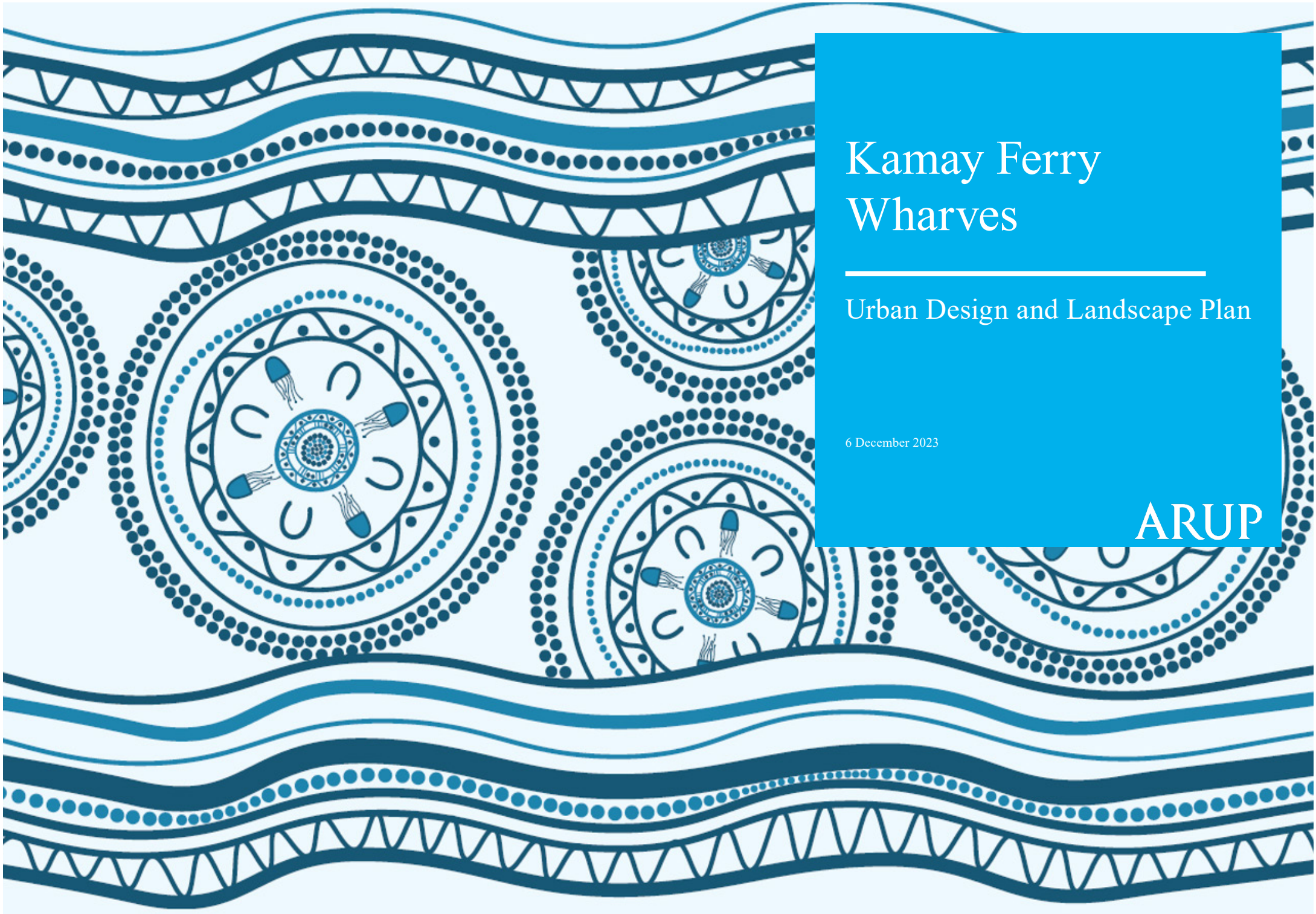

Kamay Ferry Wharves

Urban Design and Landscape Plan

6 December 2023

ARUP

Prepared for

Transport for NSW

Prepared by

ARUP

Arup Pty Limited

Level 5, 151 Clarence Street

Sydney, NSW 2000

Australia

Tel: +61 2 9320 9320

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Prepared By	Ella Lochhead-Sperling	06.12.23
Reviewed By	Luke Smith	06.12.23
Approved By	David Dack	06.12.23

Contents

Executive Summary

The Kamay Ferry Wharves Project, involves the construction of a pair of new wharves located at La Perouse and Kurnell, facilitating the operation of a new public ferry service for visitors and the local communities. It also provides supplementary temporary mooring for tourism-related commercial vessels and recreational boating. Between 1890 and 1974 the historic ferry service intermittently operated in Botany Bay and the wharves were eventually decommissioned due to severe damage experienced as a result of a storm.

The purpose of this Urban Design and Landscape Plan is to detail the urban design vision, outline the key urban design and landscape moves that meet the project principles and provide tangible mitigation measures to protect these. The project principles have been informed through a thorough process of analysis and engagement with the Traditional Knowledge-Holders of the area, combined with the design objectives and directions identified in Transport for New South Wales' (TfNSW) ***Beyond the Pavement*** and the Government Architect of New South Wales'(GANSW) ***Better Placed***. Along with these two key documents, the GANSW's ***Draft Connecting with Country Framework*** has been adopted from the early stages of the project.

As the design of the wharves developed, the design was continually tested and assessed against these urban design and landscape principles at each stage. This ensured a high quality, contextually responsive design that enhances the urban quality and human experience of La Perouse and Kurnell.

The design development process has been driven by the opportunity: to Connect with Country (Beyond the Pavement Principle 9), and to develop a design that is Better Fit (Better Placed Direction 1). Engagement with the Traditional Knowledge-Holders and collaboration with the Gujaga Foundation and the Aboriginal artists, has enabled the Aboriginal cultural narratives, histories and symbolism to be embedded in the design of the two ferry wharves – from the planning of the wharf, integration of artwork on the ground cover details and the roof, the design of the landscaped areas to the section of the plant species.

This report should be read in combination with the Landscape Character Visual Impact Assessment Report (August 2021), the architectural drawing package (August 2021) and the Gujaga Foundation Community Engagement Report (September 2021).

01

Urban Design Vision, Objectives and Principles

Introduction

The naturally picturesque sites hold deep indigenous value as well as European heritage and currently draws tourists and recreational visitors year-round. The wharves will not only celebrate these attributes, but will benefit the wider community through increased accessibility and connectivity.

This chapter outlines the urban design vision for the project and defines the design objectives and principles to guide the development of the project.

Great design outcomes come from a deep understanding of place and program. It is fundamental that the urban design, landscape and architecture response for the project is appropriate, respectful and is sympathetic to their overall surroundings and context. The wharves will be 'placemaking gateways' between land and water for visitors and locals, representing the urban communities and parklands they are joining.

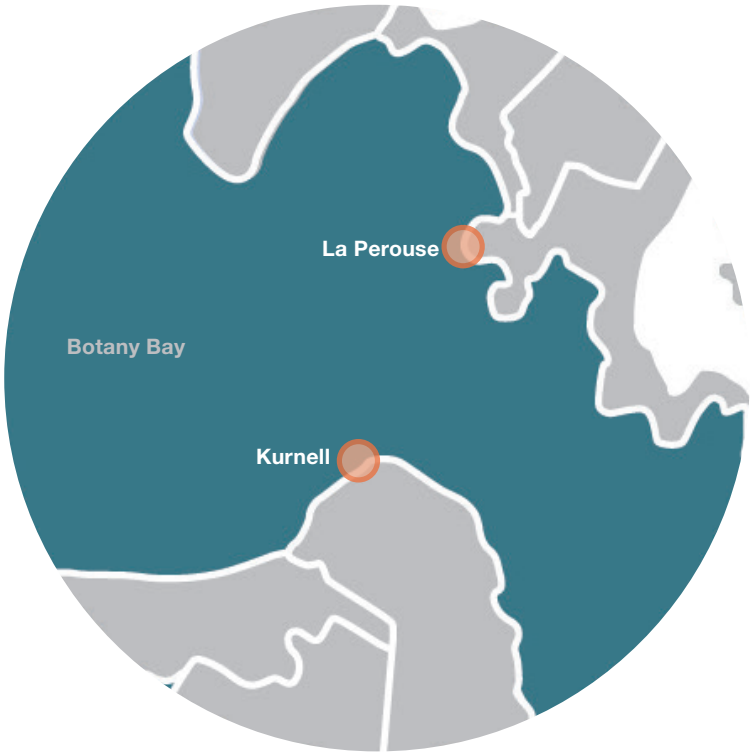


FIGURE 1 LOCATION DIAGRAM

Planning Policy

Three primary NSW urban design guidance and policy documents have informed the establishment of the project's urban design principles and the development of both the architecture and landscape architecture design response. The following pages outline the objectives and directions identified in these documents and how this project has responded to these.

Beyond the Pavement (2020)

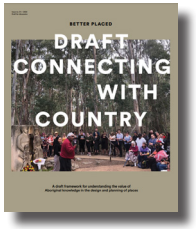
Beyond the Pavement is a high level urban design policy that systematically incorporates urban design thinking into infrastructure projects, with a focus on delivering improved design outcomes and higher levels of community satisfaction.

It provides guidance on urban design outcomes and expectations, and how to integrate urban design into the infrastructure design process. It identifies urban design principles for TfNSW's projects and provides relevant case studies. These nine principles help define the project outcome, the criteria for success and what is expected in projects.

Better Placed (2017)

"New development has the potential to transform quality of life for people, stimulate the economy and enhance the environment. The design of the built environment shapes the places where we live, work and meet. The quality of design affects how spaces and places function, how they integrate, what they contribute to the broader environment, and the users, inhabitants and audiences they support or attract." (Better Placed)

Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance.



Draft Connecting with Country (2020)

"We need to have curious minds, be prepared for cultural immersion, and allow for other knowledge to be heard. We also need to give permission for others to make their own connection with Country." (Connecting with Country)

Connecting with Country takes an Aboriginal perspective that provides practical ways for government, planners, designers, and industry to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage). By extension, Connecting with Country will also support teams to address objective (g) "to promote good design and amenity of the built environment".

It is a set of pathways, commitments, and principles for action intended to help form, design, and deliver government infrastructure including building projects such as roads, transport, and major public facilities.

