# Transport for NSW

## St Marys Commuter Car Park Expansion

## Landscape Character and Visual Impact Assessment

November 2020

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# Terminology

| Terminology | Definition |
|---|---|
| Aesthetics | Relating to the sense of the beautiful or science of aesthetics, ie the deduction, from nature and taste, the rules and principles of beauty. |
| Impact | The effect of a proposal, which can be adverse or beneficial, when measured against an existing condition. |
| Landscape | All aspects of a tract of land, including landform, vegetation, buildings, villages, towns, cities and infrastructure. |
| Landscape character | The combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place. |
| Landscape character zone | An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately nearby. |
| Magnitude | The measurement of the scale, form and character of a development proposal when compared to the existing condition. In the case of visual assessment this also relates to how far the Proposal is from the viewer. Combines with sensitivity, magnitude provides a measurement of impact. |
| The Proposal | The proposed addition of two-storeys to the existing four-storey car park as defined in section 3.2 |
| Proposal site | The area that would be directly impacted by the Proposal. |
| Sensitivity | The sensitivity of a landscape character zone or view and its capacity to absorb change of the nature of the Proposal. In the case of visual impact this also relates to the type of viewer and number of viewers. Combined with magnitude, sensitivity provides a measurement of impact. |
| Sense of place | The feelings or perceptions people have for a place, often in relation to the characteristics that make a place special or unique. |
| Significant | In the context of EIA, after analysing the extent (type, size, scope, intensity and duration) and nature (predictability, resilience of the environment, reversibility, ability to manage/mitigate, level of public interest) of a proposal, an expected level of impact of a proposal which requires an EIS to be undertaken. The term should be avoided in landscape character and visual impact assessments if the expected level of impacts is below the threshold. |
| Study area | Consists of land in the vicinity of, and including, the Proposal site. The study area is a wider area surrounding the Proposal site as defined in this assessment, including land that has the potential to be indirectly impacted by the Proposal. |
| View | The sight or prospect of a landscape or scene. |
| Viewshed | The geographical area that is visible from a location. It includes all surrounding points that are in line-of-sight with that location and excludes points that are beyond the horizon or obstructed by terrain and other features (eg buildings, trees). |
| Visibility | The state or fact of being visible or seen. |
| Visual impact | The impact on the views from residences, workplaces and public places. |

# Abbreviations

| Abbreviations | Definition |
|---|---|
| 3D | Three dimensional |
| DCP | Development Control Plan |
| Km | Kilometre |
| ELVIS | Elevation Information System |
| GIS | Geographic Information System |
| LCZ | Landscape character zone |
| LEP | Local Environmental Plan |
| LIDAR | Light Detection and Ranging |
| LGA | Local Government Area |
| LVIA | Landscape and visual impact assessment |
| m | Metre |
| REF | Review of Environmental Factors |
| TfNSW | Transport for New South Wales |
| ZTV | Zone of Theoretical Visibility |

# 1. Introduction

## 1.1 Overview of the Proposal

Transport for NSW is proposing to undertake an extension of the St Marys multi-storey commuter car park. The Proposal would include the addition of two car parking levels to an existing four-storey car park at St Marys Station, 40 kilometres north-west of Sydney's Central Business District.

Transport for NSW is proposing to undertake the Proposal to improve customer experience at this location and in surrounding localities. TfNSW is the government agency responsible for the delivery of major transport infrastructure projects in NSW and is the proponent for the Proposal.

The Proposal site is located within North St Marys and would include around 250 additional commuter car parking spaces, additional accessible parking spaces, a lift and stair access, provision of park and ride infrastructure and provision for future electric vehicle charging spaces. Additional structural elements would also be installed to reinforce and support the new car park from earthquake events and meet the current construction code.

Subject to approval, construction is expected to commence in early-2021 and take around 12 months to complete. A detailed description of the Proposal is provided in Chapter 3 of the Review of Environmental Factors (REF).

## 1.2 Purpose and scope

This Landscape and Visual Impact Assessment (LVIA) has been prepared by GHD on behalf of Transport for NSW. The LVIA investigates the impacts related to the proposed commuter car park extension at St Marys Station (the Proposal).

The purposes of this report is to assist in the determination of the Proposal by undertaking a LVIA as part of the REF, with a view to making recommendations for managing identified landscape and visual issues that may arise from the Proposal.

The report comprises the following:

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

## 1.3 Report structure

This report comprises the following sections:

**Section 1 – Introduction:** provides background information and an overview of the Proposal and assessment.

**Section 2 – Methodology:** describes the methodology used for the purposes of this report.

**Section 3 – Proposal description:** describes the proposed development, with emphasis on identifying the key sources of potential impacts relevant to this assessment.

**Section 4 – Existing environment:** provides an overview of relevant legislation and policy, and describes the landscape and visual environment within the Proposal study area. Viewpoint locations are identified and landscape character zones defined.

**Section 5 – Impact assessment:** provides an assessment of impacts to landscape character and visual amenity from the Proposal.

**Section 10 – Mitigation measures and recommendations:** mitigation measures and recommendations are provided in response to issues arising in the assessment of the construction and operation phases of the Proposal.

**Section 11 – Conclusion:** presents a summary of the LVIA findings.

## 1.4 Limitations

This report: has been prepared by GHD for Transport for NSW and may only be used and relied on by Transport for NSW for the purpose agreed between GHD and the Transport for NSW as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Transport for NSW arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

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

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

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 2.6 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

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

# 2. Methodology

## 2.1 Standards and guidance

This landscape and visual impact assessment has been prepared in accordance with the following:

- *Environmental impact assessment practice note EIA-N04 - Guideline for landscape character and visual impact assessment, Version 2.2* (Centre for Urban Design, Transport for New South Wales 2020)
- *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013)
- *Environmental Impact Assessment Practice Note: Guidelines for Landscape Character and Visual Impact Assessment* (EIA No. 4 Guidelines, March 2013).

## 2.2 Proposal description

This section outlines the key Proposal components during construction and operation that would have the potential to generate landscape and visual impacts (refer section 3.2).

### 2.2.1 Study area

The study area has been defined as a one kilometre radius around the Proposal site. This has been determined through a desktop study examining aerial photographs and topographic maps where landform and land cover (screening) are defined based on the Proposal surface area. The potential maximum visibility for this type of development was also taken into consideration. The study area for this assessment has been set at one kilometre, based upon previous studies of a similar nature and relevant guidelines.

This study area is then used to identify sensitive receptors with potential views of the Proposal.

## 2.3 Existing environment

### 2.3.1 Desktop analysis

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

Existing environment data and project information was gathered and reviewed, including:

- design information and site photographs
- topography, land use, and vegetation maps
- aerial imagery, Google Earth and Google Street View.

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

### 2.3.2 Zone of Theoretical Visibility assessment

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

ESRI ArcGIS software was used to model the ZTV of the Proposal. A digital elevation model was sourced from ELVIS that was produced using +-1 metre accuracy LIDAR.

The ZTV was mapped using the following parameters:

- a viewing height of 1.7 metres, which is the average height within the typical viewing level range of an adult
- an estimated increase in building height of about nine metres.

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

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

### 2.3.3 Site inspection

A site inspection was undertaken on 12 October 2020. The existing conditions were assessed with good weather with good visibility.

The purpose of the inspection was to:

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

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

### 2.3.4 Definition of existing landscape and visual environment

A review of the existing landscape condition was undertaken to determine the existing natural and cultural features within the study area. This included determining key landscape and spatial elements, features and values. Aspects considered included:

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

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

### 2.3.5 Landscape character zones

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

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

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

The existing environment review also considered factors which have influenced landscape change in the past and those that are likely to do so in the future. Refer to section 2.3 for a description of the existing landscape and visual environment.

#### Landscape value

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

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

The landscape values for each LCZ are described in section 4.3. Table 2.1 outlines the landscape value definitions for each rating.

**Table 2.1 Landscape value**

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

### 2.3.6 Viewpoint selection

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

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

- proximity of the receivers to the Proposal, as the most affected visual receivers are anticipated to be located closest to the Proposal, unless located at an elevated vantage point
- type of receiver, as different viewer types would have different perceptions of the change
- the analysis of the existing landscape and visual environment, sensitive visual receivers were identified and viewpoint locations selected as representative locations for assessment.

## 2.4 Impact assessment

### 2.4.1 Landscape impacts

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

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

The sensitivity of a landscape is judged on the landscape value (refer Table 2.1) and the landscape's susceptibility to change (refer Table 2.2) from a particular type of development. A judgement on the level of sensitivity is made and a rating of high, medium or low applied.

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

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

- sensitivity of landscape to proposed change, based on the susceptibility to change, and the value of landscape (refer Table 2.1 and Table 2.2 respectively)
- magnitude of landscape effect, based on the size or scale of change, the geographical extent of impacts, and the duration and reversibility of impacts (refer Table 2.3).

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

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

### Table 2.2 Landscape susceptibility to change

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

### Table 2.3 Magnitude of change criteria (landscape)

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

### 2.4.2 Visual impacts

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

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

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

The magnitude of change to views and visual amenity depends on the nature, scale and duration of the change that is expected to occur. The magnitude of a change also depends on the loss, change or addition of any feature in the field of view of the receiver including an assessment of the level to which the change contrasts with the existing view or expected view of the landscape. This includes the degree of any change to the backdrop to, or outlook from a viewpoint.

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

Steps undertaken to assess visual impacts include:

- identify and map viewpoint locations
- undertake assessment of visual impacts, comprising:
  - sensitivity of visual receivers to proposed change, based on: susceptibility of visual receivers to change, and value attached to views (refer Table 2.4)
  - magnitude of visual effect, based on: size or scale of change; geographical extent of impacts, and duration and reversibility of impacts (refer Table 2.5).

An assessment is undertaken of the overall level of significance of the visual impacts in relation to the existing view (refer section 2.4.3).

**Table 2.4 Sensitivity criteria**

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

**Table 2.5 Magnitude of change criteria (visual)**

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

### 2.4.3 Significance of impacts

The combination of sensitivity and magnitude determines the significance of the impact on the landscape character or representative viewpoint. Refer Table 2.6 for the matrix used to determine the significance of impact.

**Table 2.6 Significance of impact matrix**

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

### 2.4.4 Panorama and photomontage

All photographic images were captured using a 50 millimetre fixed focal length lens on a 35 millimetre full frame format camera at a camera height of about 1.6 metres. All photograph locations were recorded and mapped.

A series of five viewpoint locations were chosen and existing views represented using a panorama technique. This technique involved stitching together a number of adjoining images using the Adobe Photoshop software program to produce a panorama with an 80 degree field of view.

Of the five viewpoint locations, three viewpoints were selected for the production of photomontage images to represent proposed views of the Proposal. The software used to model and render the photomontages was Autodesk 3D Studio Max. In order to achieve an accurate photomontage of the Proposal and surrounding landscape, two metre contours with a digital terrain model to a resolution of two metres were used to model the surrounding landform.

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

The final result is the 3D model of the Proposal shown in the approximate 3D location in the photographs (providing the most accurate 3D location as possible, given the data provided).

## 2.5 Recommendations and mitigation measures

Recommendations and mitigation measures were developed that respond to, reduce and minimise the impacts identified within the assessment (refer section 6).

Potential mitigation measures may include:

- adopting alternative designs or revisions to the basic engineering and architectural design to prevent and/or minimise negative impacts
- remedial measures such as colour and textural treatment of structural features, particularly façade cladding colour and roof colour to assist with blending into the existing visual backdrop, particularly the Blue Mountains
- compensatory measures such as landscape design to compensate for unavoidable negative impacts and to attempt to generate long-term positive impacts.

