staging is detailed further in Section 3.3.

Landscape and visual impacts during construction resulting from those activities outlined in Section 3.3 may include:

- establishment of site compounds for plant/material storage, sites offices, carparking and staff amenities and associated fencing
- the presence of a crane required to erect the new station building components, station concourse and lift shaft construction, to be located within the Council car park (off Breasley Place)
- the presence of a bobcat, piling rig, excavator, mobile cranes, vibrating roller, suction trucks, concrete truck and pump, construction related vehicles (dump and skiptrucks)
- elevated work platform
- temporary hoarding around the Proposal area, Ron Whitehead Place, commuter car parks and footpath upgrade areas

- Lighting towers
- presence of construction traffic and workers.

The majority of construction works will occur within the existing station footprint, within LCZ1. While temporary in nature, the works will change the character and use of the station during the construction period.

LCZ4 and LCZ5 would also be impacted by construction of the Proposal. The presence of construction compounds and storage areas will render Ron Whitehead Place unusable for the construction duration. As an integrated recreation and community area, the experience and use of Gazzard Park and the Yagoona Community centre will also be impacted, given their proximity to both Ron Whitehead Place and pathways connecting to the station precinct.

As the station is located centrally within the retail village, it is anticipated that there will be some impact on LCZ2, with the erection of hoarding around the station precinct, detracting from the landscape character and amenity.

During construction the following viewpoints would have direct views towards the construction activities associated with the Proposal: VP01, VP04, VP05 and VP06. These impacts would be temporary and for the duration of the construction period only.

The selected construction laydown areas within the Breasley Place car parks and Ron Whitehead Place, will largely be visible from VP05 and VP06. Noting that this anticipated change of view would only be a temporary change during construction. This will include hoarding around the construction area, lighting, tall rig and crane equipment visible above hoarding, and construction related traffic.

VP05 is representative of the views to the Breasley Place car parks, from adjacent properties within LCZ4. This includes the child care centre, single-detached houses and multi-storey apartment complex that back onto the commuter car park. A crane is anticipated to operate from the Breasley Place Council car park. In that respect, the elevated apartments within the eight-storey residential complex will be more impacted by the use and storage of this equipment and lighting towers, as they directly overlook this proposed construction compound area.

Similarly, VP06 represents the views from residential properties along Cooper Road, to Ron Whitehead Place and the station precinct. Construction hoarding shall be established around the compound for the duration of the works. On that basis, there will be visual impacts for some properties along Cooper Road within LCZ3.

5.6 General response to key legislation and policy objectives

Table 5-13 provides a summary of the Proposal's response to key landscape and visual legislation and policy objectives in the study area as identified in Section 4.

Table 5-13 Policy response summary table

Legislation / Policy	Objective	Response	Reference
Bankstown Local Environmental Plan 2015	Relevant aims of the Bankstown LEP include: • to protect and enhance the landform and vegetation, especially foreshores and bushland • to protect the natural, cultural and built heritage • to provide a range of recreational and community service opportunities • to achieve good urban design in terms of site layouts, building form, streetscape, architectural roof features and public and private safety • to enhance the quality of life and the social wellbeing and amenity of the community.	Mitigation measures have been developed to address relevant aims of the LEP, with respect to landscape and visual impact considerations for both the site and surrounding area.	Section 6
Development Control Plan – Precinct 4 Yagoona	To have development that: • is compatible with the desired character and role of the centre • achieves good urban design in terms of building form, bulk, architectural treatment and visual amenity • provides adequate amenity to people who live in, work in village centres • provide appropriate amenity to neighbouring residential development in terms of access to sunlight and privacy • To have transitional areas that are compatible with the prevailing suburban character and amenity of neighbouring residential environments.	Mitigation measures have been developed to address relevant aims of the LEP, with respect to landscape and visual impact considerations for both the site and surrounding area.	Section 6

