Transport for New South Wales
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Narwee Station Upgrade

Visual Impact Assessment

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Client: Transport for New South Wales

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Table of Contents

List of Figures

List of Tables

1.0 Introduction

1.1 Background information

AECOM Australia Pty Ltd (AECOM) has been commissioned by Transport for New South Wales (TfNSW) to undertake a Visual Impact Assessment for the construction and operation phases of the proposed Narwee Station Upgrade ('the Proposal'). Construction of the Narwee Station Upgrade is expected to commence in 2016, and take up to 18 months to complete.

1.2 Scope

The scope of this visual impact assessment is to:

- describe the existing landscape character of the Proposal study area and the visibility of Narwee Station
- identify key existing receivers/viewpoints and their sensitivity to the proposed change
- assess landscape character impacts
- assess the visual impact of the Proposal
- recommend management and mitigation strategies to minimise any impacts from the Proposal.

1.3 Proposed works

The Proposal involves an upgrade of Narwee Station as part of the Transport Access Program, which would improve accessibility and amenity for customers.

The Proposal would provide a number of features to provide an accessible station and improved interchange facilities, including the following key elements:

- extension of the island platform at the eastern end to provide new stairs, a lift and waiting area
- installation of new canopies for weather protection above the new lift, stairs and waiting area providing cover up to the existing Platform Building
- refurbishment of the Platform Building with a new family accessible toilet, a Customer Information Window and staff facilities to replace existing facilities in the Ticket Office (to be demolished)
- improvements to bicycle facilities including new shelters and additional bicycle racks
- provision of a new kiss and ride area, new kerb ramps and bus zone works (including new shelter) on Hannans Road
- upgrade of the two existing accessible parking spaces in the commuter car park off Hannans Road to ensure compliance with relevant standards
- provision of an accessible parking space, upgrade of the taxi rank and kiss and ride area, and installation of Tactile Ground Surface Indicators (TGSI's) at the raised pedestrian crossing on Hurst Place and Fisher Place
- ancillary works including localised platform regrading (as necessary), improvements to lighting and seating, improvement of station communication systems (including CCTV cameras), wayfinding signage, services diversion and/or relocation, station power supply upgrade, minor road/drainage works, fencing and landscaping.

Figure 1 and Figure 2 show indicative artists impressions of the Proposal (subject to detailed design).

A detailed description of the Proposal is provided in Chapter 3 of the *Narwee Station Upgrade Review of Environmental Factors* (AECOM, April 2016).

Figure 1 Artist's impression of the Proposal – view from Hannans Road looking south towards the station entrance *(Indicative only, subject to detailed design – prepared by Jacobs)*

Figure 2 Artist's impression of the Proposal – view from Hurst Place looking north towards the station entrance *(Indicative only, subject to detailed design – prepared by Jacobs)*

2.0 Methodology

This visual impact assessment has been undertaken in accordance with the RMS Environmental Impact Assessment Practice Note – Guideline for Landscape Character and Visual Impact Assessment (Reference number EIA-N04, 2013). This method is widely accepted by NSW government authorities and is relevant to this Proposal in that it addresses changes to corridor infrastructure within the urban setting.

In accordance with these guidelines, the following assessments have been carried out:

- assessment of existing landscape character and visual environment
- assessment of visual impacts
- recommendation of mitigation measures.

2.1 Sensitivity and magnitude

An Impact Grading Matrix (refer to Table 1) is used to assess both landscape and visual impact, and examines sensitivity and magnitude to give a combined impact rating of between negligible and high.

2.1.1 Sensitivity

The sensitivity of the landscape is assessed based upon the extent to which it can accept change of a particular type and scale without adverse impacts on its character. Sensitivity varies according to the type of development and nature of the landscape, including:

- inherent landscape value, e.g. its condition, perceptual qualities and cultural importance
- the likely congruency of the proposed changed, i.e. the extent to which the proposal may fit or be 'visually absorbed' into the landscape, e.g. in relation to line, colour, form, texture, scale, etc.

The sensitivity of visual receptors and views would also be dependent on the:

- location and context of the view point
- expectations and activity of the receptor
- number of the receptors
- importance of the view
- sensitivity of the receptors, which may include:
    - users participating in outdoor passive recreational pursuits
    - communities where the development results in changes in the landscape setting or valued views enjoyed by the community
    - occupiers of residences with views affected by the Proposal.

2.1.2 Magnitude

The magnitude of change affecting a landscape or visual receptor depends on factors such as nature, scale and duration of the particular change that is expected to occur. In the landscape, the magnitude of change would depend on factors such as the extent of the loss, change or addition of a feature, or changes in the backdrop, or outlook from a landscape that affects its character. The impact on a view would depend 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.