Additional Design Guidance Documents:

Kamay Botany Bay National Park Kurnell Master Plan (2019)

Kamay Botany Bay National Park Plan of Management (2020)

Meeting Place Precinct Botany Bay National Park, Kurnell: Conservation Management Plan (2008)

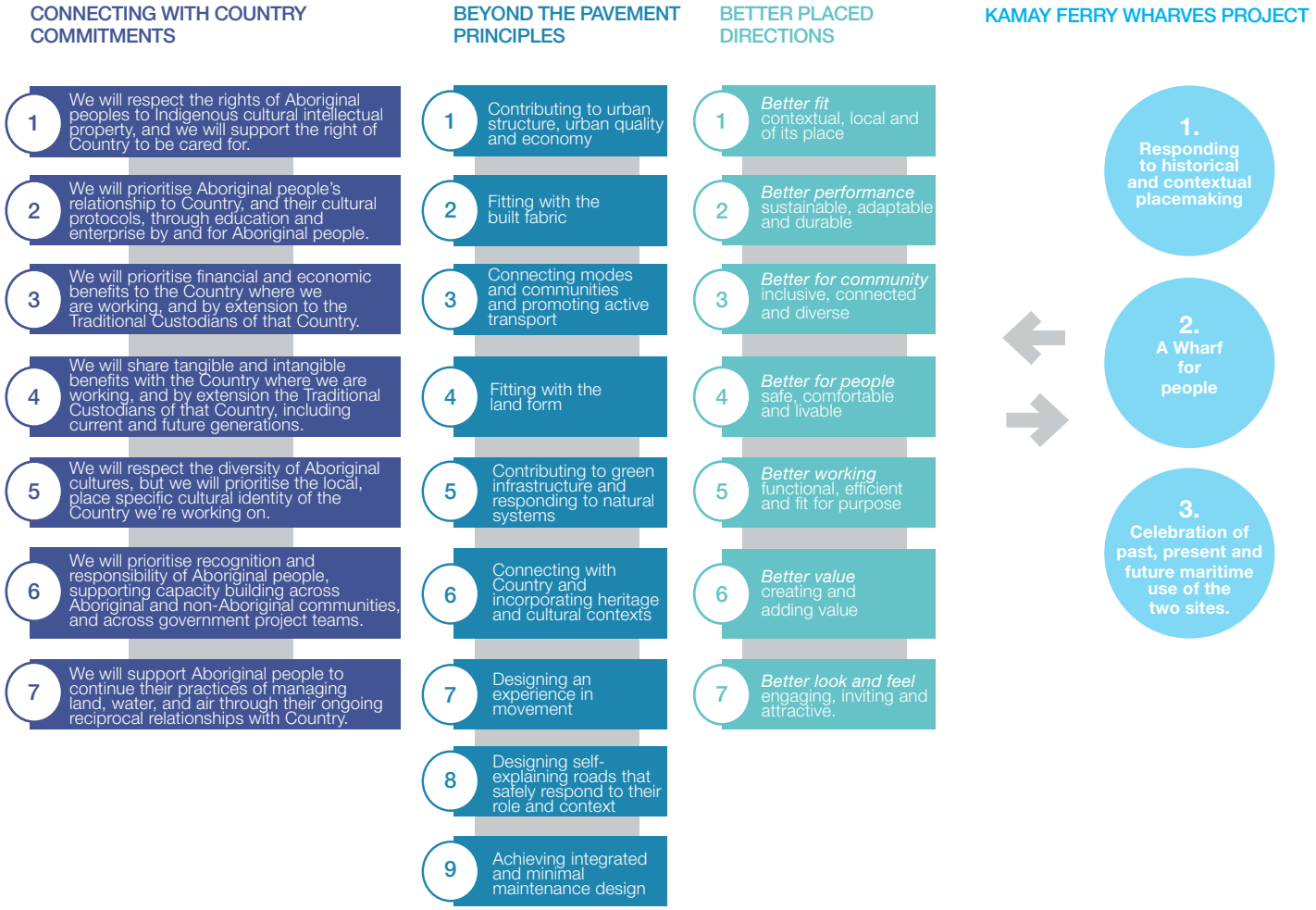
NSW Sustainable Design Guidelines (2017

Kamay Botany Bay National Park Interpretation and Storytelling Plan (2020

La Perouse Headland Conservation Management Plan) (2009)

Urban Design Principles

The Connecting with Country commitments, the Beyond the Pavement principles, the Better Placed directions, together with an understanding of the local context and project requirements, have informed the development of three guiding urban design objectives for the Kamay Ferry Wharves project:



Urban Design Principles

Urban Design Objectives and Principles

1. Responding to historical and contextual placemaking

This objective aims to ensure that the urban, landscape, architecture and engineering designs are well integrated, respond to historical context and capture and enhance key views and vistas.

The proposed wharf site locations possess an extensively rich maritime history, that has endured through various historic events that have unfolded on the sites - and continues today. The project will continue to celebrate and reinforce the connection between the land and the water. The design and the location of the project acknowledges the previous locations of the historic wharf infrastructure that was destroyed in 1974.

Sympathetic design is essential to ensure the wharves are submissive to the natural landscape character and the existing historical monuments whilst maintaining and framing existing vistas. In order to protect heritage values, the design of the project will not encroach on any protected viewing corridors or disturb existing passenger flow directions. Framing key views drive the design of the proposed roof structures. The design of the two wharves respond to the unique qualities and materiality of the two individual sites (La Perouse and Kurnell). Columns supporting the waiting area roof and the pile arrangement supporting the headstocks has been carefully designed to have minimal visual impact by efficiently reducing the amount of structure required.

Objective 1 responds to:

- *Better Placed* design objective - 'Better Fit'
- *Beyond the Pavement* design objective - 'Fitting sensitively into the built, natural and cultural environment of its location'
- *Beyond the Pavement* design principles - 'Fitting with the built fabric', 'Fitting with the land form', 'Contributing to green infrastructure and responding to natural systems', 'Connecting to Country' and 'Incorporating heritage and cultural contexts'.

The assisting principles to achieve this objective include:

- Celebrate and reinforce this continued connection between the land and the water
- Acknowledge the old locations of the historic wharf infrastructure
- Utilise the existing passenger flow directions throughout the sites
- Maintain and frame existing views, particularly heritage views towards historical monuments
- Respond to the unique qualities and characters of the two individual sites using a light-touch approach

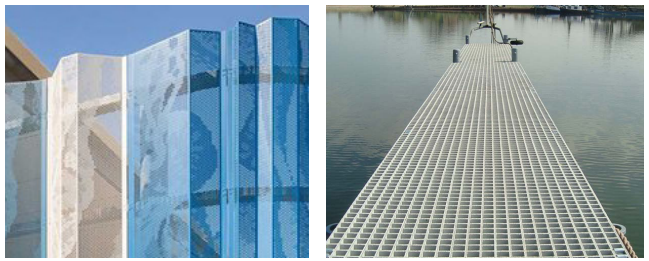


FIGURE 2 USE OF TRANSPARENT MATERIAL TO ENABLE CONTINUED CONNECTION WITH THE LANDSCAPE

Urban Design Principles

2.
A Wharf for People

This objective aims to bridge the gap between distinct communities by creating a publicly accessible waterway connection that unifies the Botany Bay area.

Acting as ‘gateways’, the wharves will celebrate the journey across botany bay and offer new frontages and a sense of arrival to La Perouse and Kurnell National Park. While the wharves are designed to be fit for purpose, they are designed to encourage flexibility of users and activities. The wharf entrances include landscape interventions using endemic species and integrated seating that create a sense of place. The passenger/visitor gathering area accommodates a variety of furniture that allows for flexibility of uses for ferry users, visitors and those who want to enjoy the views. There is also sufficient space for fishing off the wharves.

Both La Perouse and Kurnell are highly significant to Australia as the ‘meeting place’ of the Aboriginal and European culture. The site acknowledges this and allows for opportunities to recognise cultural impact and explore pathways towards reconciliation. The focus of the wharf design is to serve as an engaging educational tool.

The diverse stories that can be gained through indigenous history and engagement, community and local identity will also be strongly embedded throughout the details of the wharf design. The accessible layout and details of the wharf, including provision of adequate weather protection, creates an inclusive and equitable design whilst also maintaining standards for human comfort and safety. In addition to being a transport amenity, the wharf will also be a place to gather, a place to fish, a place to look-out and unwind, a place to swim, a place to play, a place to learn and a place that adds value to the evolving identity of the neighborhood.

Objective 2 responds to:

- *Better Placed* design objectives - ‘Better for Community’, ‘Better for People’, and ‘Better Working’
- *Beyond the Pavement* design objectives - ‘Contributing to the overall design quality of the public domain for the community’ and ‘Contributing to the accessibility and connectivity of communities by enhancing general permeability of movement through areas by all modes of movement’
- Beyond the Pavement design principle - ‘Designing an experience in movement’, ‘Connecting modes and communities’ and, ‘Promoting active transport’.

The assisting principles to achieve this objective include:

- Encourage flexibility of users and activities
- Create an inclusive and equitable design
- Allow the design to serve as an educational tool
- Embed details of local identity and community within the design and add value to the evolving identity of the neighborhood
- Maintain standards for human comfort and safety
- Adhering to Beyond the Pavement’s three performance requirements (safety and towards zero harm; cost effectiveness and sustainability).

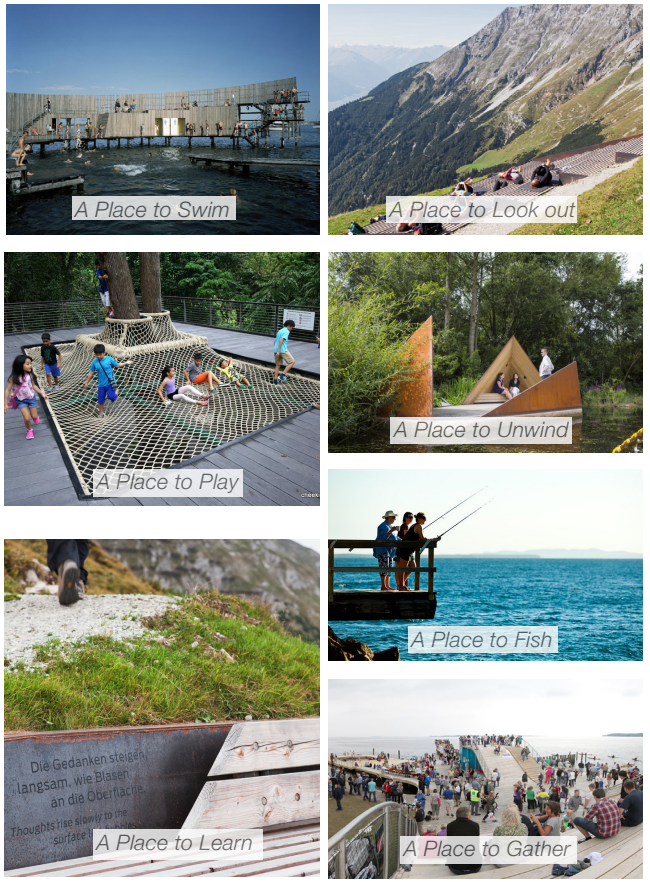


FIGURE 3 FERRY WHARF CONCEPT PRECEDENT IMAGERY

Urban Design Principles

3.
Celebration of past, present and future maritime use of the two sites.

This objective aims to foster a sense of local pride and identity by educating the public about the historical and present-day maritime activities and providing a high quality architectural response that is pragmatic, streamlined and cost effective.

While the project responds to the individual sites, they are unified using simple expressed materials, timber and concrete. These material selections take functional design and material cues from boat and ship design thus, tying the wharves to the sites' maritime and fishing history. The wharf design and materiality will educate the public on both the historical and present-day maritime activities and routes (including pre colonial, Captain Cook's and current local navigational fishing routes) whilst also fostering a sense of local pride and identity.

In alignment with the rich fishing history of the Botany Bay headland, the wharves have been designed to provide adequate space for recreational fishing. The finishes and the details of the wharves are robust while also being welcoming and aesthetically pleasing. This adds social and financial value to its immediate context whilst also supporting tourism and further investments around the locality. The maritime inspired design approach aims to create a high quality design response that is highly pragmatic, streamlined and cost effective. The material choices ensures high level of performance and lower maintenance in the marine environment.