## 2.6 Assumptions

- There is no national guidance on the assessment of landscape and visual impacts specific to Australia, however, the industry typically refers to the guidelines as outlined in section 2.1.
- The assessment aims to be objective and describe any changes factually. While potential changes resulting from the Proposal are defined, the significance of these changes requires qualitative (subjective) judgements. This assessment's conclusion therefore combines objective measurement and professional interpretation. While this assessment aims to be objective, it is recognised that visual impact assessment can be subjective and individuals are likely to associate different visual experiences to the study area.
- The assessment is based on the information provided to GHD at the time of writing.
- As plans and elevations, have not been available, height modelling is based on assumptions and therefore is likely to change during detailed design.
- The LVIA is based on design described in section 3.2.

# 3. Proposal description

## 3.1 The Proposal site

The Proposal is located immediately north of St Marys Station, 40 kilometres north-west of Sydney's Central Business District and 12 kilometres east of the Blue Mountains. Land immediately to the north, north-east and north-west is industrial land, land immediately to the south is land associated with the rail line and St Marys Station. To the south of the rail line is St Marys town centre.

St Marys town centre is focused around Queen Street, with the 19th Century train station and the 'T1 Western' rail line to the north; and the Great Western Highway, a six-lane dual carriageway, to the south. It is the second largest commercial district in the Penrith local government area, and is surrounded by suburban residential areas with long views towards the Blue Mountains from elevated areas. North of the rail line is a large light-industrial and commercial employment area surrounded by residential areas and parkland.

Refer to Figure 3.1 for Proposal location plan.

The Proposal site consists of a modern four-storey multi-storey car park, about 15 metres high and immediately to the north of the rail line. It has street frontages to Forrester Street and Harris Street, with infrequent street trees. Modern architectural cladding batons reflect the colours of adjacent heritage structures, including St Marys Station.

An at-grade car park is located to the immediate east of the site. The at-grade car park is intended to be utilised for the proposed upgrades to St Marys Station as part of the Sydney Metro – Western Sydney Airport project (which is subject to a separate planning approval process).

A row of eucalypts is located on the southern boundary of the site, adjacent to the rail line. It is assumed that these were planted in 2010, when the multi-storey car park was constructed.

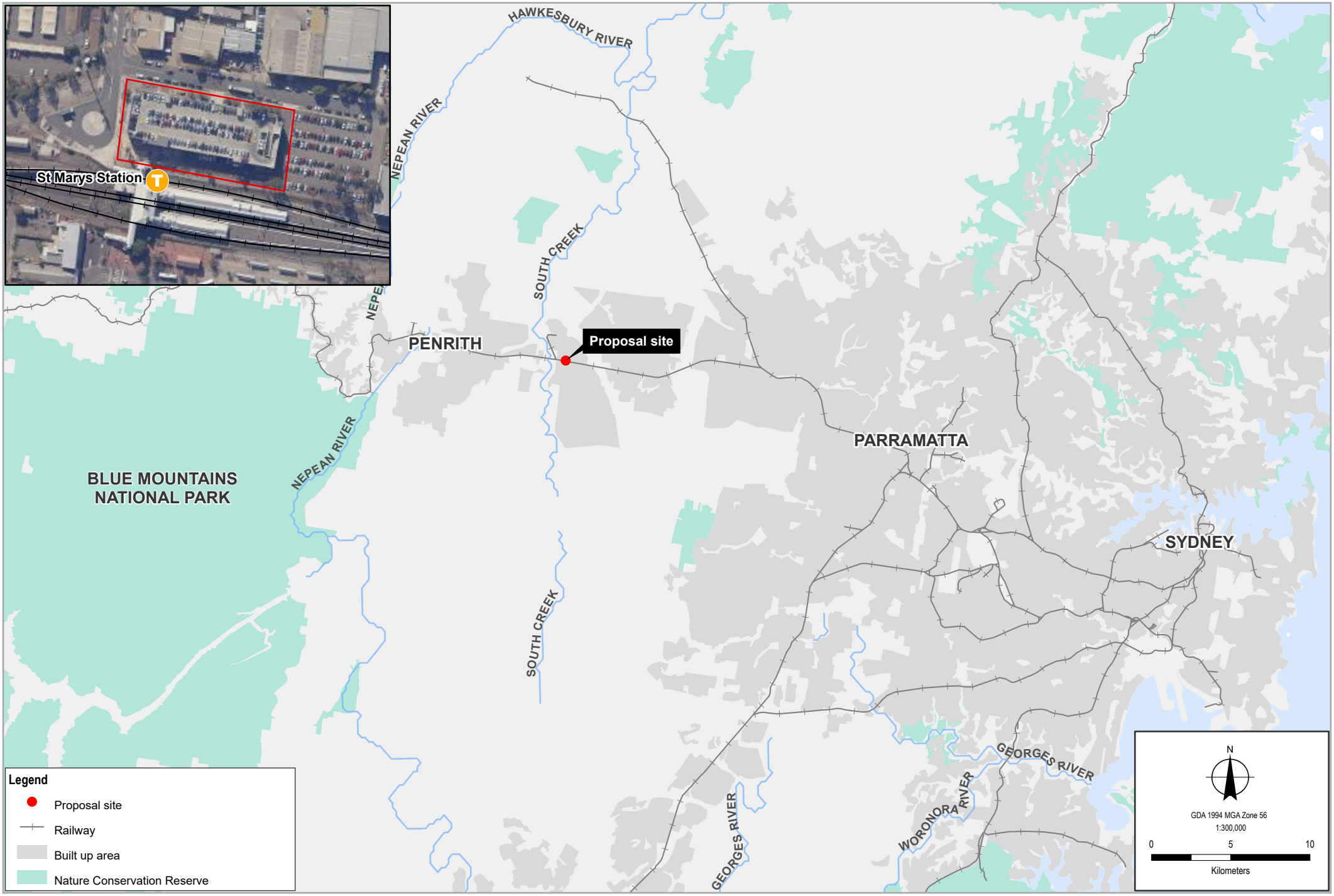


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**Figure 3.1 Proposal location plan**

## 3.2 The Proposal

The Proposal involves the construction of an additional two storeys on the existing multi-storey commuter car park to the north of St Marys Station. The Proposal would provide approximately 250 additional car parking spaces, increasing the overall capacity of the multi-storey car park to about 710 car parking spaces.

The key features of the Proposal are summarised as follows:

- addition of two storeys to the existing four-storey car park with approximately 250 additional commuter car parking spaces with lift and stair access
- a new lift shaft to the south of the existing shaft. The new lift shaft would match the existing fabric and materials
- consideration of Transport Park&Ride infrastructure
- extension of the existing stairwells and lift shaft
- additional accessible parking spaces
- additional motorcycle parking spaces
- installation of closed-circuit television (CCTV), lighting and wayfinding signage for improved safety and security
- consideration of a solar panel roof system, subject to detailed design
- installation of additional structural elements to reinforce and support the new levels to meet the current construction code
- provision for future electric vehicle charging spaces
- construction of a new communications room
- ancillary works including utility adjustments, drainage works and landscaping.

No permanent works are proposed in the existing at-grade car park to the east of the Proposal site as part of this planning approval. Future works proposed as part of the Sydney Metro project are subject to a separate planning approval.

The design of the extended car park would mimic the existing car park, utilising the same cladding design and colour scheme. Selection of materials and finishes would be confirmed as part of the detailed design process, and would include consideration of durability, low maintenance and cost effectiveness, to minimise visual impacts, and to be aesthetically pleasing.

### 3.2.1 Construction phase

Subject to approval, construction is expected to commence in early-2021 and take around 12 months to complete. The proposed construction activities are identified in Table 3.1. This staging is indicative and is based on the current concept design and may change once the detailed design methodology is finalised. The staging is also dependent on the Contractor's preferred methodology, program and sequencing of work.

**Table 3.1 Indicative construction staging for key activities**

| Stage | Activities |
|---|---|
| Site establishment and enabling works | • footpath/pedestrian management and traffic controls establishment<br>• site compound establishment (erect fencing, site offices, amenities and plant/material storage areas etc)<br>• environmental control measures establishment of (erosion and sediment controls)<br>• vegetation (landscaped) identification approved for removal<br>• scaffolding and hoarding erection<br>• services identification for protection or relocation<br>• top level temporary closure of the existing St Mary multi-storey car park |
| Building and structural works | • prepare existing multi storey car park for expansion including demolition works<br>• construction of floor slabs, ramps, columns, canopies and walls<br>• expansion of stairs and lift shaft<br>• construction of new lift shaft<br>• installation of building services including electrical, mechanical, hydraulic, fire protection and CCTV construction of footpaths, kerbs, islands, fences and surface treatments where required<br>• installation of lighting, signage, internal car park road surface and line marking |
| Construction of external cladding/façade | • construction of external cladding/façade (subject to detailed design)<br>• construction of external structural elements to reinforce and support the additional levels |
| Precinct works (external to the car park) | • installation of new signage where required<br>• completion of kerbing and concrete works<br>• finishing of pavement including any surfacing and re-surfacing works<br>• completion of landscaping (subject to detailed design)<br>• installation of footpath and pedestrian crossings |
| Testing and commissioning | • completion of various activities to test and commission power supply, lifts and lighting |
| Decommissioning of temporary facilities and site demobilisation | • removal of temporary site facilities<br>• repair any damage to landscaping and turf including in temporary car parks<br>• removal of footpath/pedestrian management and traffic controls<br>• removal of scaffolding and hoarding<br>• removal of environmental control measures<br>• completion of site clean-up and tidying works. |

A temporary construction compound would be required to accommodate a site office, amenities, laydown and storage area for materials. The area to the north and south of the Proposal site have been nominated as potential locations for a compound and laydown area (refer Figure 3.2) and a detailed description of the Proposal is provided in Chapter 3 of the REF.

## 3.3 Study area

An indicative study areafor the LVIA was defined as land within one kilometre from the Proposal site, as shown in Figure 3.3.

