



IRIS Visual Planning + Design



Transport Access Program

Wollstonecraft Station

Landscape and Visual Impact Assessment

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TABLE 1-1 ABBREVIATIONS

Term	Meaning
CBD	Central Business District
CCTV	Closed Circuit TV
CPTED	Crime Prevention Through Environmental Design
DDA	Disability Discrimination Act (1992)
OHLE	Overhead line equipment
TGSI	Tactile Ground Surface Indicators

TABLE 1-2 DEFINITIONS

Term	Meaning
Concept design	The concept design is the preliminary design presented in the Review of Environmental Factors which would be refined by the Contractor (should the Proposal proceed) to a design suitable for construction (subject to TfNSW acceptance).
Detailed design	Detailed design broadly refers to the process that the Contractor undertakes (should the Proposal proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance).
Out of hours work	Defined as works outside standard construction hours (i.e. outside of 7am to 6pm Monday to Friday, 8am to 1pm Saturday and no work on Sundays/public holidays).
Overhead line equipment	A system of masts and overhead wires used to supply electricity to trains.
Rail possession	Possession is the term used by railway building/maintenance contractors to indicate that they have taken possession of the track (usually a block of track) for a specified period, so that no trains operate for a specified time. This is necessary to ensure the safety of workers and rail users.
Sensitive receivers	Land uses which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
The Proposal	The construction and operation of Wollstonecraft Station transport access upgrade.
Zincalume	Aluminium-Zinc coated sheet steel

1. Introduction

IRIS Visual Planning + Design were commissioned by Transport for NSW (TfNSW) to undertake an assessment of the visual impact of a proposed accessibility upgrade at Wollstonecraft Station (the Proposal).

Wollstonecraft is located in the lower north shore, around four kilometres north of the Sydney CBD. Wollstonecraft Station is on the T1 North Shore Line. Wollstonecraft Station is located within the North Sydney Council local government area.

Wollstonecraft Station has been identified for inclusion in the Transport Access Program for a precinct accessibility upgrade as it currently does not accommodate mobility impaired access to rail services, or meet key requirements of the *Disability Standards for Accessible Public Transport* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA).

The proposed upgrade would include the provision of two lifts, accessed by new ramps and upgraded sections of accessible ramp and pathways (including handrailing), linking the station entrance lifts to Shirley Road and Platforms 1 and 2. A new accessible parking space and kiss n ride would be installed on Shirley Road and the kiss and ride facility on Telopea Street would be formalised, including new signage. There would be accessible paths between these new parking spaces and the station platforms including modifications to Shirley Road overbridge, and platform stabilisation and regrading.

Other proposed improvements would include the conversion of existing amenities in the Platform 1 building (including one family accessible toilet, one female ambulant toilet and one male ambulant toilet), provision of accessible seating and waiting spaces on both platforms, and regrading of the platforms including installation of tactile ground surface indicators (TGSIs), signage and other associated public realm improvements. New areas of planting would also be installed.

The following landscape and visual impact assessment has been prepared to inform a Review of Environmental Factors (REF) for the Proposal.

This visual impact assessment identifies the potential visual impacts of the Proposal on views within the station and to the station from surrounding areas. The study area for this assessment is bounded to the east and west by adjacent residences on Milner Crescent and Telopea Street, and extends north to Wollstonecraft Station Park and Smoothey Park and south across Shirley Road to the commuter car park. The visual catchment of the Proposal is largely contained by existing mature vegetation within the station precinct and surrounding residential areas, which enclose and filter views to the station.

This assessment is based upon a viewpoint assessment, identifying and assessing viewpoints that represent the range of publicly accessible views to the Proposal. This assessment includes views from surrounding footpaths and streets, parks, and from the Wollstonecraft Station platforms.

This assessment begins with the identification of the existing character of the station precinct; a description of the visual character of the Proposal; and an individual viewpoint assessment. The viewpoint assessment includes identifying the sensitivity of the view and the magnitude of change that is proposed. These factors are then combined to determine a level of impact. The assessment has identified the visual impacts of the Proposal during the day and night, and throughout construction and operation.

The assessment also considers the urban design and landscape character impacts of the Proposal in terms of its consistency with relevant TfNSW urban design principles and North Sydney Council LEP and DCP in relation to local landscape character.

2. The Proposal

2.1. Proposal components

The proposal includes the following components:

- Lifts and accessibility
- Platform works
- Station building works
- Shirley Road and overbridge works
- Intermodal upgrades
- Ancillary works.

The main features of these components are as described in the following paragraphs.

Lifts and accessibility:

- construction of a new lift on Platform 1 connecting to the Shirley Road entry
- accessible return ramp from Shirley Road and the Shirley Road overbridge to Platform 1 lift
- construction of a new lift on Platform 2 connecting Telopea Street and the Shirley Road overbridge
- accessible footbridge ramp from Shirley Road overbridge to Platform 2 lift accessible path.

Platform works:

- upgrading Boarding Assistance Zone on Platform 1 and 2 including new canopy, wheelchair waiting space and seating
- stabilising and grading Platform 1 and 2 including new TGSIs and yellow line marking.

Station building works:

- reconfiguration of Platform 1 existing store room and toilets to accommodate one unisex family accessible toilet, one male and one female ambulant toilet and a new storeroom and cleaners room on Platform 1
- construction of a new Mains Switch Room at the southern end of the Platform 1 station building
- minor modifications to upgrade ventilation for the existing communications equipment room

- minor modifications to the Platform 1 waiting area to provide level access entry to the station
- floor levelling of existing waiting room on Platform 2 to provide accessible entry.

Shirley Road and overbridge works:

- widening and regrading of the footpath on the Shirley Road overbridge into the carriageway
- reconfiguration and reduction in size of the existing overbridge traffic lanes and medians
- installation of new compliant handrails to the roadside of the footpath
- modifications to eastern and western access points on Shirley Road overbridge approaches with ramps.

Intermodal upgrades:

- provision of one new compliant accessible car parking space and accessible kiss and ride bay on Shirley Road
- relocation of existing mail zone further east two car spaces from current location
- provision of new direct accessible path from the new kiss and ride bay and DDA car parking space to the proposed lifts
- relocation of the existing bike racks on the Platform 1 side of the station to accommodate a new Mains Switch Board and enclosure.

Ancillary works

- provision of new TGSIs, safety zone markings, line marking and handrails
- provision of accessible seating in the eastern station entrance
- installation of additional CCTV cameras, hearing loops and upgrading of Public Address system to accommodate the new works
- new wayfinding signage, Opal card readers, public telephones and rubbish bins
- provision of electrical upgrade to support the operation of the new lifts and station operations with installation of AusGrid transformer (about 3600 square metres) near Shirley Road entrance of Platform 1.

Key features of the proposal

The map illustrates the proposed station layout with various features highlighted in different colors and line styles. A key in the top right corner defines the symbols: green for proposed features, yellow for existing features, blue for proposed accessible paths, red dashed lines for rail corridor boundaries, and pink hatched areas for boarding assistance zones. The map shows the station building, platforms 1 and 2, retail shops, and existing footpaths. Key features include a new lift and landing, a new canopy from the lift to the platform, a new sheltered waiting area, a new transformer, a new family accessible toilet and male and female ambulant toilets, a new kiss and ride space, one new accessible parking space, and a new sheltered waiting area. The map also shows the reconfigured station entry ramps from Shirley Road and Telopea Street to provide accessible paths to lifts.

Key features of the proposal:

- Reconfigured station entry ramps from Shirley Road and Telopea Street to provide accessible paths to lifts
- New lift and landing
- New canopy from lift to platform
- New sheltered waiting area
- New transformer
- New family accessible toilet and male and female ambulant toilets
- One kiss and ride space
- One new accessible parking space
- New sheltered waiting area

FIGURE 2-1 KEY FEATURES OF THE PROPOSAL

Materials and finishes for the Proposal would be selected based on the criteria of durability, low maintenance and cost effectiveness, to accord with the heritage setting requirements, to minimise visual impacts, and to be aesthetically pleasing.

- Insitu concrete (natural grey) lift base, with steel frame and glass over.
 - Platform 1 lift (east) - concrete base (to top of existing sandstone cutting) with glass and steel above

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- Asphalt platform surface
- Tactile Ground Surface Indicators (TGSIs) to platform coping, stairs and ramps
- Stainless steel handrails and painted steel balustrade
- Concrete DDA ramp with painted steel balustrade and stainless steel handrails
- Broom finished concrete pathways.

These materials would be further considered during the detailed design of the Proposal.

2.1.2. Landscape and urban design

Approximately six trees would be removed and several trees would be trimmed to accommodate the Proposal. This would include one street tree (cabbage tree palm) on Shirley Road near the pedestrian crossing, a cabbage tree palm and several shrubs to the eastern site boundary, and all other vegetation within the construction footprint.

Of note, the trees along the eastern side of the station, between the station and the residential units would be retained. This includes the mature Canary Island Date Palms which are a local visual feature.

Figure 2-1 indicatively shows the location of trees to be retained and removed.

The Proposal includes local public realm improvements including new areas of landscaping, upgraded footpaths and street furniture. Where the footprint of the construction compounds impacts existing landscaped areas, these areas would be reinstated at the completion of the works.

2.1.3. Construction

Temporary construction compounds would be required to accommodate a site office, amenities, laydown and storage area for materials. Four areas have been identified as construction compounds; these are located:

- To the southeast of the station, at the commuter car park area
- To the northwest of the station (on the lawn area between Wollstonecraft Station Park and the shops)
- To the southwest of the station (on the lawn area to the rear of Platform 2) (refer Figure 2-2).

The construction works would include:

- Site establishment and enabling work
- Lift work
- Ramp upgrade
- Kiss and ride bay and accessible car parking space
- Shirley Road overbridge work
- Station building works
- Platform stabilisation and upgrade work
- Demobilisation.

Subject to approval, construction is expected to commence in 3rd quarter 2020 and take around 18 months to complete. The station would remain operational for the duration of the works (outside of scheduled track possessions), with customer accessible areas maintained around the construction works.

While some publicly accessible area of platform may be reduced at times, it is not expected that customer access to the station would be restricted or closed during construction, with the exception of rail possessions.