Legislation / Policy	Objective	Response	Reference
North Central Local Area Plan	• Create a new east-west pedestrian connection (north of the highway) to connect the retail and community activities to the station • Create a new central place as the focus for retail activities next to the railway station • Consolidate the community facilities into a community hub next to the village green (Gazzard Park) • Allow opportunities for medium and high density living within easy walking distance of the railway station • Green the Hume Highway to improve amenity and create a new gateway image.	Upgrades to the station are consistent with targeted improvements around the station precinct, as detailed within the LAP. The Proposal will not impact the development potential of land surrounding the station precinct, in terms of improvements to the open space network, retail expansion and greater housing densities. Proposed mitigation measures include revegetation and planting initiatives, in line with the objectives of this plan.	Section 3 Section 6
Hume Highway Corridor Strategy	• To reinforce the Yagoona Town Centre as a major shopping centre • Expand on the Remembrance Driveway along the Hume Highway • Investigate the creation of a new town square, with links to the station and Gazzard Park • Provide an accessible railway station, including pedestrian overpass with lift access, linking the rail station with bus interchange and commuter car parking areas • Amend zoning/development controls to encourage higher-density housing within 800 metres of the station • Address poor amenity and condition of infrastructure along both sides of the Hume Highway • Address poor pedestrian connectivity within this area and improve access to Gazzard Park • Maintain four to five storey height limit along different parts of activity centre spine, to retain the village character • Promote local identity through a consistent theme for street tree plantings, signs, and outdoor art, particular to the Yagoona community.	As above.	Section 3 Section 6

6. Mitigation measures

The following section recommends mitigation measures that respond to issues arising within the assessment that have potential to adversely impact on:

- the character of the landscape within which the Proposal is located
- views to the Proposal.

Mitigation measures address the most visual elements of the Proposal as well as referencing any relevant considerations drawn from the legislation and policy review. These mitigation measures are based on the concept design drawings provided by Transport for NSW, dated 18 March 2021.

6.1 Mitigation recommendations

6.1.1 Station design recommendations

- Ensure the design, location and materiality of Proposal components contributes positively to the Station and retail village setting, to achieve a high-quality public realm.
- Ensure the lift, stair and new canopy components of the Proposal integrate well with existing elements remaining intact, through appropriate colour and materiality selections.
- Carefully consider the design of new vertical built form elements such as new walls and lift shafts, to assist with visual integration and keep below the existing building line of retail premises along the Hume Highway (height of less than 10 metres).
- Look at ways to achieve more seamless integration between new and existing covered canopies over stairs and seating areas along the platform.

6.1.2 Vegetation

- Retain as much significant vegetation identified within the immediate vicinity of the station precinct, and along the eastern and western edge of the rail corridor, and outlined within the Arboricultural and Biodiversity Assessment Report. This vegetation provides screening and contributes to the green character of the station precinct (Refer to Section 4.6). This includes Tree 1, 2-8, 31 to the west, and tree 11 and tree groups 19, 20 and 27, to the east.
- Ensure new landscape planting utilises a planting palette consistent with the existing station precinct and surrounding area, to achieve an integrated outcome.
- Consider introducing new tree planting and garden beds at the concourse entry and along the edge of the rail corridor, to contribute to the canopy cover and station precinct amenity, particularly where vegetation removal is proposed.

6.1.3 Urban design

- Ensure the Proposal urban design solution contributes to the streetscape setting along the Hume Highway, through a well-considered design for the concourse.
- Maintain the historic Hume Highway brick barrier wall, which contributes to the character of the station and village precinct.
- Ensure the Proposal components and materiality complement the existing character of the station precinct and urban context.

- Ensure the Proposal components and materiality are of high quality (i.e. they suit the urban character of the area, are well integrated with the existing materials and components, are of a suitable scale, materials are durable and low maintenance and are design components are aesthetically pleasing) and complement the existing character of the station precinct and urban context.
- Ensure the materiality and surface treatment of retaining walls, anti-throw screens and lift shafts are designed to deter graffiti and allow for easy removal/maintenance.
- Minimise the number of physical barriers and poles required within the public realm and station precinct by utilising built form mounting and combining services on shared poles.
- Provide public art to a similar level, in an appropriate location close to the original site of the mural. Any art procurement must be in accordance with the processes and policies of the relevant authority. This could include, for example, an art competition with local schools or similar in consultation with Canterbury-Bankstown Council.