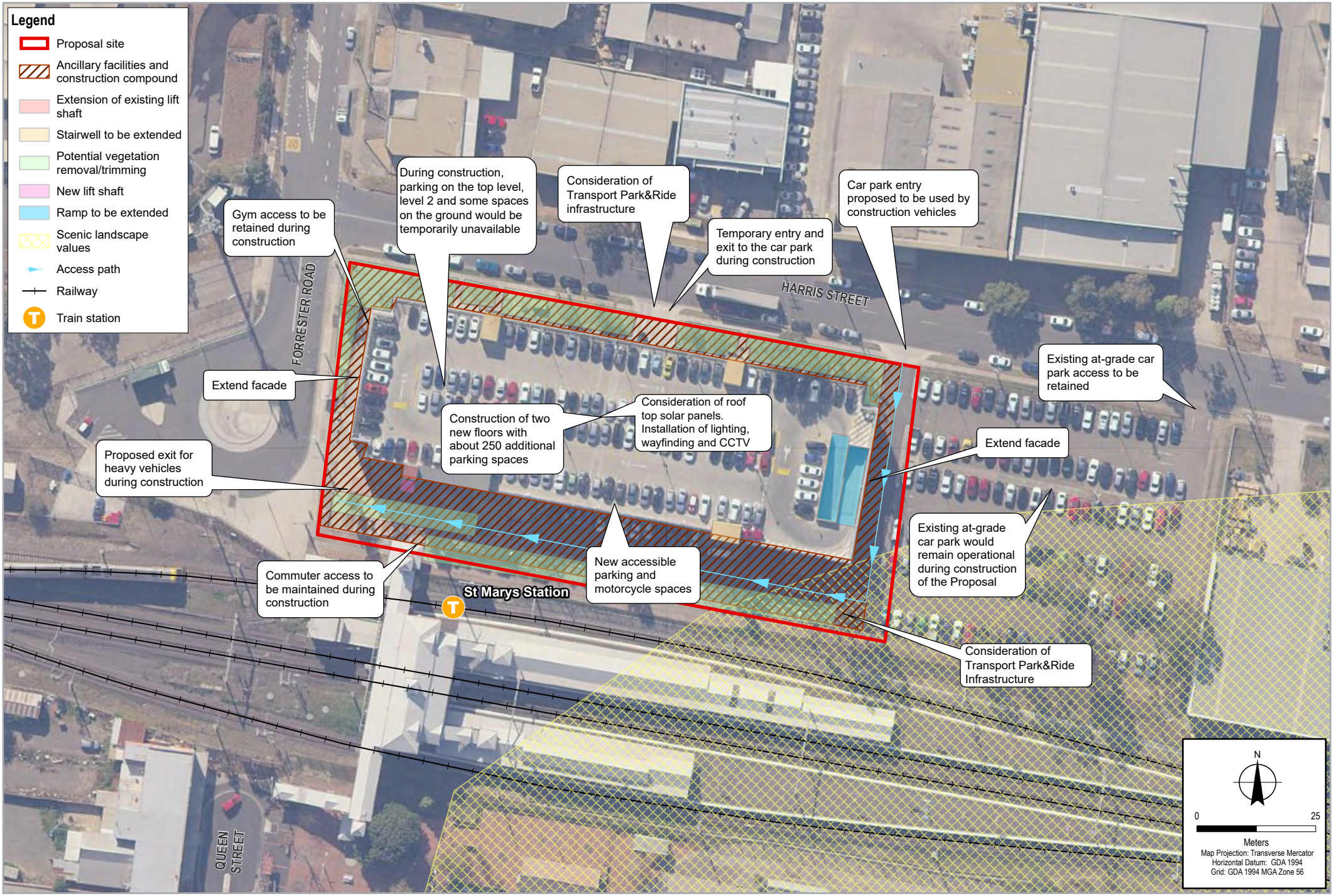


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**Figure 3-2 Proposal site**


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**Figure 3-3 Study area**

# 4. Existing environment

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

## 4.1 Legislation and policy

This section identifies legislation and policy objectives relevant to the Proposal. These have been used to inform the assessment of both the landscape and visual impact.

### 4.1.1 Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2-1997)

The aim of the Sydney Regional Environmental Plan No 20 – Hawkesbury -Nepean River is to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land uses are considered in a regional context. Within this plan, South Creek riparian corridor has regional-level scenic significance and protection.

Relevant strategies within this plan includes those relating to riverine scenic quality. These includes the following:

- *Maintain areas of extensive, prominent or significant vegetation to protect the character of the river;*
- *Ensure proposed development is consistent with the landscape character as described in the Scenic Quality Study;*
- *Consider the siting, setback, orientation, size, bulk and scale of and the use of unobtrusive, non-reflective material on any proposed building or work, the need to retain existing vegetation, especially along river banks, slopes visible from the river and its banks and along the skyline, and the need to carry out new planting of trees, and shrubs, particularly locally indigenous plants;*
- *Consider opportunities to improve riverine scenic quality.*

This plan identifies the South Creek as being a 'scenic corridor' of 'regional' significance. The boundary of the scenic corridor is located approximately 750 metres to the west of the Proposal and within the LCZ5 character area. Scenic corridors qualities are identified further in section 4.1.3

### 4.1.2 Penrith Local Environmental Plan 2010

The study area is located within the City of Penrith local government area and is subject to the *Penrith Local Environmental Plan 2010* (Penrith LEP). This plan identifies a number of aims relevant to the landscape and visual amenity of the study area.

One of the particular aims of the Penrith LEP is:

- *'to protect and enhance the environmental values and heritage of Penrith, including places of historical, aesthetic, architectural, natural, cultural, visual and Aboriginal significance'*

#### Land use zones

The site is located in an area zoned as IN1, General Industrial under the Penrith LEP.

Land use zones and heritage items within the study area are shown on Figure 4.1.

Specific objectives of the IN1, General Industrial land use zone relevant to landscape and visual amenity include:

- *'to minimise any adverse effect of industry on other land uses*
- *'to permit facilities that serve the daily recreation and convenience needs of the people who work in the surrounding industrial area'.*

The objectives of the surrounding land zoning, relevant to landscape and visual amenity, include:

Common to Zones R2 and R4

- *'to ensure that a high level of residential amenity is achieved and maintained'*

Zone R2 Low Density Residential

- *'to promote the desired future character by ensuring that development reflects features or qualities of traditional detached dwelling houses that are surrounded by private gardens'*
- *'to enhance the essential character and identity of established residential areas'*

Zone R4 High Density Residential

- *'to ensure that development reflects the desired future character and dwelling densities of the area'*

Zone RE1 Public Recreation and Zone RE2: Private Recreation

- *'to protect and enhance the natural environment for recreational purposes'*

Zone B4 Mixed Use

- *'to create opportunities to improve public amenity.*

'Land zoning within the study area is shown in Figure 4.3

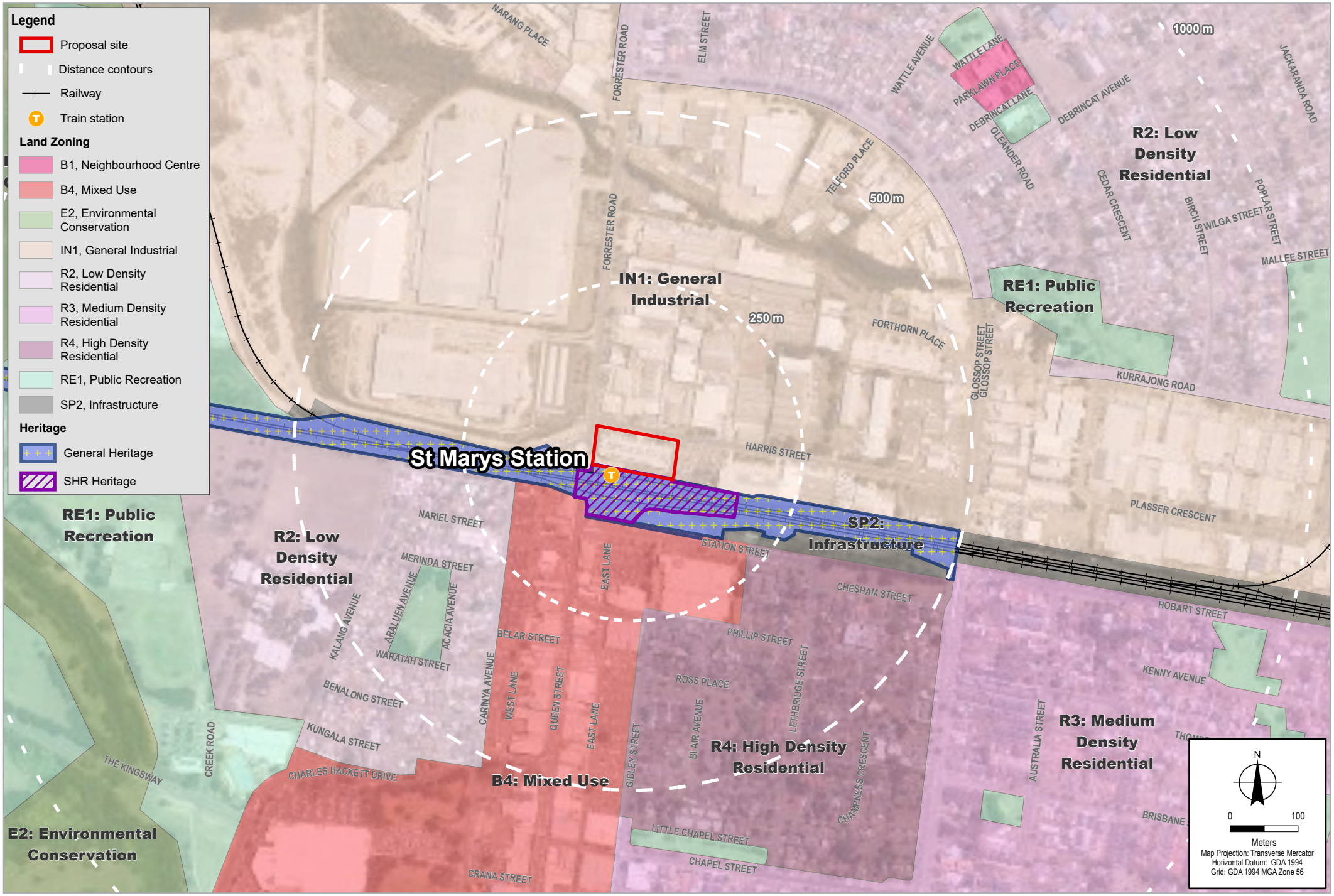


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**Figure 4-1 Land use zones and heritage**

### Height of buildings

Penrith LEP includes limitations to the height of buildings within the study area. Objectives of these include:

- *'to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality'*
- *'to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes'*
- *'to minimise the adverse impact of development on heritage items, heritage conservation areas and areas of scenic or visual importance'*

Within the St Marys town centre and St Marys North industrial areas, the Penrith planning scheme allows for future development to be built to the maximum building heights, as shown in Figure 4.2. This increase of building heights compared to existing is a planning decision based around increasing density and activity around transport and activity nodes, with the urban area to the south of the station being the epicentre of the allowed height increase and densification.

Maximum building height limits in the vicinity of the Proposal site are as follows:

- 12 metres to the industrial area north of the station
- 32 metres to the mixed-use area south of the station.

The Proposal would increase the building height from about 15 metres to about 24 metres.