The ramps from the Shirley Road overbridge and Telopea Street to the station may be closed at times during construction of the new lifts and ramps. However, the underpass connecting the platforms and existing footpaths providing access to the station from Milray Avenue and Milner Crescent would remain open. The commuter car park would be closed during construction.

The concourse work area and construction compounds would be enclosed in temporary security fencing and hoarding. The machinery and activities occurring in these areas would include excavators, mobile cranes, heavy and light vehicles, concrete trucks and pumps, elevated work platforms, piling rig, and other typical construction equipment. At night there would be lighting towers.

The majority of works required for the Proposal would be undertaken during standard (NSW) Environment Protection Authority (EPA) construction hours, which are as follows:

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturdays
- no work on Sundays or public holidays.

Certain works may need to occur outside recommended standard hours and would include night works and works during routine rail shutdowns, which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed for maintenance and trains are not operating.

Out of hours works are required in some cases to minimise disruptions to customers, pedestrians, motorists and nearby sensitive receivers; and to ensure the safety of railway workers and operational assets. It

is estimated that approximately four rail shutdowns would be utilised to facilitate the following activities:

- site survey and services location investigations within and around the rail corridor
- piling, excavation of pits and installation of lift shafts
- stabilisation and grading of platforms
- installation of electrical containment
- services relocations.



FIGURE 2-2 PROPOSED COMPOUND AREAS

3. Planning context

There are several state and local government planning documents which provide relevant guidance as to the landscape character and visual values of the site, and desired planning outcomes. These are summarised in the following paragraphs.

3.1. State and regional planning documents

3.1.1. Greater Sydney Regional Plan: A Metropolis of Three Cities, NSW Greater Sydney Commission

This plan (Greater Sydney Commission, 2018a) sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. It identifies three key cities in Greater Sydney, including the '*Eastern Harbour City*' around Sydney CBD and North Sydney (p.6).

The role of this plan is to co-ordinate a whole-of-government approach to provide the appropriate infrastructure in the right places to support the growth of three cities. Wollstonecraft Station is located on the lower North Shore of Sydney, within the Eastern Economic Corridor (Macquarie Park to Sydney Airport), in the '*Eastern Harbour City*'.

The region's '*green infrastructure*' including the urban bushland are identified as valued assets for Greater Sydney (p.156). Views in the Eastern Harbour City to '*scenic foreshore areas from public spaces*' are recognised as important in the plan (p.158). Strategy 28.2 aims to '*enhance and protect views of scenic and cultural landscapes from the public realm*' (p.158). '*Expanding urban tree canopy in the public realm*' is also a priority for Greater Sydney along streets, in parks and other public spaces, and on privately owned land, in Strategy 30.1 (p.164).

3.1.2. North District Plan, NSW Greater Sydney Commission

This plan is focused on the North District, a district identified in the *Greater Sydney Regional Plan: A Metropolis of Three Cities* (NSW Greater Sydney Commission, 2018a). The North District extends between the North Sydney and Hornsby local government areas. Wollstonecraft Station is located within this district.

This is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It contains the planning priorities and actions for implementing the *Greater Sydney Region Plan, A Metropolis of Three Cities*, at a district level and is a bridge between regional and local planning.

Wollstonecraft is located in a suburban setting along the Eastern Economic Corridor (p.7), between North Sydney CBD and St Leonards. It is not identified as a '*local centre*' in the structure plan (p.11).

The district's '*urban bushland*' (p.105) and '*Green Grid*' (p.94) including tree-lined ridges and escarpments and the network of walking and cycling links, are recognised as important. In particular, trees are '*valued by residents and contribute to the streetscape, character and amenity of the District*' (p.108). Objective 30 aims to protect '*scenic and cultural landscapes*' (p.105) and objective 28 aims to '*increase urban tree canopy cover*' (p.108).

3.1.3. Around the Tracks: urban design for heavy and light rail, Transport for NSW

The NSW Government is committed to the development of a customer focused transport network to help it achieve its economic, social and environmental objectives. Good urban design can help achieve the NSW Governments aims for the rail systems of NSW.

The Interim version of the Urban Design best practice guideline *Around the Tracks urban design for heavy and light rail* refers to eight principles:

- Draw on a comprehensive site and context analysis to inform the design direction.
- Provide value-for-money design solutions that achieve high quality low maintenance architectural and urban design outcomes that have longevity.
- Provide connectivity and permeability for pedestrians.
- Integrate the project with the surrounding area.
- Maximise the amenity of the public domain.
- Protect and enhance heritage features and significant trees.
- Maximise positive view opportunities.
- Design an efficient and functional transport solution which enhances and contributes to local amenity and prosperity.

Projects are required to outline how they have addressed each of these principles as part of their project Urban Design Plan (UDP).

These principles have been considered in Section 6 (Assessment of Landscape Character and Urban Design) of this report.

3.1.4. Better Placed, Office of the NSW State Government

The office of the NSW State Government Architect has prepared a suite of documents under the title of *'Better Placed'* which aim to improve the urban design quality of places in NSW. These documents include:

- Better Placed: An integrated design policy for the built environment of NSW, State Government Architect NSW (2018)
- Better Placed: Draft Good Urban Design Strategies for realising Better Placed objectives in the design of the built environment, State Government Architect NSW (2018)
- Better Methods: Evaluating Good Design, Implementing Better Placed design objectives into projects (2018).

These documents are intended to inform those involved in the design, planning, and development of the built environment in NSW. The overriding policy establishes the objectives and expectations in relation to design and creating good places.

The policy includes seven distinct objectives for the design of the built environment. These objectives apply to the design of landscapes, buildings, and our public domain and aims for design which is healthy, responsive, integrated and equitable. These objectives are:

- Better fit – contextual, local and of its place
- Better performance – Sustainable, adaptable and durable
- Better for community – Inclusive, connected, and diverse
- Better for people – Safe, comfortable and liveable
- Better working – Functional, efficient and fit for purpose
- Better value – Creating and adding value
- Better look and feel – Engaging, inviting and attractive.

These objectives are expanded upon in the Strategy and Evaluation documents.

The *'Better methods'* draft working paper lists requirements that can be used as criteria for evaluating a project. These criteria are based upon the seven design objectives from the Better Placed policy.

The principles identified in the *'Better Methods, Evaluating good design'* paper have been used in this Proposal for the evaluation of the urban design impacts of the Proposal. (Refer Section 4.0 Methodology).

3.1.5. Sydney Trains Section 170 and Conservation Register

The Wollstonecraft Railway Station Sign is a heritage item included in the Section 170 Register. It is described as a *'physical reminder of the earlier station'* (NSW OEH, 2013).

3.2. Local government planning documents

Wollstonecraft Station is located in the North Sydney Council local government area. While the Local Environmental Plan and Development Control Plan do not apply to this Proposal, they contain the planning intent for areas surrounding the station.

Relevant clauses from the North Sydney Local Environmental Plan (LEP) and Development Control Plan (DCP), are summarised in the following sections.

3.2.1. North Sydney Local Environmental Plan 2013

The North Sydney Local Environmental Plan 2013 (LEP) applies to land surrounding the station. Key relevant aims of this plan are to:

- *'promote development that is appropriate to its context and enhances the amenity of the North Sydney community and environment'* (cl. 1.2.2a)
- *'ensure that new development is compatible with the desired future character of an area in terms of bulk, scale and appearance'* (cl. 1.2.2bi)
- protect *'local amenity'* (cl 1.2.2bii)
- *'ensure that non-residential development does not adversely affect the amenity of residential properties and public places, in terms of visual and acoustic privacy, solar access and view sharing'* (cl 1.2.2dii)
- *'maintain and protect natural landscapes, topographic features and existing ground levels'* (cl. 1.2.2e).

The LEP includes a number of plans which offer guidance for development within the study area including land use zoning, heritage areas and maximum heights for development.

Land use zoning

The study area includes the following land use zones:

SP2 – Infrastructure

R2 – Low Density Residential

R3 – Medium Density Residential

R3 – High Density Residential

RE1 – Public Recreation.

There are some objectives identified for these zones of relevance to the visual amenity of the study area, these are listed in the following paragraphs.

Wollstonecraft Station and the railway corridor are located in the SP2 Infrastructure zone. The objectives of this zone include:

'To provide for infrastructure and related uses' and *'To prevent development that is not compatible with or that may detract from the provision of infrastructure'*.

The station is surrounded by residential development with a range of density and built form, including heritage listed homes and gardens. Relevant objectives of the residential zones relate to maintaining the *'amenity'* and *'cultural heritage'* of the area.

There are a number of established parks and open spaces near the station including Wollstonecraft Station Park (within the rail corridor and SP2 zone) and Smoothery Park (zoned Public Recreation RE1). A key objective of this zone is: *'To protect and enhance the natural environment for recreational purposes'*.

Potential building heights

The parcels of land west of the station, containing low and medium-density residential, are permitted to include development with a maximum building height of 8.5 metres. This reflects the desire to maintain the low-rise built character in this area. To the east of the station, maximum building height increases to 12 metres at high-density residential areas.

Although the rail corridor and station is not subject to a building height restriction under the LEP, clause 4.3 aims to: *'promote development that conforms to and reflects natural landforms, by stepping development on sloping land to follow the natural gradient'*. It also aims to: *'encourage an appropriate scale and density of development that is in accordance with, and promotes the character of, an area'* and *'promote the retention and, if appropriate, sharing of existing views'*.

Heritage

In the vicinity of the site the LEP identifies:

- The Wollstonecraft Conservation Area, south of the station, including the Former Station Master's Residence, 'The Briars' at 3 Telopea Street and corner residence opposite the station at 46 Shirley Road.

- ‘Tullamore’, a heritage landscape at 11 Telopea Street (privately owned property)
- The North Sydney bus shelter, east of the station, at Milner Crescent (refer to Figure 5-1).

A key objective of the heritage conservation clause is *‘to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views’* (cl. 5.10).

3.2.2. North Sydney Development Control Plan 2013

The North Sydney Development Control Plan (DCP) provides further detail to support the LEP.

The DCP describes North Sydney as an area containing a *‘rich and diverse cultural heritage of structures and places... lookouts, streetscapes, urban patterns, parks and reserves’* which contribute to the *‘sense of place and identity’* (cl. A2-6).

A key aim of the DCP is to *‘ensure development positively responds to the qualities of the site and its context’* and *‘positively responds to the character of the surrounding area’* (cl. A1-2).