Objective 3 responds to:

- *Better Placed* design objectives - 'Better Performance', 'Better Value', and 'Better Look and feel'
- *Beyond the Pavement* design objectives - 'Contributing to the overall design quality of the public domain for the community', and 'Revitalising areas and contributing to the local and broader economy'
- *Beyond the Pavement* design principles - 'Contributing to urban structure, urban quality and the economy', 'Connecting to Country and Incorporating heritage and cultural contexts', and 'Achieving integrated and minimal maintenance design'.

The assisting principles to achieve this objective include:

- Foster a sense of local pride and identity through the use of particular materials
- Allow for recreational fishing activities to occur
- Utilise robust and low maintenance, yet aesthetically pleasing materials
- Create a high quality design response.

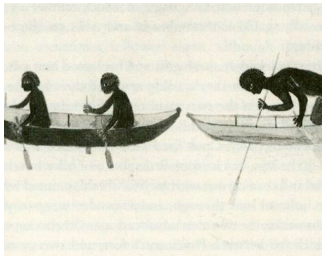


FIGURE 4 (LEFT) 1952 PHOTO OF THE OLD WHARF AT KURNELL. SOURCE: MAX DUPAIN, MAX DUPAIN'S AUSTRALIA.

FIGURE 6 (RIGHT) ABORIGINAL MEN FISHING, BY TUPAIA. SOURCE: BRITISH LIBRARY, LONDON.

FIGURE 5 (LEFT) AERIAL LOOKING OVER CAPTAIN COOK'S LANDING PLACE MONUMENT, KURNELL.

FIGURE 7 (RIGHT) EXPRESSED STEEL AND TIMBER CLAD STRUCTURE SIMILAR TO THAT OF BOAT AND SHIP DESIGNS. SOURCE: CHROFI.

Consultation Process

STAKEHOLDER DESIGN REVIEW

Various design presentations and meetings were held with the following stakeholders at strategic, concept and detail design stages of the project:

- National Parks and Wildlife Services (including Project Board)
- Randwick City Council
- Sutherland Shire Council
- Ausgrid
- Emergency Services
- State Design Review Panel (further details on page 40)

Various design presentations and meetings were held with the following maritime and navigational safety teams at the concept design stage of the project:

- Yarra Bay Sailing Club
- Commercial Vessel Association
- Caltex
- TfNSW Maritime Operations
- Port Authority NSW, Pilot Manager and Harbour Master
- Port Authority NSW, Manager, Compliance and Planning
- Boating Industry Association

COMMUNITY ENGAGEMENT

As part of three online interactive sessions on August 10, 11 and 13, 2020 the project team presented and heard from community members about their views and questions on the project. Feedback received during these sessions was noted by the project team and were considered in the ongoing development of the design and impact assessment.

Targeted session with special community interest groups were also held at the strategic, concept and detailed design of the project including:

- DPI Fisheries
- Recreational Fishing Groups
- Boating industry
- La Perouse Local Aboriginal Land Council (LPLALC)
- La Perouse Aboriginal Community Alliance
- La Perouse Government Interagency Forum Meeting
- Meetings with identified leaders of the Aboriginal community
- LPLALC Gamay Rangers

Feedback received during these sessions were noted by the project team and were considered in the ongoing development of the design and impact assessment.

MARKET SOUNDINGS

A range of stakeholders and organisations were consulted as part of the market sounding exercise. Parties consulted during the Strategic Phase were reapproached to further understand the opportunities and constraints associated with the construction, operation, investment and social considerations for the wharves. Feedback received during these sessions were noted by the project team and considered in the ongoing design development.

Contractors:

- Georgiou Group
- WatPac
- Austral Construction
- Brady Marine & Civil
- Clement Marine Construction
- SMC Marine
- Gamuda
- McConnell Dowell

Industry Association:

- Commercial Vessel Association (CVA)
- Boating Industry Association

Commercial Operators:

- SeaLink – Transit Systems (including Captain Cook Cruises)
- Transdev Sydney Ferries
- Keolis Downer (Newcastle Transport)
- NRMA (Fantasea, Manly, B&F)
- East by West Ferries
- Cronulla Ferries

Connecting with Country Framework

Considering project life cycles with an Aboriginal perspective

The following pages detail how the project has considered the project life cycle with an Aboriginal perspective as described in the GANSW's Draft Connecting with Country Strategy.

FIGURE 8 ADOPTING NEW TERMINOLOGY TO REFLECT PHYSICAL EXPERIENCES OF COUNTRY DIAGRAM FROM GANSW DRAFT CONNECTING WITH COUNTRY STRATEGY

SENSING – START WITH COUNTRY

Sensing was applied to project formation to not just listen to Country but to actively seek the sense of Country - even in urban contexts.

The strategy of sensing was incorporated in the project through:

- Representation of the Chairperson of the La Perouse Local Aboriginal Land Council (LPLALC) on the Kamay 2020 Project Board which provides governance advice and direction to the project.
- Identification of existing narratives and experiences of place produced by Balarinji to inform the design of the wharves and associated communications, and identify any gaps between these stories and the actions needed to use these stories for design and communications.
- Delivery of Aboriginal cultural awareness training to the project team by the Gujaga Foundation and the Gamay Rangers.
- Design objectives for the design of the wharf inspired by actively seeking the sense of the Country - connecting with nature through the perforated roof and the dappling sunlight; connecting with water through the FRP flooring in the berth structure.

IMAGINING – LISTEN TO COUNTRY

Imagining was applied to project design and conceptualisation by listening to Country with the guidance of Aboriginal knowledge-holders.

The strategy of imagining was incorporated in the project through:

- Direct inclusion of individuals identifying as Aboriginal into the project delivery team. Arup's services team included Marcia Ella-Duncan as a highly respected Aboriginal woman from the local community who provided ongoing strategic advice to the project with respect to Aboriginal perspectives particularly on engagement, project benefits realisation, and procurement. The consultation and architecture work streams also included involvement by Aboriginal individuals.
- Engaging the Gujaga Foundation to help translate and integrate the sharing of stories of Country, culture and history.
- Facilitation of a workshop by the Gujaga Foundation on 'Connecting with Aboriginal Communities' with the aim to identify cultural design themes and opportunities for meaningful engagement across all project phases.

SHAPING – DESIGN WITH COUNTRY

Shaping was applied to project delivery by co-designing with local artists and the local Aboriginal communities.

The strategy of Shaping was incorporated in the project through:

- Co-design with the project design team, the Aboriginal community, and local artists to translate stories into elements that will be incorporated in the design of the wharves (Gujaga Foundation).
- During project delivery on site, the artists will continue to be involved to ensure accurate translation of stories and artwork in the final built form of the ferry wharf.

CARING FOR COUNTRY

Caring for Country has been facilitated through the engagement and guidance by the Aboriginal knowledge-holders and their local expertise from the early stages of the project. This has established a strong framework and design to enable the continued development of cultural awareness and commitment to enabling connection with Country throughout all future stages of the project.

The project has actively involved a number of Aboriginal people, organisations and majority-owned businesses directly into the planning and design development phases. This has brought some significant positive benefits:

- Directly embeds genuine Aboriginal community perspectives into the delivery team to enhance appreciation and understanding of the community needs and likelihood of community endorsement on the project processes and outcomes, and
- Provides employment, social and economic engagement opportunities for the parties involved.
- Help the project team fulfill their commitment to Country by addressing each of the seven commitments identified in the Connecting with Country Framework produced by the NSW Government Architect.

Connection with Country

The Gujaga Foundation

The Gujaga Foundation is a not-for-profit Aboriginal-owned organisation leading language, cultural and research activities within the La Perouse Aboriginal community.

The Gujaga Foundation was engaged to work with key people with ancient links to Kamay, the La Perouse Aboriginal community, Elders, knowledge holders, local artists, and the wider design team to translate and integrate the sharing of stories of Country, culture and history, including memories of the original wharves. The process was one of co-design which involved ongoing collaboration and engagement with both Arup and TfNSW.

The Gujaga Foundation approach

The Gujaga Foundation's approach to involving and ultimately obtaining endorsement from the wider community on the cultural interpretation process was one of providing an opportunity for anyone in the community to participate and share their stories, as well as targeted engagement with senior Elders and knowledge holders.

The Gujaga Foundation also undertook a process of identifying and engaging artists to represent each wharf that has a strong connection to the Kurnell and La Perouse sites respectively.

For more details, please refer to Appendix A - Kamay Ferry Wharves - Community Engagement report produced by the Gujaga foundation

Design integration of Cultural artworks:

The artists (identified by the Gujaga foundation) interpreting the themes for each wharf worked closely with the project architectural team to express their artwork into the built form of the wharf structures.

Following an initial briefing of the artists by the architects on the practical constraints and opportunities available to express their works, a series of collaborative working sessions were held to develop the designs and discuss aspects of materials selection and how the artwork can be best executed. The artists worked by the Arup Architectural team on the practical constraints in the development of the design, using a range of media to explore the design at different scale – in both two and three dimensions.

The artworks were initially produced through hand-drawing and 2d-vector based linework, before being converted into 3d files which could be adjusted using parametric tools to generate options for application into the building design. The iterative process of testing and refinement was constantly passed between architects and artists, with both parties working across a range of programs to develop feasible designs which did not compromise on the cultural intent.

As the artworks were developed, the architectural team began to bring suppliers and fabricators into conversations alongside the artists, to better understand the real-world application of the artworks through process including metal perforation and concrete sandblasting.

	1. Project Team Engagement	2. Targeted Elder Engagement	3. Online Survey	4. Additional conversations	5. Community Feedback Session
Approach	Gujaga Foundation Team was selected on the basis of their cultural connection to Kamay Botany Bay	Elders were selected on the basis of their cultural authority to speak on behalf of their country and community	Online survey gave broader community the opportunity to provide input	Further conversations with interested members of the La Perouse community	In person workshop gave La Perouse community an opportunity to provide feedback on designs
Outcome	Ensured that project would be delivered in a culturally appropriate way	Elders provided cultural and historical stories to guide Artists	Minimal participation	Additional community members were able to provide input to designs	No feedback provided which suggests that community is happy with design process
Artwork development	A number of potential approaches discussed e.g., cultural vs historical	Artists developed conceptual designs	Artists continued to develop designs under guidance of Elders	Artists refined and added to the designs	Designs were progressed to a near to final stage

FIGURE 9 THE GUJAGA FOUNDATION APPROACH FOR CULTURAL INTEGRATION

For more details, please refer to Appendix A - Kamay Ferry Wharves - Community Engagement report produced by the Gujaga foundation

Design, Place and Movement

To ensure holistic integration of the design with the surrounding local context, the following demonstrate the design intent with particular reference to open space, capturing views and connectivity.

La Perouse

FIGURE 10 LA PEROUSE NATURAL CHARACTER

La Perouse has an enclosed cove that naturally protects Frenchman's Beach users. The proposed wharf footprint complements the existing land form, extending off La Perouse point and towards Molineaux Point. The project contributes to, and emphasises the existing protected character of Frenchman's Beach.