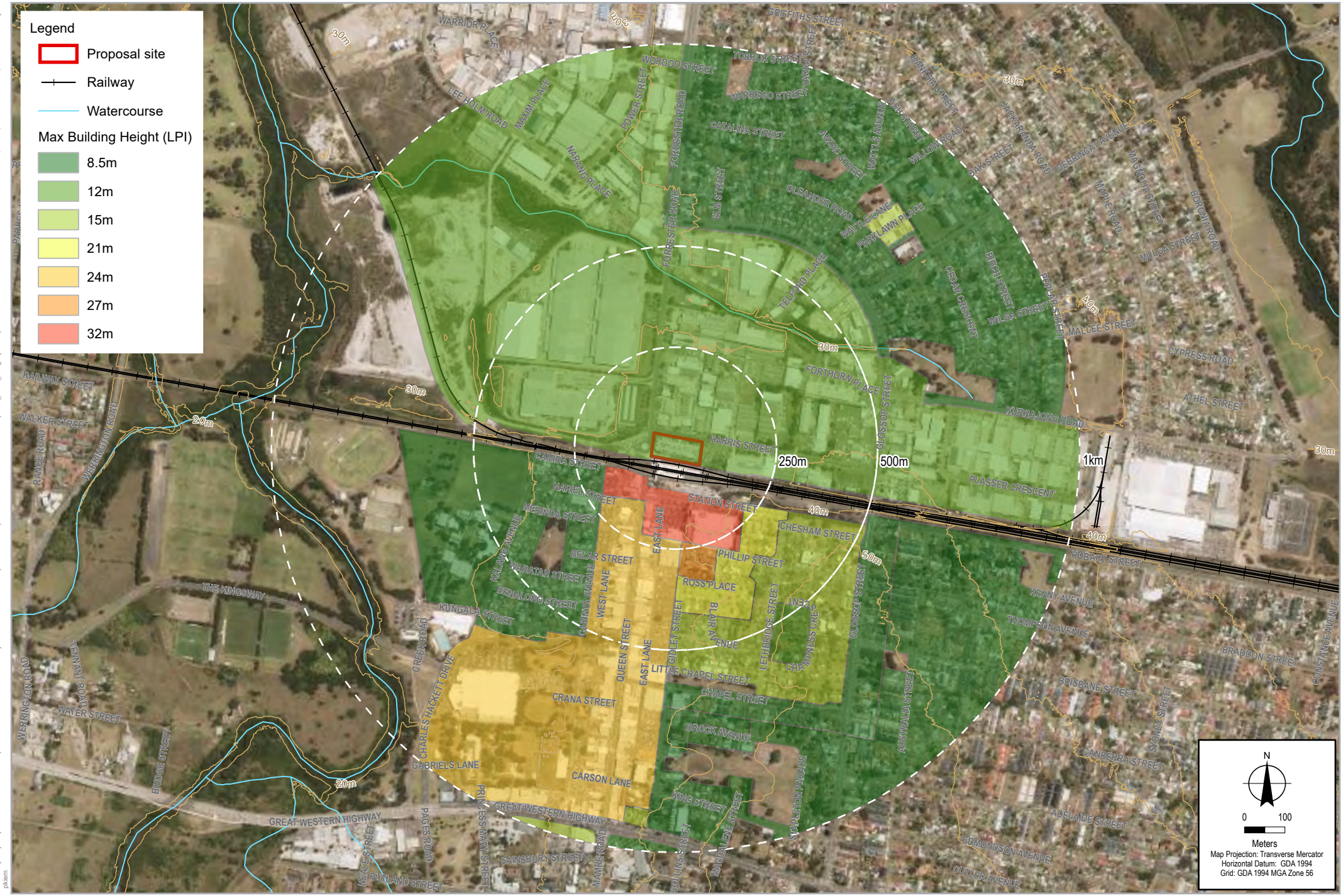



**Figure 4-2 Maximum building heights**

### *Penrith Development Control Plan 2014*

The *Penrith Development Control Plan 2014* (PDCP) includes guidance for the development of land within St Marys North Industrial Precinct 3, located within the study area.

Relevant key aims and objectives of the PDCP for the St Marys North Industrial area, relevant to landscape and visual assessment include:

- *'to promote development of a visually attractive form, design and scale, where urban elements, streetscape and built forms are integrated with the existing environment'*
- *'to retain existing vegetation and promote the integration of significant landscaped areas into the site design to minimise the impacts of built form and hardstand areas'*
- *'to address visual impacts and safety requirements of large external storage areas'*

Other specific development controls include industrial precinct architectural design, materiality and finishes.

The PDCP also includes comprehensive guidance for the development of land within St Marys town centre area, located south of the study area.

Relevant key aims and objectives of the PDCP for the St Marys town centre include:

- *'achieving an attractive and vibrant St Marys Town Centre'*
- *'promoting high quality urban design, architectural excellence and environmental sustainability'*
- *establishing 'two distinct gateways, which, coupled with the creation of a central town square, aim to revitalise the heart of the town'. One gateway being the 'Northern Mixed Use precinct' adjacent to the station and the Proposal.*

### Protection of scenic character and landscape values

The Penrith LEP and the PDCP identify scenic character and landscape values.

Within the Penrith LEP, an overlay of 'Land with Scenic and Landscape Values' covers the south-east corner of the Proposal site (refer Figure 3.2 and Figure 4.3).

This overlay represents the scenic values of the local views within the town centre, and the local views along the rail corridor which are often framed by mature woodland vegetation.

Long regionally significant scenic views looking west towards the Blue Mountains escarpment have also been identified in the *Penrith Development Control Plan, 2014* (refer Figure 4.4).

The following have specific aims relevant to landscape and visual amenity:

- *'to identify and protect areas that have particular scenic value either from major roads, identified heritage items or other public places'*
- *'to ensure development in these areas is located and designed to minimise its visual impact'*
- *'consent must not be granted for any development on land to which this clause applies unless the consent authority is satisfied that measures will be taken, including in relation to the location and design of the development, to minimise the visual impact of the development from major roads and other public places'.*

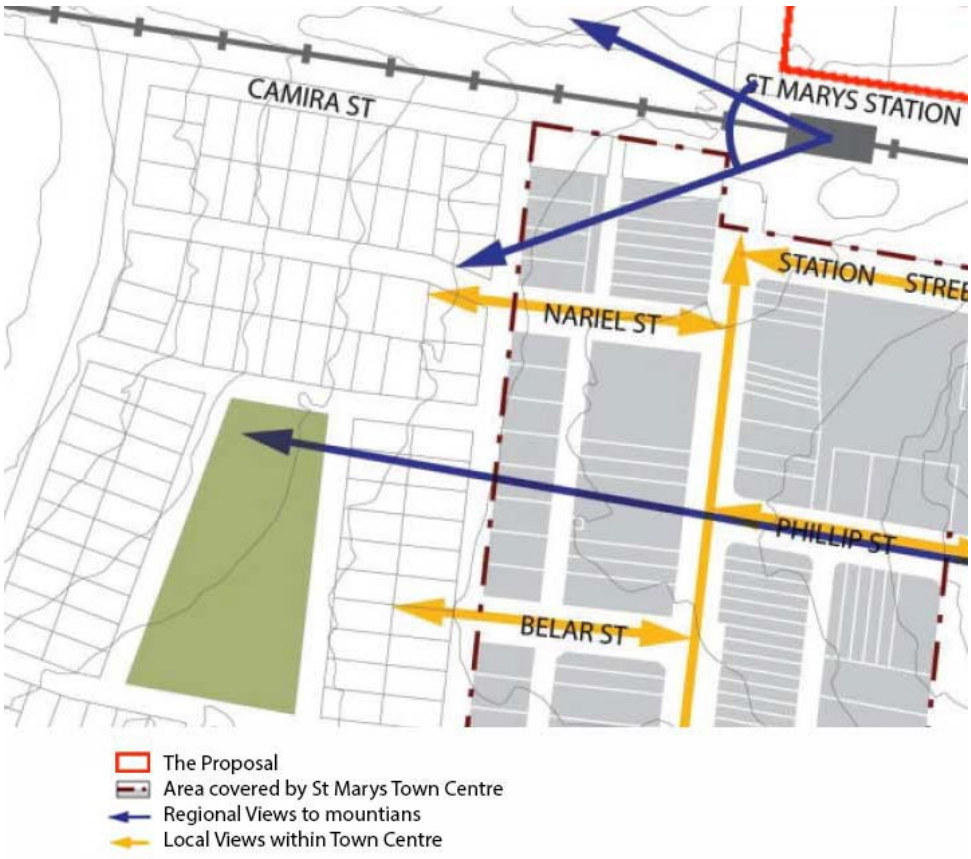

*(Extract from Penrith Local Environment Plan 2010 - Scenic Landscape Values Plan - SLV-019)*

**Figure 4.3 Land with scenic and landscape values**

### Key views (from the Penrith Development Control Plan 2014)

A number of key regional and local views have been highlighted within the Penrith Development Control Plan (Penrith DCP) (refer Figure 4.4) including:

- local views looking north from Queen Street, to the train station.
- regional views from the train station, looking west towards the Blue Mountains escarpment which is about 12 kilometres west of the site. This view can be seen from the station footbridge and car park elevator, see section 4.4.3.




(*Extract from Penrith Development Control Plan, 2014 Part E15 - St Marys: Figure E15.6: Views)*

**Figure 4.4 Key views**

### *The Penrith Scenic and Cultural Landscapes Study by Penrith City Council 2019*

The Penrith Scenic and Cultural Landscapes Study by Penrith City Council 2019 identifies key views of the South Creek corridor. It notes that

> *'In an urban landscape such as this natural landscape elements such as trees, parks, creek corridors and ridgelines are particularly valuable as visual assets that form green breaks, terminate local views, improve landscape character and create a sense of place.'*
>
> '*Vegetated major creeklines have an important scenic role in providing green breaks across the rural landscapes and separating urban areas from each other*.
>
> *South Creek and Ropes Creek were recognised for their scenic significance in the Hawkesbury-Nepean Scenic Quality Study (NSW Department of Urban Affairs and Planning, 1996) and on that basis have been assumed to have regional significance'.*

The document also describes 'Scenic Landscapes' as:

*'Scenic quality is a product of landscape characteristics, built and natural landscape patterns, vegetation cover, landform, available vistas and its value to an individual, where there is a general consensus that the scenic quality is highly valued.'*

### 4.1.3 Other relevant projects / policy

#### *City of Penrith Landscape Character Strategy 2006*

The *Landscape Character Strategy 2006* has been developed to protect and enhance the visual amenity of Penrith and its urban, rural and environmental qualities. The strategy includes desired character statements and maps for Penrith. Key components identified include 'iconic places', 'primary visual backdrops', 'rural places', and 'urban places'.

Of relevance to the Proposal, areas within the study area have been identified as 'Garden Suburbs', defined by 'modestly-scaled detached dwellings dating from the nineteenth century through to the mid-twentieth century, surrounded and separated from street frontages and neighbouring properties by "leafy" private gardens that accommodate tall shady trees, and where the street frontages are "addressed" by each dwelling'.

The rail corridor is also recognised as a place from which to view Penrith's 'primary visual backdrops' or visible lands.

Relevant strategies include the following:

- *align and shape future buildings in order to maintain existing iconic vistas towards the Blue Mountains escarpment or landmark hilltops*
- *'maintain scenic quality and neighbourhood identity by retaining existing trees that are visually prominent in order to minimise the impact of redevelopment upon Penrith City's traditional residential patterns'*
- *'enhance Penrith City's environmental quality and the identity of local streetscapes by promoting corridors of trees along street verges as well as across front and rear gardens throughout the City's residential neighbourhoods'*
- *'within Penrith City's primary visual backdrops, ensure that the highest standards are achieved in relation to landscape planning and scenic quality, as well as the design quality of built form and landscaping to maintain and enhance views and vistas'*

#### *TfNSW Sustainable Design Guidelines Version 4.0*

Relevant principles outlined in the *Sustainable Design Guidelines* in the Urban Design category include the following:

- *'Principle 4: Integrate the project with the surroundings area'*
- *'Principle 5: Maximise the amenity of the public domain'*
- *'Principle 6: Protect and enhance heritage features and significant trees'*
- *'Principle 7: Maximise positive view opportunities'*
- *'Principle 8: Design an efficient and functional transport solution which enhances and contributes to local amenity and prosperity'.*

#### *TfNSW Around the Tracks: urban design for heavy and light rail*

Relevant principles outlined in *Around the Tracks: urban design for heavy and light rail* include the following:

- *'Principle 1: Draw on a comprehensive site and context analysis to inform the design direction'*
- *'Principle 4: Integrate the project with the surrounding area'*
- *'Principle 5: Maximise the amenity of the public domain'*

- *'Principle 6: Protect and enhance heritage features and significant trees'*
- *'Principle 7: Maximise positive view opportunities'.*

## 4.2 Existing landscape and visual environment

The following section provides a general description of the study area.

### 4.2.1 Land use, built form and heritage

St Marys commuter multi-storey car park is located within North St Marys in Western Sydney, a suburb with a linear mixed-use town centre on the southern side of the rail corridor, surrounded by residential areas, parks and schools.

The metropolitan rail line dissects the study area and restricts pedestrian and vehicle movement between the south and north. The rail line is typically in a vegetated cutting under Glossop Street bridge, 'at-grade' around the station precinct and on embankment to the west of Camira Street.