Table 1 Landscape Character and Visual Impact Grading Matrix

SENSITIVITY	MAGNITUDE: HIGH CHANGE	MODERATE CHANGE	LOW CHANGE	NEGLIGIBLE CHANGE
HIGH	HIGH	HIGH - MODERATE	MODERATE	NEGLIGIBLE
MODERATE	HIGH - MODERATE	MODERATE	MODERATE - LOW	NEGLIGIBLE
LOW	MODERATE	MODERATE - LOW	LOW	NEGLIGIBLE
NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

2.2 Visual envelope mapping

The likely visibility of the proposed elements of the Proposal at operation from surrounding areas has been broadly mapped, to define a visual envelope. This provides an indication of which parts of the Proposal are likely to be viewed from surrounding development. The mapping typically shows 'worst case', i.e. some receivers may only see the roofline of the passenger lift, while other receivers may view a substantial part of the Proposal.

2.3 Photography

A photograph of the Proposal from each receiver location has been used to assist in the analysis process. These photos were taken using a single-lens reflex digital camera using a 28mm full frame lens with no parallax error.

Photomontages have been prepared to illustrate the likely visual changes from a number of key viewpoints and are included in Section 5.0. These images focus on viewing the Proposal in its wider setting, at a pedestrian view-level, in terms of the bulk and scale which is particularly relevant to visual impact assessment. The materials and finishes used are indicative only and would be further investigated during detailed design. Figure 1 and Figure 2 show indicative artists impressions of the Proposal providing a close-up view of the upgrades (also subject to detailed design).

To prepare the photomontages, a 3D model of Narwee Station was developed and confirmed against the elevations and sections from 2D concept design drawings. Survey plans were used as a reference and the 3D model was aligned to the survey model. Viewpoint locations were selected and photographs taken during a site visit. Photographs were corrected for distortion using specific camera and lens profiles and camera co-ordinates were then merged with the 3D model to allow 'virtual cameras' to be setup using these co-ordinates. Camera matching was then undertaken using reference points common to the 3D model and physical features in the photographs. The model was then rendered with the photograph and edits to foreground elements made as necessary.

3.0 Contextual analysis

3.1 Existing environment

Narwee Station is located on the T2 Airport, Inner West and South railway line in the southern Sydney suburb of Narwee. The station is within the southern portion of the City of Canterbury, and south of Broad Arrow Road incorporates part of Hurstville City Council Local Government Area. The station is positioned along an east to west alignment and is bound by Hannans Road to the north and Broad Arrow Road to the south. The station and railway are elevated above existing street level. Figure 3 shows the site location and local context of the Proposal.

The immediate existing environment consists of a gently rolling landform with a residential landscape and a small local centre. Residential areas consist of medium density housing; comprising predominantly two to three storey apartments built in close proximity to Narwee Station and the small local centre. Figure 4 shows an example of the typical medium density housing in the area. The local centre which is bisected by the railway line consists of shops, small businesses and cafes/restaurants.

3.2 Existing station description

The existing Narwee Station and surrounds include several key elements, including:

- east-west bound rail lines, steel gantries and associated electrical overhead wires
- north and south facing platforms which are elevated around five metres above existing street level and visible from the surrounding area, including Hannans Road, Penshurst Road (to the north of the station) and Hurst Place, Fisher Place and Fisher Lane (to the south station)
- Narwee Station is listed on RailCorp's Section 170 Heritage and Conservation Register (No. 4801924) and on the heritage schedule of the *Canterbury Local Environmental Plan 2012* (I151). In particular the Platform Building and Pedestrian Subway (underpass) are of high significance and the platform (including brick edgings) is of moderate significance
- a Ticket Office located on eastern side of platform which is a modern addition to Narwee Station constructed in 1984, including non-accessible amenities
- a platform canopy that extends from the ticket office to the top of the stairs
- a second platform canopy that extends from the ticket office to the heritage Platform Building
- north and south station entrance via underpass
- dedicated commuter car parking north-west of the station on Hannans Road
- bus stops and shelters located on Hannans Road / Broad Arrow Road
- security and safety fencing
- wayfinding signage.

Mature trees consisting predominantly of native and small exotics are scattered throughout the adjoining road corridors, many along residential streets and within garden areas. Landscaping adjoining the Hannans Road commuter car park and rail corridor provides filtered views and screening to and from Narwee Station.