Although the DCP does not apply to the Proposal, it places importance on the appearance and compatibility of development with the surrounding context, including:

Character

The DCP contains several character statements which identify the existing character and the desired future outcome for development in each area. Wollstonecraft Station is located in the Waverton / Wollstonecraft Planning Area, including two ridges/peninsulas projecting south into Sydney Harbour.

This area comprises a diverse residential neighbourhood ranging from low density residential development adjacent to the foreshore areas of Sydney Harbour to high density residential development generally on the upper slopes and in close proximity to railway stations.

The North Shore rail line, including Wollstonecraft Station, is identified as a *‘Identity / Icon’* in *‘The Upper Slopes’* neighbourhood character area.

The character statement places importance on the appearance and compatibility of development with the surrounding context, requiring:

- development to promote and conserve *‘features contributing to local identity’*
- *‘bushland is protected from the adverse effects of development – such as... visual impact of structures’*
- *‘development reflects and reinforces the existing distinctive built form/landscape areas’*
- *‘cohesiveness is achieved in the area and through landscaping and street tree planting’*
- *‘significant views from lookouts and other vantage points are not obscured by structures or landscaping’*
- *‘man-made features such as the railway cutting at Waverton Station... are maintained as local landmarks important to the community’*.

Important views and vistas have been identified for the *‘Upper Slopes Neighbourhood’* and *‘Wollstonecraft Conservation Area’*. Of relevance to Wollstonecraft Station are *‘views along Shirley Road’* and views *‘to the harbour and foreshore’* (clause 10.10.4) which are to be preserved and where possible enhanced.

Heritage

Ensure that new development *‘is designed to retain and complement the character and significance of the conservation area’* and would *‘maintain and enhance streetscape character’* (cl. B13-17). It also requires new materials and finishes to be *‘consistent with the characteristic elements of the heritage item or heritage conservation area’* (cl. B13-26).

Tree and vegetation management

The DCP describes North Sydney as having a *‘leafy character’*, established through the interconnection of *‘many canopy trees distributed across road reserves, parks, bushland areas and private property’* (cl. B16-1).

The DCP aims to *‘protect existing trees and vegetation during construction of development’* and ensure development *‘does not result in the unreasonable reduction in amenity of adjoining properties in terms of access to sunlight and views’* (cl. B16-1).

4. Methodology

4.1. Guidance for landscape and visual assessment

While there are no specific legislative requirements for the methodology of an assessment such as this in New South Wales, the industry typically refers to the guidance offered by:

- *Guidance note EIA-N04 Guidelines for Landscape Character and Visual Impact Assessment*, NSW State Government, Roads and Maritime Services (2018)
- *The Guidance Note for Landscape and Visual Assessment (GNLVA)*, Australian Institute of Landscape Architects Queensland (2018).

The methodology used for this assessment conforms generally with the direction offered by these guidelines.

4.2. Approach

This assessment identifies the visual impacts of the Proposal during construction and operations. The process of assessment involved the following steps. Identification of:

- existing visual conditions
- visual sensitivity
- magnitude of change as a result of the Proposal
- level of visual impact
- mitigation opportunities.

The potential visual impacts have been classified according to the impact significance criteria set out in this methodology.

4.3. Method

4.3.1. Identification of existing visual conditions

The key landscape features of the site have been identified, described and located on a site plan (refer Figure 5-1).

A number of viewpoints have been selected to illustrate the visual influence of the Proposal. These views represent publicly accessible viewpoints from a range of locations and viewing situations. Particular attention was paid to views from places where people are expected to congregate such as the station and park areas, as well as views to and from heritage items.

4.3.2. Visual sensitivity

Visual sensitivity refers to the nature and duration of views. Locations from which a view would potentially be seen for a longer duration, where there are higher numbers of potential viewers and where visual amenity is important to viewers can be regarded as having a higher visual sensitivity. In addition, any views recognised by local, state or federal planning regulations would, by nature of their recognition in these documents, increase the sensitivity level of the view.

In order to ensure the assessment of impact is reasonable, the sensitivity of a viewpoint is considered in the broadest context of possible views, from those of national importance through to those considered to have a neighbourhood visual importance.

The following terminology is used to describe the level of visual sensitivity, see Table 4-1.

TABLE 4-1 VISUAL SENSITIVITY LEVELS

Visual sensitivity	Description
National	Heavily experienced view to a national icon, e.g. view to Sydney Opera House from Circular Quay or Lady Macquarie's Chair, view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, e.g. view along the main avenue in Hyde Park.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space, e.g. an identified view corridor to a state heritage listed item.
Local	High quality view experienced by concentrations of residents and/or local recreational users, local commercial areas, and/or large numbers of road or rail users, e.g. view from a conservation area or local park such as Wollstonecraft Station Park at the Station.
Neighbourhood	Views where visual amenity is not particularly valued by the wider community such as views from local streets and residences.

4.3.3. Magnitude of change

Magnitude describes the extent of change resulting from the Proposal and the compatibility of these new elements with the surrounding landscape. There are some general principles which determine the magnitude of change; these include elements relating to the view itself such as distance, landform, backdrop, and contrast. There are also characteristics of the development which are: scale, form, colour, pattern, texture and line/alignment. Change can result in an improvement or reduction in visual amenity.

A high magnitude of change would result if the development contrasts strongly with the existing landscape. A low magnitude of change occurs if there is minimal visual contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the environment in which it is located.

In some circumstances, there may be a visible change to a view which does not alter the amenity of the view, this would be due to the visual absorption capacity of the surrounding landscape and / or the compatibility of the Proposal with the surrounding visual context.

Table 4-2 lists the categories used to describe the magnitude of change.

TABLE 4-2 MAGNITUDE LEVELS

Magnitude	Description
Considerable reduction or improvement in visual amenity.	Substantial part of the view is altered. The Proposal contrasts substantially with surrounding landscape.
Minor reduction or improvement in visual amenity.	Alteration to the view is clearly visible. The Proposal contrasts with surrounding landscape.
No change in visual amenity.	Either the view is unchanged or it is visible but a change in amenity would not be experienced by viewers. The Proposal does not contrast with the surrounding landscape or is visually compatible.

A benefit is when the contrast is positive and improves the view. Conversely an adverse visual impact occurs when the change contrasts in a way that is not visually compatible and is detrimental to the amenity of the view.

4.3.4. Identifying night time visual impacts

The assessment of night time impacts has been undertaken with a similar methodology to the daytime assessment. However, rather than assessing particular viewpoints or landscape features, this assessment draws upon the guidance of the Institution of Lighting Engineers (UK), and their '*Guidance for the reduction of obtrusive light*' (2011). This guidance note identifies environmental zones, useful for the categorising of night time landscape settings.

These zones are:

- E0 / E1: Dark / Intrinsically dark landscapes – national parks, state forests etc.
- E2: Low district brightness areas – rural, small village, or relatively dark urban locations
- E3: Medium district brightness areas – small town centres or urban locations
- E4: High district brightness areas – town/city centres with high levels of night time activity.

Specific features of the lit landscape can be described in terms of:

- sky glow – the brightening of the night sky
- glare – the uncomfortable brightness of a light source when viewed against a dark background
- light intrusion ('trespass') – the spilling of light beyond the boundary of the property or area being lit.

The level of impact on the precinct has been described according to the impact levels that are identified in Table 4-4.

4.3.5. Assigning impact levels

An impact visual impact level has been determined by combining the sensitivity and magnitude level according to the following matrix, refer to Table 4-3.

Similarly, for the assessment of visual impacts at night, the following matrix has been used, refer to Table 4-4.

4.3.6. Mitigation measures

Following the identification of potential landscape and visual impacts, opportunities for mitigation were identified. Measures include opportunities to avoid, reduce and manage potential adverse impacts during construction and operation of the Proposal.

4.3.7. Photomontages and artists impressions

Photomontages have been prepared to illustrate the massing and scale of the Proposal. This combines the architectural 3D model with a photograph using a 3D model and photo editing techniques to create a photorealistic impression of the Proposal.

The photomontage locations were selected in consultation with TfNSW to illustrate typical views toward the Proposal. The photomontage locations were selected from accessible parts of the overbridge and pathways and from the station platform, looking towards the station and key components of the Proposal.

TABLE 4-3 VISUAL IMPACT LEVELS

Magnitude		Sensitivity				
		National sensitivity	State Sensitivity	Regional sensitivity	Local sensitivity	Neighbourhood sensitivity
	Considerable reduction	Very high adverse	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Minor reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse	Negligible
	No change in amenity	Negligible	Negligible	Negligible	Negligible	Negligible
	Minor improvement	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial	Negligible
	Considerable improvement	Very high beneficial	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial

TABLE 4-4 NIGHT TIME VISUAL IMPACT LEVELS

		Sensitivity			
		E0/E1: Dark / Intrinsically dark landscapes	E2: Low district brightness	E3: Medium district brightness	E4: High district brightness
Magnitude	Considerable reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Minor reduction	High adverse	Moderate adverse	Minor adverse	Negligible
	No change in amenity	Negligible	Negligible	Negligible	Negligible
	Minor improvement	High beneficial	Moderate beneficial	Minor beneficial	Negligible
	Considerable improvement	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial

4.3.8. Assessment of Urban Design and Landscape Character Impacts

An assessment of Urban Design and landscape character impacts has been undertaken in two steps, these are:

- a response to state and local government urban design considerations, and
- a general urban design and landscape character impact assessment.

The response to state and local government urban design considerations, includes a summary of how the project addresses the urban design principles set out in *Around the Tracks urban design for heavy and light rail (TfNSW)*. While the DCP and LEP are not directly relevant to the approval of the Proposal, the principles identified in the character statement for the 'Upper Slopes Neighbourhood' of 'Waverton / Wollstonecraft Planning Area' in the *North Sydney DCP 2013* (clause 10.2) have also been considered.

A general assessment of urban design considerations has been undertaken, based on the themes identified in relevant national and state guidance for urban design. This includes the NSW State Government Architect's Better Placed suite of documents, the Federal Government's National Urban Design Protocol, and best practice urban design principles.

This assessment includes consideration of impacts the project would have on the urban design functionality of the Proposal, including:

- Accessibility, legibility and permeability
- direct impacts on trees, open space and public realm areas
- changes to the level of shade and comfort to public areas
- access to sunlight and the effect of overshadowing.

