



Penrith Lakes DA2&DA3 Modification

Landscape Character and Visual Impact Assessment

ARUP

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Western Sydney Lakes

By:

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Document History

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Executive summary

Project description

The Penrith Lakes Development Corporation (PLDC) is seeking approval to import virgin and natural excavated material to raise the land-form in Western Sydney, ensuring immunity against a 1-in-500-year flood event.

To support this, two State Significant Development (SSD) modification applications were submitted to the NSW Department of Planning, Housing, and Infrastructure (DPHI) on November 8, 2024, to amend existing conditions on fill importation quantities.

Report purpose

In November 2024, DPHI requested additional information to inform the submissions report.

Specifically, they required a Visual Impact Assessment (VIA) to evaluate the impact of the raised land-form from key vantage points and how the modified development complies with clause 5.38A of the State Environmental Planning Policy (Precincts - Western Parkland City) 2021. This report aims to address the department's request.

Landscape character

The Penrith Lakes area is a unique landscape that blends natural features with human-made elements, having been shaped by extensive sand and gravel mining. This transformation has created a series of interconnected lakes and wetlands, contrasting remnants of industrial activity with ecological and recreational spaces.

Framed by bushland, the lakes offer a scenic environment, with the water contrasting against the surrounding vegetation. The flat terrain of the Nepean River floodplain contrasts strongly with the rugged Blue Mountains to the west and Castlereagh escarpment in the east.

Four landscape character zones are identified for further assessment within the report as summarised in Table 1.1.

Visual amenity

The Penrith Lakes area, while modified by material extraction and deposition, retains a naturalistic visual quality, with minimal built form, expansive river floodplain, dramatic escarpment topography and varied vegetation contributing to its visual appeal.

Panoramic views of the Blue Mountains and Castlereagh escarpments are common throughout the study area, especially from elevated viewpoints in the east and west.

The importance of the region's visual amenity is highlighted and protected in relevant planning literature including the Penrith Lakes Development Control Plan (DCP).

Visual receptors identified and assessed within this report include:

- + Motorists travelling north and south along Castlereagh Road
- + Users of the walking trails and lookout points along the Nepean River and Blue Mountain escarpment
- + Users of the Sydney International Regatta Centre and associated facilities
- + Residential dwellings and open space users on elevated ground to the east of Castlereagh Road.

Ten viewpoints are identified for further assessment within the report as summarised in Table 1.2.

Impact assessment summary

The Project will introduce a uniform change to the site's topography, consistent with its current use for material deposition. The final surface will blend visually with existing surface conditions once stabilised and seeded.

Given their open and expansive nature, the majority of assessed viewpoints and landscape character zones are found to be able to absorb the changes introduced by the proposed modifications without major impacts to amenity and scenic quality.

The most discernible impacts are anticipated to be localised to a stretch of approximately 2km of Castlereagh Road between the Church Lane and Cranebrook Road intersections, where the Project will be in close proximity to the road corridor.

Here the Project may moderately impact landscape character and visual amenity by:

- + Creating a uniform batter slope along the site boundary, reducing the current naturalistic nature of the floodplain/road corridor interface - consistent with previous infill works to the north
- + Potentially obscuring some long distance views to the Blue Mountains escarpment/Nepean River interface from the road, foreshortening the current view and reducing the 'openness' of these views across the floodplain.

A summary of the Project's landscape and visual amenity considerations relevant to key planning policy is included in Table 1.3.

Design considerations

Design considerations to mitigate these impacts are further discussed in Chapter 4 of this report and include:

- + Adjusting the land form height and slope - creating irregular slope variations to prevent an artificial looking interface along a section of Castlereagh Road
- + Preserving specific view corridors to retain scenic value along a section of Castlereagh Road.

LCZ	Impact rating
1. Blue Mountains escarpment	Negligible
2. Nepean River and floodplain	Moderate
3. Sydney International Regatta Centre	Negligible
4. Castlereagh escarpment	Negligible

TABLE 1.1: LANDSCAPE CHARACTER IMPACT SUMMARY

Viewpoint	Impact rating
1. Old Castlereagh alignment (north)	Negligible
2. Castlereagh Road (north)	Moderate
3. Christ Church Castlereagh	Moderate/Low
4. Church Lane residential	Moderate/Low
5. Mountain View Reserve lookout	Moderate/Low
6. Castlereagh Road (south)	Moderate/Low
7. Old Castlereagh alignment (south)	Moderate/Low
8. Sydney International Regatta Centre	Negligible
9. Transgrid Trail - Neapean River	Negligible
10. Hawkesbury lookout	Negligible

TABLE 1.2: VISUAL IMPACT SUMMARY

Planning document	Landscape and visual considerations
State Environmental Planning Policy - Clause 5.38A (SEPP)	
<i>Objectives of key vistas and view corridors of Penrith Lakes:</i>	
+ (a) to recognise, protect and enhance the natural, visual and environmental qualities of Penrith Lakes	Localised landscape and visual impacts are predicted to the interface between Castlereagh Road and the Nepean River floodplain, noting that this is set within a modified landscape. Refer Section 3 for more details.
+ (b) to ensure development is appropriate for the location and minimises impacts on key views.	Localised landscape and visual impacts are predicted to the interface between Castlereagh Road and the Nepean River floodplain. Refer Section 3 for more details.
<i>To grant future developments, the consent authority must consider the following:</i>	
+ (a) the development is located and designed to minimise its visual impact, including views to and from Castlereagh Road, the Nepean River, the Regatta Lake, environmental heritage items and the Blue Mountains, and	Localised moderate visual impacts are predicted to western views from the northern section of Castlereagh Road. Here the modified topography will reduce the perceived openness of the view across the Nepean River floodplain, potentially obscuring its junction with the Blue Mountains escarpment. Views to and from the Regatta Lake and Blue Mountains themselves are not predicted to be impacted. Refer Section 3 for more details.
+ (b) the development contributes to the scenic quality of the Penrith Lakes Scheme	Localised landscape and visual impacts are predicted to the interface between Castlereagh Road and the Nepean River floodplain. Re-vegetation of the modified landform will assist in integrating the earthworks into the surrounding landscape, consistent with past treatments of infill areas as per the Penrith Lakes Land Surface Stabilisation Specification.

TABLE 1.3: RESPONSE TO KEY RELEVANT PLANNING POLICY

Planning document	Landscape and visual considerations
Penrith Lakes Development Control Plan (DCP)	
<i>The planning principles in protecting key vistas include:</i>	
<ul style="list-style-type: none"> + Protecting the Penrith Lakes character of visual openness to the surrounding landscapes 	<p>The modified topography is predicted to reduce the perceived openness of the view west across the Nepean River floodplain from localised sections of Castlereagh Road. Refer Section 3, viewpoint 2 for more details.</p>
<ul style="list-style-type: none"> + Maintaining significant views to the Blue Mountains, escarpment and the surrounding lakes 	<p>The proposed modified landform is not expected to reduce the extent of the Blue Mountains escarpment visible from the studied viewpoints. There is, however, predicted to be localised view loss of the floodplain and its junction with the escarpment when viewed from a section of Castlereagh Road. Refer Section 3 for more details.</p>
<ul style="list-style-type: none"> + Preserving views of important landscape elements and heritage items. 	<p>Refer response above for key landscape elements. For heritage analysis refer to <i>Penrith Lakes DA2&DA3 Modification - Heritage Impact Assessment Artefact Heritage and Environment, 2024</i>.</p>
<i>To protect the views and vistas of Penrith Lakes, all development:</i>	
<ul style="list-style-type: none"> + Must not unreasonably obstruct key external views of Penrith Lakes from Castlereagh Road, the Nepean River and the Blue Mountains 	<p>The proposed modified landform is not expected to reduce the extent of the Blue Mountains escarpment visible from the studied viewpoints. There is, however, predicted to be localised view loss of the floodplain when viewed west from a section of Castlereagh Road. Refer Section 3 for more details.</p>
<ul style="list-style-type: none"> + Be located and designed to minimise impacts on key views and vistas 	<p>Re-vegetation of the modified landform will assist in integrating the earthworks into the surrounding landscape, consistent with past treatments of infill areas as per the Penrith Lakes Land Surface Stabilisation Specification. Refer to Chapter 4 for potential mitigation measures to reduce the identified impacts.</p>
<ul style="list-style-type: none"> + Ensure building design and landscaping plans have regard for view corridors and minimise any impacts. 	<p>Refer to response above.</p>



1. Introduction

Describes the Project background, purpose for this report and impact assessment methodology.

1.1.1 Project context

Penrith Lakes Development Corporation (PLDC) is seeking approval to increase the importation of 9.7 million tonnes of virgin excavated natural material (VENM) and excavated natural material (ENM) across the eastern position of its site in Western Sydney (the 'Project').

This will alter the land-form to achieve immunity against a flood event that has a 0.2 percent chance of occurring in any given year, also known as a 1-in-500-year flood.

To support this, two State Significant Development (SSD) modification applications were submitted to the NSW Department of Planning, Housing, and Infrastructure (DPHI) on 8 November 2024 with a view to amend the existing conditions on fill importation quantity.