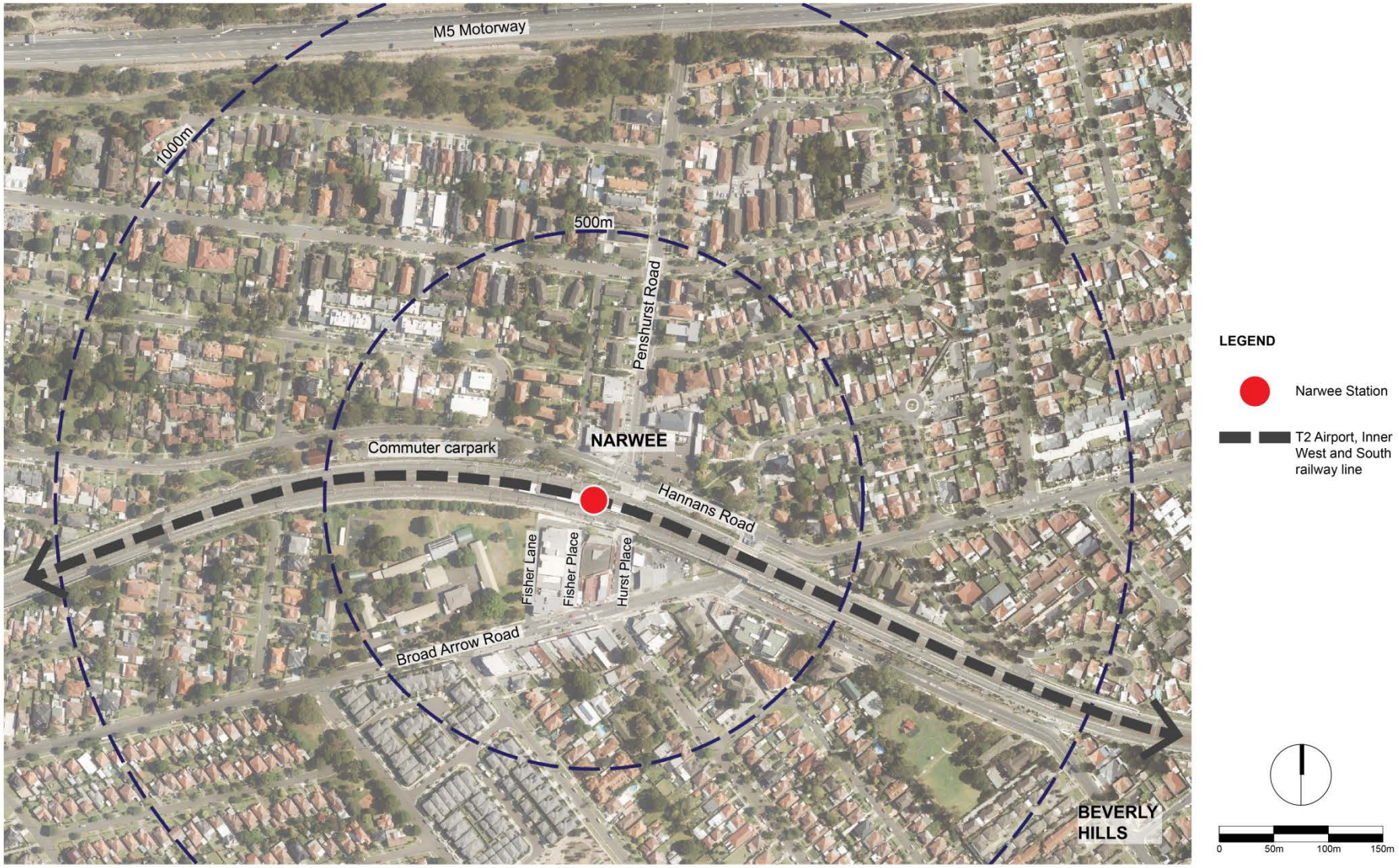

Figure 3 Narwee Station site location and local context

4.0 Landscape Character Impact Assessment

Landscape character zones were determined primarily by land use, as these were considered to be the strongest defining landscape character elements of the area. Three dominant landscape character zones have been identified surrounding the Proposal, comprising:

1. Residential landscape character zone
2. Infrastructure corridor landscape character zone
3. Local centre landscape character zone

Figure 5 presents the extents of the three dominant landscape character zones.

4.1 Residential Landscape Character Zone

4.1.1 Existing situation

This residential landscape character zone is defined by a gently rolling landscape overlaid with an informal layout of roads throughout a predominantly residential landscape (refer to Figure 5 for the extents of this zone).

Medium density housing (consisting of two to three storey apartments) is punctuated by occasional small local parks and a local public school. Many small local parks have been created where the railway line (infrastructure corridor landscape character zone) meets the residential landscape character zone.

The landscape character zone as a whole is bisected by the railway line (infrastructure corridor landscape character zone), which forms a visual barrier between the two residential areas on either side. The station platform is elevated around five metres above the existing street level and is viable from nearby residences.

Mature trees consisting predominantly of large native and small exotics are scattered throughout the landscape, many comprising trees along residential streets and garden areas.