5. Assessment of visual impacts

5.1. Existing conditions

Wollstonecraft is a peninsular extending from Crows Nest in the northeast to the Sydney Harbour foreshore in the southwest. Shirley Road follows the ridgeline of this peninsular and leads from the Pacific Highway to Wollstonecraft Station and Berrys Reserve. The Wollstonecraft peninsular is fringed by parks and reserves including the Gore Cove Reserve along Berrys Creek in the northwest, Berrys Reserve which extends into the harbour, and Badangi Reserve to the southeast.

Residential areas, to the south west of the station, have a leafy character with mature gardens and street trees. This area has numerous heritage character houses and is located within the Wollstonecraft Conservation Area.

Wollstonecraft Station is located on the T1 North Shore Line, four kilometres north of the Sydney CBD. The station is located to the north of Shirley Road, on a sharp curve of the rail corridor and in a cutting. Generally, the station is visually enclosed by this landform and existing mature vegetation within the station precinct and on surrounding properties.

There are sandstone rock cuttings in the southern areas of the station in the vicinity of the Shirley Road overbridge. The rock cuttings are not prominent visual features within the station due to screening by existing vegetation and a row of large format advertising billboards, located to the southwest of the station.

The station consists of two curved platforms with modern platform buildings. The original station buildings were replaced in the 1980s and no longer contain historic features. There is a precast concrete 'Wollstonecraft' station sign on Platform 2, which is listed on the s170 register and described as providing a '*physical reminder of the earlier station*' (NSW OEH, 2013).



Figure 5-1 VIEW SOUTH FROM SHIRLEY ROAD OVERBRIDGE TO WOLLSTONECRAFT STATION



Figure 5-2 VIEW TO SHIRLEY ROAD OVERBRIDGE AND EXISTING BILLBOARDS



Figure 5-3 VIEW TO PLATFORM 1 AND PLATFORM BUILDING



Figure 5-4 HERITAGE LISTED STATION SIGN

There is one small retail outlet within the station building on Platform 1 and three small shops located on the western side of the station (near Platform 2).

Wollstonecraft Station Park, to the west of Platform 2 includes a playground and paths which connect north to Smoothery Park and the Gore Cove Reserve. Smoothery Park is densely vegetated and slopes away from the rail corridor towards Berrys Creek. The rail corridor widens in the vicinity of Smoothery Park and includes a cleared area and maintenance building accessed by a track leading from Russell Street in the north.

The station is accessed via footpaths from Russell Street and Milray Avenue in the north, from Milner Crescent in the east and Shirley Road in the south. There is a pedestrian underpass linking the two platforms at the northern end of the station.

A bus stop on Milner Crescent east of the station, includes a North Sydney bus shelter, which is a local heritage item.

There are glimpses to the Sydney Harbour Bridge in southerly views from the Shirley Road overbridge. There is a commuter car park located on land to the south of the station to the east of the rail corridor, accessed from Shirley Road. The car park is connected to the station via a zebra crossing at the eastern side of the Shirley Road overbridge.

Figure 5-9 identifies the location of the landscape and visual features of the site.



FIGURE 5-5 RETAIL OUTLETS WITHIN THE STATION PRECINCT



FIGURE 5-6 PATHWAY FROM MILRAY AVENUE



FIGURE 5-7 PEDESTRIAN UNDERPASS



FIGURE 5-8 GLIMPSE TO THE SYDNEY HARBOUR BRIDGE FROM THE SHIRLEY ROAD OVERBRIDGE.

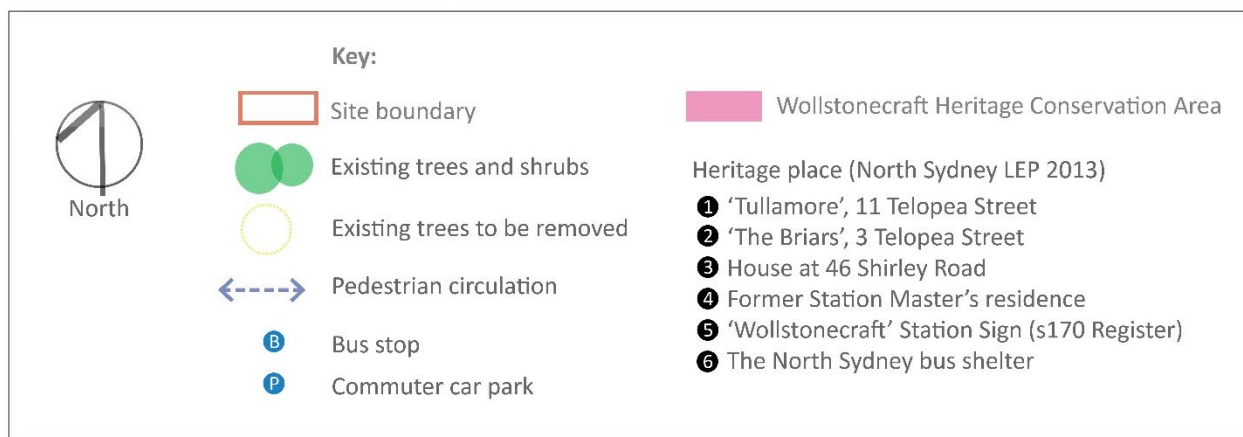
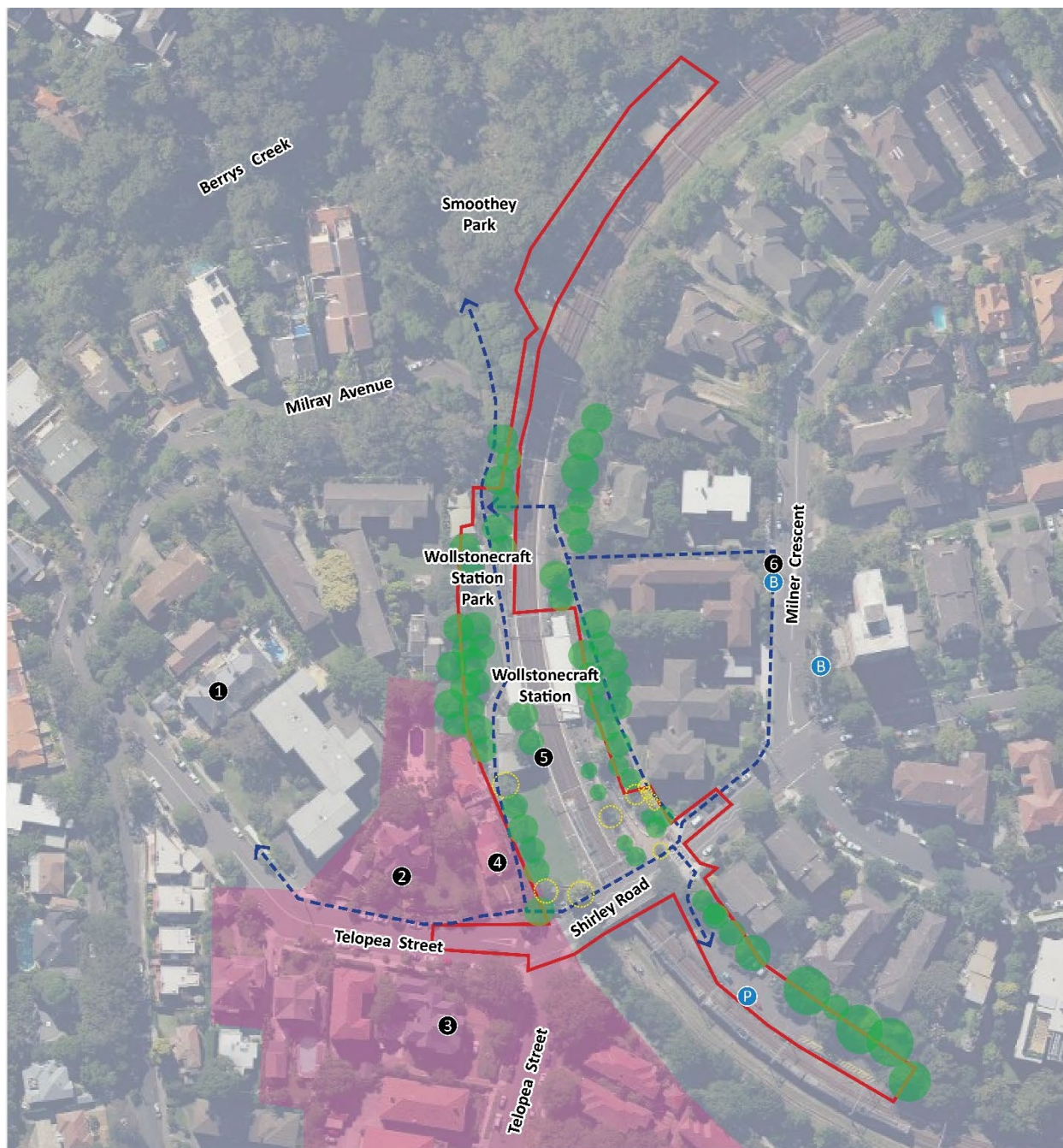