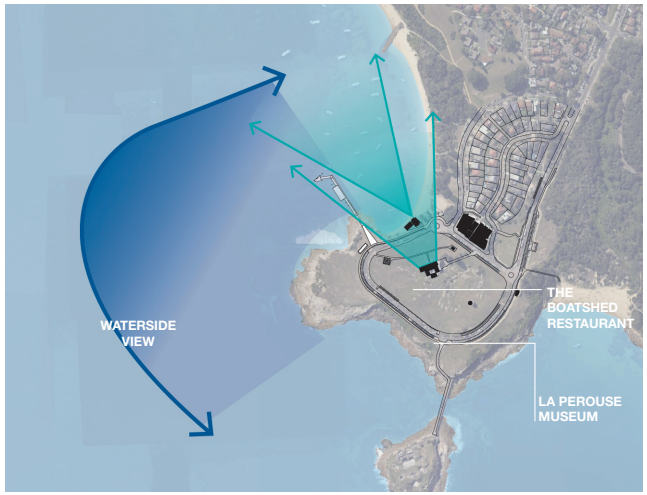


FIGURE 11 LA PEROUSE CAPTURING KEY VIEWS

Protecting local heritage values, the design of the wharf does not intrude on any protected viewing corridors. Landside heritage views from and towards the La Perouse museum and the Boat shed restaurant are also protected through the design of the structural components.

Framing of both the landside and the waterside views through design elements such as the roofing structures will provide the user with an alternative and engaging experience with the landscape.

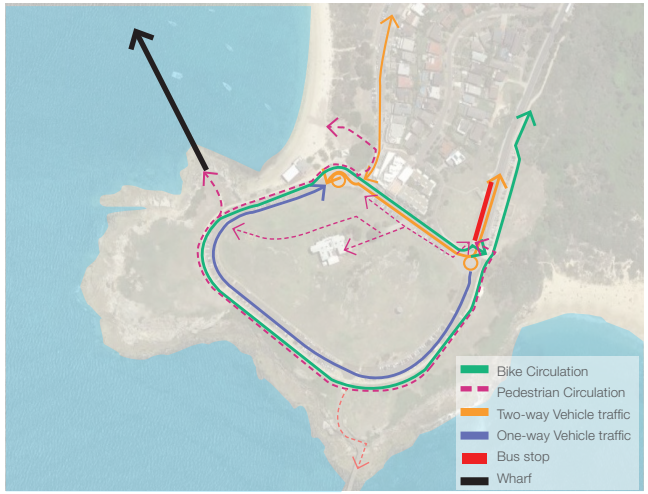


FIGURE 12 LA PEROUSE CONNECTIVITY

The proposal aims to enhance general permeability of movement through the Botany Bay area by interconnection of multiple modes of movement including the connection to waterway transport.

Active transport is promoted through the integration of pedestrian and cycle pathways within the project. The continuous and ease of movement from the street onto the wharf and ferry connects the popular La Perouse cycling and foreshore walking trails to the popular walking and cycling routes in Kurnell. Where applicable, the paths are designed in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads, 2017). Wayfinding signage is currently under development. The design intent is to direct users between the ferry wharves and bus stops.

Kurnell

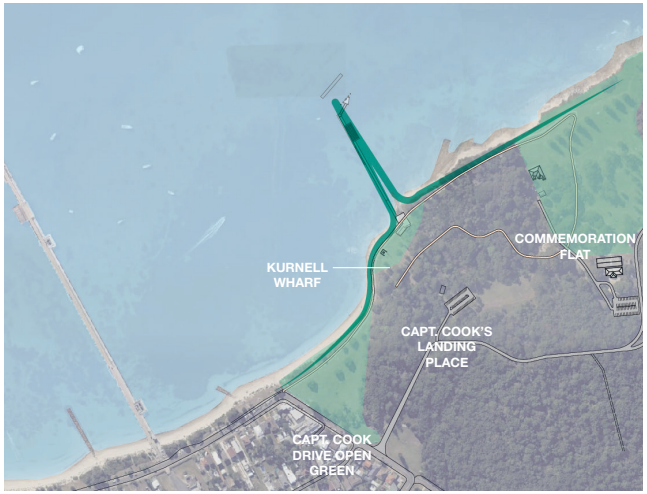


FIGURE 13 KURNELL NATURAL CHARACTER

Responding to the contexts existing green infrastructure and natural systems, the location and design of Kurnell wharf will reconnect the fragmented patches of vegetation.

The proposed structure will also celebrate the historic wharf alignment and passenger flow directions.

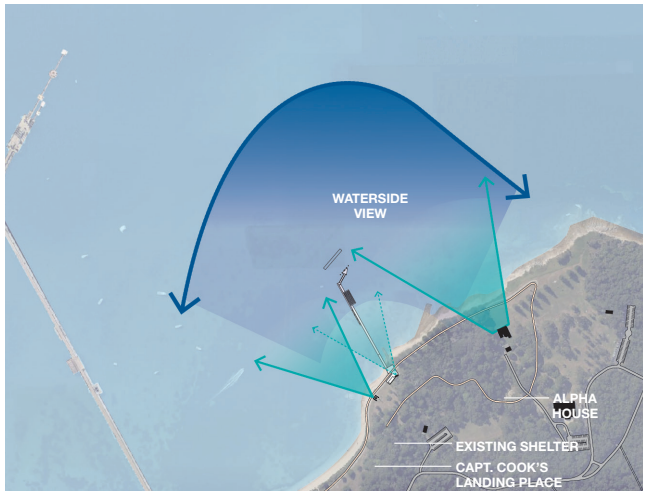


FIGURE 14 KURNELL CAPTURING KEY VIEWS

In order to protect heritage values, the design of the wharf will not intrude on any protected viewing corridors. In particular, the landside heritage views of the various heritage elements along the Monument Track including; Captain Cook's Landing Place monument and the Alpha house structure.

Framing of both the landside and the waterside views through design elements such as the roofing structures will provide the user with an alternative and engaging experience with the landscape.

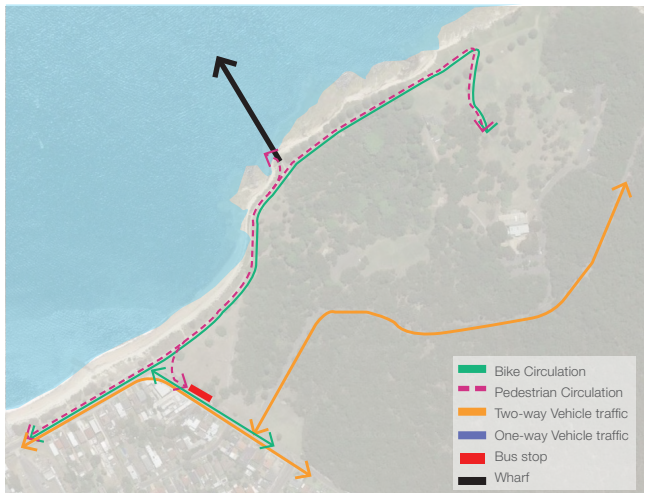


FIGURE 15 KURNELL CONNECTIVITY

The proposal aims to enhance general permeability of movement through the Botany Bay area by interconnection of multiple modes of movement including the connection to waterway transport.

Active transport is promoted through the integration of pedestrian and cycle pathways within the project. The continuous and ease of movement from landside onto the wharf and ferry connects the popular Kurnell walking and cycling route to the popular cycling and foreshore walking trails in La Perouse. Where applicable, the paths are designed in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads, 2017). Wayfinding signage is currently under development. The design intent is to direct users between the ferry wharves and bus stops (in consultation with NPWS).

Design Response

La Perouse - Architecture

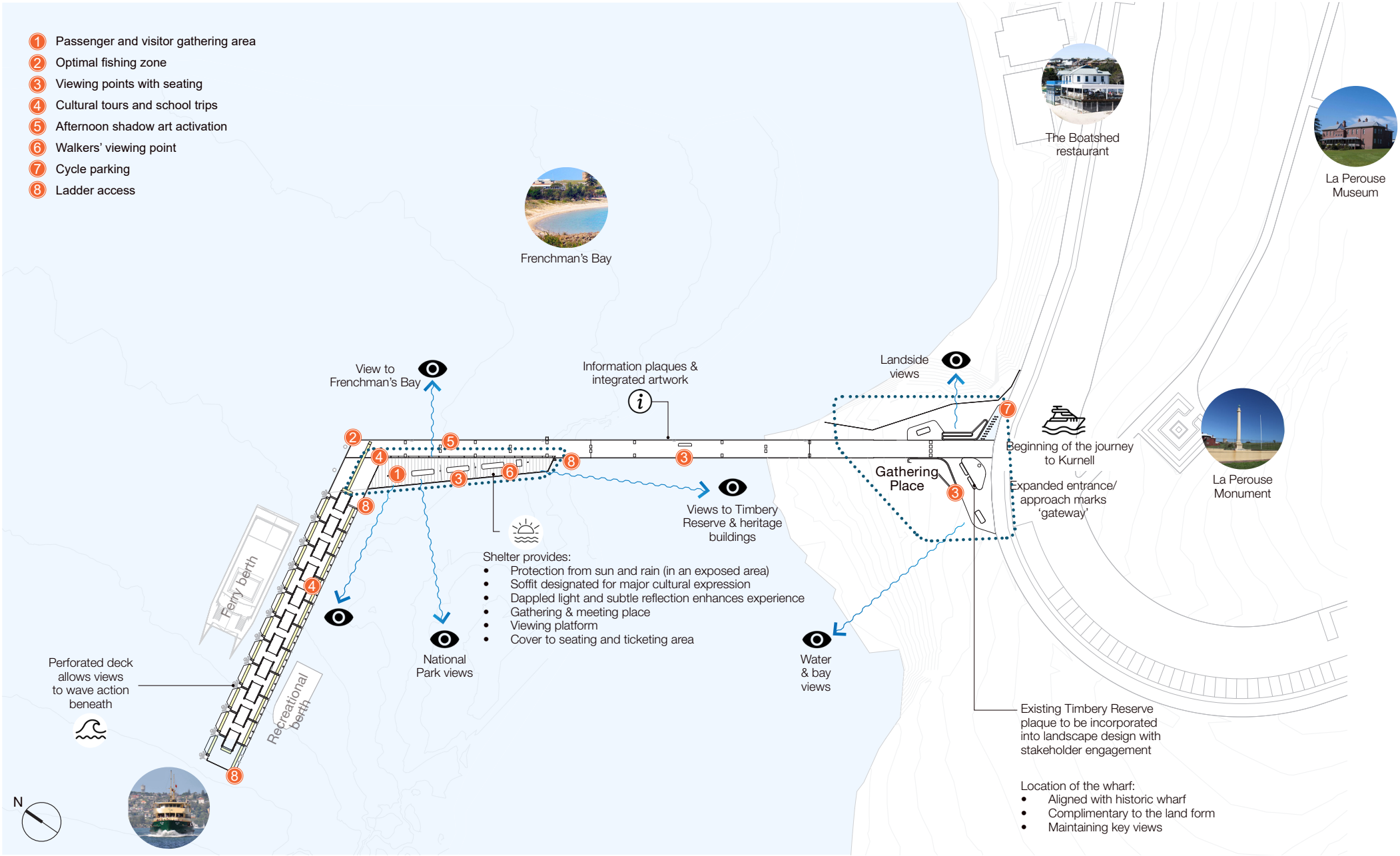
1. Responding to historical and contextual placemaking

2. A Wharf for People

3. Celebration of past, present and future maritime use of the two sites.

The Design Response:

- The location and configuration of the wharf forms an extension of the cove and existing foreshore geometry.
- The ferry berth is angled away from the existing Boat shed to minimise visual impact and obstruction and to protect views out across the water.
- The wharf, extending over the water offers visitors alternate ways to engage and experience the water and landscape. This is further enhanced by through the provision of diverse spaces both landside and water side. e.g. gathering spaces with sheltered seating
- Generous walkways allow for the safe and comfortable movement of people along its full extent.
- The wharf is directly connected into the existing pedestrian and cycling network providing safe, comfortable and inclusive access.
- Landscape treatment at the interface between water and land sensitively addresses the change in gradient.
- The landscape reflects the culture of the Traditional Knowledge-Holders of the area achieved through a process of continual consultation and engagement throughout the design process. Cultural storytelling and symbology is also embedded in the architecture of the wharf. (Detailed in the following pages)
- The existing Timbery Reserve plaque is incorporated into the landscape design.
- The La Perouse and Kurnell Wharves form a gateways to Botany Bay sharing the same architectural language to strengthen the connection between the two peninsulas.
- Materials used reference materials used in traditional maritime infrastructure including the old wharf at Kurnell, such as expressed steel, timber and concrete.
- Materials are durable and easily maintained to ensure quality and longevity far into the future.
- The passenger/visitor gathering area columns and roof has been efficiently streamlined to have minimal visual impact.
- The passenger/visitor gathering area is designed to have a variety of furniture that allows for flexibility of uses for different user groups.