Figure 4 Typical medium density housing located along Hannans Road

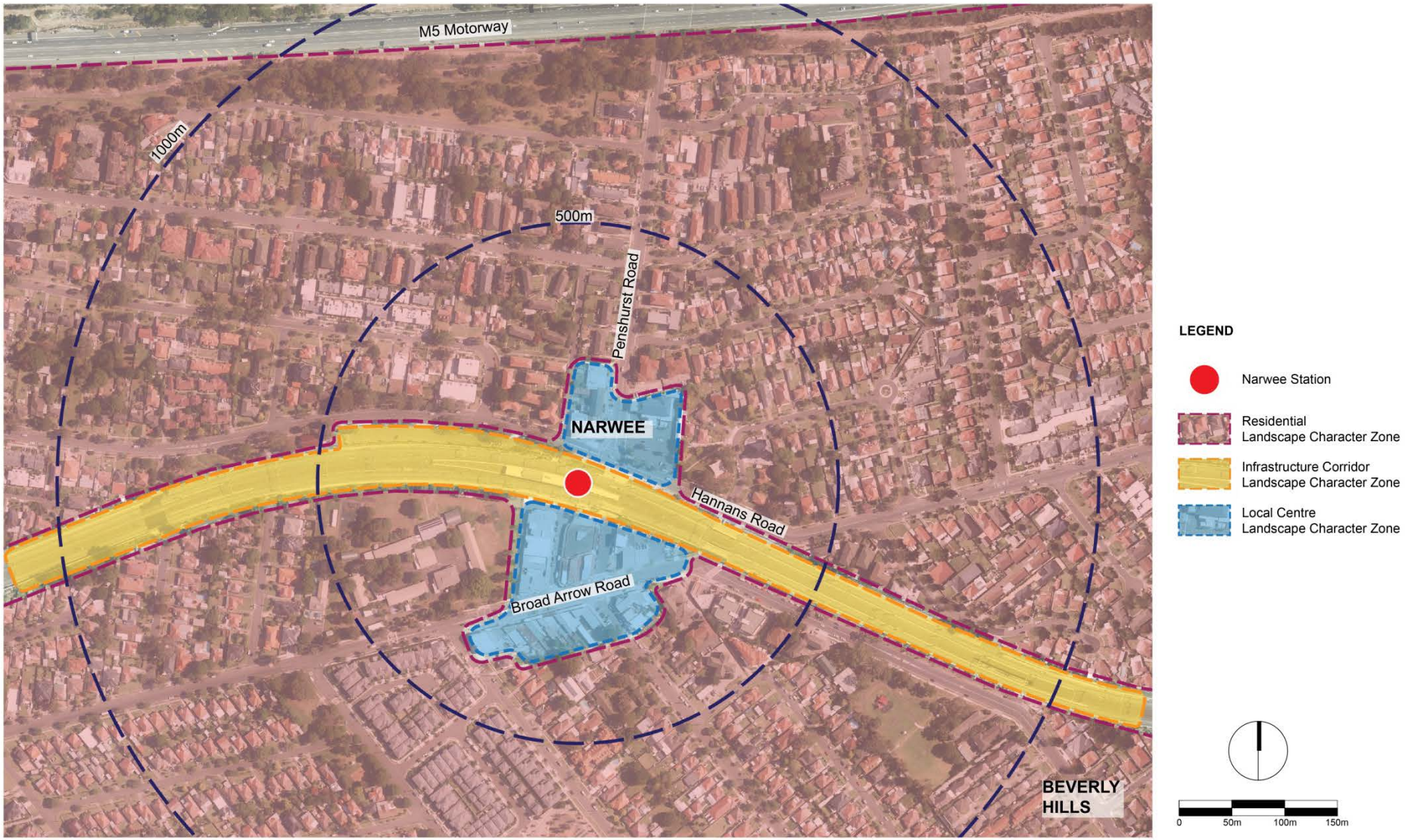

Figure 5 Landscape Character Zones

4.1.2 Landscape Character Impacts

The Proposal would have a series of impacts on the character of the residential landscape character zone, including:

- during construction, temporary construction compounds are required to accommodate a site office, amenities, laydown and storage area for materials. One at a grassed area adjacent to Hannans Road and the existing Hannans Road commuter car park and one adjacent to the rail corridor between Fisher Place and Hurst Place. Temporary storage/laydown areas may also be required on the station platform
- typical visual impacts would include temporary fencing and hoarding, road barriers, signage, scaffolding, temporary site office and amenities
- the change would be minimal and limited to the edge between the three landscape character zones where they meet, generally characterised by the elevated railway line and various levels of vegetative screening to be retained
- the change would be visible during construction if a temporary pedestrian access bridge is provided to the platform (rather than the alternative option of a station shutdown) and during both construction and operation when the Ticket Office is demolished and a new lift and metal canopy structure is installed to the existing platform
- interchange works (including bus zone works, installation of kerb ramps, new kiss and ride areas, accessible parking spaces and the new taxi rank) would be visible in the residential landscape character zone.

4.1.3 Impact Assessment

The sensitivity of the landscape is rated as low, as the land use, pattern and scale have the capacity to accommodate the type of change envisaged.