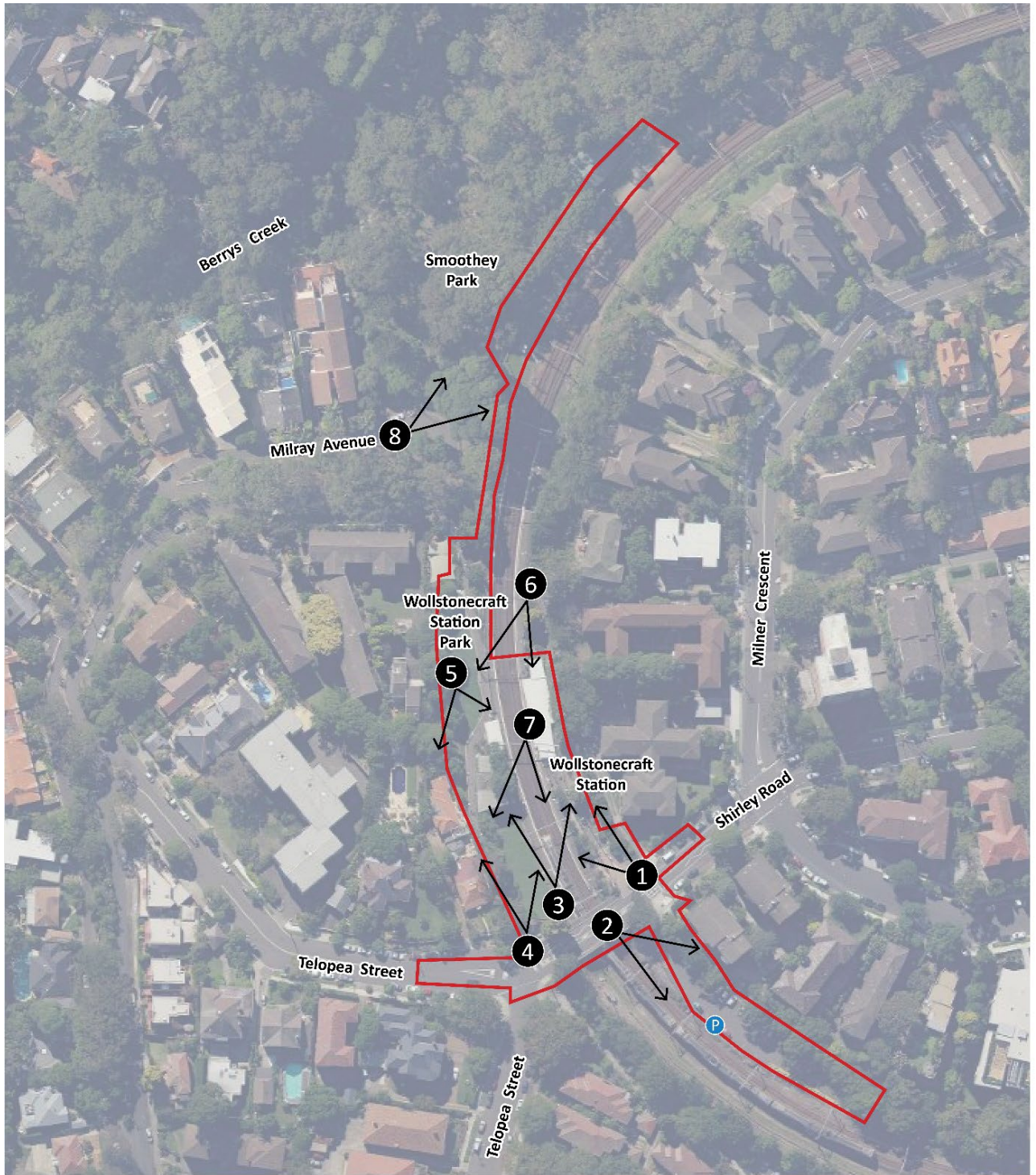
FIGURE 5-9 LANDSCAPE AND VISUAL FEATURES OF THE SITE

5.2. Assessment of Representative Viewpoints

The following viewpoints were selected as representative of the range of views to the Proposal:

- Viewpoint 1: View north from Shirley Road, southeast of the station
- Viewpoint 2: View south from the Shirley Road overbridge
- Viewpoint 3: View north from the Shirley Road overbridge
- Viewpoint 4: View north from Telopea Street, southwest of the station
- Viewpoint 5: View southeast from Wollstonecraft Station Park
- Viewpoint 6: View south from Platform 1
- Viewpoint 7: View southwest from Platform 1
- Viewpoint 8: View east from Milray Avenue

The location of these viewpoints is shown on Figure 5-10 and an assessment of each viewpoint is been summarised on the following pages.



Key:

- Site boundary
- 1 Viewpoint location

FIGURE 5-10 VIEWPOINT LOCATION PLAN

5.2.1. Viewpoint 1: View north from Shirley Road, southeast of the station



FIGURE 5-11 VIEWPOINT 1: VIEW NORTH FROM SHIRLEY ROAD, SOUTHEAST OF THE STATION

Existing view: This view to the station from Shirley Road is marked by a small station entry plaza including a brick signage wall (left of view), seating, ornamental gardens and feature palm tree plantings. A pedestrian crossing, seen in the foreground of view, connects the station to the commuter car park to the south (behind the viewer). A pathway descends from Shirley Road to the station between a rail corridor fence and curved retaining wall.

As the station is located in a small cutting, it is mostly out of view. Vegetation along the rail corridor and in adjacent properties, create a sense of visual enclosure, screening the station and softening the view. The southern façade of the western station building, containing the Wollstonecraft general store and café, can be seen in the middle to background of view, glimpsed through the intervening vegetation and fencing.

Visual sensitivity: This view is of **local** visual sensitivity as it represents views from Shirley Road and the adjacent footpaths. These views are experienced by locals and visitors travelling to the station from the surrounding areas including the commuter carpark.

Visual impact during construction: Works to install the eastern lift structure, footpaths and ramps would be seen in the centre of this view. This would include earthworks to excavate an area of the rock embankment for the lift structure, and to create a platform for the lift landing area. Existing trees and vegetation along the rail cutting would be removed in the footprint of the works, opening up views to the station somewhat. The street tree (cabbage tree palm) in the foreground of this view would also be removed.

Works to construct the AusGrid transformer would be visible on the eastern boundary of the station (centre of view) and would require the removal of a cabbage tree palm and a row of six lilypillys. This work would include excavation and rock breaking activities and equipment. However, the existing vegetation would partly screen the view to this construction activity.

The upper part of the western lift construction and taller construction equipment would be seen, above the site fencing and hoarding, and would rise above

the treeline in the background of the view. Minor works on the overbridge, including pathway regrading, resurfacing, and installation of pedestrian handrails would also be visible in the foreground of this view. This work would be overlooked by residents in adjacent apartment buildings.

The character of this construction activity would contrast with the small scale and leafy character of the station. Overall, due to the removal of trees and scale of the works, there would be a considerable reduction in the amenity of this view, and a **moderate adverse visual impact** during construction.

Visual impact during operation:

The new Platform 1 lift (east) would be prominent in the centre of this view, rising above the existing backdrop of vegetation. The lift shaft would rise above the station but be lower in height than the adjacent apartment buildings. The visible portion of the lift would be one storey high and would be visually lightweight compared to the adjacent brick buildings being constructed of steel and glazing. This new structure would not dominate the view.

There would be ramps leading up to the lift entry and switching back to connect with the Shirley Road overbridge. There would also be a ramp following the footpath to These ramps, handrails and new throw screens along the overbridge would create some visual clutter at street level.

Generally, this view would contain more built form and be less leafy in character. Some of the vegetation which currently frames the rail corridor and provides screening for adjacent residential properties along the eastern side of the station would be removed and replaced by the AusGrid transformer. However, there would be a small area of garden retained in the middle ground of this view, which would mostly screen the transformer in this view.

The western lift shaft would also be glimpsed in the background of view, through the mesh screens, and seen in the context of the existing station buildings.

While the leafy setting of the station would be reduced, and there would be some visual clutter

created by the new ramps and mesh screens, the proposed lift structure would increase the visual prominence of the station entry in this view. This increased visual prominence would be in keeping with the role of the station as an '*Identity / Icon*' (North Sydney LEP 2013). While there would be some improvements resulting from the increased prominence of the station entry, and compatibility of the proposed structures with the station setting. Overall, this would result in a minor reduction in the amenity of this view and a **minor adverse visual impact** during operation.

Figure 5-13 shows a photomontage of the project from to the Shirley Road footpath to the station entrance during operation.



FIGURE 5-12 VIEWPOINT 1A: VIEW NORTHWEST FROM TO THE SHIRLEY ROAD FOOTPATH



FIGURE 5-13 VIEWPOINT 1A: VIEW NORTHWEST FROM TO THE SHIRLEY ROAD FOOTPATH, PHOTOMONTAGE

5.2.2. Viewpoint 2: View south from the Shirley Road overbridge



FIGURE 5-14 VIEWPOINT 2: VIEW SOUTH FROM THE SHIRLEY ROAD OVERBRIDGE

Existing view: This view south from the Shirley Road overbridge includes the existing commuter car park and rail corridor in the middle ground of the view. The commuter car park is below the street level, located adjacent to the rail corridor and enclosed by black fencing. Mature trees and vegetation along the rail corridor and in private gardens overhang the car park and enclose the rail corridor, screening the adjacent residences. There is built form visible in the background as well as a glimpse to part of the Sydney Harbour Bridge arch.

Visual sensitivity: This view from Shirley Road overbridge is of **local** visual sensitivity. It is used by commuters accessing the station, residents and visitors traveling to the surrounding residential areas of Wollstonecraft. It includes an incidental partial view to the Sydney Harbour Bridge which is a visual landmark / icon.

Visual impact during construction: The existing commuter carpark would be used as a compound during construction. This would include construction support facilities within the existing fenced site. There would not be any tree removal required.

As the commuter car park is located below the level of the road, the construction compound would be partly blocked by the bridge and would not rise above the surrounding landform and vegetation.

Upgrades to the overbridge, may be seen on the bridge, including some minor kerb realignment and works to install new handrails.

The proposed construction activity would not obstruct the glimpse to the Sydney Harbour Bridge.

Overall, due to the low visual prominence of the construction compound in this view, there would be a minor reduction in the amenity of this view, and a **minor adverse visual impact** during construction.

Visual impact during operation: The commuter carpark would be reinstated and any upgrades to the overbridge would be minor in nature and consistent in character with the existing road overbridge. The leafy setting and features of this view would be retained.

Overall, there would be no change in the amenity of this view, and a **negligible visual impact** during operation.

5.2.3. Viewpoint 3: View north from the Shirley Road overbridge



FIGURE 5-15 VIEWPOINT 3: VIEW NORTH FROM SHIRLEY ROAD OVERBRIDGE



FIGURE 5-16 VIEWPOINT 3: VIEW NORTH FROM SHIRLEY ROAD OVERBRIDGE, PHOTOMONTAGE

Existing view: This elevated viewing location offers a view along the station platforms to the station buildings in the middle ground of the view. This includes the southern end of the retail building (left of view), and the upper level of residential apartments (right of view). The station is set within a well vegetated setting that enclose and create a backdrop to this view.

The rail cuttings are largely screened by vegetation, and there are several ornamental trees such as Canary Island date palms and cabbage tree palms, which provide visual interest. A flat lawn area is visible in the foreground of this view, alongside Platform 2 (left of view).