1 Passenger and visitor gathering area
2 Optimal fishing zone
3 Viewing points with seating
4 Cultural tours and school trips
5 Afternoon shadow art activation
6 Walkers' viewing point
7 Cycle parking
8 Ladder access
Frenchman's Bay
The Boatshed restaurant
La Perouse Museum
View to Frenchman's Bay
Information plaques & integrated artwork
Landside views
Beginning of the journey to Kurnell
Gathering Place
Expanded entrance/ approach marks 'gateway'
La Perouse Monument
Views to Timbery Reserve & heritage buildings
Shelter provides:
Protection from sun and rain (in an exposed area)
Soffit designated for major cultural expression
Dappled light and subtle reflection enhances experience
Gathering & meeting place
Viewing platform
Cover to seating and ticketing area
Ferry berth
Recreational berth
Perforated deck allows views to wave action beneath
National Park views
Water & bay views
Existing Timbery Reserve plaque to be incorporated into landscape design with stakeholder engagement
Location of the wharf:
Aligned with historic wharf
Complimentary to the land form
Maintaining key views
N

Design Response

La Perouse - Landscape Architecture

The landscape design responds to the local movement routes from existing paths to the proposed jetty. The design features endemic planting framing the entry to the public space on approach to the jetty, bike parking and social seating and intimate gathering spaces incorporating recommendations from the consultation process with the local Aboriginal knowledge-holders.

The following describes other design components that respond to the project principles:

Integrated bespoke seating and public space

The design considers at-grade connection to the existing topography of the foreshore embankment. The raised planters act as entry elements to frame the primary route to the jetty and a buffer to reconcile the level change between the jetty and the existing embankment providing a safety and amenity edge element to the access paths. The access paths width is carefully sized to accommodate for pedestrian circulation and seating. Custom design seats are located at key areas of the public spaces directed at key views of the bay and to the jetty. Planted areas are created between the circulation routes for amenity and used as elements to direct pedestrian flow through the space. Trees are proposed within the public space for amenity and to provide shade to the seating areas.

Connectivity

The seats placements are aimed at connecting with the existing movement network, particularly the main footpath adjacent to Anzac Parade that wraps around the entire headland and the footpath that leads users to the La Perouse Monument and La Perouse Museum. The wharf entry is located at the intersection of these two paths, providing a meeting and rest points that frames the coastal views. The design sinuously connects with the existing pedestrian crossing maintaining key connections to the surrounding heritage monuments.

Planting palette and interpretation

Planting palette responds to the coastal character of the headland and constitutes of low-lying, endemic species to ensure the views out towards the coastline and Botany Bay and connection to the local context and landscape are maintained. The planting areas provides a balanced and ‘soft’ treatment to the ‘hardscaped’ elements of the design (paving and timber seats).

The design proposed to relocate the exiting Timbery plaque within a central planter bed. The design proposes that plaque to be placed on a new raised plinth for accessibility and will be facing the entry of the jetty. The opportunity to incorporate interpretive panels of the rich historic nature of the location, and wider Kamay Botany Bay National Park, should be developed with local Traditional Owners.

A Integrated bike storage (x10)

B Views out towards Kurnell, Botany Bay and Kamay Botany Bay National Park.

C Views out towards ferry wharf docking location to facilitate passenger awareness.

D Views out from ferry boardwalk towards Frenchman’s Bay and Yarra Point.

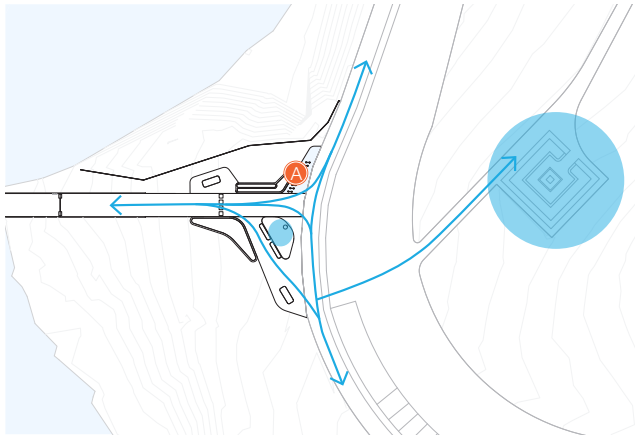


FIGURE 16 LA PEROUSE CONNECTIVITY

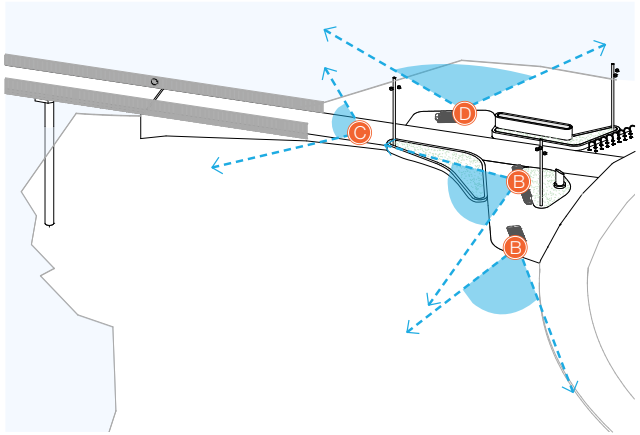
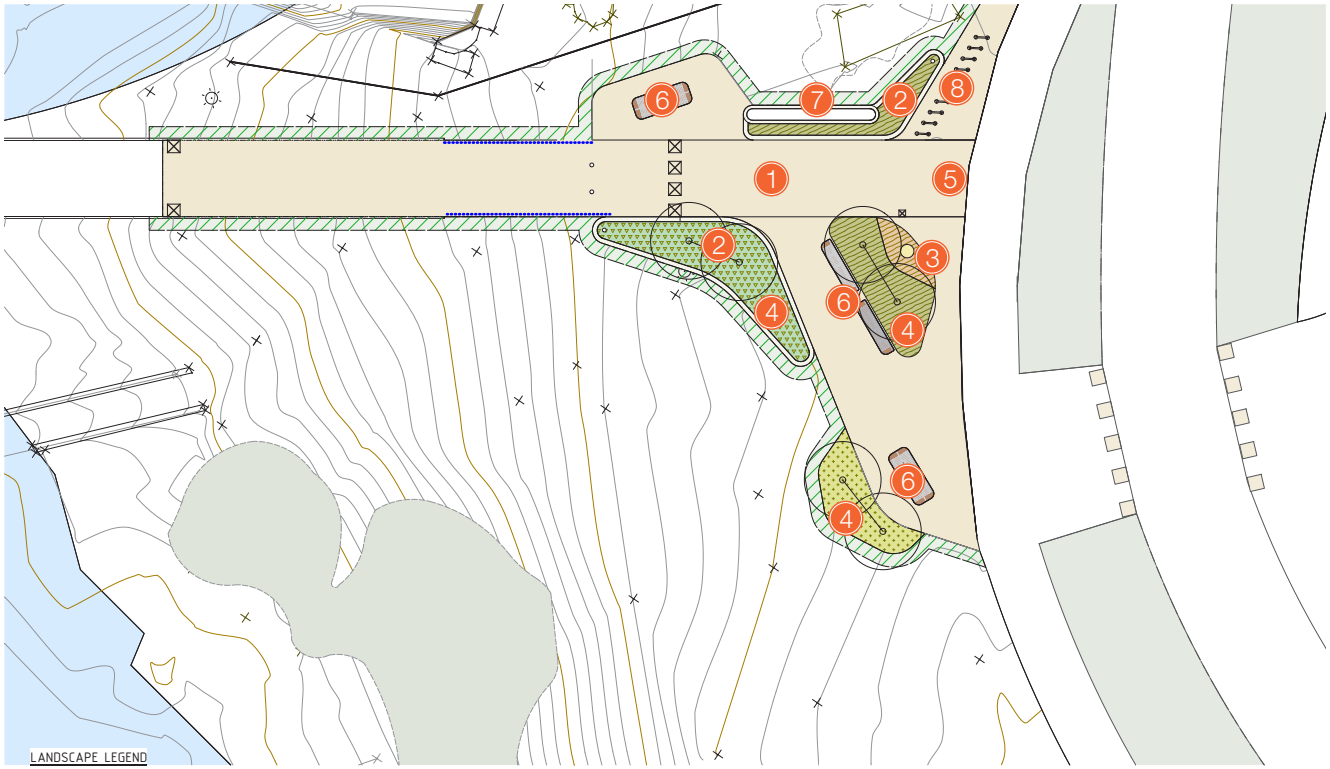


FIGURE 17 LA PEROUSE VIEWS DIRECTIONS



Local context and Connecting with Country

1. The landscape treatment incorporates the boomerang shape in the design, a continuation of storytelling and connection to past activity on the land where the crafting and sale of boomerangs on the site by the Timbery family occurred.
2. The boomerang shaped raised planters act as entry markers and frame the route to the jetty.
3. Existing Timbery Plaque reinstated on a new raised plinth as a feature within the space.
4. The planting palette reflect the local indigenous planting and features a ‘bush tucker’ species - a continuation of the nearby Guriwal Bush Tucker Trail.

Landscape features

5. An expanded entrance/approach from the landside that integrates and grounds the wharf to the context and the park.
6. An entrance zone that provides seating to foster interactions with the public and allows for a moment of pause in the visitor journey to the ferry and within the park.
7. Integrated services (fire hydrant, electrical and communications cupboard) concealed within the landscape.
8. Cycle amenity located at the entrance of the wharf in a highly visible location.

Note: no trees are to be removed at La Perouse site. A total of 6 new trees are proposed. Therefore, this replacement ratio is compliant (and exceeds) the 2:1 replacement ratio setout in Condition of Approval clause 104.