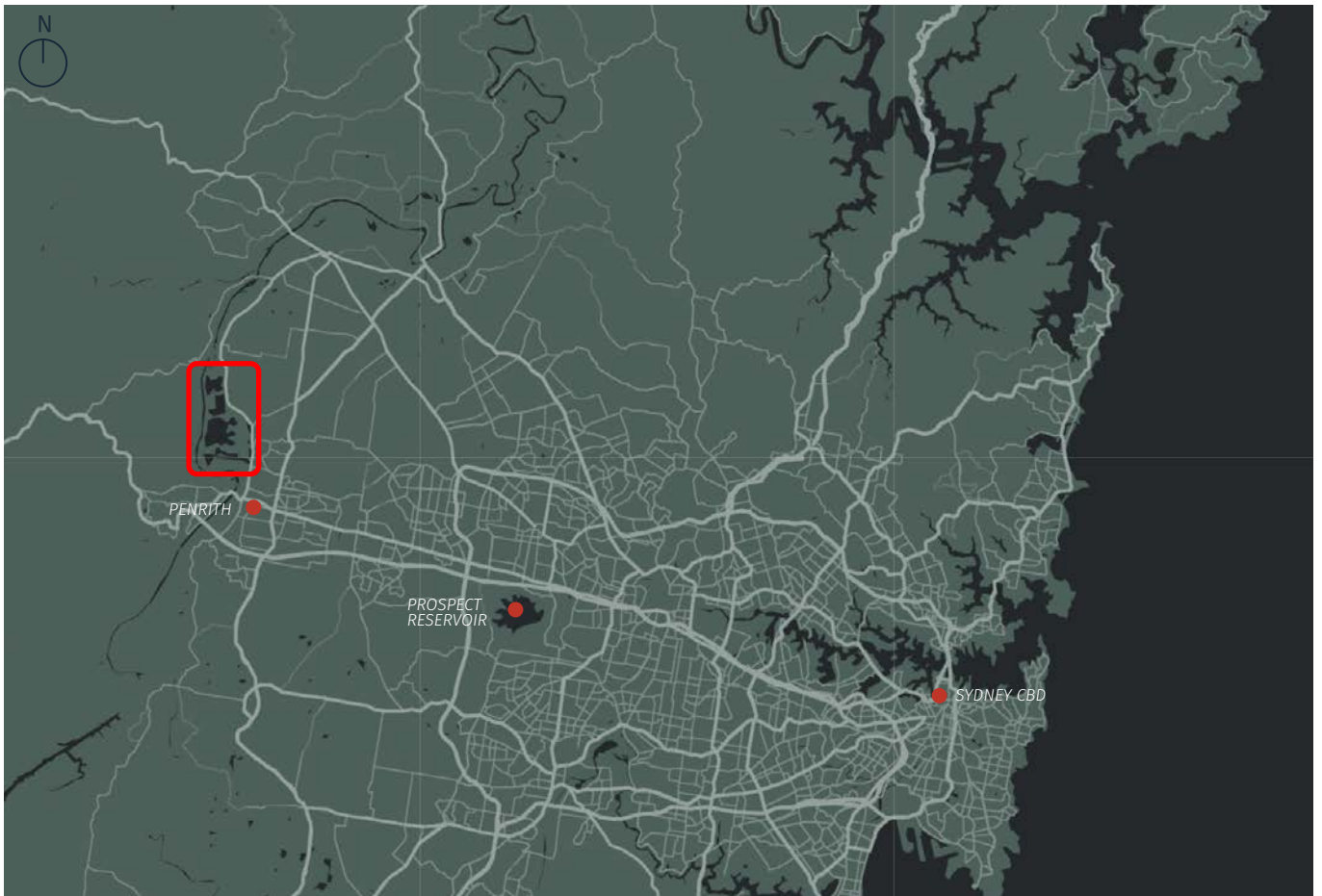


FIGURE 1.1: PROJECT LOCATION

1.1.2 Project summary

The proposed modifications cover the importation of material across a site that is approximately 1,940 hectares, serving to increase ground levels by approximately 1.32 metres on average, with the maximum fill depth being 2.98m above previously approved levels.

The intent of the modifications is to introduce flexibility in the interim by importing sufficient material on site to support an end-state land-form that would provide sufficient flood immunity pre-empting the submission of a masterplan and planning proposal that will set the final design levels and landscape strategy across the site.

In this interim phase, PLDC is committed to batters that are generally graded at a maximum of 1V:6H, especially along the frontage of Castlereagh Road. The fill will be compacted and stabilised using an agreed seeded mix of endemic and native species, consistent with ongoing environmental management practices to date. This is consistent with the existing conditions in place on site.

1.1.3 Project area

The Project area refers to the area of land that would be directly impacted by the Project.

1.1.4 Study area

This term is used to describe the land that surrounds the Project area that forms the focus of this report, extending to adjacent land uses and viewpoints.

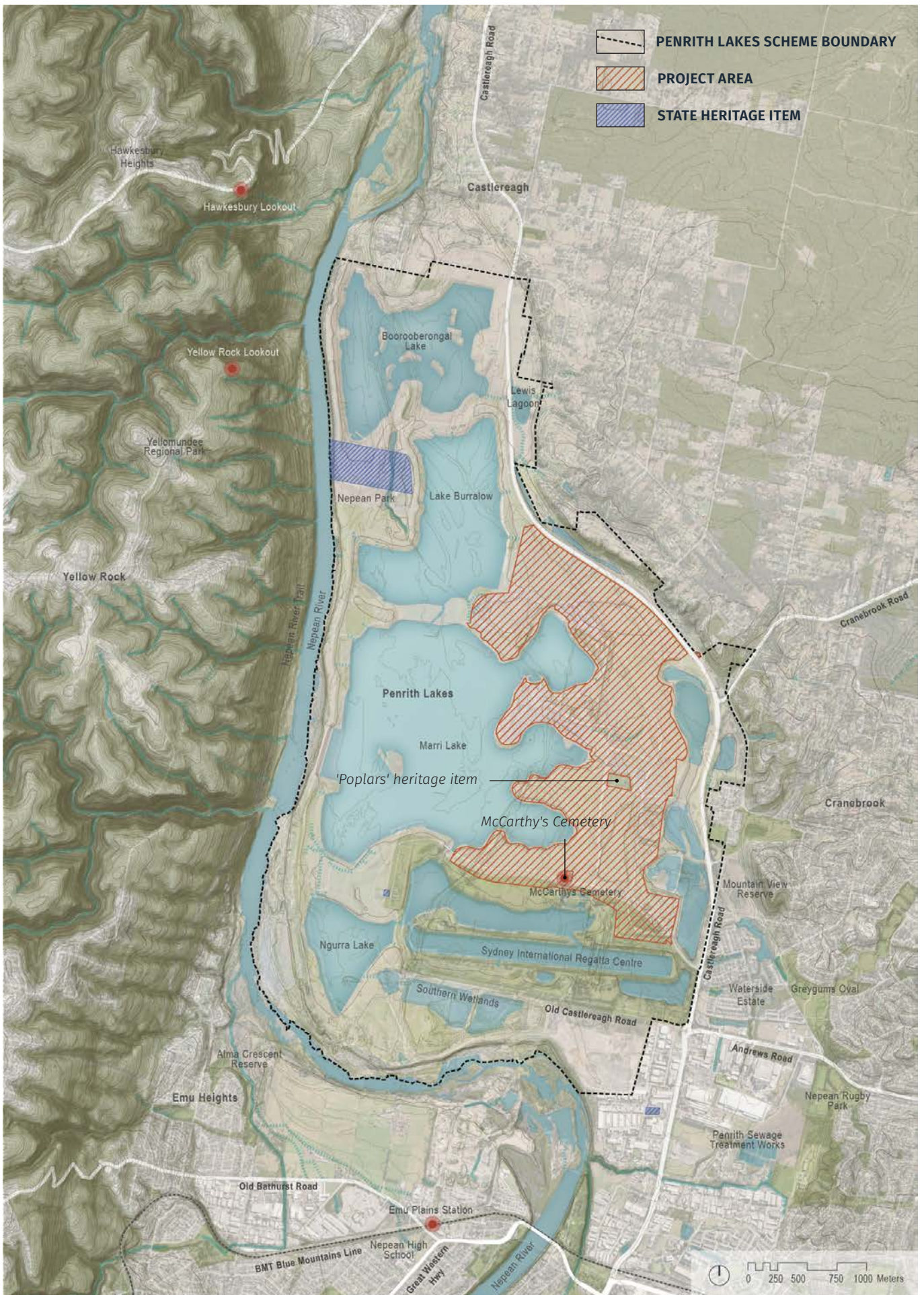


FIGURE 1.2: PROJECT AREA AND WIDER STUDY AREA (MAP EXTENTS)

1.2.1 Report purpose

The Department of Planning, Housing and Infrastructure issued a request for additional information in November 2024 to inform the submissions report:

"The Department requires a Visual Impact Assessment (VIA) to be prepared by a suitably qualified person that considers the impact of the raised land-form from key vantage points. The VIA should provide consideration of how the modified development complies with clause 5.38A of the State Environmental Planning Policy (Precincts - Western Parkland City) 2021."

This report seeks to respond to the above request.

1.3

Report structure

INPUTS

LOCAL PLANNING, POLICY AND STRATEGY ANALYSIS
LANDSCAPE CHARACTER ANALYSIS
VISUAL AMENITY ANALYSIS
HERITAGE ANALYSIS - PENRITH LAKES DA2&DA3 MODIFICATION - HERITAGE IMPACT ASSESSMENT ARTEFACT HERITAGE AND ENVIRONMENT, 2024.

KEY TASKS

SITE VISIT

EXISTING CONDITIONS ASSESSMENT

IMPACT ASSESSMENT

DESIGN CONSIDERATIONS

OUTPUTS

LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT

EARTHWORK DESIGN (BY OTHERS)

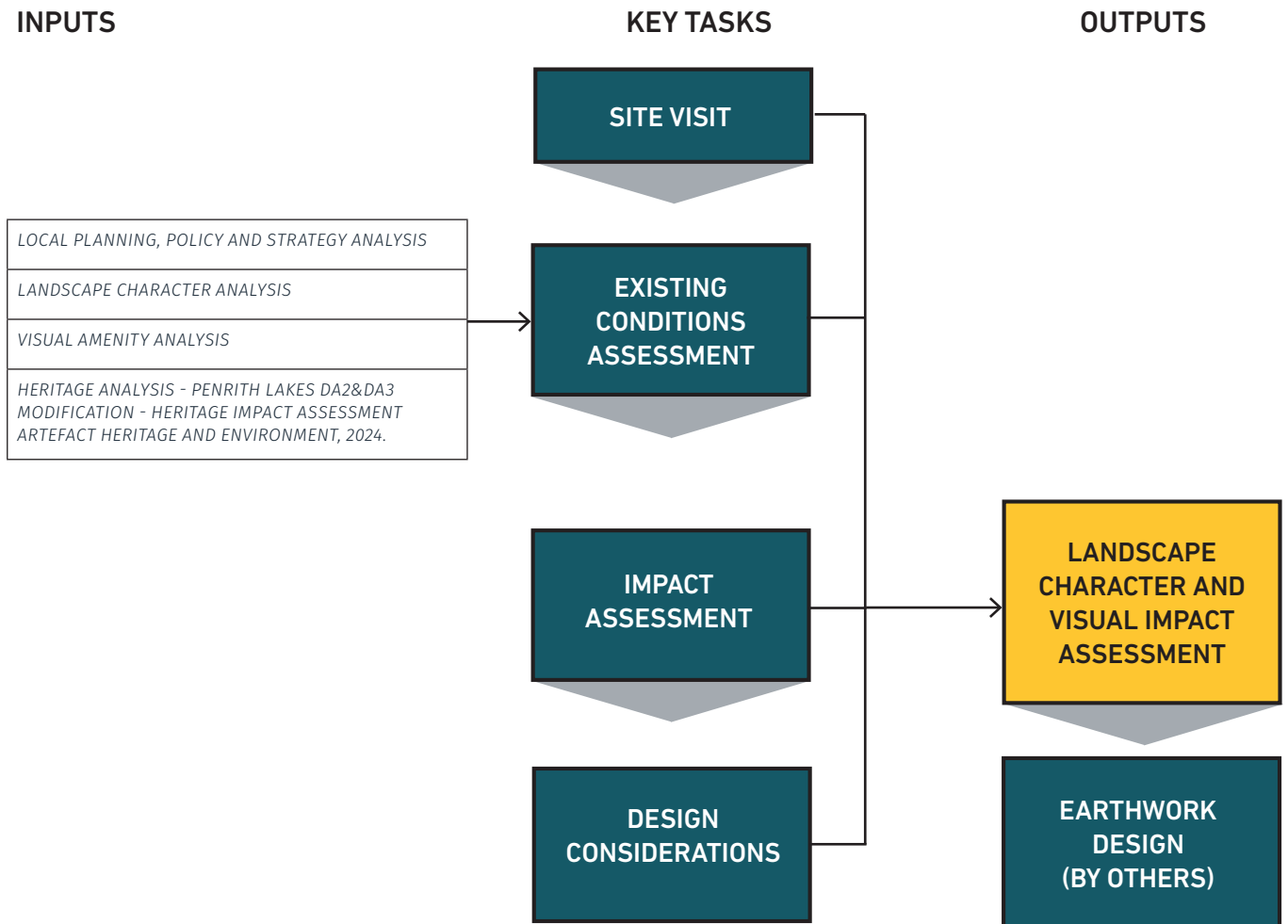


FIGURE 1.3: STRUCTURE OF THIS REPORT

1.4.1 Rationale

Landscape and Visual Impact Assessment (LVIA) considers all effects of change that may arise from a Project in the landscape and visual scene that may impact visual amenity and landscape character values.