The magnitude of change is rated as low, as this is considered a minor change in the broader landscape setting. The upgrade is a minor change to a small area of an existing infrastructure element (external to this landscape character zone) and localised interchange works limited to the immediate vicinity of the station.

The change would in most cases be only visible in the area immediately adjacent to the site of the Proposal, and the change is in keeping with the existing landscape character and use, for example the height of the lift shaft would be consistent with the height of other buildings and structures in the area.

The overall rating for this landscape character zone is low (refer to Table 2). The upgrade works are relatively minimal and would be most noticeable as a landscape character impact in the short term (i.e. during construction), and a minor change in landscape character early in the operation phase.

Table 2 Impact Grading Matrix for the Residential Landscape Character Zone

		MAGNITUDE			
		HIGH CHANGE	MODERATE CHANGE	LOW CHANGE	NEGLIGIBLE CHANGE
SENSITIVITY	HIGH	HIGH	HIGH - MODERATE	MODERATE	NEGLIGIBLE
	MODERATE	HIGH - MODERATE	MODERATE	MODERATE - LOW	NEGLIGIBLE
	LOW	MODERATE	MODERATE - LOW	**LOW**	NEGLIGIBLE
	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

4.2 Infrastructure Corridor Landscape Character Zone

4.2.1 Existing situation

The railway line is a highly contained, linear landscape character zone between approximately 30 and 40 metres wide. Refer to Figure 5 for zone extents. The corridor is a distinct unit which traverses through the landscape, with the railway line and platform sitting elevated above the surrounding ground plane. Narwee Station including the 1931 platform and Platform Building and underpass is of local heritage significance and listed on the RailCorp Section 170 Heritage and Conservation Register and the heritage schedule of the *Canterbury Local Environmental Plan 2012*. Prominent visual elements in the landscape include steel gantries, associated electrical overhead wires, heritage Platform Building, Ticket Office and passenger canopies.

From outside the corridor, this landscape zone is experienced as an impenetrable barrier, consisting of a series of security fences, screening vegetation and retaining walls. These elements tend to limit visual access across the railway line with the exception of the existing underpass. Figure 6 and Figure 7 show photographs of this zone.

4.2.2 Landscape Character Impacts

The Proposal would have a series of impacts on the character of the infrastructure landscape character zone, including:

- temporary changes to the character during construction, e.g. the temporary pedestrian access bridge (if required), site compounds, hoardings and crane
- the upgrade would extend the visually accessible canopy structure across the existing platform and include a new lift shaft comprising a prominent modern architectural element
- the change is physically separated from the existing Platform Building which is of heritage significance
- impacts would generally comprise relatively minor changes to a small stretch of a larger railway corridor
- well considered new architecture provides positive new elements within an economically and physically reduced environment e.g. a significant number of empty shops and minimal recent streetscape initiatives.

4.2.3 Impact Assessment

The sensitivity of the landscape is rated as low, as the land use, pattern and scale have the capacity to accommodate the type of change envisaged. The contained nature of the railway line limits the impact of the changes to this landscape character zone on the broader surrounding landscape.

The magnitude of change is rated as low, as this comprises a relatively minor change in landscape character. The change would in most cases be only visible in the area immediately adjacent to the site of the upgrade and the change is in keeping with the existing landscape character and use. Notwithstanding the addition of relatively few contemporary architectural elements and removal of the existing Ticket Office provide an unobtrusive link to the heritage Platform Building.

The overall rating for this landscape character zone is low (refer to Table 3). The upgrade works are relatively minimal and would be most noticeable as a landscape impact in the short term creating a greater level of impact during construction due to the use of a temporary pedestrian access bridge and crane, and a minor change in landscape character early in the operation phase.

Table 3 Impact Grading Matrix for the Infrastructure Corridor Landscape Character Zone

SENSITIVITY \ MAGNITUDE	HIGH CHANGE	MODERATE CHANGE	LOW CHANGE	NEGLIGIBLE CHANGE
HIGH	HIGH	HIGH - MODERATE	MODERATE	NEGLIGIBLE
MODERATE	HIGH - MODERATE	MODERATE	MODERATE - LOW	NEGLIGIBLE
LOW	MODERATE	MODERATE - LOW	**LOW**	NEGLIGIBLE
NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Figure 6 View looking south from Hannans Road toward the existing underpass which is listed under s.170 of the Heritage Act 1977 (NSW)

Figure 7 View looking west on the 1931 platform of Narwee Station which is listed under s.170 of the Heritage Act 1977 (NSW)

4.3 Local Centre Landscape Character Zone

4.3.1 Existing situation

The Proposal is located within a small local centre landscape character zone containing a mix of shops, small businesses and cafes/restaurants. Refer to Figure 5 for extents of this zone. The local centre is generally located in one or two storey premises with ground floor shops and residential above. Figure 8 and Figure 9 show photographs of this zone. Narwee Station forms an important feature element of this view and acts as a means of wayfinding for users of the local centre.