To the north of the rail corridor, there is a large industrial and commercial precinct which is surrounded by residential areas.

To the south, key places include Queen Street, which is the main retail centre of St Marys. Queen Street connects the station to the north with the Great Western Highway to the south.

Residential areas are located around the mixed-use town centre, with typically one to two storey residential houses and some newly built high density apartment blocks. Open spaces include Jack Jewry Reserve, Coachmans Park, Bennet Park and Poplar Park and a number of smaller local parks within residential areas.

Two schools are located within the study area; St Marys Senior High School is located in the south western side of the study area and St Marys North Public School in the north-east of the study area.

#### *Heritage*

The St Marys Railway Station Group site is listed on the State Heritage Register (Item 01249), Penrith LEP and S170 State Agency Heritage and Conservation Register (refer to Figure 4.1).

The heritage listing includes a range of buildings and structures dating from the 1880s and World War II period to the present day, including the station building, signal box, goods shed, crane and footbridge substructure.

Relevant heritage conservation objectives include:

- *'to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views'*

The SHR statement of significance is as follows:

- *St Marys Station Group is of state significance as an early station opened in the 1860s when the Great Western Railway was extended from Parramatta and for the role it played in handling the increased traffic for the American ammunition and general store built at Ropes Creek during World War II. The station, in particular the signal box, has strong associations with the operations of the once important rail system to Dunheved and Ropes Creek, and with the development of local industry and residential expansion of St Marys after 1942. The place has research and technical potential for its ability to provide evidence on the construction techniques and operational system of the NSW Railways in the 1880s and during the World War II period.St Marys Station Group has representative significance combining a range of buildings and structures dating from the 1880s and World War II*

*period to the present day including the station building, goods shed, signal box, crane and footbridge substructure. St Marys Station Group features a number of rare structures including the goods shed, the only brick example of its type in the state and the associated crane, one of a few remaining cranes in the Sydney area. The signal box is one of few remaining such structures using utilitarian materials in a non-standard style.*

### 4.2.2 Topography and hydrology

The topography in the study area is relatively flat with gently undulating topography from the lower creek areas to the west and north, to the elevated areas to the south-east. Across the study area there is approximately a 35 metre change in landform height, from the creek to the hilltop. The rail line dissects the land in a cutting on the eastern side of the study area, 'at grade' around the station and on an embankment in the western areas.

South Creek flows through the western edge of the study area, from north to south, through the school playing fields and recreation areas. A smaller tributary of South Creek runs to the north and north-west of the study area, through the industrial area. Refer to Figure 4.5 for key topography and hydrology features.

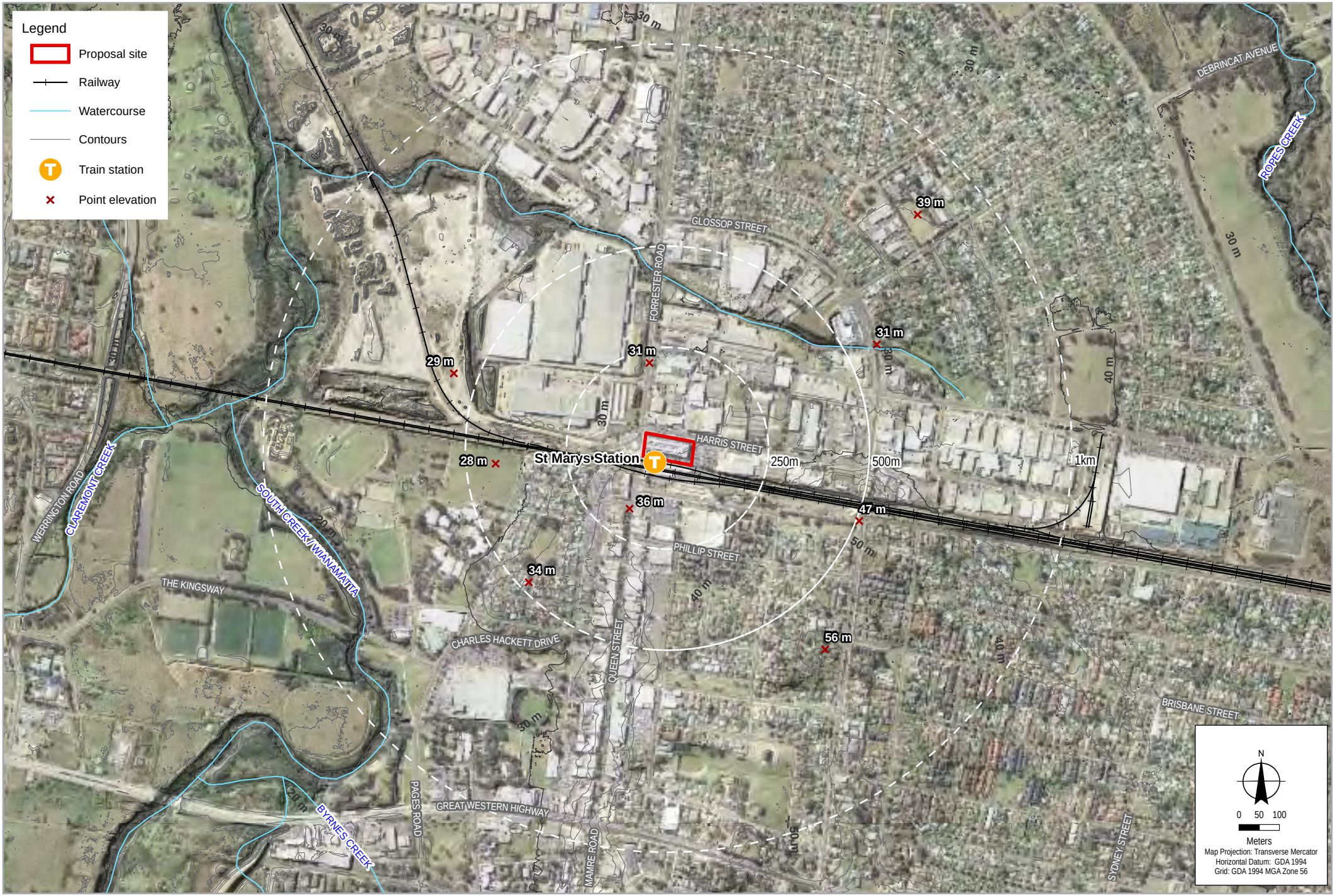



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Figure 4-5 Topography and Hydrology

### 4.2.3 Vegetation

Vegetation within the Proposal site is limited to scattered trees along the northern, western and southern sides of the site (refer Photo 4.1 to Photo 4.4). Vegetation consists of typically native trees (20 juvenile *Corymbia maculata*, 6 mature *Corymbia maculata*, 1 *Casuarina glauca*) with sparse canopies. Some are taller than the existing 15 m high building and collectively they provide some visual screening of the multi-storey car park.

The majority of the trees within the Proposal site were planted in 2010 (when the car park was constructed) and therefore haven't reached full maturity.

**Photo 4.1 Harris Street Vegetation**

**Photo 4.2 Harris Street Vegetation**

**Photo 4.3 Vegetation at rail line boundary**

**Photo 4.4 Forrester Street vegetation**

### 4.2.4 Zone of theoretical visibility

The zone of theoretical visibility shows the visibility of the Proposal in relation to the surrounding landform. Figure 4.6 shows views towards the Proposal are typically visible from most of the study area. However, the modelling does not take into account surrounding vegetation, urban form and height of existing buildings and infrastructure.

There are a number of tall buildings within the study area including a new residential building along Queen Street with a height of seven storeys, about 23 metres in height, which would screen views towards the Proposal.

The study area has a number of tall trees, particularly mature eucalypts with broad canopies, which help to provide screening or filtering of views within the study area.

Figure 4.6**Error! Reference source not found.** illustrates the Zone of Theoretical Visibility mapping of the Proposal.

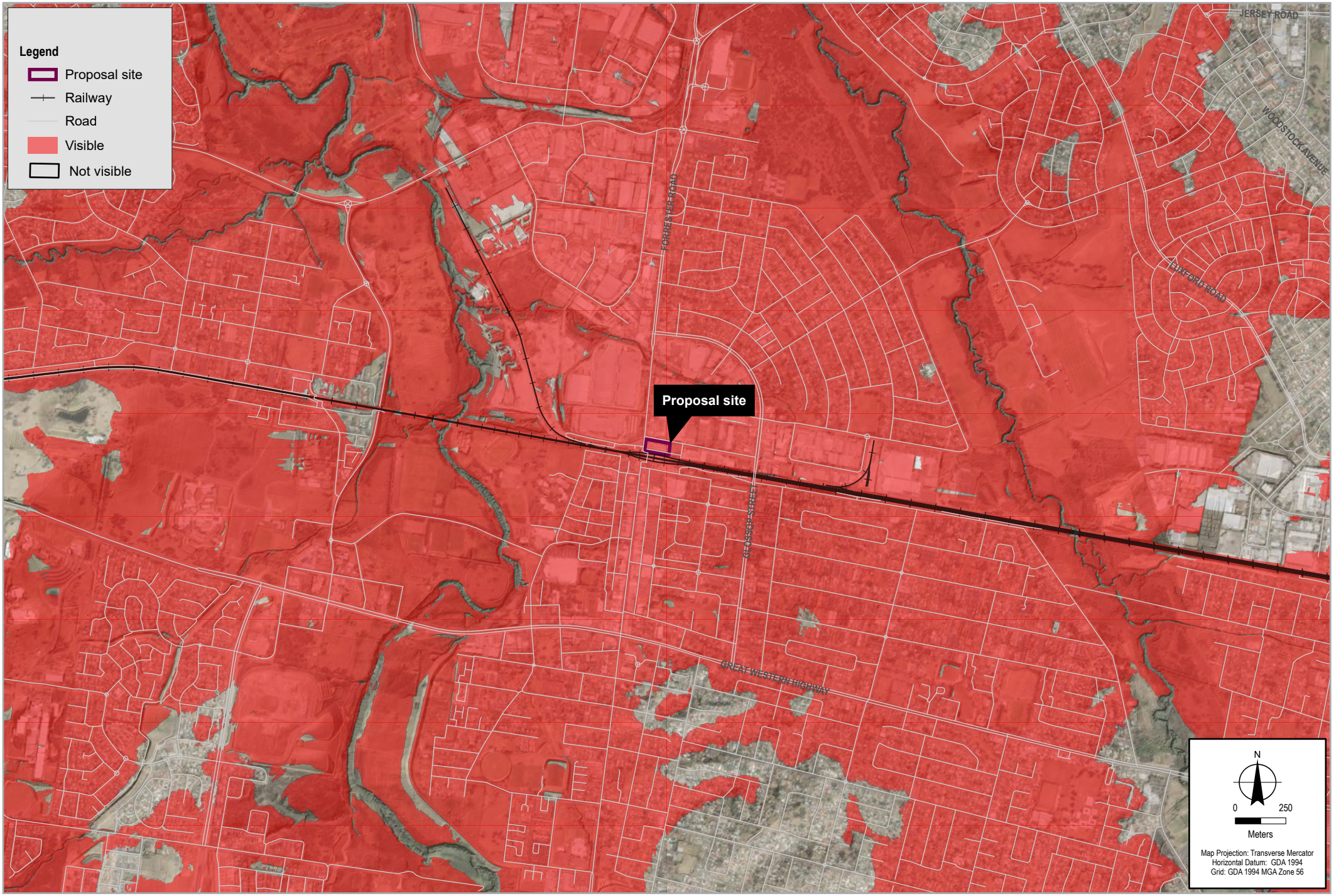


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**Figure 4-6 Zone of Theoretical Visibility**

## 4.3 Landscape character zones

Based on the assessment of natural and cultural influences in shaping the landscape, LCZs were defined within the study area representing broadly homogenous characteristics and urban patterns.