Design Response

La Perouse - Connecting with Country

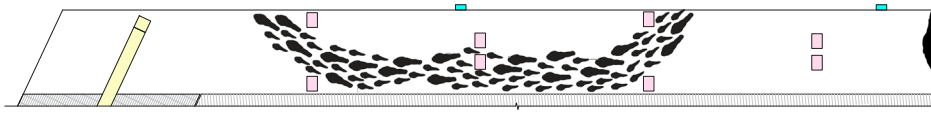
The Design Response:

The Gujaga Foundation Identified the following key themes for design of the cultural artwork at the La Perouse wharf.

1. Reflection of the community

2. Honouring the Aboriginal elders

3. Celebrating contemporary cultural practices at La Perouse



Artist Profile:

The Gujaga Foundation Identified Jordan Ardler as the artist to represent the La Perouse site.

Jordan Ardler belongs to the La Perouse Aboriginal community and identifies with the Bidjigal Clan group.

Jordan worked with senior members of the La Perouse Aboriginal community and listened to community members feedback on what stories are important to tell through her artwork.

The Design Response:

At La Perouse, along with Jordan Ardler, the Gujaga Foundation identified various narratives and memories amongst the local Aboriginal Community. These narratives spanned over a long period of time, from the retelling of ancient dreaming stories through the re-interpretation of a nearby (now largely eroded) stone carving, to more contemporary memories of the activities which undertaken by members of the Community, such as fishing, diving and the making and selling of artifacts.

FIGURE 20 INTEGRATION OF ARTWORK ON CONCRETE APPROACH JETTY THROUGH SANDBLASTING

FIGURE 21 INTEGRATION OF ARTWORK ON ROOF CEILING THROUGH PERFORATED METAL PANELS

FIGURE 18 CULTURAL ARTWORK AT LA PEROUSE PLAN - APPROACH JETTY

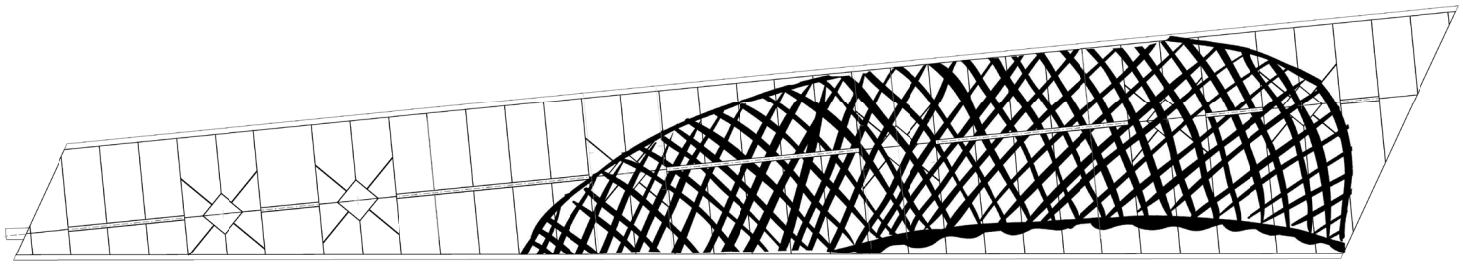


FIGURE 19 CULTURAL ARTWORK AT LA PEROUSE - REFLECTED CEILING PLAN

Design Response

Kurnell Wharf - Architecture

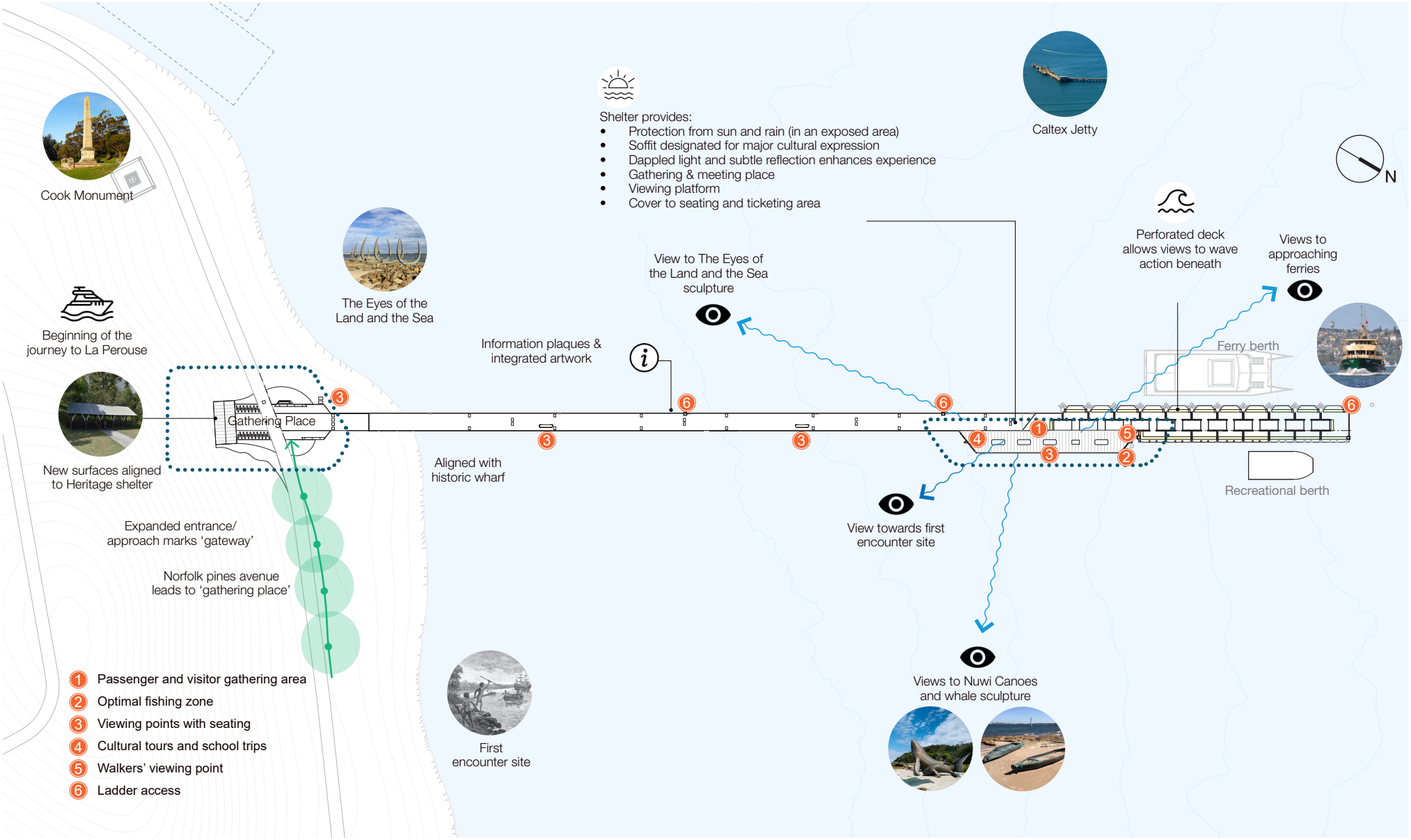
1. Responding to historical and contextual placemaking

2. A Wharf for People

3. Celebration of past, present and future maritime use of the two sites.

The Design Response:

- The wharf, extending over the water offers visitors alternate ways to engage and experience the water and landscape. This is further enhanced by through the provision of diverse spaces both landside and water side. e.g. gathering spaces with sheltered seating.
- The wharf facilitates the safe and comfortable movement of people along its full extent.
- The proposed design provides diverse uses and spaces for people to engage with the water and landscape - providing sheltered seating and gathering spaces on both landside and water side.
- Generous walkways allow for the safe and comfortable movement of people along its full extent.
- Contributing to the experience of Monument Track which features a series of historically significant sites, landscape and vistas. The wharf strengthens sense of place, creating a strong visual landmark that references the historic maritime use of the area.
- The wharf is directly connected into the Monument Track providing safe, comfortable and inclusive access.
- The existing seating and shelter anchors the wharf landside creating a view corridor along the length of the new structure.
- The wharf location and configuration references the site's old wharf and complements the existing adjacent Caltex Refinery Jetty.
- The Kurnell and La Perouse Wharves form a gateways to Botany Bay sharing the same architectural language to strengthen the connection between the two peninsulas.
- Materials used reference materials used in traditional maritime infrastructure including the old wharf at Kurnell, such as expressed steel, timber and concrete.
- Materials are durable and easily maintained to ensure quality and longevity far into the future.
- The passenger/visitor gathering area columns and roof has been efficiently streamlined to have minimal visual impact.
- The passenger/visitor gathering area is designed to have a variety of furniture that allows for flexibility of uses for different user groups.


Cook Monument
Beginning of the journey to La Perouse
New surfaces aligned to Heritage shelter
Gathering Place
Expanded entrance/ approach marks 'gateway'
Norfolk pines avenue leads to 'gathering place'
The Eyes of the Land and the Sea
Information plaques & integrated artwork
Shelter provides:
Protection from sun and rain (in an exposed area)
Soffit designated for major cultural expression
Dappled light and subtle reflection enhances experience
Gathering & meeting place
Viewing platform
Cover to seating and ticketing area
Caltex Jetty
N
Perforated deck allows views to wave action beneath
Views to approaching ferries
View to The Eyes of the Land and the Sea sculpture
Ferry berth
Aligned with historic wharf
Recreational berth
View towards first encounter site
Views to Nuwi Canoes and whale sculpture
First encounter site
1 Passenger and visitor gathering area
2 Optimal fishing zone
3 Viewing points with seating
4 Cultural tours and school trips
5 Walkers' viewing point
6 Ladder access

Design Response

Kurnell Landscape

The land side tie-in for Kurnell responds particularly to the sensitive cultural nature of the project area and provides a subtle planted backdrop to the surrounding heritage and cultural monuments including Captain Cooks Landing Place, the Eyes of the Land and Water sculpture and the existing heritage listed shelter located within the project site.

Capturing views

Direct views towards these landmarks are maintained and promoted through the low-level planting palette and the seating provisions.

Connecting to the existing

The landscape concept is humble in its approach and aims to integrate and blend the wharf's structural components within the sensitive setting of the Kamay Botany Bay National Park by providing a formal entrance gateway to the jetty from the popular Monument Track.

The landscape design is located directly adjacent to the four mature Norfolk Pine trees that continue as a planted avenue, lining the Monument Track that meanders further throughout the Kamay Botany Bay National Park. The landscape concept for Kurnell aims to respect the dominant visual and aesthetic character offered by the pine trees by allowing a chance to stop and celebrate the wide-spread views out across the Bay and providing a rest point that takes advantage of the large shaded grassed patch underneath the pine tree canopy.

Planting

Linear patches of planting adjoin the wharf architecture and paved entrance way, celebrating the architectural design and acting as an extension of both the existing heritage shelter and the densely planted coastal heath and Kurnell Dune Forest that currently abuts the Monument Track.

Similarly to La Perouse, the chosen planting palette will be locally sourced and reflect the native species from the project area. The opportunity to incorporate interpretive panels of the rich historic nature of the location, should be developed with local Traditional Owners and integrate with the interpretive panels located along the existing wharf structure (to be decommissioned) and further north at Captain Cook's Creek.

A Direct views currently experienced from Captain Cook's monument out towards Botany Bay are protected and maintained.