4.3.2 Landscape Character Impacts

The Proposal would have a series of impacts on the character of the local centre landscape character zone, including:

- impacts would generally comprise relatively minor changes to a small portion of a larger existing railway corridor
- temporary visual impacts including the potential use of a temporary pedestrian access bridge, crane and associated elements such as hoardings, barriers, temporary site offices and amenities, etc. during construction
- the upgrade would extend the visually accessible canopy structure across the existing platform and include a new lift shaft comprising a prominent modern architectural element. The design would incorporate materials (e.g. glass) to be visually recessive and minimise bulk where possible, and would be of a similar height and scale of the existing station and surrounding buildings
- well considered new architecture provides positive new elements within an economically and physically reduced environment e.g. a significant number of empty shops and minimal recent streetscape initiatives
- interchange works (including bus zone works, installation of kerb ramps, new kiss and ride areas, accessible parking spaces and the new taxi rank) would be visible in the local centre landscape character zone.

4.3.3 Impact Assessment

The sensitivity of the landscape is rated as moderate notwithstanding the physical environment of the local centre described above. This landscape character zone comprises a highly visited area and is activated by the nearby station, which puts emphasis on this area as a gateway to the surrounding residential areas and beyond.

The magnitude of change is rated as low, as this comprises a relatively minor change in landscape character. The change would in most cases be visible only in the area immediately adjacent to the site of the Proposal and the change is in keeping with the existing landscape character and use, notwithstanding the addition of relatively few contemporary architectural elements and removal of the Ticket Office provide an unobtrusive link to the heritage Platform Building.

The overall rating for this landscape character zone is moderate - low (refer to Table 4). Works associated with the Proposal are relatively minimal and would be most noticeable as a landscape impact in the short term (i.e. during construction), and a minor change in landscape character early in the operation phase.

Table 4 Impact Grading Matrix for the Local Centre Landscape Character Zone

		MAGNITUDE			
		HIGH CHANGE	MODERATE CHANGE	LOW CHANGE	NEGLIGIBLE CHANGE
SENSITIVITY	HIGH	HIGH	HIGH - MODERATE	MODERATE	NEGLIGIBLE
	MODERATE	HIGH - MODERATE	MODERATE	**MODERATE - LOW**	NEGLIGIBLE
	LOW	MODERATE	MODERATE - LOW	LOW	NEGLIGIBLE
	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Figure 8 A typical example of the local centre landscape character type

Figure 9 Typical shop fronts located along Penshurst Road that form part of the local centre

5.0 Visual Impact Assessment

5.1 Visual envelope mapping

The potential visibility of the Proposal from the surrounding area is shown in Figure 10. The primary viewshed extends perpendicular to the railway line in a north-south orientation following the main view corridor of Penshurst Road. The primary viewshed also extends in an east-west orientation following the main parallel view corridor of the railway line and Hannans Road. The railway line and platform sit elevated above the surrounding ground plane and are visible from the surrounding area, including Hannans Road, Penshurst Road (to the north) and Hurst Place, Fisher Place and Fisher Lane (to the south).

The proposed location of the interchange works (including bus zone works, installation of kerb ramps, new kiss and ride areas, accessible parking spaces and the new taxi rank) predominately on Hannans Road and Hurst Place are visible only in the immediate vicinity of these areas.

The viewshed beyond the Proposal is responsive to both mature tree planting and medium density residential development to the north and south, and results in a generally restricted extent of visibility from many areas. The residential interface to the railway line is generally setback and visually separated by commercial buildings and mature tree planting located on the edges of the local centre. Narwee Public School is not considered a sensitive receiver as it would have limited views to the Proposal due to the extensive planting along the northern boundary.

Sensitive receiver locations within the viewshed comprise:

- residential apartments (two to three storeys high)
- commercial premises
- open space.

Sensitive receivers comprise:

- residents
- rail customers
- motorists
- pedestrians.

Figure 10 Visual envelope map showing areas visually affected by the Proposal

5.2 Impact Assessment

Eight visual receiver locations have been identified to represent key viewpoints for assessment of potential impacts on views as a result of the Proposal. These are:

1. Broad Arrow Road
    - this receiver location assesses the impact of the changes to commercial neighbours and road users at the corner of Broad Arrow Road and Mercury Street.
2. Hurst Place
    - this receiver location assesses the visual impact on commercial neighbours, pedestrians and commuters that utilise the underpass in Hurst Place.
3. Intersection of Hannans Road and Penshurst Road
    - this receiver location assesses the impact of the Proposal on road users and active pedestrians and commuters at the corner of Hannans Road and Penshurst Road.
4. Kardella Reserve
    - this receiver location assesses the visual impact on passive recreational park users of Kardella Reserve.
5. Penshurst Road (eastern side)
    - this receiver location assesses the impact of the changes on residential neighbours entering and leaving their residencies on the eastern side of Penshurst Road.
6. Penshurst Road (western side)
    - this receiver location assesses the visual impact on commercial neighbours and their customers on the western side of Penshurst Road.
7. Hannans Road (corner of Station Lane)
    - this receiver location assesses the impact of changes on residential neighbours at the corner of Hannans Road and Station Lane (three buildings comprising three storey units).
8. Hannans Road (corner of Nirimba Avenue)
    - this receiver location assesses the impact of changes on residential neighbours at the corner of Hannans Road and Nirimba Avenue (new two storey residences).