The following LCZs were identified for the study area:

- LCZ1: Residential
- LCZ2: Rail Corridor
- LCZ3: Industrial
- LCZ4: Town centre
- LCZ5: School and recreation.

Refer to Figure 4.7 for the landscape character zones plan.


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**Figure 4-7 Landscape character zones**

### 4.3.1 Landscape character zone 1: Residential

LCZ1 includes the residential areas to the north-east, south-east and south-west of the Proposal. It is characterised by medium density residential neighbourhoods, established prior to 1970, where street patterns reflect “gridded” subdivisions, straight streets and scattered local reserves. Dwellings are typically detached and single storey, with relatively large front and rear private gardens which accommodate mature canopy trees. Key characteristics of LCZ1 include:

- typically low density single storey dwellings, typically with private front and rear gardens
- typical setbacks of approximately eight metres
- a combination of brick, fibro and metal clad buildings typically with tiled roofs
- local streets with one traffic lane in each direction, with or without a footpath and street trees.
- mature street trees, grass verges and footpaths adjacent to local roads
- flat to gently undulating topography
- distant views west towards the Blue Mountains from elevated areas

As identified in section 4.1, local landscape values associated with LCZ1 include:

- *features or qualities of traditional detached dwelling houses that are surrounded by private gardens*
- *the character and identity of established residential areas*

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

Photo 4.5 and Photo 4.6 show the typical characteristics of LCZ1.

**Photo 4.5 Typical residential character along Hobart Street**

**Photo 4.6 Typical residential character from Lethbridge Street**

### 4.3.2 Landscape character zone 2: Rail Corridor

LCZ2 is a linear rail corridor which dissects the town centre and the northern industrial precinct. The corridor is about 25 metres wide, with railway infrastructure (tracks and gantries et.), cleared vegetation within the central areas and long views west, to the prominent escarpment of the Blue Mountains, approximately 12 kilometres west of the site. LCZ2 is within SP2 'infrastructure' planning zones within the PLEP and has state significant heritage elements including the station and ancillary structures, some of which date back to the 1880s.

Key characteristics of LCZ2 include:

- wide, flat, linear rail corridor
- rail infrastructure (tracks and overhead gantries etc)
- St Marys Station, platforms and footbridge structure
- mature vegetation on embankments and boundaries
- long views along the rail corridor, particularly to the Blue Mountains
- heritage buildings and structures (including signal box and goods shed). Heritage railway style and colours are reflected in local building cladding, form and colour)
- LCZ2 edges are within densely vegetated cuttings, on-grade in urban centre and on embankment in parkland areas, near South Creek.

As identified in section 4.1, local landscape values associated with LCZ2 include:

- State heritage significance areas (St Marys Station Group)
- regionally significant long views to the west (the Blue Mountains escarpment).

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

Photo 4.7 to Photo 4.10 show the typical characteristics of LCZ2.

**Photo 4.7 Rail corridor from Glossop Street Bridge**

**Photo 4.8 Rail corridor from Camira Street**

**Photo 4.9 Rail corridor from St Marys Station footbridge**

**Photo 4.10 St Marys Station and footbridge from kiss and ride**

### 4.3.3 Landscape character zone 3: Industrial

LCZ3 includes the industrial area north of the rail line is a large area on low lying land. The study area is within LCZ3 and the planning zone is 'IN1 General Industrial'.

Key characteristics of LCZ3 include:

- large land plots with 'big box' built form, and typically single or double storey metal sheds
- uses typically associated with auto services
- streetscapes with few active frontages, narrow footpaths and some grassed verges
- scattered, minimal vegetation with some mature trees on property boundaries
- flat to gently undulating topography
- functional industrial areas.

There were no key values relevant to this LCZ identified in the legislation and policy review. LCZ3 has been assigned a **low** landscape value.

Photo 4.11 to Photo 4.14 show typical characteristics of LCZ3.

**Photo 4.11 Forrester Road Industrial area**

**Photo 4.12 Forrester Road Industrial area**


**Photo 4.13 Forrester Road Industrial area looking north**


**Photo 4.14 Forrester Road Industrial area**

### 4.3.4 Landscape character zone 4: Town centre

LCZ4 is located to the south of the Proposal. It is zoned 'B4: Mixed Use' and is predominantly centred along the retail and commercial centre along Queen Street.

Key characteristics of LCZ4 include:

- mixed-use town centre, established around a linear north /south axis (Queen Street), which connects the train station to the Great Western Highway
- built form is typically one to two storey, human-scaled active frontages onto Queen Street, with occasional large high-density newer residential apartment blocks
- wide footpaths are characterised by diverse retail frontages, wide verandas, al-fresco dining, on-street retail, pedestrian activity, civic planting and a vibrant, town centre 'sense of place'
- small to medium street trees provide shade to pedestrian paths where verandas are not present
- topography is typically flat
- locally significant views have been noted along Queen Street towards the station and the Proposal and along Nariel, Station, Phillip and Belar Streets
- regionally significant views west towards the Blue Mountains have been identified from St Marys Station and also along Phillip Street.

As identified in section 4.1, local values associated with LCZ1 include:

- maintaining an *'attractive and vibrant St Marys Town Centre' with 'high quality urban design, architectural excellence and environmental sustainability'*
- regionally significant views have been identified from St Marys Station (and along Phillip Street) looking west towards the Blue Mountains
- locally significant views have been identified along Queen Street towards the station and the Proposal
- locally significant views have also been identified along Nariel, Station, Phillip and Belar streets
- establishment of a distinct gateway at the '*Northern Mixed Use precinct'* adjacent to the station and the Proposal.

LCZ4 has been assigned a **medium** landscape value.

- typically low-lying ‘floodplain’ land with flat topography
- long ‘green’ and views across the character areas and from higher areas, views towards the Blue Mountains.

As identified in section 4.1, local values associated with LCZ5 include:

- medium to long views across the character areas
- from higher areas, long regional views towards the Blue Mountains

LCZ5 has been assigned a **medium** landscape value.

Photo 4.19 to Photo 4.22 show typical characteristics of LC5.


**Photo 4.19 Blair Oval looking towards the rail embankment**

**Photo 4.20 Jack Jewry Reserve looking towards the Proposal**

**Photo 4.21 Troy Adams Archery Field looking south east towards the Proposal site**

**Photo 4.22 Bennett Park looking west towards the Blue Mountains**

Photo 4.15 to Photo 4.18 show the typical characteristics of LCZ4.

**Photo 4.15 Queen Street typical character**


**Photo 4.16 Queen Street footpath with outdoor dining**

**Photo 4.17 Queen Street looking north to the station**

**Photo 4.18 Town centre typical character**

### 4.3.5 Landscape character zone 5: School and recreation

LCZ5 is typically zoned as 'RE1 Public Recreation or 'E2 Environmental Conservation' and includes open green space, parks, playing fields, recreational facilities and school grounds. The largest area is located to the western periphery of the study area, predominantly around the low lying creeks and floodplains. Other smaller parks and school facilities are found within residential areas. This character area includes a small section of the South Creek *'scenic corridor'* which is identified as being of '*regional'* significance within the Sydney Regional Environmental Plan No 20 – Hawkesbury -Nepean River (No 2-1997).

The boundary of the South Creek scenic corridor is located approximately 750 metres to the west of the Proposal and within the LCZ5 character area. For discussion on the relevance of this in relation to the Proposal, refer to section 4.1.

Key characteristics of LCZ5 include:

- typically public open space, sporting fields or education facilities
- amenity grassland with scattered trees and some bushland areas
- green naturalistic character
- community facilities such as playground, sports or recreational facilities

## 4.4 Sensitive visual receivers and viewpoints

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

### 4.4.1 Sensitive visual receivers

Sensitive visual receivers within the study area are limited to the following:

- road users and pedestrians on Forrester Road
- road users and pedestrians on Harris Street
- road users on Glossop Street bridge
- residential properties on Station Street
- pedestrians, workers and road users in the town centre (Queen Street and Nariel Street intersection)
- residential properties on Camira Street
- commuters using St Marys Station.

### 4.4.2 Viewpoint locations

Table 4.1 and Figure 4.8 identify representative viewpoints for assessment of views from the most sensitive visual receivers.

**Table 4.1 Viewpoint locations**

| Viewpoint | Location | Sensitive receivers |
|---|---|---|
| VP01 | Forrester Road (St Marys Manufacturing Facility southern entry) | Road users/pedestrians |
| VP02 | Harris Street: Autopac gate 2 | Road users/pedestrians |
| VP03 | Glossop Street bridge over rail line | Road users |
| VP04 | Station Street | Residents |
| VP05 | Queen Street and Nariel Street intersection | Pedestrians, workers and road users in the town centre |
| VP06 | Camira Street | Residents |


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**Figure 4-8 Viewpoint locations**

### 4.4.3 Other landscape features within the study area

The following additional photos show other landscape features and characteristics within the study area.

**Photo 4.23 Regional views from the station footbridge, looking west towards the Blue Mountains escarpment**

**Photo 4.24 Long views from the Glossop Street road bridge, looking west towards the Proposal and Blue Mountains**

# 5. Impact assessment

## 5.1 Landscape impact assessment

This section includes an assessment of impacts to landscape character from the Proposal. Refer to Figure 4.7 for location of LCZs.

### 5.1.1 Landscape character zone 1: Residential

Refer to Table 5.1 for LCZ1 impact assessment.

**Table 5.1 Landscape character zone 1 (LCZ1) impact assessment**

| Criteria | Comments |
|---|---|
| Landscape value | The landscape value is assessed as **medium** as identified in section 4.3.1. |
| Landscape susceptibility to change | The landscape susceptibility to change is assessed as **moderate**. A development of this type is unlikely to have a significant adverse effect on the landscape character, condition or values of LCZ1. |
| Sensitivity to change | The sensitivity to change is **moderate.** This is based on a moderate susceptibility to accept this type of development into a landscape of medium value. The Proposal is unlikely to have an adverse effect on landscape value, condition or character. |
| Magnitude of change | The magnitude of change is assessed as **negligible** due to no change in the landscape character as there is no to the elements, features and characteristics of the landscape. |
| Significance of impact | The significance of impact is assessed as **negligible** as the Proposal is not within the character zone and would not impact on any of the key features within the existing character zone. |

### 5.1.2 Landscape character zone 2: Rail Corridor

Refer to Table 5.1 for LCZ2 impact assessment.

**Table 5.2 LCZ2 impact assessment**

| Criteria | Comments |
|---|---|
| Landscape value | The landscape value is assessed as **medium** as identified in section 4.3.2. |
| Landscape susceptibility to change | The landscape susceptibility to change is assessed as **low**. A development of this type is unlikely to have an adverse effect on the landscape character, condition or values of LCZ2. |
| Sensitivity to change | The sensitivity to change is **moderate.** This is based on a Low susceptibility to accept this type of development into a landscape of Medium value. The Proposal is unlikely to have an adverse effect on landscape value, condition or character. |
| Magnitude of change | The magnitude of change is assessed as **negligible** due to no change in the landscape character as there is no change to the elements, features and characteristics of the landscape. |
| Significance of impact | The significance of impact is assessed as **negligible** as the Proposal is not within the character zone and would not impact on any of the key features within the existing character zone. |

### 5.1.3 Landscape character zone 3: Industrial

Refer to Table 5.1 for LCZ4 impact assessment.