It is concerned with how the surroundings of individuals or groups of people may be specifically affected both quantitatively (with regards to the physical extent of change) and qualitatively (with regards to the change to the qualities of the view or landscape).

Judgement as to the level of the effects is arrived at by a process of reasoning, based upon analysis of the baseline conditions, identification of landscape character zones and visual receptors (viewers of the scene) and assessment of their sensitivity. This is combined with an assessment of the magnitude and nature of change that may result from the Project.

This assessment is an objective report and is based on a professional analysis of the visual and landscape environment and the Project at the time of writing.

1.4.2 Guidelines and policy

The following documents have influenced the methodology for this assessment and are considered best practice within the industry. They set out a clear and systematic approach in documenting the baseline landscape character and visual conditions, potential impacts and mitigation:

- + *The Guidance for Landscape and Visual Impact Assessment, Third Edition, 2013, prepared by the Landscape Institute and Institute of Environmental Management & Assessment, UK.*
- + *Transport for NSW Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04 (Center for Urban Design, 2023).*

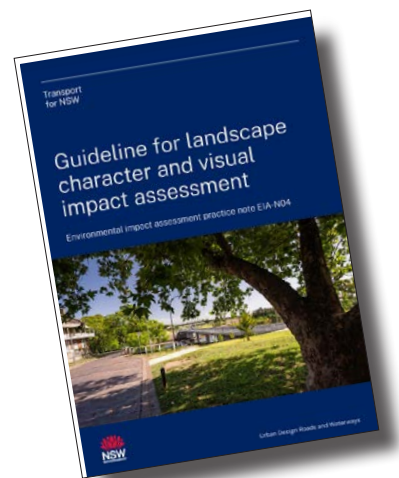


FIGURE 1.4: TFSW GUIDELINES EIA-N04

1.4.3 Landscape character

Landscape character can be defined as the aggregate of built, natural and cultural aspects that make up an area and provide a sense of place. It includes all aspects of a tract of land – built, planted, topographical and ecological.

Landscape character zones

To enable the assessment of impacts on landscape character, landscape character zones (LCZ) are determined for the relevant area of study.

LCZ are defined as areas having a distinct, recognisable and consistent pattern of elements making one LCZ different from another.

Impact rating

The overall impact rating of the Project on any given LCZ is based on themes of magnitude and sensitivity.

The severity of these impacts is calculated using the matrix in Table 1, taken from *Transport for NSW Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04*

Sensitivity - the degree to which a particular landscape type can accommodate change arising from a development, without detrimental effects on its character.

Sensitivity includes factors such as:

- + Existing land use
- + The pattern and scale of the landscape
- + Visual enclosure, openness of views and distribution of visual receivers
- + The value placed on the landscape.

Areas with a high sensitivity to change include zones with important landscape features, landscape types with inherent natural values and landscapes with heritage or cultural values. Lower sensitivity is often associated with built up urban environments such as industrial areas.

Magnitude - the magnitude of the effects of the development within the landscape. Magnitude refers to the physical scale of the development, how distant it is and the contrast it presents to the existing condition.

Consideration is given to:

- + Existing built form in the landscape and how closely the development matches this in mass, scale and form.
- + The scale or degree of change to the landscape resource
- + The nature of the effect and its duration including whether it is permanent or temporary.

1.4.4 Visual amenity

Viewpoint selection

Following a thorough desktop study and site visit, representative viewpoints with the potential to be visually affected by some elements of the Project are identified and selected for further analysis.

Viewpoints are selected to illustrate:

- + A range of receptor types including motorists, pedestrians, cyclists and users of public open space
- + A range of view types including elevated, panoramic and filtered views
- + A range of viewing distance from the Project
- + Key or protected views identified within the planning literature.

Limitations

It should be noted that selected viewpoints are by no means an exhaustive list of all receptors that might be impacted by the Project. They have been selected to be representative of the spread and type of viewers throughout the study area.

Impact rating

The overall impact rating of the Project on any given viewpoint is based on themes of magnitude and sensitivity. The severity of these impacts are calculated using matrix in Table 1, taken from the Transport for NSW Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04

Sensitivity - the quality of the existing view and how sensitive the view is to the proposed change. Each visual receptor type has an inherent and varied sensitivity to change in the visual scene based on their personal context in which the view is being experienced. Views from public reserves and open space are often given the highest weighting due to the increased number of viewers impacted.


Magnitude - a measure of the magnitude of the visual effects of the development within the setting. A series of quantitative assessments are studied to give an overall magnitude rating. Consideration is given to:

- + Distance from development
- + Comparative to similar past development
- + Quantum of view - openness of the view and the receptor's angle of view to the scene. A development located in the direct line of sight has a higher impact than if it were located obliquely at the edge of the view. Whether the view of the development is filtered by vegetation or built form also affects the magnitude, as does the nature of the view (panoramic, restricted etc.). A small element within a panoramic view has less impact than the same element within a restricted or narrow view.

- + Period of view - the length of time the visual receptor is exposed to the view. The duration of view affects the impact of a development on the viewer - the longer the exposure the more detailed the impression of the proposed change in terms of visual impact
- + Scale of change - assessment of the change in compositional elements of the view. If the proposed development is largely similar in nature and scale to that of existing elements in the vicinity, the scale of change is low. If the development radically changes the nature or composition of the elements in the view, the scale of change is high.

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

Table 1: Landscape and visual impact assessment matrix



2. Literature review

Strategic planning policies and guidance that provide relevant context for the landscape character and visual amenity values of the site and wider area.

STATE POLICY

State Environmental Planning Policy (Precincts—Western Parkland City) 2021 (SEPP)

As part of Western Parkland City Precinct, Penrith Lakes is governed by *Chapter 5 Penrith Lake Scheme of The State Environmental Planning Policy (Precincts – Western Parkland City) 2021* and is referred to as Penrith Lakes Scheme.

The Policy comprises principal planning provisions relevant to the development of land at Penrith Lakes. The aim of the policy is to:

- + (a) provide a development control process that ensures that environmental and technical matters are considered in the implementation of the Penrith Lakes Scheme
- + (b) identify and protect items of the environmental heritage
- + (c) identify certain land that may be rezoned for employment, environmental, parkland, residential, tourism and waterway purposes and land that will be rezoned as unzoned land
- + (d) permit interim development that will not detrimentally impact on the implementation of the Penrith Lakes Scheme
- + (e) ensure that the implementation of the Penrith Lakes Scheme does not detrimentally impact on the ongoing operation and use of olympic legacy infrastructure, including the Sydney International Regatta Centre and the Penrith Whitewater Stadium.

Landscape and visual amenity relevance:

Clause 5.38A of the State Environmental Planning Policy specifically outlines the objectives of key vistas and view corridors of Penrith Lakes. These objectives are:

- + (a) to recognise, protect and enhance the natural, visual and environmental qualities of Penrith Lakes
- + (b) to ensure development is appropriate for the location and minimises impacts on key views.

To grant future developments, the consent authority must consider the following:

- + (a) the development is located and designed to minimise its visual impact, including views to and from Castlereagh Road, the Nepean River, the Regatta Lake, environmental heritage items and the Blue Mountains, and
- + (b) the development contributes to the scenic quality of the Penrith Lakes Scheme.

This report has considered the location details within Clause 5.38A as part of the viewpoint selection process.

Penrith Development Control Plan – Stage 1

The Penrith Development Control Plan (DCP) is required under Chapter 5 Penrith Lakes Scheme of the State Environmental Planning Policy (Precincts – Western Parkland City, 2021).

The DCP guides development and design considerations on tourism and employment zoned land at Penrith Lakes, providing guidance including landscaping and tree canopy as well as visual amenity.

The DCP outlines specific guidelines for protecting and enhancing key views within the precinct. It emphasises the importance of preserving both panoramic vistas and local sightlines, particularly those that showcase the natural beauty of the area, including views of the artificial lakes, wetlands, and surrounding bushland.

Key views are identified across the region, with a focus on maintaining visual connections to the Blue Mountains in the west, as well as vistas that highlight the unique landscape of the lakes and their surrounding environment.

The DCP stresses the importance of integrating new development in a way that respects and enhances the visual amenity of the Penrith Lakes region, preserving key views for both current and future generations to enjoy.

The following planning principles are outlined to maintain and protect the landscape characteristic and setting of Penrith Lakes:

1. Landscaping promotes understanding of the connection of Aboriginal people to Country and the importance of the site as a meeting place
2. Ensure restoration of the landscape and natural systems of the Western Parkland City
3. Protect and frame the expansive views of the parkland and waterways and the character of Penrith Lakes
4. Integrate landscape design and planning as part of a holistic approach to site development
5. Landscaping is designed appropriate to the context of the wider Penrith Lakes landscape setting and endemic vegetation
6. Ensure development contributes towards the Greater Sydney canopy cover target of 40% by retaining existing trees, where possible, and planting new trees that are supported by sufficient deep soil for canopy growth
7. Ensure sustainable biodiversity and ecological conservation through the protection of watercourses, wetlands and riparian corridors
8. Encourage the use of stormwater and recycled water for maintaining landscaping and minimising the demand on potable water
9. Reinforce the distinct landscape character areas that build on the existing landscape features.

Landscape and visual amenity relevance:

The DCP identifies the important key vistas and views both within and external to Penrith Lakes. The planning principles in protecting key vistas include:

- + Protecting the Penrith Lakes character of visual openness to the surrounding landscapes
- + Maintaining significant views to the Blue Mountains, escarpment and the surrounding lakes
- + Preserving views of important landscape elements and heritage items.

The viewing corridors that should be protected include:

- + a) North-south views from Castlereagh Road and Penrith Lakes
- + b) View corridors from Old Castlereagh Road to the Nepean River
- + c) Western view corridor from Lugard Street to the Nepean River
- + d) Views between Penrith Lakes and the Methodist Church Group (including the church, school and cemetery) on Old Castlereagh Road.