Visual sensitivity: This view is of **local** visual sensitivity as it represents views from Shirley Road and the adjacent footpaths. These views are experienced by locals and visitors travelling to the station.

Visual impact during construction: Construction of both the Platform 1 and Platform 2 lift structures would be seen in the middle ground of this view. Construction of the Platform 1 lift would require the excavation of part of the cutting and removal of some vegetation to accommodate the works. This construction activity would include equipment that would rise above the station platform and vegetation beyond.

A small cabbage tree palm and row of mature lillypillys, would be removed and a new transformer constructed along the eastern site boundary. This work would include excavation and rock breaking. The removal of this vegetation would open up views to the adjacent medium density residential properties somewhat and increase the potential for views over the station from these properties. At the southern end of the Platform 1 building, works to construct a mains switch room would be visible, beyond the lift construction activity.

Construction of the Platform 2 lift structure (west) would be seen in the area between Platform 2 (left of view) and the retail building and extending into the lawn area in the foreground of view. This would include the establishment of a construction compound with machinery, equipment and materials storage areas. There would be trees removed from the embankment adjacent to the station building and works to construct an accessible path between the overbridge and the lift. The billboards would be

temporarily removed and reinstated (subject to a separate planning pathway).

There would be some minor construction activity for the platform upgrade works, including regrading, and installation of TGSIs.

Construction activity would extend across much of this view and contrast with the scale and leafy character of the station. Overall, this would result in a considerable reduction in the amenity of this view and a **moderate adverse visual impact** during construction.

Visual impact during operation: During operation, the Platform 2 lift would be visible adjacent to the platform station and retail building. The Platform 1 lift would be located closer to Shirley Road overbridge and closer the viewer.

The rectangular lift structures would introduce a new vertical element in the view, however, they would not rise above the backdrop of vegetation. The upper portion of the lifts would be visually light structures with a steel frame and glazing further reducing their visual mass.

The Platform 2 lift (west) would add a new architectural element to the front of the blank side façade of the retail building. The concrete base would ground the structure, matching the adjacent brick base of the existing building, and the steel and glazed upper section of the lift would be a visually lighter element, consistent with the character of contemporary station architecture. This lift structure would improve the southern elevation of the existing building by adding some visual interest through articulation, shadow, and texture with a complementary mix of materials.

While these new lifts would be prominent in this view, adding to the modern built character of the station, they would not visually dominate their setting.

The Platform 1 building would include a new extension of a similar height and form to the existing building and consistent in scale and character to the adjacent station building.

The Platform 1 lift would obstruct the view of the AusGrid transformer which would replace the vegetation along the eastern site boundary. The removal of these trees would open-up views to the existing residential apartment buildings and slightly reduce the overall leafy backdrop in this area of the view. The Platform 1 station entry would have larger

areas of hardstand and the station architecture, would be more visually prominent.

While the station precinct has a high capacity to absorb this additional built form, the leafy character and residential scale of the existing station architecture would be reduced. Overall, there would be a minor reduction in the amenity of this view and a **minor adverse visual impact** during operation.

Figure 5-16 shows a photomontage of the project from to the Shirley Road overbridge during operation.

Viewpoint 4: View north from Telopea Street, southwest of the station



FIGURE 5-1 VIEWPOINT 4: VIEW NORTH FROM TELOPEA STREET, SOUTHWEST OF THE STATION



FIGURE 5-2 VIEWPOINT 4: VIEW NORTH FROM TELOPEA STREET, SOUTHWEST OF THE STATION , PHOTOMONTAGE

Existing view: This view on the south western approach to the station shows an entry wall, garden area and narrow pathway leading to the station. The entrance is located adjacent to the Former Station Master's Residence (left of view), which is located within Wollstonecraft Heritage Conservation Area (North Sydney LEP 2013).

The station is located in the centre background of this view, set below the street level and largely screened by the intervening vegetation and filtered by existing trees along the footpath. There are glimpses through the intervening fence and vegetation to the upper part of the station building on Platform 1, and the central part of Platform 1.

The view is enclosed by vegetation located on the rail corridor and within open space to the north of the station (centre background of view).

Visual sensitivity: This view from the station entrance is of **local** visual sensitivity. This viewpoint is from a location within Wollstonecraft Conservation Area and shows an entrance to the station where there would be concentrations of people accessing the station, retail properties and Wollstonecraft Station park.

Visual impact during construction: A construction site would be established in the centre of this view, extending east from the footpath. Several existing trees would be removed along the rail cutting to make way for installation of the Platform 2 lift (west) and new ramp. The works to construct the ramp would extend across the middle ground of this view and include large scale activities to construct a raised concrete structure, linking the Shirley Road overbridge (right of view) with the existing path (left of view).

While the character of this construction activity would contrast with the leafy setting, the work would be well contained by the surrounding landform and retained vegetation. Overall, there would be a minor reduction in the amenity of this view, and a **minor adverse visual impact** during construction.

Visual impact during operation: A new ramp, footpaths and landscaping would be seen in the middle ground of this view. There would be mesh screens along the northern edge of the ramp which would obstruct the

view into the station and add visual clutter to the middle ground of this view. There would be glimpses to the new Platform 2 lift (west) visible in the background of this view and seen through the mesh screens on the ramp and partly filtered by retained trees.

The visible portion of the Platform 2 lift would be visually lightweight being constructed of steel and glazing. The lift would have a contemporary character which is visually distinct from the residential historic character of the existing residential properties and the lift would not visually dominate this setting.

The foreground of this view would be enhanced with a small entry plaza, including new planting and seating walls.

Overall, the removal of trees would open up views and the new ramp and mesh screens would extend across the view. While this increased visual prominence would somewhat reflect the stations role as an '*Identity / Icon*' (North Sydney LEP 2013), the leafy character of the station would be reduced.

While the station entrance would be enhanced, and the visual prominence of the station buildings is appropriate for the station entry, there would be a minor reduction in the amenity of this view, and a **minor adverse visual impact** during operation.

Figure 5-18 shows a photomontage of the project from to the Telopea Street footpath to the station during operation.

5.2.4. Viewpoint 5: View southeast from Wollstonecraft Station Park



FIGURE 5-3 VIEWPOINT 5: VIEW SOUTHEAST TO PLATFORM 2 STATION BUILDING AND SHOPS

Existing view: This view from Wollstonecraft Station Park shows two single storey retail buildings and the Platform 2 building in the middle ground. These buildings step down the slope and are accessed by an existing pathway which slopes from a local highpoint at Shirley Road to Platform 2. Both station platforms and regular train services can be seen from this location, through the rail corridor fencing.

Vegetation along the eastern boundary of the rail corridor (left of view), which currently enclose the view, includes a large Canary Island date palm, whose distinctive shape provide visual interest to the view.

Some residential apartments, located in elevated areas to the east of the station, can be seen rising above this vegetation, in the background of the view. These properties would be more visible with the removal of this vegetation.

In the centre of the view, there are several mature trees which rise above the station and retail buildings.

The western boundary of the park is enclosed by established gardens and trees (right of view), which filter and screen views between the station and

adjacent residential properties. This vegetation and a fence partly screen views to and from residential properties in the background of the view.

Visual sensitivity: This view is of **local** visual sensitivity as Wollstonecraft Station Park is viewed and used by concentrations of people accessing the station and retail properties. The amenity of this view is important as this is a point of arrival for visitors and is the view seen from recreational areas within the park.

Visual impact during construction: A temporary construction compound would be established on the lawn area in the foreground of this view. This compound may include site offices and staff amenities, machinery, equipment and materials storage areas.

The station building on Platform 2 and adjacent retail properties would be retained.

The construction of both the Platform 1 lift (east) and Platform 2 lift (west) would be visible in the background of this view. There would be several trees removed on both the east and western rail cuttings to accommodate the lift construction works and construction of the AusGrid transformer. Construction

equipment is likely to be seen rising above the platforms, platform and retail buildings, and surrounding vegetation. These works would include a range of construction activities and equipment including cranes.

Works to construct a switch room to the south of the Platform 1 building and platform improvement works would also be visible (left of view).

The temporary loss of open space and the intensive character and extent of construction activity seen in this view would result in a considerable reduction in the amenity of this view, and a **moderate adverse visual impact** during construction.

Visual impact during operation: The lawn area in front of the station retail buildings would be reinstated

Both lift structures would be seen in the background of this view, rising above the platform buildings and shops. The existing character of stepped buildings would assist in the absorption of the vertical form of these lifts into this view.

Overall, there would be additional built form visible from this location, however, the leafy setting of the station would be maintained and the new station lift structures would be absorbed into the background of this view. This would result in there being no change in the amenity of this view, and a **negligible visual impact** during operation.

5.2.5. Viewpoint 6: View south from Platform 1



FIGURE 5-4 VIEWPOINT 6: VIEW SOUTH ALONG THE STATION PLATFORMS

Existing view: This view along the curved station platforms shows the modern low-set brick platform buildings in the middle ground of view.

This view includes several vertical elements which add to the built character of the view, including fences, light posts and overhead line masts along the rail corridor. Commuter trains are regularly seen in this view, approaching and departing the station.

Platform 1 is enclosed to the east by trees and shrubs on the adjacent small embankment (left of view). In the centre background of the view, to the south west of the Platform 2 building (centre of view), there are advertising billboards, screening the sandstone cutting at the Shirley Road overbridge. The heritage listed 'Wollstonecraft' station sign can be seen on platform 2, to the south of the platform building, viewed against a group of mature trees and vegetation.

To the west (right of view) the existing footpath leading to the retail properties and parts of and Wollstonecraft Station Park can be seen. Mature vegetation provides a leafy backdrop to the station

mostly screening views to and from the adjacent residential areas.

Visual sensitivity: This view from Wollstonecraft Station platform is of **local** visual sensitivity. It is used by a concentration of people accessing the station and is an arrival point for this suburb.

Visual impact during construction: The works to upgrade the platforms would be seen in the foreground of this view, including the construction of a new sheltered waiting area to accommodate the boarding assistance zone on Platform 1, platform regrading, and the installation of TGSIs and safety lines along the platform edge.

The lawn areas to the west of Platform 2 to the north (right of view) and south (centre of view) of the platform building would be used as construction compounds. These areas of the view would include offices, plant and equipment enclosed by site fencing.