**Table 5.3 LCZ3 impact assessment**

| Criteria | Comments |
|---|---|
| Landscape value | The landscape value is assessed as **low** as identified in section 4.3.3. |
| Landscape susceptibility to change | The landscape susceptibility to change is assessed as **low**. A development of this type is unlikely to have an adverse effect on the landscape character, condition or values of LCZ4. |
| Sensitivity to change | The sensitivity to change is **low.** This is based on a Low susceptibility to accept this type of development into a landscape of Low value. The Proposal is unlikely to have an adverse effect on the landscape value, condition or character. |
| Magnitude of change | The magnitude of change is assessed as **negligible** due to an almost imperceptible change in the landscape character as there is little change to the elements, features and characteristics of the landscape. |
| Significance of impact | The significance of impact is assessed as **negligible** as the Proposal would not impact on any of the key features within the existing character zone. |

### 5.1.4 Landscape character zone 4: Town centre

Refer to Table 5.1 for LCZ4 impact assessment.

**Table 5.4 LCZ4 impact assessment**

| Criteria | Comments |
|---|---|
| Landscape value | The landscape value is assessed as **medium** as identified in section 4.3.4. |
| Landscape susceptibility to change | The landscape susceptibility to change is assessed as **low**. A development of this type is unlikely to have an adverse effect on the landscape character, condition or values of LCZ3. |
| Sensitivity to change | The sensitivity to change is **moderate.** This is based on a Low susceptibility to accept this type of development into a landscape of Medium value. The Proposal is unlikely to have an adverse effect on the landscape value, condition or character. |
| Magnitude of change | The magnitude of change is assessed as **negligible** due to no change in the landscape character as there is no change to the elements, features and characteristics of the landscape. |
| Significance of impact | The significance of impact is assessed as **negligible** as the Proposal is not in the character areas and would not impact on any of the key features within the existing character area. |

### 5.1.5 Landscape character zone 5: School / recreation

Refer to Table 5.1 for LCZ5 impact assessment.

**Table 5.5 LCZ5 impact assessment**

| Criteria | Comments |
|---|---|
| Landscape value | The landscape value is assessed as **medium** as identified in section 4.3.5. |
| Landscape susceptibility to change | The landscape susceptibility capacity to change is assessed as **high** due to the small section of regionally significant 'South Creek scenic corridor' (refer Figure 4.7). A development of this type could have detrimental effect to the landscape character, condition and value of LCZ5. |
| Sensitivity to change | The sensitivity to change is **high.** This is based on a High susceptibility to accept this type of development into a landscape of Medium value. |
| Magnitude of change | The magnitude of change is assessed as **negligible** as there is little or no change to the elements, features and characteristics of the LCZ5 landscape due to the Proposal's distance, size and scale as a well as mature vegetation screening. This character zone includes a small section of the South Creek *'scenic corridor'* which is identified as being of '*regional'* significance within the Sydney Regional Environmental Plan No 20 – Hawkesbury -Nepean River (No 2-1997).<br>The boundary of the South Creek scenic corridor is located approximately 750 metres to the west of the Proposal. Views are typically blocked by the built form of the residential character area and/or mature treed vegetation. Infrequent long views to the Proposal may be possible, however views to built form would not be uncharacteristic of the existing character. |
| Significance of impact | The significance of impact is assessed as **negligible.** The landscape has High sensitivity, however the magnitude of change is Negligible due to the Proposal's distance, size and scale from LCZ5.<br>The Proposal is not within the character zone and would not impact on any of the key features within the existing character zone.<br>Views to the Proposal may occasionally be visible from within LCZ5, however from long distances and often screened with mature vegetation or built form. |

## 5.2 Visual impact assessment

The following section assesses the visual impact of the Proposal from viewpoint locations as identified in section 4.4.2 and illustrated in Figure 4.8.

### 5.2.1 Viewpoint location 1 (VP01) Forrester Road

This impact assessment for Viewpoint 1 is outlined in Table 5.6 with existing view illustrated in Photo 5.1 and photomontages illustrated in Photo 5.2. The full photomontage layout can be found in Appendix A

**Photo 5.1 VP01 View looking south**

**Photo 5.2 VP01 Photomontage**

**Table 5.6 Viewpoint location 1 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 293939, 6262144 (MGA Zone 56)<br>Approximate elevation: 33 m Australian Height Datum (AHD)<br>VP01 is located along Forrester Road, North St Marys. |
| Description of existing view | The view shows the Proposal site in relation to the Forrester Road and Harris Street corner and St Marys Station. |
| Anticipated change to view | The proposed changes at this location include an increase in height of the existing multi- storey car park of approximately 9 m and some potential loss of existing vegetation. |
| Sensitivity to change | Viewer sensitivity is assessed as **low** due to short term views, however in a high profile location.<br>Viewer sensitivity is Low due to pedestrians and road users passing through the study area and therefore having short term views. |

| Criteria | Comments |
|---|---|
| Magnitude of change | The magnitude of change is assessed as **low** as the increased height of the existing car park would be a minor alteration to the existing view. The Proposal would be visible, however not uncharacteristic within the existing view. |
| Significance of impact | The significance of impact is assessed as **low**. Although the viewer sensitivity is rated Low, the Proposal would be a minor alteration and not uncharacteristic within the existing view. |

### 5.2.2 Viewpoint location 2 (VP02) Harris St

This impact assessment for Viewpoint 2 is outlined in Table 5.7 with existing view illustrated in Photo 5.3.

**Photo 5.3 VP02 View looking west**

**Table 5.7 Viewpoint location 2 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 293940, 6262076 (MGA Zone 56)<br>Approximate elevation: 37 m AHD<br>VP02 is located along Harris Street in St Marys north, looking west. |
| Description of existing view | The view shows the Proposal site in relation Harris Street, the commuter car park and St Marys Station platform. |
| Anticipated change to view | The proposed changes at this location include an increase in height of approximately 9 metres of the existing multi-storey car park and some potential loss of existing vegetation. |
| Sensitivity to change | Viewer sensitivity is assessed as **Low** due to pedestrians and road users passing adjacent to the study area and therefore having short term views. |
| Magnitude of change | The magnitude of change is assessed as **Low** as the increased height of the existing multi-storey car park would be a minor alteration within the existing view. The Proposal would be visible, however not uncharacteristic within the existing view. |
| Significance of impact | The significance of impact is assessed as **Low** as the Proposal would be a minor alteration and would not be uncharacteristic within the existing view. |

### 5.2.3 Viewpoint location 3 (VP03) Glossop Street bridge over rail line

This impact assessment for Viewpoint 3 is outlined in Table 5.8 with existing view illustrated in Photo 5.4.


**Photo 5.4 VP03 View looking west**

**Table 5.8 Viewpoint location 3 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 294471, 6261880 (MGA Zone 56)<br>Approximate elevation: 48 m AHD<br>VP03 is located along Glossop Street road bridge, looking west. |
| Description of existing view | The view is from an elevated position above the rail line cutting, looking west towards the Proposal, with the rail line and vegetated embankment in the foreground and the Blue Mountains in the background. It should be noted that the photo was taken through a break in the mesh railings and therefore the direct and unencumbered view line is not typical. |
| Anticipated change to view | The proposed changes in view from this location would include an increase in height of the Proposal of approximately 9 m. Due to existing vegetation and built form, the view to the Proposal would be partially filtered. Based on the 3D modelling, the Proposal's roof structure is not likely to visually protrude above the Blue Mountains ridgeline, from this viewpoint. |
| Sensitivity to change | Viewer sensitivity is assessed as **moderate.** Views from the road users are short-term and transient, providing a Low rating. However, due to the elevated location, the long scenic views across the region, towards the Proposal and the Blue Mountains beyond; and the views within this corridor of 'Scenic Landscape Value' (refer Figure 4.3), the sensitivity increases to Moderate'. |
| Magnitude of change | The magnitude of change is assessed as **low** as the Proposal is at a distance and partially screened by intervening vegetation and built form. |
| Significance of impact | The significance of impact is assessed as **moderate-low** due to partial screening of the Proposal by the existing vegetation and built form; the Proposal's location below the Blue Mountains ridgeline from this viewing location; and the distance to the Proposal from this location, resulting in the Proposal being viewed as a small visual element within a wider urban setting. |

### 5.2.4 Viewpoint location 4 (VP04) Station Street

This impact assessment for Viewpoint 4 is outlined in Table 5.9 with existing view illustrated in Photo 5.5.

**Photo 5.5 VP04 View looking west**

**Table 5.9 Viewpoint location 4 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 294180, 6261890, (MGA Zone 56)<br>Approximate elevation: 43 m AHD<br>VP04 is located along Station Street, looking west. |
| Description of existing view | The view shows Station Street in the foreground, with mature trees and vegetation in the middle ground, partially blocking the bus interchange, station and Proposal in the background. There are long views to the Blue Mountains escarpment in the background of this view<br>VP04 represents residents in the adjacent two storey dwellings, pedestrians and road users on Station Street. It should be noted that the dwellings are two storeys high with second storey balconies overlooking the street. |
| Anticipated change to view | A small part of the Proposal would be visible through a gap in vegetation to the centre right of the view. |
| Sensitivity to change | Viewer sensitivity is assessed as **moderate**. Residents would have long-term views from dwelling and balconies, from close proximity. However, the existing mature vegetation would screen the majority of the Proposal from this viewing location. |
| Magnitude of change | The magnitude of change is assessed as **low** as there would be a minor alteration to the key visual elements and characteristics. The Proposal would be visible, however not uncharacteristic within the existing view and screened by mature vegetation. |
| Significance of impact | The significance of impact is assessed as **moderate - low**. |

### 5.2.5 Viewpoint location 5 (VP05) Queen Street and Nariel Street intersection

This impact assessment for Viewpoint 5 is outlined in Table 5.10 with existing view illustrated in Photo 5.6 and photomontages illustrated in Photo 5.7 . The full photomontage layout can be found in Appendix A

**Photo 5.6 VP05 View looking north**

**Photo 5.7 VP05 Photomontage**

**Table 5.10 Viewpoint location 5 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 293940, 6262076 (MGA Zone 56)<br>Approximate elevation: 37m AHD<br>VP05 is located at the Corner of Queen Street and Nariel Street, St Marys. |
| Description of existing view | The view shows the Proposal site in relation to Queen Street and St Marys Station. |
| Anticipated change to view | The proposed change at this location include an increase in height of the existing multi-storey car park approximately 9 m, an additional lift shaft and some potential loss of existing vegetation. |
| Sensitivity to change | Viewer sensitivity is assessed as **moderate** due to pedestrians and visitors to the shopping precinct within the town centre having long viewing periods of the Proposal. However, their focus would be on the activity they are undertaking. As identified within the Penrith DCP this location is noted for having local views to the north. |

| Criteria | Comments |
|---|---|
| Magnitude of change | The magnitude of change is assessed as **low** as the change in height to the existing multi-storey car park would a minor alteration to the existing view. The Proposal would be visible, however not uncharacteristic within the existing view. |
| Significance of impact | The significance of impact is assessed as **moderate-low**. Although the sensitivity of the receivers would be moderate, the Proposal would be a minor alteration and not uncharacteristic within the existing view. |

### 5.2.6 Viewpoint location 6 (VP06) Camira Street

This impact assessment for Viewpoint 6 is outlined in Table 5.11 with existing view illustrated in Photo 5.8 and photomontages illustrated in Photo 5.9. The full photomontage layout can be found in Appendix A

**Photo 5.8 VP06 View looking east**

**Photo 5.9 VP06 Photomontage**

**Table 5.11 Viewpoint location 6 impact assessment**

| Criteria | Comments |
|---|---|
| Location and view direction | Approximate coordinates: 293720, 6262007 (MGA Zone 56)<br>Approximate elevation: 33m AHD<br>VP06 is located on Camira Street, St Marys. |
| Description of existing view | This view is from the footpath adjacent to a residential property on Camira Street looking north-east, across the Street. This view is through a break in the avenue of trees to the Proposal in the background, with the rail line (on a small embankment) and chain mesh fence in the middle ground. |

| Criteria | Comments |
|---|---|
| Anticipated change to view | The proposed change at this location would include an increase in height of the existing multi-storey car park by approximately 9 m. However only part of the Proposal would be visible due to the existing avenue of trees. |
| Sensitivity to change | Viewer sensitivity is assessed as **moderate** due to residents having long viewing periods, however at a distance from the Proposal, which is partially screened due to the existing dense tree canopy.<br>It should be noted that this view was taken through a gap in the trees, typically other views would be screened by the more frequent trees adjacent to the northern side of the street. |
| Magnitude of change | The magnitude of change is assessed as **low** as the change in height would be a minor alteration to the existing view, particularly when viewed at this distance. The Proposal would be visible, however not uncharacteristic within the existing view. |
| Significance of impact | The significance of impact is assessed as **moderate-low**. Although the viewer sensitivity is moderate the Proposal would be a minor alteration to the existing view. |

## 5.3 Landscape and visual impacts during construction

Construction works would result in temporary landscape and visual impacts which may extend beyond the Proposal site. Landscape and visual impacts associated with construction activities are generally of greater magnitude than those associated with operation however, these are temporary in nature.