To protect the views and vistas of Penrith Lakes, all development:

- + Must not unreasonably obstruct key external views of Penrith Lakes from Castlereagh Road, the Nepean River and the Blue Mountains
- + Be located and designed to minimise impacts on key views and vistas
- + Ensure building design and landscaping plans have regard for view corridors and minimise any impacts.

This report has considered the details within the DCP as part of the viewpoint and landscape zone selection process.

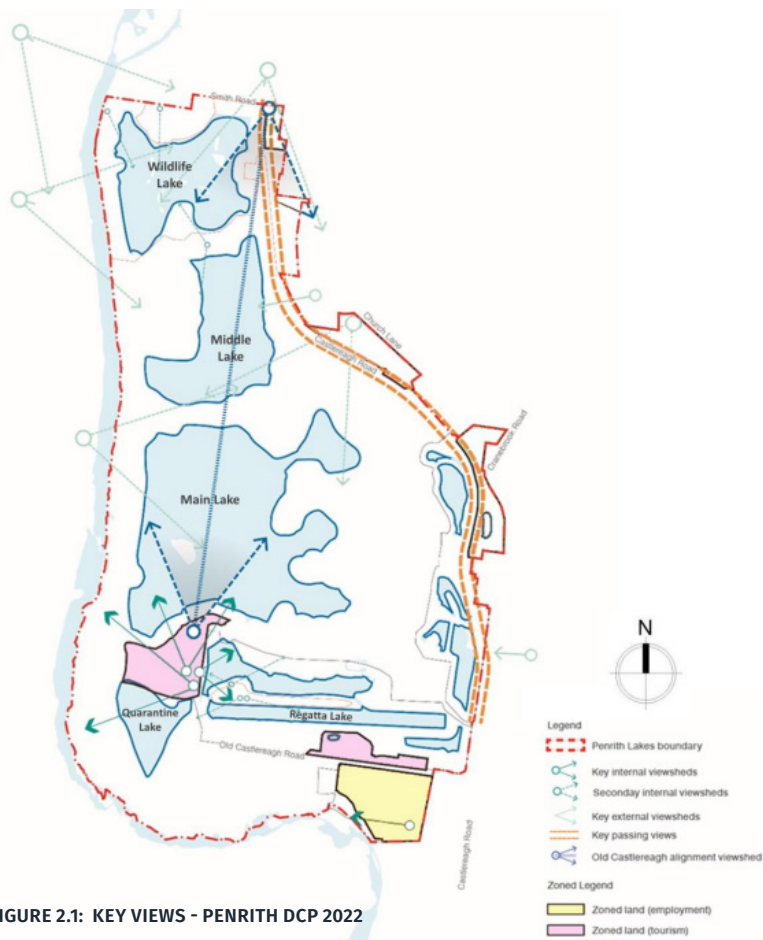


FIGURE 2.1: KEY VIEWS - PENRITH DCP 2022



Penrith Local Environmental Plan (LEP) 2010

The aim of the Penrith Local Environmental Plan is to make local environmental planning provisions for the land in Penrith in accordance with the relevant standard environmental planning instrument under section 3.20 of the Environmental Planning and Assessment Act 1979.

One of its aims is:

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

Whilst the LEP does not directly apply to the Penrith Lakes site, the proposed area of works is visible from, and interfaces with landscape zones that are covered by the LEP.

Landscape and visual amenity relevance:

While the Project site is not identified as 'Land with scenic and landscape values', the land is surrounded by areas of scenic protection with a visual and landscape interface with the Project site. The objectives of scenic character and landscape values in Clause 7.5 within the Penrith Local Environmental Plan 2010 are:

- + (a) to identify and protect areas that have particular scenic value either from major roads, identified heritage items or other public places
- + (b) to ensure development in these areas is located and designed to minimise its visual impact.

Zoning and Overlays (State Environmental Planning Policy)

The site currently sits on Unzoned Land, with the following regulations:

1. Development may be carried out on unzoned land only with development consent.
2. In deciding whether to grant development consent, the consent authority:
 - (a) must consider whether the development will impact on adjoining zoned land and, if so, consider the objectives for development in the zones of the adjoining land, and
 - (b) must be satisfied that the development is appropriate and is compatible with permissible land uses in any such adjoining land.

Two heritage sites have been identified within the site, including the McCarthy's Cemetery and Poplar's as a key heritage landmark of the area.

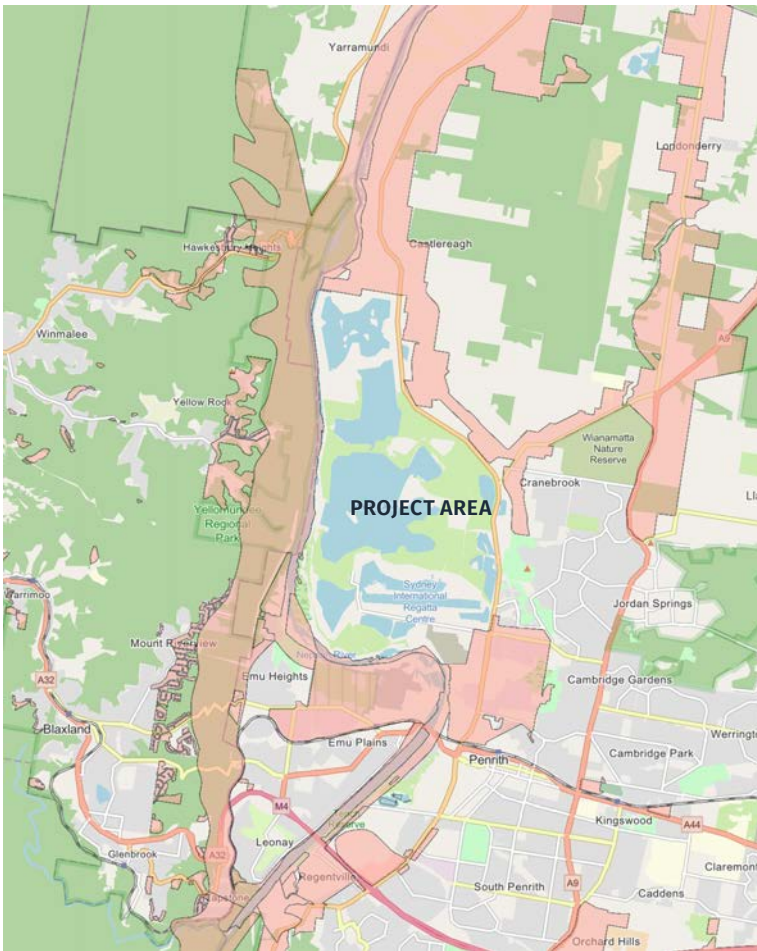
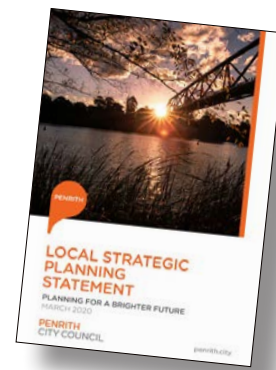


FIGURE 2.2: ZONES OF SCENIC PROTECTION - PENRITH LEP



Draft Vision Plan Penrith Lakes – NSW Office of Sport/Penrith Lakes (Dec 2014)

The Office of Penrith Lakes was formed in 2011 to oversee the completion of the site’s rehabilitation and prepare a vision that guides the future development of the site. The vision of the Penrith Lakes is to deliver a 21st Century parkland that could eventually support a community where people are able to live, work, as well as for recreation.

The Draft Vision Plan identified the site as the ‘Urban Precinct’ of Penrith Lakes with a focus for mixed use development subject to planning approvals.

Landscape and visual amenity relevance:

The document recognises the significant views of Penrith Lakes and its natural and cultural asset, particularly the foothills of the Blue Mountains that provides a striking backdrop of the Nepean River and its tributaries. The Draft Vision Plan identifies the following considerations for the future development of Penrith Lakes:

- + Preserve existing diverse landscape characters including remnant river embankments, historically significant farms, and park settings
- + Protect the site’s significant trees and parks
- + Preserve and improve the view characteristics of the site
- + Place new buildings without obstructing existing views, especially from external elevated vistas
- + Maintain views of the river embankment from the Castlereagh escarpment.

Deed of Agreement with PLDC and the State of New South Wales (the Deed), 1987

Schedule 8.4 of the Deed addresses landscape planning and design principles across the PLDC site. It includes regard for landscape and visual amenity with the stated aim to:

'optimise the visual and landscape resources afforded by the site and its enclosing environs, and to plan so that structures and land uses within and adjoining the site do not degrade the landscape quality within the site or from external viewing points.'

Landscape and visual amenity relevance:

Major design principles include:

- + The regional and local landscape context of the scheme shall be considered and where appropriate protected and enhanced
- + The design and construction of the lakes, landforms and structures and selection and planting of vegetation shall be appropriate to the proposed end uses.
- + The overall landscape theme will where possible be based on a landscape that would have occurred had the lakes been formed naturally.
- + The design shall reflect both the overall landscape theme and the recreational strategy.

Specific principles are included for both inside and outside the site. The most relevant of these include:

Outside

- + Enhance views from surrounding viewing points
- + Provide and informally enhance existing vistas to surrounding natural elements.

Inside

Scheme Landforms/Lakeforms

- + Scheme Landforms/Lakeforms: shall be generally of the form of those associated with a river traversing a flood plain. Maximum height of landforms shall be comparable with the levels of the existing flood plain, and not compete in height with surrounding natural features
- + Relocated Castlereagh Road: the road corridor shall be designed to provide potential for views across the lake scheme. Tree planting along the corridor shall be designed to enhance the sequence experienced by the driver, and to transition and integrate the road with the adjoining lakes scheme and escarpment
- + Variety in Landscape Form: plan and sectional profiles of landforms, particularly banks between lakes, shall be designed according to the flood plain and the final land use envisaged..

Specific Structures/Elements

Landscape character

- + Overall: the natural land and lakeforms theme adopted for the scheme shall be visually consistent with the regional landscape context.

Intentionally blank



3. Impact assessment

This chapter provides an overview of the landscape and visual amenity values of the Study area, before assessing likely Project impacts to these values.

Existing landscape context

The Penrith Lakes area is characterised by a unique and evolving landscape that blends natural features with human-made elements.

Historically, this area was the site of extensive sand and gravel mining which has transformed the region's topography into a series of interconnected lakes and wetlands. The result is a striking contrast between the remnants of industrial activity and the developing ecological and recreational spaces that have been integrated into the landscape.

The bodies of water are framed by the surrounding bushland, creating a scenic environment. There is strong contrast between the dark blue of the lakes and the dense green of the surrounding vegetation.

There is also a distinct contrast between the flat, low-lying lands around the Penrith Lakes and the rugged, mountainous terrain of the Blue Mountains to the west and Castlereagh escarpment in the east, creating a striking backdrop that reinforces the floodplain expanse.