6.1.4 Construction activity and storage

Measures to mitigate visual impacts during construction would be included in a CEMP for the Proposal and would include measures such as minimising light spill during night work (including identification of sensitive receptors) and screening of compounds.

7. Conclusion

This LVIA has been undertaken to understand the potential effects of the upgrades proposed at Yagoona Station as part of the TAP program. At the time of writing, the Proposal was in the concept design phase.

Yagoona Station is located centrally within the retail village on a slight crest. The study area is a highly complex urban environment, due to the nature and importance of the Hume Highway corridor and rail line traversing the study area. The station concourse is accessed directly from the Hume Highway, with the rail line and platform at a lower level, beneath the Hume Highway bridge, accessed via existing stairs. The slightly undulating landscape profile in this area, results in an elevation change immediately east and west of the rail corridor. Existing vegetation along the eastern and western edge of the rail corridor, contributes to the landscape character and provides a high level of screening of views into the station precinct.

The Proposal includes the construction of a new station entry concourse situated off the Hume Highway, upgrade to accessible footpaths and provision of accessible parking.

A total of six landscape character zones were identified within the study area, including LCZ1 Major Transport Corridors, LCZ2 Yagoona Retail Village, LCZ3 Neighbourhood living, LCZ4 Mixed use and high-rise living, LCZ5 Recreation and Community, and LCZ6 Education precincts. Of these, LCZ3, LCZ4, LCZ5 and LCZ6 were not impacted by the Proposal. LCZ1 resulted in a moderate impact to landscape character primarily due to the proposed new concourse and walkways, which extend into the rail corridor on the western edge, requiring vegetation removal. The impact on other LCZs was generally negligible to low.

The viewshed for the Proposal is largely confined to land with close proximity of the station, due to the nature of built form, vegetation and undulating landscape. Sensitive visual receivers in the study area include high-rise residential properties on Church Road (backing onto Breasley Place Council and commuter car park and The Crescent, shoppers within the village and commuters using Yagoona Station, pedestrians and road users in the Proposal viewshed. This includes a portion of the Yagoona Retail Village commercial area, centred on the Hume Highway.

Six viewpoint locations were chosen to assess the visual impact of the Proposal on sensitive receivers within the study area. Visual impacts were assessed using panoramas of the existing view, and three photomontages were created illustrating the proposed view of the Proposal from three viewpoint locations. The assessment found that the visual impacts from the Proposal range from Negligible to Moderate-Low. The highest impacts are to VP04 and VP05 due to the receiver types, proximity and visual exposure to change associated with the Proposal. Visual impacts from VP01, VP02 and VP03 were assessed as low-moderate to low.

Mitigation measures proposed for the construction and operational stages should be taken into consideration in the next design phase of the project.

Appendices

Appendix A – Photomontages

EXISTING VIEW

PROPOSED DESIGN

KEY PLAN

View Direction:	341° - 261°
Horizontal Field Of View:	80°
Camera Height:	1.7 m
Camera Type:	Canon EOS 6D
Lens Type:	50 mm
Photograph Time & Date:	14:21, 20th April 2021