At the southern end of the compound, in the background, works to install the ramp between the Shirley Road overbridge and Platform 2 lift would be seen.

Construction equipment used to install the Platform 2 lift structure may be glimpsed above the station buildings, beyond the existing mature trees which would be retained alongside Platform 2.

Due to the extent of construction visible within and surrounding the station, there would be a considerable reduction in the amenity of this view and a **moderate adverse visual impact** during construction.

Visual impact during operation: The sheltered waiting area on Platform 1 would be seen in the foreground of this view.

The Platform 1 lift (east) structures are unlikely to be seen from this location due to intervening station buildings. However, the Platform 2 lift (west) would be glimpsed above the retail buildings in the middle ground of this view, seen amongst existing trees. The upper portion of the lift structure would be constructed of steel and glazing and be visually lightweight.

Overall, there would be more built elements seen within the station area. However, the backdrop and visual enclosure of the surrounding vegetation would remain, and these built elements would be in scale with the station and largely absorbed into this view. While there would be change seen, there would be no change in the amenity of this view, and a **negligible visual impact** during operation.

5.2.6. Viewpoint 7: View southwest from Platform 1



FIGURE 5-5 VIEWPOINT 7: VIEW SOUTHWEST ALONG THE PLATFORMS

Existing view: This view from Platform 1 shows the rail corridor curving to the southeast towards the Shirley Road overbridge (left of view). There is a small sandstone cutting visible at the western end of the overbridge (centre of view), and a lawn area alongside Platform 2. The cutting is mostly screened by a row of advertising billboards.

There are several mature trees seen above the billboards which enclose the view, screening the adjacent residences.

The heritage listed 'Wollstonecraft' station sign can be seen on Platform 2 (right of view), within an area of dense vegetation. This vegetation screens views to Wollstonecraft retail building.

Visual sensitivity: This view from Wollstonecraft Station platform is of **local** visual sensitivity. It is used by a concentration of people accessing the station. It is an arrival point for this suburb. It also includes the heritage listed 'Wollstonecraft Station' sign, a remnant of the original station.

Visual impact during construction: The lawn area adjacent to Platform 2 (centre of view) would be used as a compound during construction. Site fencing and hoarding would be erected along the worksite boundary, adjacent to rail customers, and construction equipment and machinery would be visible rising above the fencing. The western lift (lift 2) construction would be mostly screened by the existing trees between Platform 2 and the retail buildings, which would be retained.

There would be some construction activity seen on Platform 2 where a new sheltered waiting area to accommodate the boarding assistance zone would be constructed (centre of view). This work would extend along the platform, including in front of the heritage listed 'Wollstonecraft' station sign and where this activity would temporarily obstruct the view to this local visual feature.

Upgrades to the overbridge, including new handrails, and works to install the ramp between the overbridge and the existing footpath would be visible beyond the compound to the south of the station. The advertising

billboards would be relocated (subject to a separate planning pathway) and there would be vegetation removed along the cutting including several large trees.

There may be glimpses to the construction of a new mains switch room at the southern end of the Platform 1 station building (left of view). Beyond this, works to install the Platform 1 lift would be seen, including equipment required to excavate a section of the existing rock cutting.

There would also be works visible along the platforms, including stabilising and regrading works and installation of TGSIs and safety lines on the platforms.

Overall, due to the intensive character and extent of construction activity and removal of existing trees, there would be a considerable reduction in the amenity of this view, and a **moderate adverse visual impact** during construction.

Visual impact during operation: The Platform 2 lift canopy and a new sheltered waiting area to accommodate the boarding assistance zone would be visible (right of view). The Platform 1 lift (east) would be set back from Platform 1 and would be partially screened from view by intervening built form.

The regraded platforms would be seen in the fore and middle ground of this view.

The new ramp structure between the overbridge and new Platform 2 lift, and the sandstone cutting, would be mostly screened by advertising billboards. This would reduce the visible area of open space in the background of the view. The ramp would include handrails and large mesh screens which would rise above the ramp structure, adding to the visual weight of this structure and adding visual clutter to the view.

The Platform 2 lift would be glimpsed through the existing trees, alongside the existing retail building. The new sheltered waiting area at the boarding assistance zone would also be seen extending to and along Platform 2.

The leafy setting of the station would be reduced with the removal of several mature trees in the centre of this view. The heritage listed 'Wollstonecraft' station sign and adjacent gardens at platform level, however, would be retained.

Overall, while the amenity of the existing view is reduced by the existing billboards, the removal of the existing trees which form a leafy backdrop to this view and the introduction of the ramp and mesh screens would result in a minor reduction in the amenity of this view. This would result in a **minor adverse visual impact** during operation.

5.2.7. Viewpoint 8: View east from Milray Avenue



FIGURE 5-6 VIEWPOINT 8: VIEW EAST FROM MILRAY AVENUE

Existing view: This view from a narrow residential street shows the mature vegetation within the Smoothery Park and footpaths leading to Berrys Creek in the north (left of view).

The landform rises steeply towards the rail corridor, which is in the background of this view, elevated above street level. The existing mature trees filter views to the rail corridor and trains.

Visual sensitivity: This view from Milray Avenue is of **local** visual sensitivity. While this is a cul-de-sac, which provides access to a small number of properties, this view would also be visible to users of Smoothery Park using these footpaths for recreation and to access the station.

Visual impact during construction: The existing mature vegetation (centre of view) would be retained. A compound would be established beyond this vegetation on an area of cleared land within the rail corridor. There may be some glimpses through the trees to the site fencing and construction equipment and machinery located within the compound.

Overall, due to the visual enclosure provided by the existing mature trees, there would be limited visibility of the construction compound and no perceived change to the amenity of this view. This would result in a **negligible visual impact** during construction.

Visual impact during operation: The former construction compound site would be reinstated and there would be no new elements seen in this view. This would result in no change in the amenity of this view, and a **negligible visual impact** during operation.

5.3. Summary of visual impacts

The following table (Table 5-1) summarises the impacts identified in the viewpoint assessment.

TABLE 5-1 SUMMARY OF VIEWPOINT ASSESSMENT

	Viewpoint number and location	Sensitivity	Construction		Operation	
			Magnitude	Visual impact	Magnitude	Visual impact
1	View north from Shirley Road, southeast of the station	Local	Considerable reduction	Moderate adverse	Minor reduction in amenity	Minor adverse
2	View south from the Shirley Road overbridge	Local	Minor reduction	Minor adverse	No change in amenity	Negligible
3	View north from the Shirley Road overbridge	Local	Considerable reduction	Moderate adverse	Minor reduction in amenity	Minor adverse
4	View north from Telopea Street, southwest of the station	Local	Considerable reduction	Moderate adverse	Minor reduction in amenity	Minor adverse
5	View from Wollstonecraft Station Park	Local	Considerable reduction	Moderate adverse	No change in amenity	Negligible
6	View south from Platform 1	Local	Considerable reduction	Moderate adverse	No change in amenity	Negligible
7	View southwest from Platform 1	Local	Considerable reduction	Moderate adverse	Minor reduction in amenity	Minor adverse
8	View east from Milray Avenue	Local	No perceived change	Negligible	No perceived change	Negligible

The following summarises the findings of this viewpoint assessment.

5.3.1. Daytime visual impact during construction

During construction, there would be **moderate adverse visual impacts** experienced in views from the station platforms and on approach to the station from Shirley Road, Telopea Street and Wollstonecraft Station Park. This is due to the removal of existing trees and the scale and extent of the works that would be seen across the station.

There would be **minor adverse visual impacts** during construction in southerly views from the Shirley Road overbridge where a construction compound would be seen enclosed by existing mature vegetation and set down below the road level and main viewline.

There would be a **negligible visual impact** in views from Milray Avenue and the adjacent residential and parkland areas as the proposed construction compound would be screened by existing mature vegetation along the rail corridor and within Smoothery Park.

There may be **minor to moderate adverse visual impacts** experienced from residential properties directly adjacent to the station which overlook the site where the work rises above or can be seen through intervening vegetation, and where existing trees and vegetation are removed to accommodate the works.

These impacts would be temporary and short term.

5.3.2. Daytime visual impact during operation

Overall, there would be a **minor adverse visual impact** experienced in views from the Shirley Road overbridge and from Shirley Road at the eastern entrance where views to the new station buildings would be seen.

There would be an improvement to the south facing façade of the existing Platform 2 retail building, in views from the bridge, with the proposed Platform 2 lift adding visual interest and articulation to this otherwise blank façade. There would also be some improvement to the station entry with the introduction of a contemporary lift structure which addresses Shirley Road, marking the entry to the station with a visually lightweight structure, new entry plaza and landscaping. However, the removal of vegetation and visual prominence of the mesh screens would reduce the leafy character and residential scale of these views to the station.

There would be **negligible visual impacts** in a range of views to the Project where the lift structures and associated public realm works are absorbed into the existing station character and are screened by existing vegetation, landform or buildings.

In the view from the southwestern entry to the station from Telopea Street there would be a **minor adverse visual impact**. While the proposed lifts are set back from the view and would be mostly screened from view by retained and proposed new trees, the removal of trees and introduction of the ramp and mesh screens would reduce the leafy character and residential scale of the view.

There would be a **negligible visual impact** from the northern end of the station platforms, as the proposed lift platform works, lifts and station buildings would be largely absorbed into views due to the existing context of station buildings, landform and vegetation.

At the southern end of the platform, however, there would be a **minor adverse visual impact** due to the removal of trees in the vicinity of the Telopea Street entry and introduction of further built elements including particularly the new ramp, with handrails and mesh screens.



FIGURE 5-7 VIEW FROM THE SOUTHERN END OF THE PLATFORM, NEAR THE SHIRLEY ROAD OVERBRIDGE



FIGURE 5-24 VIEW FROM THE SOUTHERN END OF THE PLATFORM, NEAR THE SHIRLEY ROAD OVERBRIDGE, PHOTOMONTAGE

5.3.3. Views at night during construction

The Proposal is located in an area of **moderate district brightness**. This is due to the combination of surrounding land uses, which includes relatively high light levels within the station, moderate light levels along Shirley Road, and lower light levels in the surrounding residential areas. The brightly lit environment of the station is mostly contained by surrounding landform and vegetation. There would be some reduction in this screening effect where the mature row of lillypillys is removed to accommodate the AusGrid transformer.