The wider region features a diversity of natural landscapes including wetlands, woodlands, and grasslands.

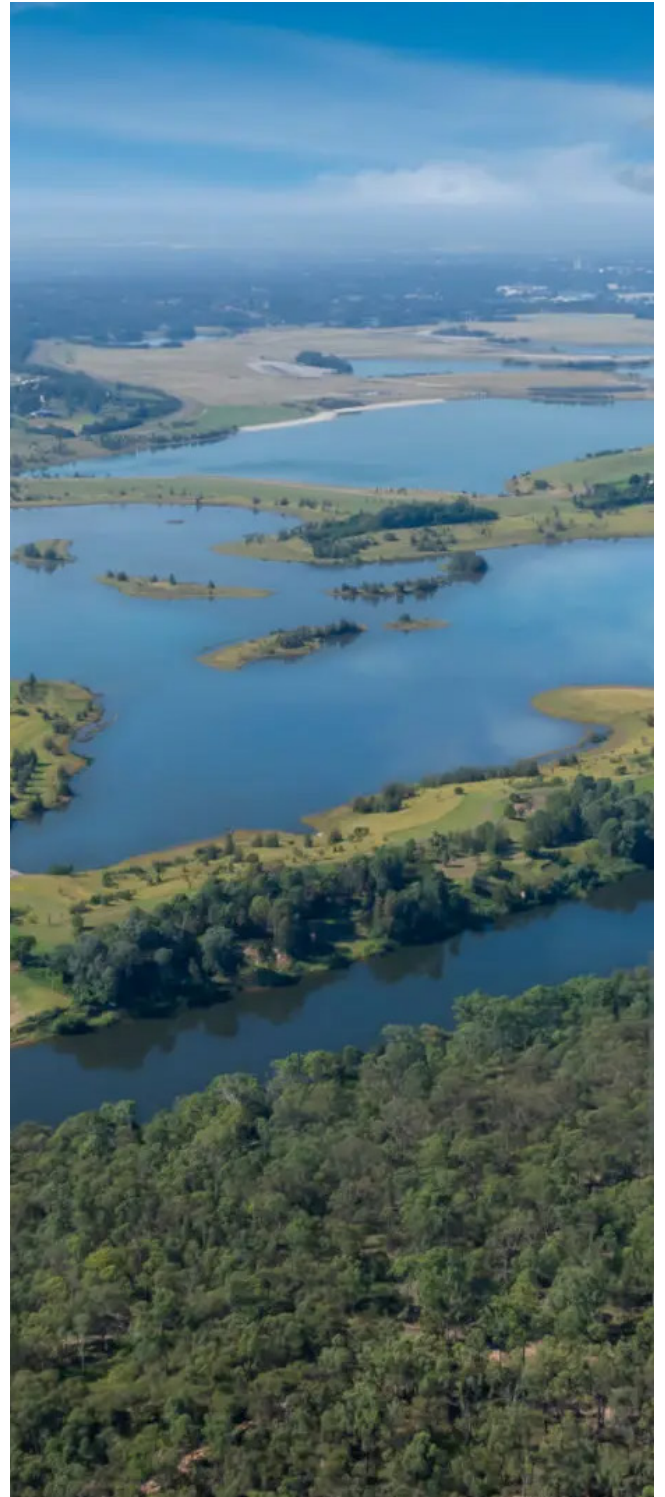


FIGURE 3.1: PENRITH LAKES FROM THE AIR WITH THE NEPEAN RIVER IN THE FOREGROUND (SOURCE: ISTOCK PHILLIP WITTKÉ)

Landscape character zones (LCZs)

To enable the assessment of impacts on landscape character, the study area was divided into zones.

A LCZ is defined as having a distinct, recognisable and consistent pattern of elements making one LCZ different from another.

The following LCZs have been identified for further analysis in this report:

- + LCZ 1 - Blue Mountains escarpment
- + LCZ 2 - Nepean River and floodplain
- + LCZ 3 - Sydney International Regatta Centre
- + LCZ 4 - Castlereagh escarpment.

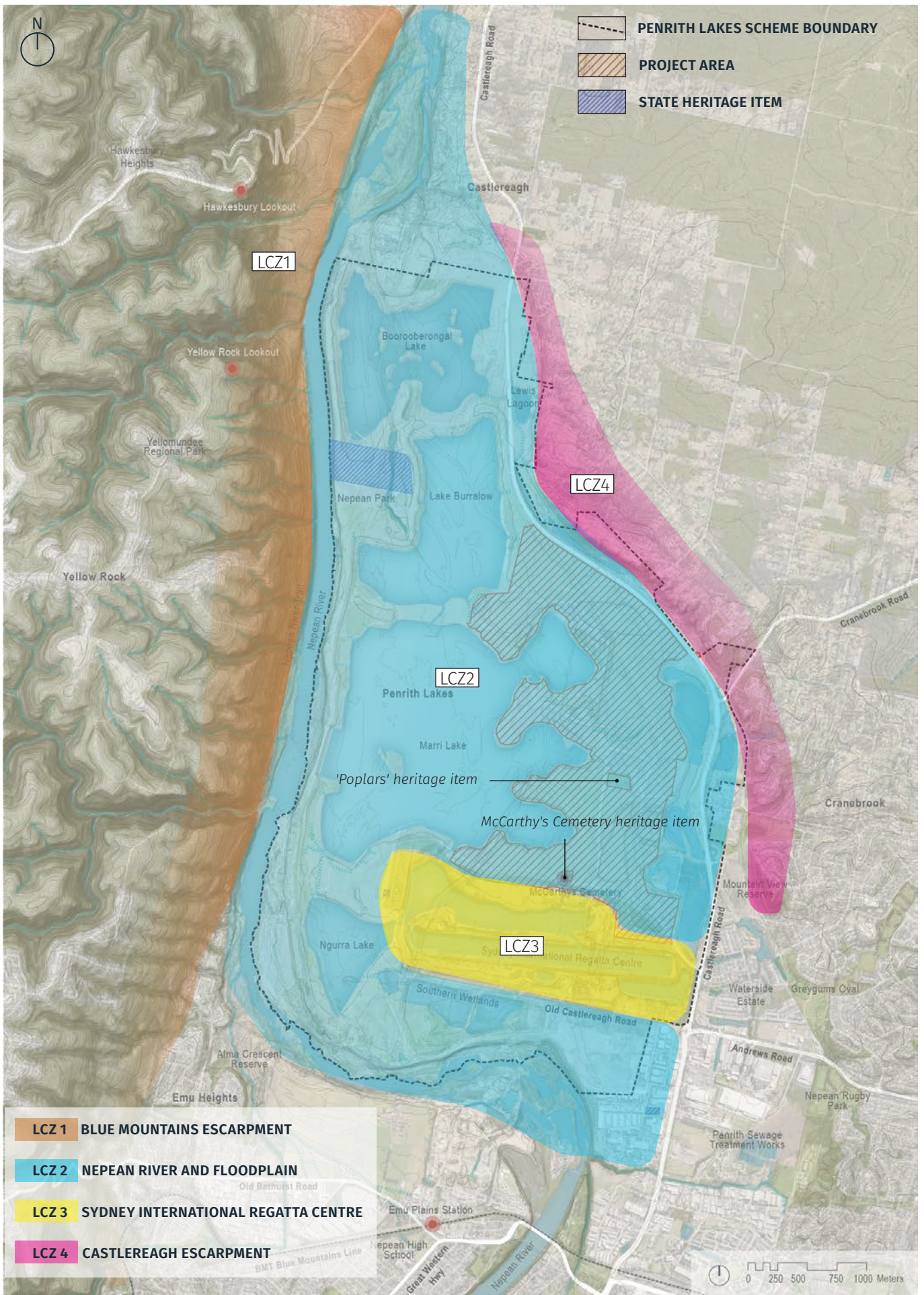


FIGURE 3.2: LANDSCAPE CHARACTER ZONES ACROSS THE STUDY AREA

LCZ 1 - Blue Mountains escarpment



Description

A distinct and highly scenic landscape which rises dramatically to the west of the Nepean River floodplain. This zone forms a backdrop to adjacent landscape character zones and includes Yellomundee Regional Park.

- + *Scale and pattern* - Contrasting strongly against the flat landscape below, the mass of the escarpment appears solid and monumental characterised by the dark blue/green foliage of its forested slopes
- + *Topography* - A steep escarpment, incised by several small valleys and rising to a defined ridge
- + *Built form* - Limited to some ridge-top housing and a transmission line along the Nepean River with several trails and viewpoints associated with Yellomundee Regional Park
- + *Vegetation* - Dense and uniform forested slopes.

Description of impact - The increase in ground height within the Project area will have no direct impacts on this landscape zone. Given the distance between the Project works and the escarpment, the values of the zone are preserved along with its context and setting. An adverse impact on its character is not predicted.

Sensitivity to change - High

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE

LCZ 2 - Nepean River and floodplain



Description

Consisting of the Nepean River and adjacent lakes, this zone includes the Project area and is bordered by Castlereagh Road in the east and the Blue Mountains escarpment to the west. Whilst appearing naturalistic, it is in-fact a modified landscape due to its long history of farming, sand and gravel extraction and more recent material deposition.

- + *Scale and pattern* - Open and expansive, broken up by a series of water-bodies of various sizes. The blue of the lakes contrasts strongly with the light green of the surrounding landscape
- + *Topography* - Largely flat with slopes along lake edges and river corridor. The Blue Mountains and Castlereagh escarpments are major features in the background
- + *Built form* - Very limited, scattered low height buildings including several historic sites such as the Poplars and McCarthy's cemetery
- + *Vegetation* - Mostly open grassland with patches of tree planting. Dense vegetation lines the Nepean River and several lakes. Areas of recent infill are noticeably devoid of vegetation and grey/brown in colour.

Description of impact - While the proposed increase in ground level aligns with the current use of the area for material deposition, it will result in a subtle shift in landscape character, focused on the eastern interface with Castlereagh Road. The Project's uniform batter slopes will present a more 'engineered' edge to the floodplain compared to the existing naturalistic landscape. Additionally, the interface with the Blue Mountains escarpment may be affected when viewed from the east, with the new land-form foreshortening views west, reducing the current 'open' nature of the landscape. The impact is predicted to be greater during the construction phase and will reduce once vegetation establishes and helps integrate the new land-form.

Sensitivity to change - Moderate

Magnitude of change - Moderate

Impact Rating - MODERATE (localised to eastern interface with Castlereagh Road)



Description

Defined by its purpose as a major recreational and sporting venue, this zone is set within a largely modified, yet open and expansive landscape. The site features a large, two part artificial lake that serves as the central focus for water-based activities.