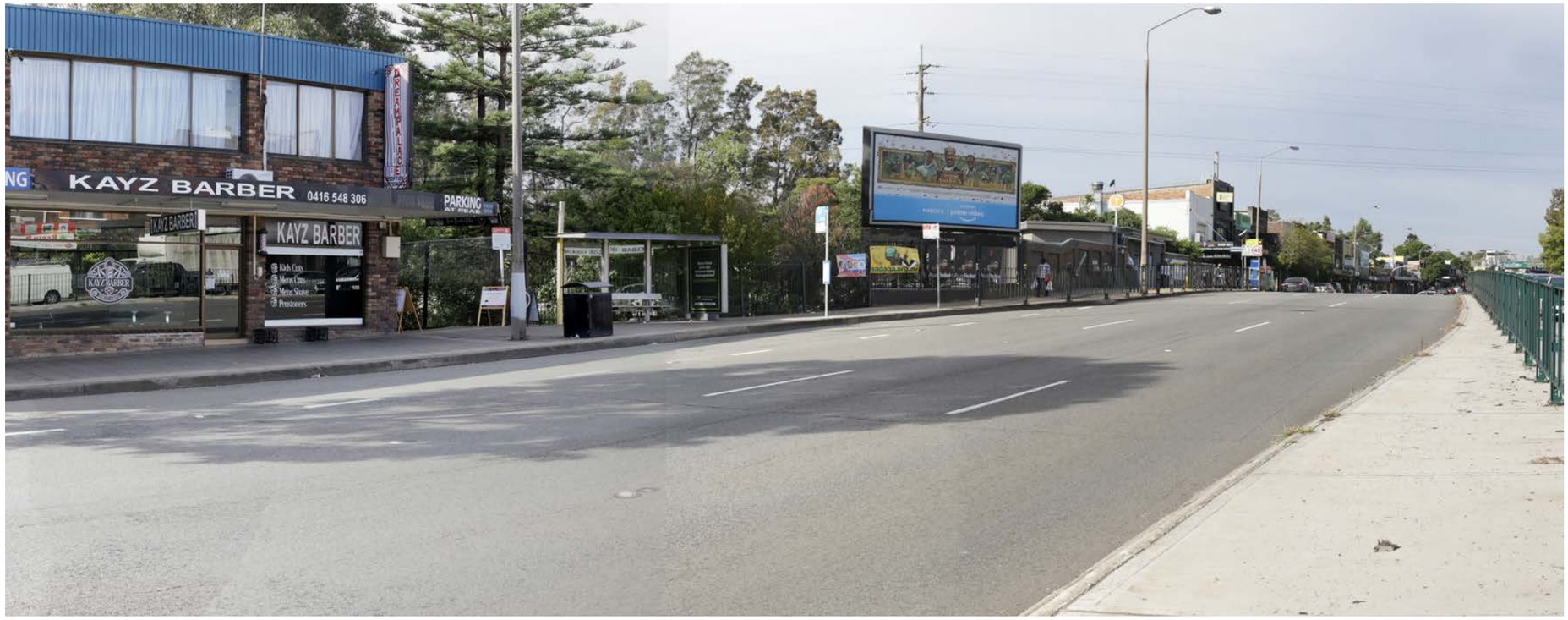
Location:	Hume Freeway, Yagoona, NSW
Coordinates:	317416, 6246336 (GDA 1994 MGA Zone 56)
Viewpoint Elevation:	46 m
Date of Photomontage:	23rd April 2021
Issue:	v01