Landscape and visual impacts during construction resulting from those activities outlined in section 3.2.1 may include:

- the presence of construction vehicles and equipment such as a crane, excavator, concrete trucks and concrete pumps
- temporary safety screens between the work being undertaken and the public domain and concourse
- presence of construction traffic and workers
- importation and storage of construction equipment and plant
- materials stockpiling and the presence of incomplete structures
- tree removal
- construction activities.

## 5.4 Lighting

The Proposal would include the installation of lighting for operational, safety, security and maintenance purposes. The lighting arrangement would be confirmed during detailed design. However, it is assumed that the lighting for the additional two levels would be mounted to the ceiling with no external light poles on the roof level. Lighting is to be designed in accordance with the AS 4282:1997 Controlling the Obtrusive Effects of Outdoor Lighting.

## 5.5 Summary of impacts

The following Table 5.12 and Table 5.13 provide a summary of landscape and visual impacts for the Proposal.

### Table 5.12 Summary of landscape impacts

| LCZ | Name | Sensitivity to change | Magnitude of change | Overall rating |
|---|---|---|---|---|
| LCZ1 | Residential | Moderate | Negligible | Negligible |
| LCZ2 | Rail Corridor | Moderate | Negligible | Negligible |
| LCZ3 | Industrial | Low | Negligible | Negligible |
| LCZ4 | Town centre | Moderate | Negligible | Negligible |
| LCZ5 | School / Recreation | High | Negligible | Negligible |

### Table 5.13 Summary of visual impacts

| Viewpoint | Location | Sensitivity to change | Magnitude of change | Overall rating |
|---|---|---|---|---|
| VP01 | Forrester Road (St Marys Manufacturing Facility southern entry) | Low | Low | Low |
| VP02 | Harris Street | Low | Low | Low |
| VP03 | Glossop Street bridge over rail line | Moderate | Low | Moderate-low |
| VP04 | Station Street | Moderate | Low | Moderate-low |
| VP05 | Queen Street and Nariel Street intersection | Moderate | Low | Moderate-low |
| VP06 | Camira Street | Moderate | Low | Moderate-low |

# 6. Recommendations and mitigation measures

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

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

Mitigation measures address the most visual elements.

## 6.1 Mitigation recommendations

### 6.1.1 Lighting recommendations

General considerations for the lighting design include:

- reduce the visual impact of light spill to the surrounding areas by sensitive location and angling of luminaires within the Proposal site
- ensure the new lighting components are well integrated into the urban form, with consideration of wall-mounted light fixtures to reduce infrastructure clutter, particularly around streetscapes and pedestrian areas
- incorporate architectural light components that have aesthetic value and are in keeping with the surrounding urban character.

### 6.1.2 General recommendations

General considerations for the detailed design phase include:

- ensure the new components of the Proposal integrate well with, and complement, the existing building through the use of colour and materiality
- ensure the design, location and materiality of Proposal components contributes positively to the achievement of a high quality public realm
- incorporate new landscape planting to replace that which is to be removed, including trees, shrubs and groundcovers, to provide visual screening to new vertical built form elements from sensitive receivers, and to soften the visual impact. Ensure new landscape planting enhances the public realm
- ensure the Proposal's urban design solution is sympathetic to achieving a positive viewing experience from Forrester Street and Harris Street, through well considered design for the location of vegetation, signage, shelters, and furniture elements
- ensure the Proposal contributes positively to the existing landscape character
- ensure the Proposal responds to principles and objectives outlined in the TfNSW *Sustainable Design Guidelines Version 4.0, Around the Tracks: urban design for heavy and light rail,* and the *City of Penrith Landscape Character Strategy*, as identified in section 4.2.1.

### 6.1.3 Construction activity and storage

General considerations for the construction phase include:

- taking all practical measures to ensure construction equipment, stockpiles, and other visible elements are located away from key views to or from the sensitive visual receivers identified in this assessment. Where such equipment or stockpiles are to be located in a visually prominent location for any reasonable period of time, incorporate screening measures and practices to ensure sites are kept tidy.

### 6.1.4 Retention of visually important vegetation

General considerations for vegetation retention include:

- seek opportunities to retain visually important vegetation, and investigate urban and landscape design solutions to achieve this, such as permeable paving and relocation of below ground services where possible.

### 6.1.5 Signage and poles

General consideration for signage and poles include:

- avoid locating permanent signage which may impede views. Minimise the amount of services poles in the public realm by utilising built form mounting and combining services on shared poles.

# 7. Conclusion

This LVIA has been undertaken to understand the potential impacts of the proposed multi-storey commuter car park expansion at St Marys Station for Transport for NSW. At the time of writing, the Proposal was in the early-schematic design phase.

St Marys is an urban area near Penrith undergoing change partly driven by the objectives of the Penrith Development Plan. The built form is therefore proposed to increase in height and density predominantly on the southern side of the rail corridor. Landscape values in the area include mature eucalypts scattered throughout the suburb, views from elevation towards the Blue Mountains, views along Queen Street and the heritage values associated with the St Marys railway precinct.

A total of five landscape character types were identified within one kilometre of the study area, including residential, town centre, recreation and school, industrial and rail corridor. This assessment found there to be no significant landscape character impacts arising from the Proposal.

Sensitive visual receivers in the study area include residents, pedestrians and road users. Six viewpoint locations were chosen to assess the visual impact of the Proposal on sensitive receivers within the study area. Visual impacts were assessed using panoramas of the existing view, and photomontages were created illustrating the proposed view of the Proposal from three viewpoint locations. The assessment found that the Proposal generally has Moderate-Low visual impacts on views from viewpoint location three, four, five and six and Low visual impacts on views from viewpoints one and two.

Although the Proposal exceeds the permitted building height under the Penrith LEP (refer Figure 4.2), the height of the building would be consistent with the surrounding environment, including the adjacent buildings to the south of the rail line, and future proposed development in the area. Furthermore, the Proposal is permissible without consent under the *State Environmental Planning Policy (Infrastructure) 2007.*

This proposed higher density area on the south side of the rail line would likely form part of the wider visual backdrop. It is anticipated that the character surrounding the study area is subject to change in the near future, with the proposed implementation of a number of major projects around St Marys town centre, resulting in a contemporary town centre of high density development, tall buildings, public space, new street trees and a new St Marys metro station development.

Mitigation measures recommended should be considered for inclusion into the design, including design integration with adjacent proposed developments such as St Marys Metro Station upgrade.

# 8. References


City of Penrith*, Landscape Character Strategy: Character Statements and Maps* 2006

City of Penrith, *Penrith Development Control Plan 2014*

City of Penrith, *Penrith Local Environmental Plan 2010*

City of Penrith, *Penrith Scenic & Cultural Landscapes Study 2019*

Landscape Institute and Institute of Environmental Management & Assessment, UK (2013), *Guidelines for Landscape and Visual Impact Assessment, Third Edition.*

Roads and Maritime Services, Australia (2013), *Environmental Impact Assessment Practice Note - Guidelines for Landscape Character and Visual Impact Assessment, EIA-NO4 Version 2.0.*

TfNSW, *Around the Tracks: urban design for heavy and light rail*, December 2016 (interim issue)

TfNSW, *Sustainable Design Guidelines Version 4.0, May 2017*

# Appendices

# **Appendix A** – Photomontages

Appendix A includes photomontages of the proposed view from VP1, VP5 and VP6.

EXISTING VIEW


PROPOSED DESIGN


KEY PLAN


| | |
|---|---|
| **View Direction:** | 121° - 201° |
| **Horizontal Field Of View:** | 80° |
| **Camera Height:** | 1.7 m |
| **Camera Type:** | Cannon EOS 5D Mark IV |
| **Lens Type:** | 50 mm |
| **Photograph Time & Date:** | 11:23, 12th October 2020 |

| | |
|---|---|
| **Location:** | Forrester Road, North St Marys, Sydney |
| **Coordinates:** | 293939, 6262144 (GDA 1994 MGA Zone 56) |
| **Viewpoint Elevation:** | 33 m |
| **Date of Photomontage:** | 22nd October 2020 |
| **Issue:** | v01 |

**St Marys Commuter Car Park Expansion**
**Transport for New South Wales**

# Viewpoint 1 : Forrester Rd

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

As this is an artistic impression, the design is subject to change and this may not be representative of the finished design.


Artistic Impression

KEY PLAN


| | |
|---|---|
| **View Direction:** | 121° - 201° |
| **Horizontal Field Of View:** | N/A |
| **Camera Height:** | 1.7 m |
| **Camera Type:** | N/A |
| **Lens Type:** | N/A |
| **Photograph Time & Date:** | 11:23, 12th October 2020 |

| | |
|---|---|
| **Location:** | Forrester Road, North St Marys, Sydney |
| **Coordinates:** | 293939, 6262144 (GDA 1994 MGA Zone 56) |
| **Viewpoint Elevation:** | 33 m |
| **Date of Photomontage:** | 22nd October 2020 |
| **Issue:** | v01 |

**St Marys Commuter Car Park Expansion**
**Transport for New South Wales**

# Viewpoint 1 : Forrester Rd

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

EXISTING VIEW


PROPOSED DESIGN


KEY PLAN

346° - 66°

12:57,
12th October 2020

Corner of Queens Street and
Nariel Street, St Marys, Sydney
293940, 6262076

37 m

**Viewpoint 5 :** Corner of Queens Street and Nariel Street

EXISTING VIEW

PROPOSED DESIGN


KEY PLAN

36° - 116°

13:07,
12th October 2020

Camira Street, St Marys,
Sydney
293720, 6262007

33 m

**Viewpoint 6 :** Camira Street

GHD

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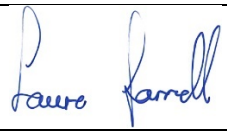
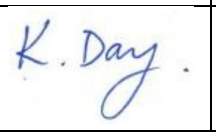
Document Status

| Revision | Author | Reviewer | | Approved for Issue | | |
|---|---|---|---|---|---|---|
| | | Name | Signature | Name | Signature | Date |
| 0 | S.Rae | L.Farrell |  | Kate Day |  | 27/11/2020 |

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