- + *Scale and pattern* - Large linear 'racing' lake connected to a more natural appearing lake to the north with sweeping areas of open grass broken up by dense stands of vegetation. Enclosure provided by earth embankments along site edges, physically separating the zone from the adjacent floodplain landscape
- + *Topography* - Flat expanse of water, raising to earth berms at the LCZ perimeter. The Blue Mountains escarpment is a major feature in the background
- + *Built form* - Small in scale - pontoons, jetties, access roads, car parks and several commercial/event buildings
- + *Vegetation* - Open mown grass areas and dense stands of tree planting, focused around lakes, commercial buildings and site boundaries.

Description of impact - The Sydney International Regatta Centre is physically separated from the Project area by earth embankments and vegetation. The landscape character of this zone is not predicted to be impacted.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE

LCZ 4 - Castlereagh escarpment



Description

Rising steeply to the east of Castlereagh Road and Nepean River floodplain, the escarpment features steep, jagged cliffs and slopes that offer sweeping panoramas over the surrounding landscape towards the Blue Mountains. The escarpment is marked by exposed rock faces, dense woodlands and scattered pockets of heathland. Large lot residential dwellings line the ridge taking advantage of the scenic setting.

- + *Scale and pattern* - A mosaic of cleared areas contrasting with dense vegetation on the escarpment slopes
- + *Topography* - Steep cliffs and slopes rising to a flatter plateau behind the ridge
- + *Built form* - Mostly rural residential properties along Church Lane and other local road corridors. The Anglican church off Church Lane provides a distinct landmark
- + *Vegetation* - Dominated by large stands of native trees and domestic garden landscapes.

Description of impact - The Project sits at some distance from this landscape zone and no direct impacts are predicted given the physical separation. Once vegetated, the landscape character of the Project area will be consistent with the current floodplain landscape and the interface between LCZ 4 and LCZ 2 is not predicted to alter.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE

Existing visual context

The visual amenity of the Penrith Lakes region is defined by a combination of natural and human-made features.

The area is dominated by the dramatic backdrop of the Blue Mountains escarpment to the west, adding visual depth and contrasting strongly with the flat open expanse of the Nepean River floodplain.

The series of artificial lakes on the floodplain are a distinct feature of the area, bordered by natural bushland and wetlands, adding rich layers of colour and texture.

Overall, the study area's visual character is defined by the open, expansive nature of the landscape, offering long distance views to surrounding topography, especially from elevated viewpoints such as the Castlereagh escarpment.

Visual receptors are varied and include:

- + Motorists travelling north and south along Castlereagh Road
- + Users of the walking trails and lookout points along the Nepean River and Blue Mountain escarpment such as the Transgrid Trail
- + Users of the Sydney International Regatta Centre and associated facilities
- + Residential dwellings and open space users on elevated ground to the east of Castlereagh Road.

Viewpoint selection

Viewpoints for further analysis have been selected to represent a range of visual receptor types and locations. Selection has been informed by the site visit (undertaken 22/01/25), as well as the relevant planning policy as outlined in Chapter 2, which includes numerous protected view corridors.

State Environmental Planning Policy - Clause 5.38A states the key objective for development is to be appropriate for the location and minimises impacts on key views.

This includes to '*minimise its visual impact, including views to and from Castlereagh Road, the Nepean River, the Regatta Lake, environmental heritage items and the Blue Mountains!*

Penrith Lakes DCP - Key views are identified across the region, with a focus on maintaining visual connections to the Blue Mountains in the west, as well as vistas that highlight the unique landscape of the lakes and their surrounding environment.

Selected viewpoints:

1. Old Castlereagh alignment (north)
2. Castlereagh Road (north)
3. Christ Church Castlereagh
4. Church Lane residential
5. Mountain View Reserve lookout
6. Castlereagh Road (south)
7. Old Castlereagh alignment (south)
8. Sydney International Regatta Centre
9. Transgrid Trail - Nepean River
10. Hawkesbury lookout.

It should be noted that the Project area includes two listed heritage items - McCarthy's Cemetery and the Poplars homestead site. The visual amenity of these items in relation to the Project is discussed within *Penrith Lakes DA2&DA3 Modification - Heritage Impact Assessment Artefact Heritage and Environment, 2025*.

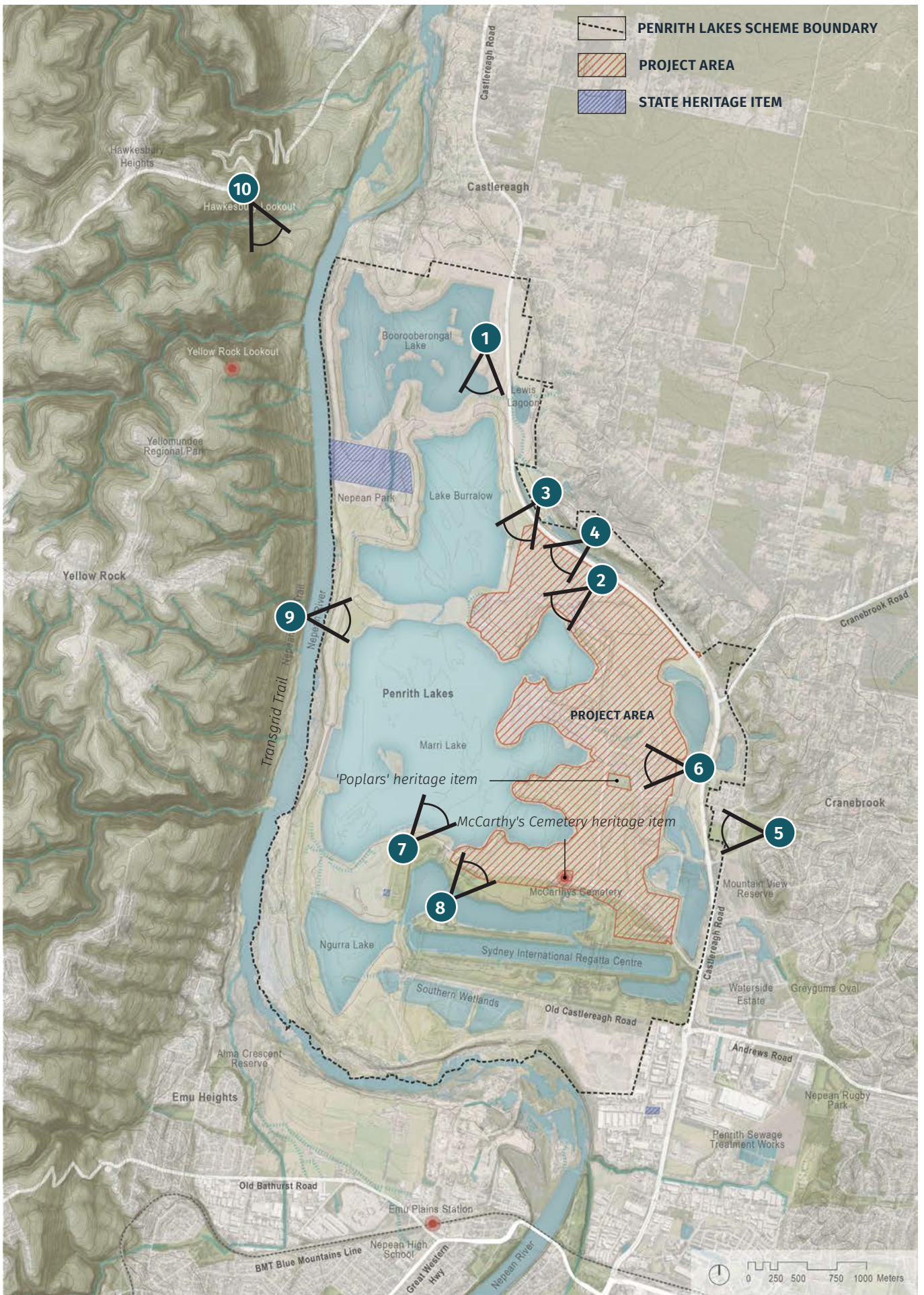


FIGURE 3.3: SELECTED VIEWPOINTS ACROSS THE STUDY AREA

Viewpoint 1 - Old Castlereagh alignment (north)

Description - Available to motorists and an adjacent residential property, this viewpoint looks south along the historic alignment of Old Castlereagh Road. It is highlighted as a key viewshed within the Penrith Lakes DCP.

The road is associated with the earliest European settlement of the Castlereagh area and was a former track joining the 'new' farming district with Windsor to the north. A scenic view extends south from the road's current termination across rolling topography with scattered trees. A section of one of the lakes is visible in the foreground with the Blue Mountain escarpment stretching into the distance in the west. A line of vegetation associated with the old road alignment is visible in the foreground. Minimal built form is visible.

Description of impact - The Project area sits behind the existing mid-ground topography and is not predicted to be visible from this location.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE

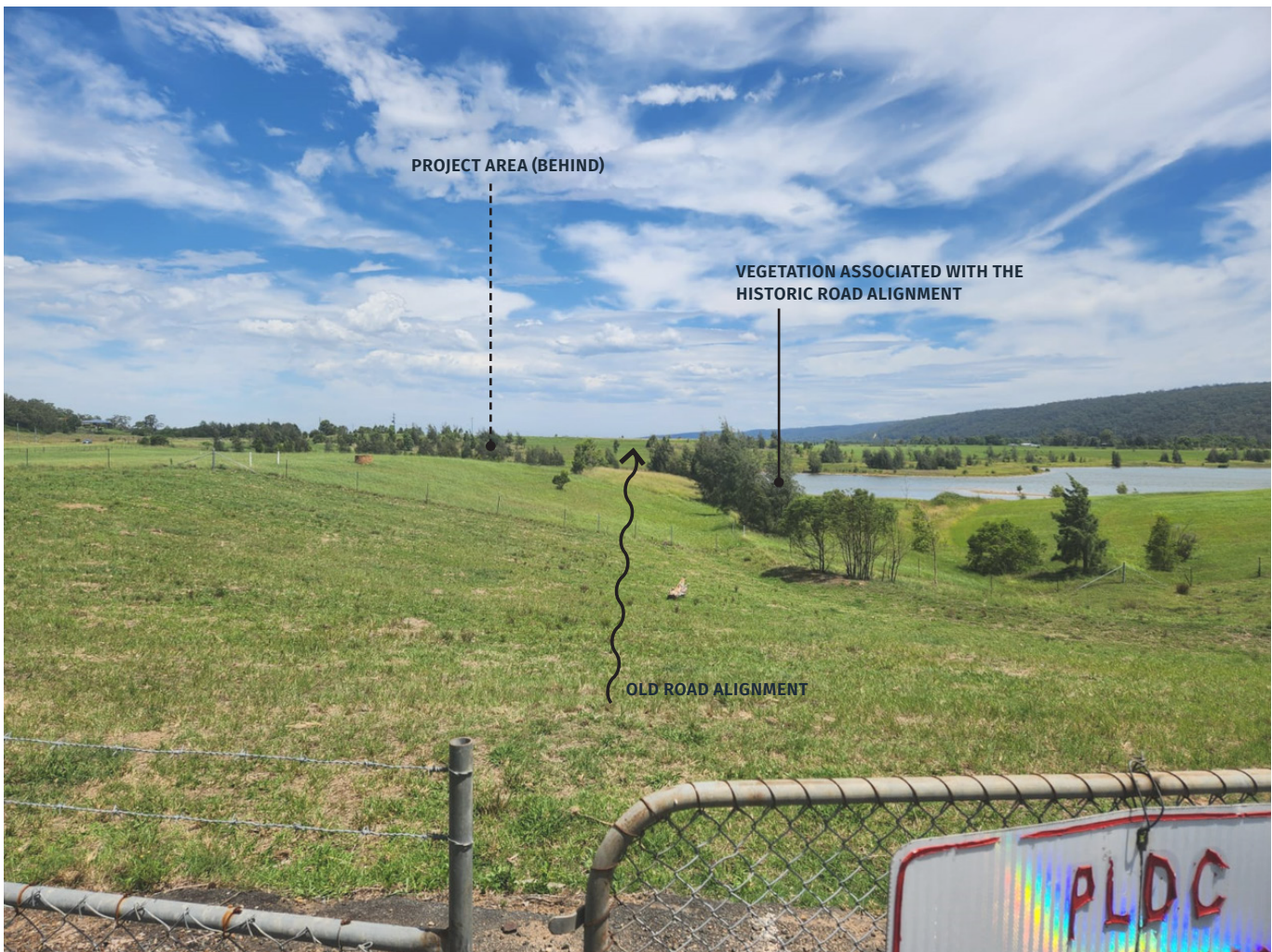


FIGURE 3.4: VIEW SOUTH FROM CURRENT TERMINATION OF OLD CASTLEREAGH ROAD

Viewpoint 2 - Castlereagh Road (north)