Yagoona Station Upgrade - TAP 3
Transport for New South Wales

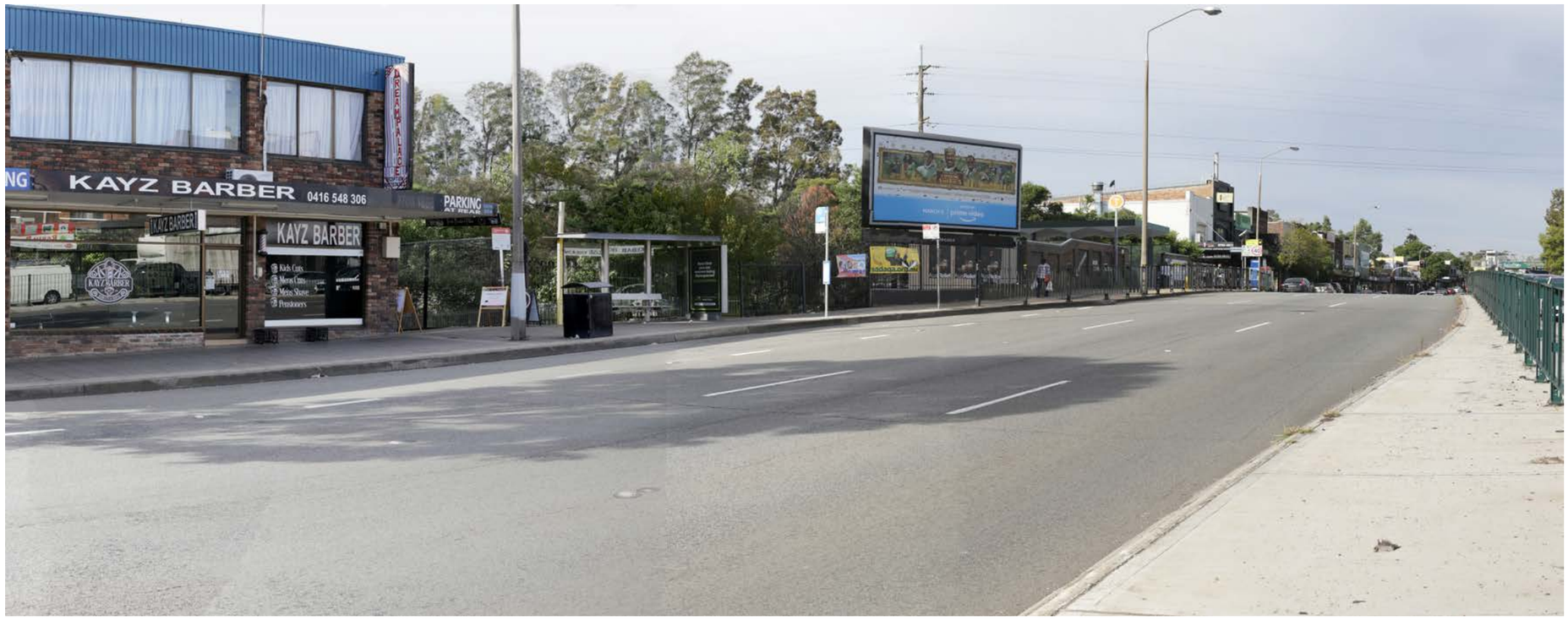
Viewpoint 01

GHD Pty Ltd
Level 8, 180 Lonsdale Street
Melbourne VIC 3000
T 61 3 8687 8000 **E** melmail@ghd.com.au **W** www.ghd.com

EXISTING VIEW



PROPOSED DESIGN



KEY PLAN

View Direction:	1° - 81°
Horizontal Field Of View:	80°
Camera Height:	1.7 m
Camera Type:	Canon EOS 6D
Lens Type:	50 mm
Photograph Time & Date:	14:31, 20th April 2021

Location:	453 Hume Freeway, Yagoona, New South Wales
Coordinates:	317310, 6246353 (GDA 1994 MGA Zone 56)
Viewpoint Elevation:	48 m
Date of Photomontage:	23rd April 2021
Issue:	v01

Yagoona Station Upgrade - TAP 3
Transport for New South Wales

Viewpoint 02

GHD Pty Ltd
Level 8, 180 Lonsdale Street
Melbourne VIC 3000
T 61 3 8687 8000 **E** melmail@ghd.com.au **W** www.ghd.com

EXISTING VIEW

PROPOSED DESIGN

KEY PLAN

View Direction:	141° - 181°	**Location:**	Gazzard Park, Yagoona, New South Wales
Horizontal Field Of View:	80°	**Coordinates:**	317336, 624501 (GDA 1994 MGA Zone 56)
Camera Height:	1.7 m	**Viewpoint Elevation:**	42 m
Camera Type:	Canon EOS 6D	**Date of Photomontage:**	23rd April 2021
Lens Type:	50 mm	**Issue:**	v01
Photograph Time & Date:	15:04, 20th April 2021		