The locations of these visual receivers are shown on Figure 11.

Figure 11 Visual Impact Assessment Receiver Locations

5.2.1 Construction Visual Impacts

The construction of the Proposal would include the following activities:

- establishment of site compound (erect fencing, tree protection zones, site offices, amenities and plant/material storage areas)
- establishment of temporary facilities as required, e.g. temporary pedestrian access bridge to station (if required), temporary toilets etc
- services relocation
- demolition of existing structures including the Ticket Office
- platform modifications, platform extension, lift shaft including piling and foundations for lift shaft
- installation of fixtures, lighting, signage and CCTV cameras for the station areas (during a possession)
- platform resurfacing, new platform surface drainage and hearing protection loop installation (during a possession)
- reconfiguration of Platform Building to allow for communications/equipment room, staff facilities and toilets
- refresh of Platform Building including painting works and installation of wayfinding signage
- modifications and making good the existing underpass including re-surfacing, lighting and painting
- taxi zone, kiss and ride, bus stops, bike racks and accessible car spaces in the car park
- installation of a new upgrade Station Main Switchboard for the station supply (during a possession)
- possible removal of a stand of nine Paper-bark *Melaleuca quinquenervia* trees and a single Robinia *Robinia pseudoacacia 'Frisia'* tree
- replanting/landscaping, fencing adjustments and bollards.

Subject to approval, construction is expected to commence in 2016 and take around 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 TfNSW.

An alternative construction option is being considered which would use an extended (six week) temporary station closure to allow for an accelerated construction completion which would reduce the overall program by up to six months. The benefits of this alternative construction option include:

- reduced construction period (by up to six months) which would allow the upgraded station to be opened to the community sooner
- reduced temporary visual and amenity impacts due to a reduced construction period
- remove the need for a temporary pedestrian access bridge
- reduce the safety risk to the customers from the construction/pedestrian interface
- improve construction staging efficiency with potential cost benefits.

However for the purposes of this assessment, both options have been considered.

Construction activities would be temporary and transient in nature. Views towards construction activities would be partially screened by existing tree cover surrounding Narwee Station. However given that the sensitivity of the construction phase is likely to be high (given sensitivity to other impacts such as noise, air quality and traffic), The overall visual impact of construction for the Proposal is considered to be moderate.

5.2.2 Operational Visual Impacts

Table 5 provides an assessment of the visual sensitivity and magnitude of each receiver location (as identified in Figure 11) during the operation of the Proposal. Photomontages showing the changes in views as a result of the Proposal are provided for three key views points, as follows:

- Receiver Location 1.Broad Arrow Road, refer to Figure 12 and Figure 13
- Receiver Location 6. Penshurst Road (western side), refer to Figure 14 and Figure 15
- Receiver Location 7. Hannans Road (corner of Station Lane), refer to Figure 16 and Figure 17.

Table 5 Visual Impact Assessment

Receiver Location	Sensitivity	Magnitude	Rating
1.Broad Arrow Road (refer to Figure 12 and Figure 13)	The sensitivity would be low. Pedestrian, road user views, as well as ground and first storey views toward Narwee Station from commercial neighbours would be indirect and framed within the Hurst Place streetscape view corridor, as seen from across Broad Arrow Road. Visible portions of the Proposal would be largely restricted to the eastern end of the Station.	The magnitude of change would be low. The Proposal would form a visually prominent element with views toward the Proposal framed within and terminating the streetscape corridor view. The Proposal would introduce constructed elements (i.e. new platform canopy and lift) which complement the scale and form of some of the existing commercial buildings adjoining the station, and would comprise well considered architectural elements.	Low
2. Hurst Place	The sensitivity would be moderate. Pedestrian, road user views, as well as ground and first storey views toward Narwee Station from commercial neighbours would be direct and immediate.	The magnitude of change would be moderate. The Proposal would form visually prominent elements within Hurst Place. The Proposal would introduce constructed elements (i.e. new platform canopy and lift) which complement the scale and form of some of the existing commercial building adjoining the station and would compromise well considered architectural elements which provide new, contemporary amenity benefit to the streetscape.	Moderate
3. Intersection of Hannans Road and Penshurst Road	The sensitivity would be low, assuming pedestrian and road user views are towards Narwee Station from this location.	The magnitude of change would be moderate. Views from this location would be detailed and include key built elements such as the lift and canopy structure. The visual prominence of the Proposal elements would be accentuated being silhouetted against the sky due to the elevated railway line. Receptor numbers would be high, however, the sensitivity of these receptors to the Proposal is considered to be low because views would be transitory. The Proposal would introduce constructed elements which complement the scale and form of some of the existing commercial and residential buildings adjoining the station.	Moderate - Low