Description - This viewpoint is representative of views available to users of Castlereagh Road looking west from the road corridor between the Church Lane and Cranebrook Road intersections. Views from Castlereagh Road are given weight within the Penrith Lakes DCP and State Environment Planning Policy Clause 5.38A.

The current view west is expansive and open, reaching across the grassed floodplain towards the distant dark green rise of the Blue Mountains escarpment. Very little built form is visible, with stands of trees breaking up the flat expanse. The lakes themselves are visible from discrete sections of the road, appearing as distant thin slivers of water in the surrounding landscape, although mostly sit beneath the field of view.

Whilst naturalistic in appearance, the landscape is a modified landform, altered through the process of material extraction and more recently, deposition.

Description of impact - The current interface with the floodplain will alter from a mostly level ground plain to a sloped embankment, with a discernible increase in ground height. The uniform slope running alongside the road will appear more 'engineered' and less naturalistic than the current landscape. The magnitude of change will reduce as grass treatments establish on the bare earth.

The raised ground level is not predicted to noticeably reduce the extent of the Blue Mountains visible from the road but may obscure the current interface between the escarpment and floodplain, reducing the sweeping/far reaching nature of the view across the floodplain. This may lead to a foreshortening of the view in certain locations, with the lower part of the view terminating on the new embankment rather than the escarpment interface (refer Figure 5.1-5.3 for a visual representation of this change).

Sensitivity to change - Moderate

Magnitude of change - Moderate

Impact Rating - MODERATE

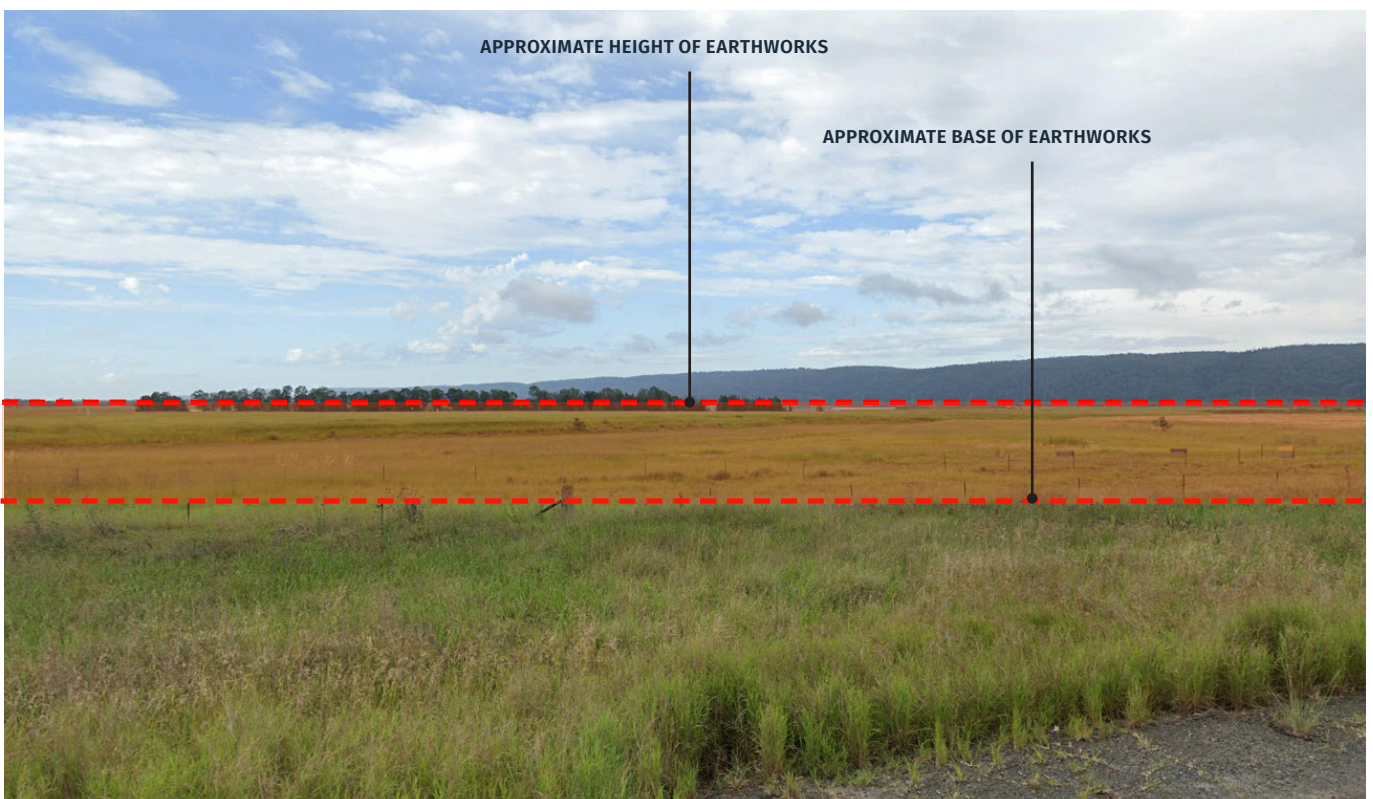


FIGURE 3.5: PROJECT AREAS AS VIEWED FROM CASTLEREAGH ROAD

Viewpoint 3 - Christ Church Castlereagh

Description of view - The present Anglican Church was built in 1878. The church sits at a prominent location on top of the escarpment above the Nepean River floodplain.

Extensive, highly scenic views are available to visitors of the church surrounds across the Penrith Lakes towards the dark green of the Blue Mountains. Dense mid-ground vegetation adds texture to the scene and contrasts strongly with the lighter colours of grass and water bodies. This view is noted within the Penrith DCP.

Description of impact - Given the viewing distance, elevation and wide/panoramic nature of the view, the ground level changes within the Project area are not predicted to significantly alter the visual scene. Whilst discernible during construction, once vegetated, the infill will not adversely impact the nature of the view and will be 'absorbed' within the wider scene.

Sensitivity to change - Moderate

Magnitude of change - Low

Impact Rating - MODERATE/LOW



FIGURE 3.6: VIEW SOUTH WEST FROM THE CHRIST CHURCH SURROUNDS

Viewpoint 4 - Church Lane residential

Description of view - This view is representative of those available to properties sitting on top of the Castlereagh escarpment, looking south and west towards the Blue Mountains.

Where not screened by vegetation, extensive, highly scenic views are available across the flat expanse of Penrith Lakes towards the dark green of the Blue Mountains. Dense mid-ground vegetation adds texture to the scene and contrasts strongly with the lighter colours of grass and water bodies.

Description of impact - Given the viewing distance, elevation and wide/panoramic nature of the view, the ground level changes within the Project area are not predicted to significantly alter the visual scene. Whilst discernible during construction, once vegetated, the infill will not adversely impact the nature of the view and will be 'absorbed' within the wider scene.

Sensitivity to change - Moderate

Magnitude of change - Low

Impact Rating - MODERATE/LOW



FIGURE 3.7: VIEW WEST FROM RESIDENTIAL PROPERTY OFF CHURCH LANE

Viewpoint 5 - Mountain View Reserve lookout

Description of view - This scenic view is available from the Mountain View Reserve lookout, an area of heavily vegetated public open space located on the Castlereagh escarpment. The existing view is expansive and extends over a dense tree canopy towards the Penrith Lakes and Blue Mountains. The lakes are clearly visible in the distance. This view is noted within the Penrith DCP.

Description of impact - Given the viewing distance, elevation and wide/panoramic nature of the view, the ground level changes within the Project area are not predicted to significantly alter the visual scene. Whilst a small quantum of the lake edge may be lost from view, the composition of the view remains intact.

The Project works will be much more discernible during construction but once vegetated, the new topography will visually blend with the existing condition.

Sensitivity to change - Moderate

Magnitude of change - Low

Impact Rating - MODERATE/LOW



FIGURE 3.8: VIEW WEST FROM MOUNTAIN VIEW RESERVE

Viewpoint 6 - Castlereagh Road (south)

Description - This viewpoint is representative of the views available to users of Castlereagh Road looking west from the road corridor between the Cranebrook Road and Waterside Boulevard intersections. Views from Castlereagh Road are given weight within the Penrith Lakes DCP and State Environment Planning Policy Clause 5.38A.

The current viewshed extends west across several smaller lakes towards the dark green mass of the Blue Mountains escarpment. The character of the view is influenced by the presence of mature tree plantings which partially screen views to the Blue Mountains from several sections of the road.

Description of impact - The Project works sit approximately 200m from the road corridor and hence the modifications will be less discernible than from the northern Project section (viewpoint 2), where they sit adjacent to Castlereagh Road. When not blocked by vegetation, a sloped embankment will be visible, with a slight but visible increase in ground height. The magnitude of change will reduce as grass treatments establish on the bare earth.

The raised ground level is not predicted to noticeably reduce the extent of Blue Mountains escarpment visible from the road but may obscure the current interface between the escarpment and floodplain, reducing the sweeping/far reaching nature of the view across the floodplain. This impact is moderated by the increased viewing distance in comparison to viewpoint 2.