B Views out towards ferry wharf docking location to facilitate passenger awareness.

C Direct views towards the Eyes of the Land and the Water sculpture.

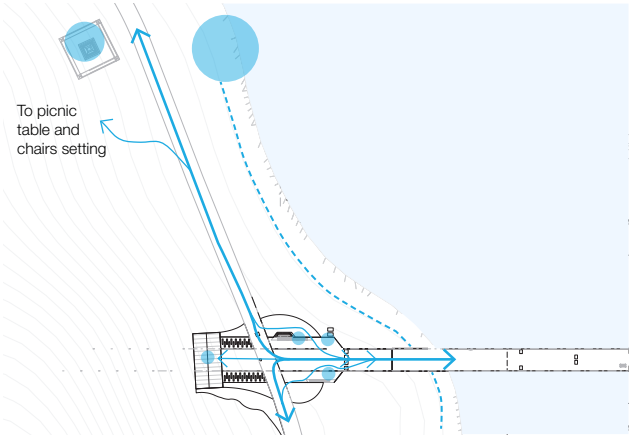


FIGURE 22 KURNELL CONNECTIVITY

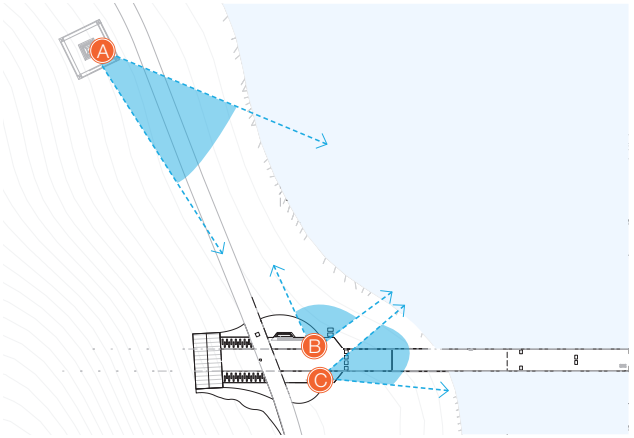
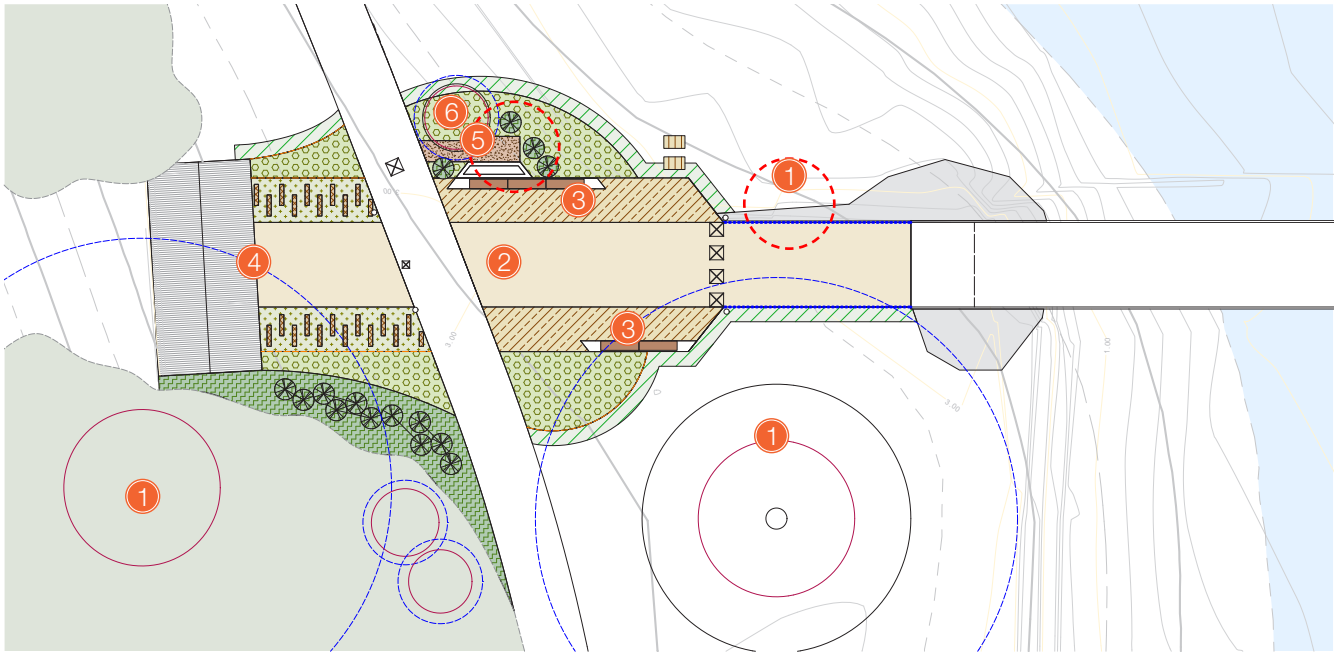
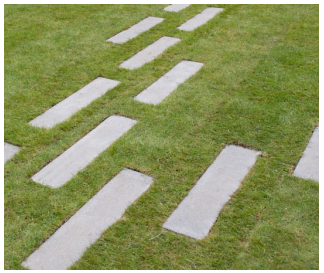


FIGURE 23 KURNELL VIEWS DIRECTIONS





1. Wharf location and associated landscape interface is carefully placed and designed to avoid disturbance to and protect existing Norfolk Pines. Within the Kurnell site, a total of 5 trees are to be removed (as shown via red dash in adjacent plan). These trees will be replaced with a total of 15 new trees. Therefore, this replacement ratio is compliant (and exceeds) the 2:1 replacement ratio setout in Condition of Approval clause 104.
2. An expanded entrance/approach from the landside that integrates and grounds the wharf to the context and the park.
3. An entrance zone that also has seating to foster interactions with the public and allows for a moment of pause in the visitor journey to the ferry and within the park.
4. Existing seating and shelter is retained and integrated into the proposed design - anchoring the entrance of the wharf and creating view corridors down the extent of the wharf.
5. Integrated services (fire hydrant, electrical and communications cupboard) concealed within the landscape.
6. Existing tree to be retained

Note: As per Kamay Ferry Wharves Environmental Impact Statement 12-15, “Bicycle rails at Kurnell would be considered as part of the wider Kamay Botany Bay National Park Kurnell Master Plan works and will not be delivered as part of this project.” Therefore (in consultation with NPWS), no bike racks have been provided at Kurnell.

Design Response

Kurnell - Connecting with Country

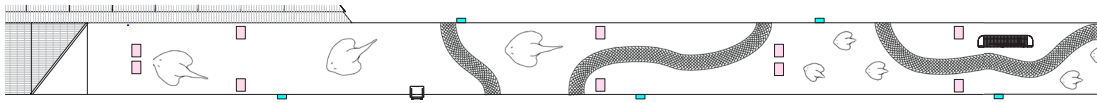
The Design Response:

The Gujaga Foundation Identified the following key themes for design of the cultural artwork at the Kurnell wharf.

1. Acknowledging traditional connection

2. Sharing traditional dreaming stories

3. Keeping culture alive



Artist Profile:

The Gujaga Foundation Identified Shane Youngberry as the artist to represent the Kurnell site.

Shane Youngberry belongs to the La Perouse Aboriginal community and is a member of the Gweagal Clan of the Dharawal Nation.

Shane worked with senior members of his clan group to capture the featured dreaming story and to ensure the visual representations and story telling is spiritually and culturally appropriate.

The Design Response:

At Kurnell, along with Shane Youngberry, the Gujaga foundation identified a single theme for interpretation through the cultural artwork.

A dreaming story about the creation of the bay, by a significant ancestral being, was identified through further community consultation. This story has never been documented and has been passed down through the generations verbally.

FIGURE 26 INTEGRATION OF ARTWORK ON CONCRETE APPROACH JETTY THROUGH SANDBLASTING

FIGURE 27 INTEGRATION OF ARTWORK ON ROOF CEILING THROUGH PERFORATED METAL PANELS

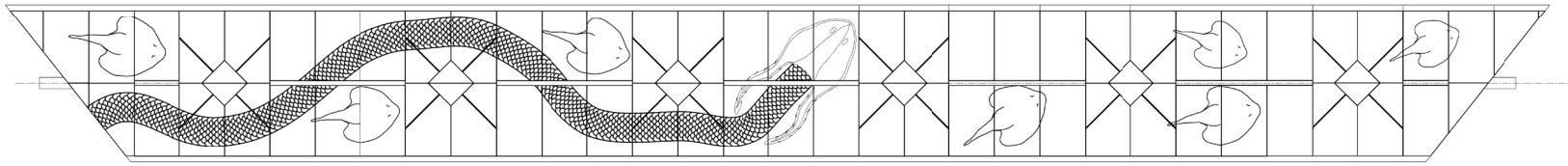


FIGURE 24 CULTURAL ARTWORK AT KURNELL - REFLECTED CEILING PLAN

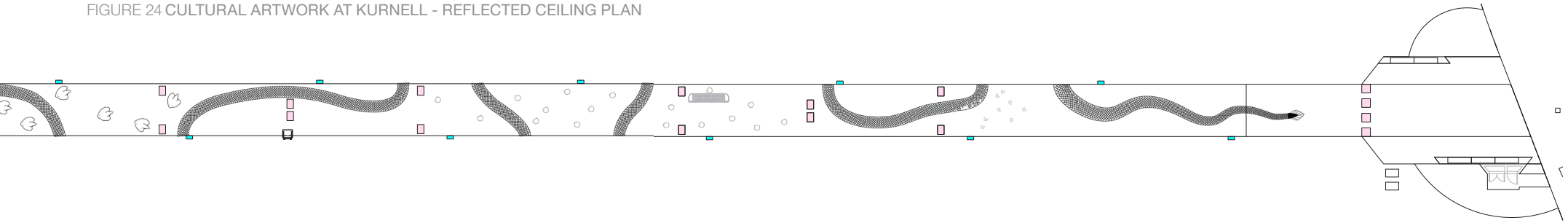


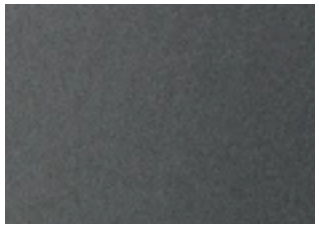
FIGURE 25 CULTURAL ARTWORK AT KURNELL PLAN - APPROACH JETTY

Material palette and durability

La Perouse and Kurnell - Material Palette

A comprehensive durability assessment was carried out at Concept Phase to inform the material selection and likely maintenance requirements needed over the 50-year design life of the wharf structures. These requirements were taken forward into the Detailed Design drawings, works material and workmanship specifications. The table summarises how the key durability requirements have been implemented into the design.