The light emitted from the surrounding streets and residential properties are also partly screened by the densely vegetated setting.

During construction, the work areas and construction compounds would be lit for security. It is unlikely that these areas would be used on an ongoing basis for construction activity during evening hours (other than for specific activities or where works are undertaken during possession periods).

Generally, the character of the construction works at the lift work areas and construction compound areas at night would be absorbed into the surrounding brightly lit environment of the station and enclosed by the existing vegetation which surround the station.

There may be some lighting visible from elevated residential properties which overlook the site, where the removal of existing trees opens up views into the station.

Overall, the works would result in a minor reduction in the amenity of views at night and a **minor adverse visual impact** during construction.

5.3.4. Views at night during operation

During operations, the station would continue to be brightly lit for security and safe use at night. The new Platform 2 lift (west) and ramp at the south western corner of the station would be seen in the context of the existing station and streetlights along Shirley Road. This area of the station may be more prominent in views from residences directly overlooking the station, where trees have been removed to accommodate the Proposal.

The Platform 1 lift (east) would introduce lighting to a higher level above the station in the vicinity of Shirley Road and the adjacent residential units. However, this lift is viewed in the context of the existing brightly lit station entry and platforms, and the streetlights along Shirley Road.

There may also be additional lighting provided for the kiss and ride and DDA compliant parking space on Shirley Road. This additional lighting would be seen in the context of Shirley Road and set back from residential properties.

The station would be likely to create minor additional sky glow above the site due to the additional built form. There is not expected to be any additional direct light spill (trespass) onto private property to the east of the station as the neighbouring residential properties are separated from the station by existing vegetation.

Where there is the potential for direct light spill (trespass) in the vicinity of the proposed Platform 2 lift (west) due to the removal of trees and close proximity of adjacent residential properties, the design would ensure the design of lighting would meet Australian Standards for the control of obtrusive lighting effects.

Generally, the character of the proposed station upgrade at night would be visually absorbed into the surrounding brightly lit environment. Overall, this would result in no perceived change in the amenity of views at night, resulting in a **negligible visual impact** at night during operation.

6. Assessment of urban design and landscape character

6.1. Response to state and local urban design and landscape character considerations

Whilst the requirements of the LEP are not applicable to this assessment, the requirements of these planning instruments have been used as a guide to

ensure locally appropriate urban design outcomes are achieved.

In particular, the *North Sydney DCP 2013* includes an *Area Character Statement* for the Waverton / Wollstonecraft Planning Area, which includes Wollstonecraft Station and the study area. This character statement includes several landscape and urban design considerations (Clause 10.0).

The following table provides a summary of how the Proposal has responded to these considerations.

TABLE 6-1 RESPONSES TO URBAN DESIGN AND LANDSCAPE CHARACTER CONSIDERATIONS

<i>North Sydney DCP 2013: Waverton / Wollstonecraft Planning Area Character Statement (clause 10.0)</i>	
Ensure development promotes and conserves <i>'features contributing to local identity'</i>	The Proposal would not impact on any features which contribute to local identity. Of note, there are no buildings within the Wollstonecraft Heritage Conservation Area that would be affected, the heritage listed 'Wollstonecraft Station' sign and adjacent gardens would be retained, as would the mature canary island date palms which are located along the eastern boundary of the station.
Ensure <i>'bushland is protected from the adverse effects of development – such as... visual impact of structures'</i>	The project does not propose works that would directly impact on the adjacent bushland areas nor be seen from the footpaths which are located within the bushland of Smoothey Park.
Ensure <i>'development reflects and reinforces the existing distinctive built form/landscape areas'</i>	The setting of the station includes medium rise brick apartment buildings to the north, and low-rise heritage listed residential buildings to the south, within Wollstonecraft Heritage Conservation Area. The station itself includes modern platform and retail buildings which are not particularly distinctive. The proposed lift structures would use materials and colours that complement the existing station structures and do not overwhelm the heritage character of the surrounding area.
Ensure <i>'cohesiveness is achieved in the area and through landscaping and street tree planting'</i>	The Proposal would include new and upgraded landscape treatments at the station entries and within the station. There would be one tree removed on Shirley Road to accommodate the Proposal and several trees seen from Telopea Street.
Ensure <i>'significant views from lookouts and other vantage points are not obscured by structures or landscaping'</i>	There are no significant views from lookouts or other vantage points that would be affected by the Proposal. There is a glimpsed view to the Sydney Harbour Bridge which would not be obscured by structures or landscaping.
Ensure <i>'man-made features such as the railway cutting at Waverton Station... are maintained as local landmarks important to the community'</i>	The railway cutting at Wollstonecraft Station is currently mostly obstructed by the existing advertising billboards and vegetation. A small area of the eastern existing rock cutting would be revealed with the removal of vegetation and part of this cutting would be removed and screened by the proposed Platform 1 lift. As this cutting is not a local landmark this change would not result in the loss of a landscape feature of value to the community. The heritage listed 'Wollstonecraft' station sign would also be retained, including the adjacent gardens.

6.2. Urban design and landscape character impacts

The following assessment considers the urban design and landscape character impacts during construction and operation of the Proposal.

Urban design and landscape character impacts during construction:

During construction there would be two areas of open space utilised as construction compounds, these would be located to the west of Platform 2, to the north and south of the existing retail buildings. This would reduce the area of accessible open space in the vicinity of the station. Access to the playground and parkland areas in the Wollstonecraft Station Park to the north of the station would be maintained.

An additional compound area would be located at the existing commuter car parking area to the south of the station, east of the rail corridor. This would reduce the area of commuter carparking available in close proximity to the station. A further construction compound would be located on rail corridor land which is not publicly accessible and would not have an urban design or landscape character impact.

There would be some modification to the landform at the station, including the excavation of part of the rock cutting between the Platform 1 building and Shirley Road, and between the Platform 1 building and the eastern site boundary to accommodate a AusGrid transformer.

There would also be about eleven trees, six lillipillys, and some shrubs removed to accommodate the works. Where possible, trees which overhang the construction compounds would be retained with some minor trimming if required.

Temporary pedestrian access arrangements and footpath diversions would potentially reduce the legibility and accessibility of the station. There would also be reduced amenity and comfort for pedestrians approaching the station from the south, particularly during the earthworks and installation of the lifts, due to the use of large-scale machinery.

Overall, there would be a temporary, minor reduction in the landscape and urban design functionality of the station precinct. This would result in a **minor adverse landscape impact** during construction.

Urban Design and landscape character impacts during operation:

During operation there would be substantial improvements to accessibility of the station precinct with the introduction of lifts at the station, upgrades to the overbridge and southern station entrances, an accessible car parking space and kiss and ride zone, and improvements to the platform surface and facilities within the platform buildings.

The Proposal would also improve legibility within the station precinct through the increased visual prominence of the station entry on Shirley Road.

The trees and gardens removed at the south western station entry on Shirley Road during construction would be replaced with new landscaping. There would, however, be limited opportunities to reinstate and improve the landscaped areas at the south eastern station entry on Shirley Road due to the footprint of the lift, accessible paths and AusGrid transformer.

While the proposed lifts would rise above the existing station buildings, the location of the lifts to the south of the station buildings and north south alignment of the station, limits the potential for overshadowing. Furthermore, due to the distance between the lifts and the adjoining residential properties, is not expected to be any overshadowing impact on adjacent residential properties.

Overall, there would be a minor improvement in the urban design functionality and landscape character of the station precinct and a **minor beneficial landscape impact** during operation.

7. Mitigation of impacts

The following mitigation measures shall be implemented to reduce the visual impacts of the Proposal:

- An Urban Design Plan and Landscaping Plan is to be submitted to TfNSW and endorsed by the Precincts and Urban Design team. The Urban Design Plan is to address the fundamental design principles as outlined in 'Around the Tracks' – urban design for heavy and light rail, TfNSW, Interim 2016. The Urban Design Plan and Landscaping Plan shall:
 - Demonstrate a robust understanding of the site through a comprehensive site analysis to inform the design direction, demonstrate connectivity with street networks, transport modes, active transport options, and pedestrian distances
 - Identify opportunities and challenges
 - Establish site specific principles to guide and test design options
 - Demonstrate how the preferred design option responds to the design principles established in 'Around the Tracks', including consideration of Crime Prevention through Environmental Design Principles
- The Urban Design Plan and Landscaping Plan is to include the Public Domain Plan for the chosen option and will provide analysis of the:
 - Landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and opportunities for public art
 - Materials Schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping
 - An Artist's Impression or Photomontage to communicate the proposed changes to the precinct.
- The following design guidelines are available to assist and inform the Urban Design Plan and Landscaping Plan for the Proposal:

- TAP Urban Design Plan, Guidelines, TfNSW, Draft 2018
- Commuter Car Parks, urban design guidelines, TfNSW, Interim 2017
- Managing Heritage Issues in Rail Projects Guidelines, TfNSW, Interim 2016
- Creativity Guidelines for Transport Systems, TfNSW, Interim 2016
- Water Sensitive Urban Design Guidelines for TfNSW Projects, 2016.
- Endorsement of the Urban Design Plan and Landscaping Plan will demonstrate compliance with the Conditions of Approval in the Review of Environmental Factors (REF) Determination Report. The Urban Design Plan and Landscaping Plan shall be:
 - Prepared prior to concept design and finalised
 - Prepared in consultation with Local Council and relevant stakeholders
 - Prepared by a registered Architect and/or Landscape Architect.

In addition, the following mitigation measures should be considered:

- opportunities to minimise the visual impact of the AusGrid transformer should be explored, including:
 - minimising the area of hardstand surrounding the transformer
 - locating the transformer to avoid the removal of the existing vegetation which screens the adjacent residential properties
 - providing screening vegetation to limit views to the transformer particularly from adjacent residences and the path leading north from Shirley Road.
- temporary access arrangements should be well signed and provide a visually legible route for pedestrians
- consolidate site equipment and facilities to maximise the area of useable public realm and maintain pedestrian permeability.

8. References

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NSW Government, Transport for NSW, 2017, *Commuter Car Parks: urban design guidelines, Interim issue*

Roads and Maritime Services NSW, 2018 *Guidance note EIA-N04 Guidelines for Landscape Character and Visual Impact Assessment*.