Sensitivity to change - Moderate

Magnitude of change - Low

Impact Rating - MODERATE/LOW



FIGURE 3.9: VIEW WEST FROM CASTLEREAGH ROAD

Viewpoint 7 - Old Castlereagh alignment (south)

Description - This viewpoint looks north along the historic alignment of Old Castlereagh Road which currently serves as the access road to Castlereagh Conference Centre. It is highlighted as a key viewshed within the Penrith Lakes DCP. The road is associated with the earliest European settlement of the Castlereagh area and was a former track joining the 'new' farming district with Windsor to the north.

A far reaching view extends north from the road's current termination across flat topography towards the Blue Mountains and Castlereagh escarpments. Marri Lake sits in close proximity to the viewpoint but lies in a slight depression and is not visible.

Description of impact - Given the viewing distance and wide/panoramic nature of the view, the ground level changes within the Project area are not predicted to significantly alter the visual scene. Whilst a small quantum of the Castlereagh escarpment edge may be lost from view, the composition of the view remains largely intact.

Sensitivity to change - Moderate

Magnitude of change - Low

Impact Rating - MODERATE/LOW



FIGURE 3.10: VIEW NORTH FROM OLD CASTLEREAGH ROAD ALIGNMENT IN PROXIMITY TO MARRI LAKE

Viewpoint 8 - Sydney International Regatta Centre

Description of view - This viewpoint looks north over the more informal northern section of the Sydney International Regatta Centre lake. This view is noted as a 'secondary internal viewshed' within the Penrith Lakes DCP.

The view looks across the water body towards an earth embankment and vegetation along the facility's northern boundary. Several boat launching pontoons are visible on the lake.

Description of impact - The Project area sits behind the existing mid-ground topography and is not predicted to be visible from this location.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE



FIGURE 3.11: VIEW NORTH FROM SYDNEY INTERNATIONAL REGATTA CENTRE BOATING LAKE

Viewpoint 9 Transgrid Trail - Nepean River

Description of view - This view is available to users of the Transgrid Trail along the banks of the Nepean River, crossing through Yellomundee Regional Park. The view east stretches across the Nepean River towards Penrith Lakes, with the Castlereagh escarpment in the distance. The Nepean River corridor has steep embankments with vegetation lining the sides. This view is scenic and noted within the Penrith Lakes DCP.

Description of impact - Given the large viewing distance to the Project area (1.5km) and wide/panoramic nature of the view, the ground level changes associated with the Project are not predicted to alter the visual scene. Whilst the bare earth of the newly deposited material may be discernible, this impact will be negligible after vegetation has established.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE



FIGURE 3.12: VIEW EAST ACROSS THE NEPEAN RIVER FROM THE TRANSGRID TRACK SOURCE: GOOGLE EARTH (MAURICE VAN CREIJ)

Viewpoint 10 - Hawkesbury lookout

Description of view - This view is available to users of the lookout off Hawkesbury Road. The viewpoint sits high on the Blue Mountains escarpment with a commanding view east and south across the Nepean River, Penrith Lakes and Castlereagh escarpment. The view is far reaching and highly scenic with a mix of water bodies and vegetation adding interest through contrasting colours and textures. The view is noted within the Penrith Lakes DCP.

Description of impact - Given the significant viewing distance to the Project area (4km) and wide/panoramic nature of the view, the ground level changes associated with the Project are not predicted to alter the visual scene and no visual impact is predicted.

Sensitivity to change - Moderate

Magnitude of change - Negligible

Impact Rating - NEGLIGIBLE



FIGURE 3.13: VIEW SOUTH EAST FROM HAWKESBURY LOOKOUT SOURCE: GOOGLE EARTH (TANYA BEESE)



4. Design considerations

This chapter identifies design opportunities to help mitigate the identified impacts.

Identified impacts

The most notable impacts are anticipated to be localised to a stretch of approximately 2km of Castlereagh Road between the Church Lane and Cranebrook Road intersections, where the Project will be in close proximity to the road corridor (viewpoint 2 and LCZ 2).

Here the Project may moderately adversely impact landscape character and visual amenity by:

1. Creating a uniform batter slope along the site boundary, reducing the current naturalistic nature of the floodplain/road corridor interface
2. Potentially obscuring some long distance views to the Blue Mountains escarpment/Nepean River interface from the road, foreshortening the current view and reducing the 'openness' of these views across the floodplain.

Mitigation

Potential design considerations to mitigate these impacts are discussed below.

A batter slope that is more irregular will appear less 'engineered' and more natural in appearance, helping to soften its form and create a less discernible 'edge' to the Project site when viewed from Castlereagh Road (refer Figure 4.1).

This could be achieved through grading the slope into a more varied land-form including adjustments to both gradient and toe/crest location. It should be noted that once vegetated, the slope will better integrate into the existing landscape, regardless of profile or shape.

There are three design considerations that would preserve views of the escarpment/floodplain interface:

- + Reducing the overall height of the proposed ground-level
- + Increasing the distance between the highest point of the proposed ground-level modifications and Castlereagh Road ie. a shallower batter slope
- + Localised 'dips' in the land form to allow specific view corridors to the escarpment/floodplain interface.

All options would result in a reduced area available for infill material.

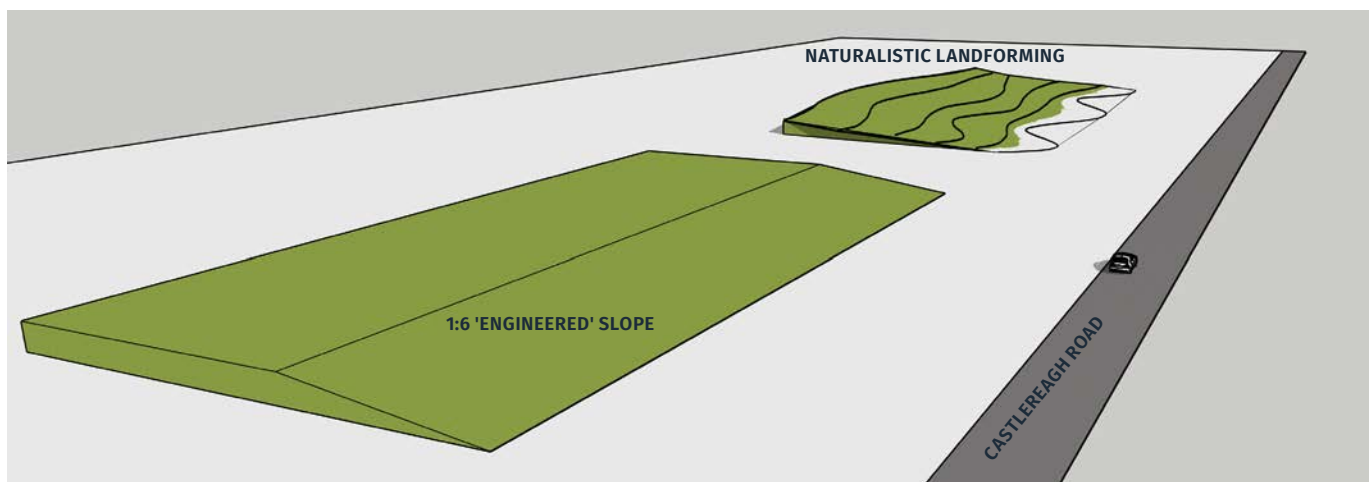


FIGURE 4.1: COMPARISON BETWEEN A UNIFORM 1:6 SLOPE AND MORE NATURALISTIC EMBANKMENT (SCALE INDICATIVE ONLY)

The background of the slide is a photograph of a lake. In the foreground, there is a wooden pier extending into the water. The water is blue with some green algae or plants visible near the shore. In the background, there are trees and a blue sky with white clouds. A large white shape with a dark blue border is overlaid on the right side of the image, containing the text.

5. Conclusion

A summary of the key findings of this report.

Summary

The Project area sits within a unique landscape. Whilst modified over decades of material extraction and lately deposition, the Penrith Lakes precinct maintains a naturalistic quality. The combination of expansive river floodplain, dramatic surrounding escarpment topography and varied vegetation provide a landscape rich in character and visual amenity, with its importance recognised and protected within relevant planning literature.

Far reaching panoramic views are available across the open landscape from many locations within the wider area, with the Blue Mountains and Castlereagh escarpments a consistent backdrop to the west and east.

The Project works would see a broadly uniform, landscape scale change to the site topography. Once stabilised and seeded with a defined grass mix (under the Penrith Lakes Land Surface Stabilisation Specification) the resulting surface will be visually consistent with the existing conditions.

Given the panoramic, open and elevated nature of many of the surrounding views, they are predicted to have a good capacity to absorb the Project changes without fundamental changes to visual and landscape quality.

The most notable impacts are predicted to be localised to a stretch of approximately 2km of Castlereagh Road between the Church Lane and Cranebrook Road intersections, where the works will be in close proximity to the road corridor.

In this area, the elevated ground has the potential to obstruct views of the junction between the Blue Mountains escarpment and the floodplain, reducing the amount of visible middle ground and shortening the expansive vistas across the floodplain. This change would alter the current relationship between the escarpment, Nepean River and floodplain.

The consistent batter slope running parallel to the road will also appear more 'engineered' than the current flatter interface which is naturalistic in character.

A similar visual/landscape character impact is demonstrated in Figures 5.1-5.3, which demonstrate a view across the Penrith Lakes area towards the Blue Mountains.

These images illustrate how an increase in ground height has altered the view from 1309 Castlereagh Road, just north of the Project works. The images also demonstrate how vegetation establishment helps visually integrate the works into the surrounding landscape over a short period of time.

Design modifications to mitigate the identified impacts are discussed in Chapter 4 - Design considerations.

LCZ	Impact rating
1. Blue Mountains escarpment	Negligible
2. Nepean River and floodplain	Moderate
3. Sydney International Regatta Centre	Negligible
4. Castlereagh escarpment	Negligible

TABLE 5.1: LANDSCAPE CHARACTER IMPACT SUMMARY

Viewpoint	Impact rating
1. Old Castlereagh alignment (north)	Negligible
2. Castlereagh Road (north)	Moderate
3. Christ Church Castlereagh	Moderate/Low
4. Church Lane residential	Moderate/Low
5. Mountain View Reserve lookout	Moderate/Low
6. Castlereagh Road (south)	Moderate/Low
7. Old Castlereagh alignment (south)	Moderate/Low
8. Sydney International Regatta Centre	Negligible
9. Transgrid Trail - Neapean River	Negligible
10. Hawkesbury lookout	Negligible

TABLE 5.2: VISUAL IMPACT SUMMARY



FIGURE 5.1: 2010 CONDITION - 1309 CSTLEREAGH ROAD (SOURCE: GOOGLE STREETVIEW)



FIGURE 5.2: MAY 2021 CONDITION - INCREASED GROUND HEIGHT - NO VEGETATION ESTABLISHMENT - 1309 CSTLEREAGH ROAD (SOURCE: GOOGLE STREETVIEW)



FIGURE 5.3: DEC 2021 CONDITION - INCREASED GROUND HEIGHT - VEGETATION ESTABLISHED - 1309 CSTLEREAGH ROAD (SOURCE: GOOGLE STREETVIEW)



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