Yagoona Station Upgrade - TAP 3
Transport for New South Wales

Viewpoint 04

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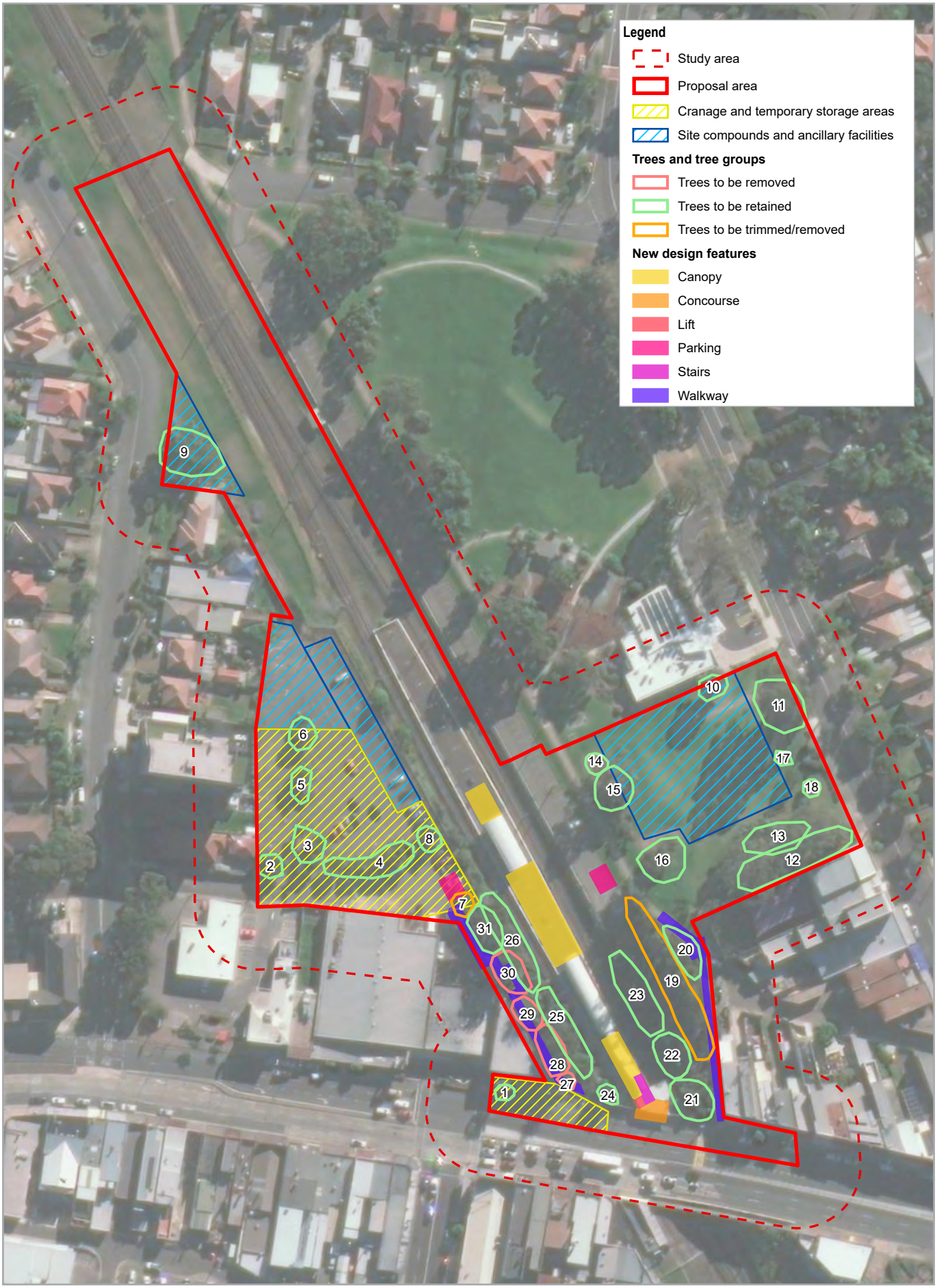
Appendix B – Tree Plan



Paper Size ISO A4

0 20 40

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

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Transport for NSW
Yagoona Station Upgrade
Biodiversity and Arboricultural Assessment

Tree plan

Project No. **1254729**
Revision No. **0**
Date **13/05/2021**

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Print date: 14 May 2021 - 12:28

Data source: World Imagery: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Boundaries: GHD, 2021; Habitat Resources: GHD, 2021; Threatened species: GHD, 2021; Tree groups: GHD, 2021; Cadastre: Sixmaps, 2021. Created by: kpsroba

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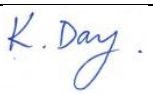
Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	C.O'Brien J. Collings	L.Farrell				29/03/2021
B	C.O'Brien	E.Davis L.Farrell				09/04/2021
1	C.O'Brien	L.Farrell				14/04/2021
2	C.O'Brien J. Collings	L.Farrell				28/04/2021
3	C.O'Brien J. Collings	L.Farrell		K Day		13/05/2021

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