Receiver Location	Sensitivity	Magnitude	Rating
4. Kardella Reserve	The sensitivity would be Moderate, given the potential for the park to be used by passive recreational receptors	The magnitude of change would be low. Street level views toward Narwee Station from Kardella Reserve are partially screened by existing tree planting alongside Hannans Road. The Proposal would generally be expected to have low levels of visibility from this location, with only the top of the lift shaft visible.	Moderate - Low
5. Penshurst Road (eastern side)	The sensitivity would be Low, comprising pedestrian and road user views, as well as residential neighbours entering and leaving their residences from the street.	The magnitude of change would be low. Visible portions of the Proposal would be largely restricted to the western end. The Proposal would introduce constructed elements which complement the scale and form of some of the existing commercial buildings adjoining the station.	Low
6. Penshurst Road (western side) (refer to Figure 14 and Figure 15)	The sensitivity would be low. Pedestrian and road user views, as well as highly oblique views from some ground and first storey residences towards the Proposal, in addition to commercial neighbours.	The magnitude of change would be low. The Proposal would be viewed in moderate detail and framed within the Penshurst streetscape view corridor dominated by wirescape. The Proposal would introduce constructed elements which complement the scale and form of some of the existing commercial buildings adjoining the station.	Low
7. Hannans Road (corner of Station Lane) (refer to Figure 16 and Figure 17)	The sensitivity of receivers would be moderate. Within the context of a relatively low number of receivers from these locations, ground, second and third storey views toward Narwee Station would be expected from the multi-unit residential apartments along the northern side of Hannans Road.	The magnitude of change would be low. Views toward the Proposal would be partially screened and filtered by vegetation along Hannans Road.	Moderate - Low
8. Hannans Road (corner of Nirimba Avenue)	The sensitivity would be low within the context of a low number of residents with direct views to the Proposal.	The magnitude of change would be low. Views toward the Proposal would be substantially screened and filtered by vegetation along Hannans Road.	Low

Overall, the Proposal would have a moderate-low visual impact on the majority of people living, working in or travelling through the urban landscape surrounding Narwee Station during operation.

Figure 12 Receiver Location 1 - existing view looking north-east down Hurst Place to Narwee Station

Figure 13 Photomontage 1 - proposed view looking north-east down Hurst Place Narwee Station.

Indicative only - Subject to detailed design.

Figure 14 Receiver Location 6 - existing view from western side of Penshurst Road looking south towards Narwee Station

Figure 15 Photomontage 2 - proposed view from western side of Penshurst Road looking south towards Narwee Station. *Indicative only - Subject to detailed design*.

Figure 16 Receiver Location 7 - existing view from Hannans Road looking south-east towards Narwee Station

Figure 17 Photomontage 3 - proposed view from Hannans Road looking south-east towards Narwee Station. *Indicative only - Subject to detailed design*.

6.0 Mitigation Measures

Mitigation measures should be considered to minimise the level of visual impact during the design development, the construction and operation phases of the Proposal.

6.1 Design Development

The following mitigation measures are recommended to minimise visual impacts during the design development process:

- selection of materials and colour finishes for new elements including the use of non-reflective finishes to surface and canopy structure
- consideration in selection and location of new tree planting along the Hannans Road and Hurst Place frontages that may provide partial screening of constructed elements from surrounding receivers, and facilitate improved amenity, such as the landscape setting of the station
- design of street furniture (as required) to consider City of Canterbury Council and Hurstville City Council guidelines as relevant
- disturbance of vegetation would be limited to the minimum amount necessary to construct the Proposal to maintain screening of views.

6.2 Construction

The following mitigation measures are recommended to minimise visual impacts as a result of construction:

- Tree Protection Zones (TPZs) would be established around trees to be retained. Tree protection would be undertaken in line with *AS 4970-2009 Protection of Trees on Development Sites* and would include exclusion fencing of TPZs.
- provide well-presented and maintained construction hoarding and site fencing
- provide cut-off or directed lighting to be used within and outside of construction site, with lighting location and direction considered to ensure glare and light spill is minimised.

6.3 Operation

The following mitigation measures are recommended to minimise visual impacts at operation:

- ongoing maintenance and repair of constructed elements
- long-term maintenance and replacement of tree planting and landscaping to maintain visual filtering and the framing of view to the station, and maintenance of adjoining streetscape amenity.