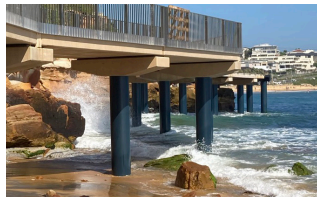
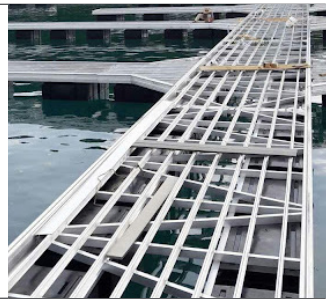
	Location	*Design Specification*	*Image*
Timber Elements			
Spotted gum deck /Feature balustrade top rail / Seat cladding	• Waiting Area decking • Balustrade capping • Seating cladding	Hardwood timber specified (Spotted Gum) in Arup QA Specification.	
Perforated Flooring			
Fibre reinforced polymer **(MoultrEX)**	• Berth structure flooring	Rectangular mesh with anti-slip aluminium oxide surface. Colour: Charcoal	

	Location	*Design Specification*	*Image*
Roofing			
Translucent fibre glass roof	• Waiting area roof to allow filtered light penetration through to perforated aluminium panels below	Ampelite Klip-lok classice@ 700 trafficable roof with roof anchors attached for maintenance	
Perforated anodised aluminium panels	• Roof soffit cladding to filter natural light through transparent fibre glass roofing above	Marine Grade 6061-T6, 6082-T5/T6 and plates Grade: 5083-H32 specified on the Drawings. Minimum maintenance required. Perforations sized to prevent birds entering the roof cavity Colour: Universal Anodisers in 'Satin* Light Bronze'	
Anodised aluminium panels	• Edge capping panels (roof) • Aluminium channels for lighting tracks in the roof structure	Marine Grade 6061-T6, 6082-T5/T6 and plates Grade: 5083-H32 specified on the Drawings. Minimum maintenance required. Colour: Universal Anodisers in 'Satin* Charcoal Grey'	
		Satin finish has low reflectivity properties and therefore a lower visual impact than alternate options	

Material palette and durability

La Perouse and Kurnell - Material Palette

	Location	*Design Specification*	*Image*
Balustrades			
Stainless steel	• Balustrades for the approach jetty and waiting area • Safety Ladders • Cast-in deck pipework.	Stainless steel grade 316L specified on the Drawings, and in accordance with Arup QA Specification. (Finish Number 8 for balustrades)	
Aluminium	• Balustrades for berth structure	Marine Grade 6061-T6, 6082-T5/T6 and plates Grade: 5083-H32 specified on the Drawings. Minimum maintenance required.	

	Location	*Design Specification*	*Image*
Structural Elements			
Pigmented precast and insitu concrete	• Approach Jetty substructure including precast headstocks, deck planks, insitu topping slab, pile plugs and bored pile rock sockets. • La Perouse abutment wall.	Exposure classification C2 conforming to TfNSW QA Specification B80 and its mix designs. 70mm concrete cover to reinforcement to exposed faces specified on Drawings.	
Steel tubular piles	• Wharf structure foundations.	**1000 micron epoxy paint system specified on Drawings.** **Sacrificial cathodic protection system specified in Arup QA Specification.** **Anodes to be replaced every 15 years.**	
Steelwork	• Berth Structure jacket structure, including pile sleeves and jacket. • Waiting Area roof structure • Fender arms	1000 micron epoxy paint system specified on Drawings for Berth Structure. 600 micron epoxy paint system specified on Drawings for Roof Structure. Re-coating required after 15 years.	
Aluminium	• Berth structure platform – used instead of steelwork to minimise maintenance work.	Marine Grade 6061-T6, 6082-T5/T6 and plates Grade: 5083-H32 specified on the Drawings. Minimum maintenance required.	

Design Response

La Perouse and Kurnell - Planting Palette

The chosen planting palette used across the La Perouse and Kurnell project site will reflect the local character and indigenous species endemic to the area.

The final plant species should be selected in collaboration with the selected Indigenous owned plant suppliers (during the consultation process the community identified the local Aboriginal Corporation IndigiGrow as the preferred supplier).

Any trees lost during the maintenance period are to be replaced by TfNSW in consultation with NPWS.

FIGURE 28 ARTISTIC IMPRESSION OF PROPOSED LANDSCAPE DESIGN AT THE LA PEROUSE WHARF ENTRANCE

BOTANICAL NAME	COMMON NAME
PLANT MIX 1	**WHARF ENTRY PLANTING**
Carpobrotus glaucescens	Pigface
Cissus antarctica	Kangaroo Vine
Dianella congesta	Coastal Flax Lily
Ficinia nodosa	Knobby Club Rush
Lomandra longifolia	Spiny headed mat rush
Oxylobium cordifolium	Heart-leaf Shaggy Pea
Rulingia hermanniifolia	Dwarf Kerrawang

BOTANICAL NAME	COMMON NAME
PLANT MIX 2	**COASTAL BUSH PLANTING**
Dichelachne crinita	Plume Grass
Lomandra longifolia	Spiny headed mat rush
Westringia fruticosa	Coastal rosemary

BOTANICAL NAME	COMMON NAME
PLANT MIX 3	**GATEWAY PLANTING**
Actinotus Helianthi	Flannel Flower
Dianella Congesta	Coastal Flax Lily
Eustrephus Latifolius	Wombat Berry
Hardenbergia Violacea	Purple Coral Pea
Lomandra longifolia	Spiny headed mat rush
Westringia fruticosa	Coastal rosemary

BOTANICAL NAME	COMMON NAME
PLANT MIX 4	**BUSH TUCKER PLANTING**
Billardiera scandens	Apple Berry
Correa alba	White Correa
Dianella caerulea	Flax Lily
Eustrephus latifolius	Wombat Berry
Hardenbergia violacea	Purple coral pea
Lomandra longifolia	Spiny headed mat rush
Westringia fruticosa	Coastal rosemary

BOTANICAL NAME	COMMON NAME
PLANT MIX 5	**COASTAL LOW LYING**
Carpobrotus glaucescens	Pigface
Correa alba	White Correa
Dianella Congesta	Coastal Flax Lily
Dichelachne crinita	Plume Grass
Ficinia nodosa	Knobby Club Rush
Hibbertia scandens	Snake Vine
Westringia fruticosa	Coastal rosemary

BOTANICAL NAME	COMMON NAME
PLANT MIX 6	**FEATURE PLANTING**
Actinotus Helianthi	Flannel Flower
Oxylobium Cordifolium	Heart-Leaf Shaggy Pea
Rulungia Hermanniiifolia	Dwarf Kerrawang

BOTANICAL NAME	COMMON NAME
TREES AND LARGE SHRUBS	
Banksia integrifolia	Coastal Banksia
Banksia ericifolia	Health Banksia
Banksia serrata	Old Man Banksia
Dichelachne crinita	Plume Grass
Breynia oblongifolia	Coffee Bush
Correa Reflexa	Native Fuchsia
Melaleuca armillaris	Bracelet Honey Myrtle
Monotoca elliptica	Tree Broom Heath

Lighting Vulnerability Assessment

Kurnell

Lighting Vulnerability Assessment

A Lighting Vulnerability Assessment (LVA) was undertaken to identify and outline the existing lighting and physical conditions of Kamay Wharf.

The LVA is to aid an evidence-based design approach for a Lighting Design Strategy that provides enjoyable and lasting night time experiences.

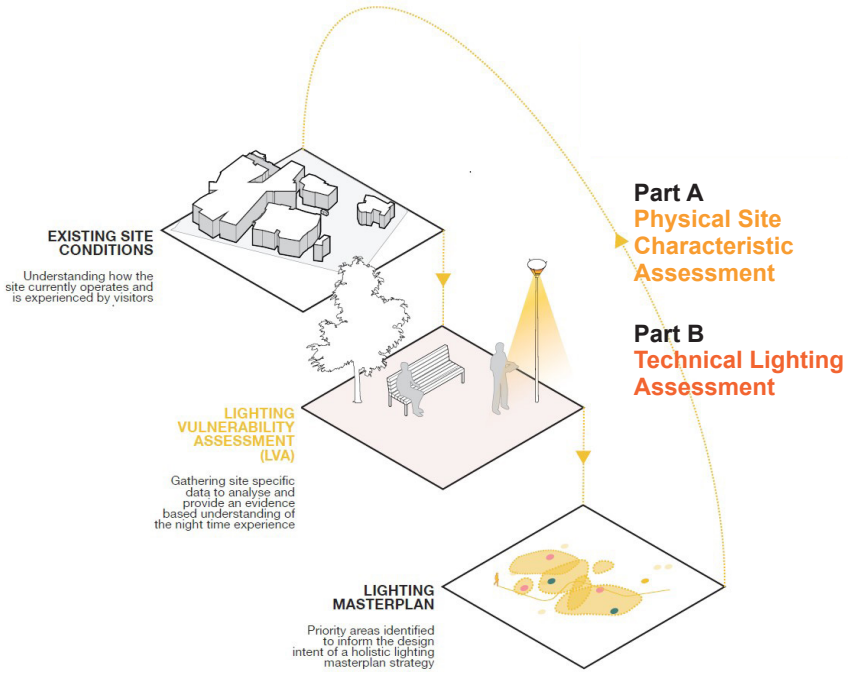
The primary objective of this assessment is to identify site lighting and contextual characteristics that have the potential to influence the likelihood and consequences associated with a negative experience of place.

The LVA process identifies areas of vulnerability through the analysis of qualitative and quantitative measurements. This process takes a macro to micro view of the factors that can influence a person's experience of the wharf after dark.

This is divided into two parts:

- Part A - Physical Site Characteristics (Site specific)
- Part B - Technical Lighting Assessment (Site specific)

The final outcome of this process provides a consistent, evidence-based decision-making rationale of priority areas for discussion to be addressed in stakeholder workshops and guide design considerations when strategising the lighting design. The outcomes of the LVA are outlined in the following pages.



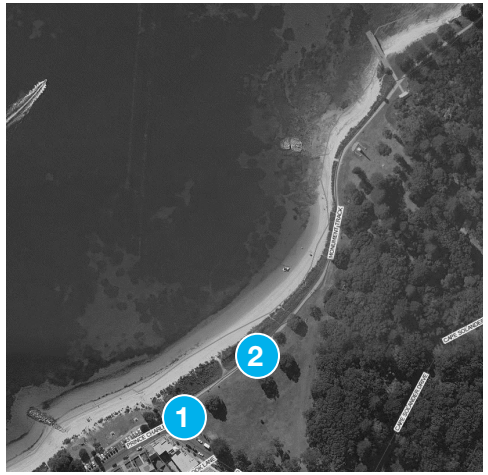


FIGURE 29 LVA SITE LOCATION MAP

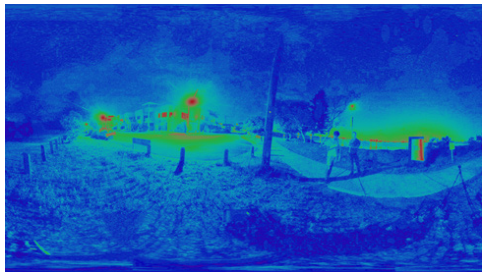
Summary of Findings

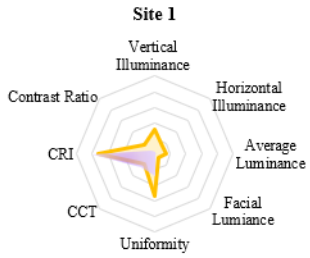
Site 01

- High specularity due to water next to path
- Dark ground surrounding footpath
- Visual and physical transparency poor due to water and foliage
- Low contrast

Potential improvements:

- Providing light to footpath
- Uplighting trees nearby to improve visual transparency
- Lighting treatment interacting with water to create movement and improve experience





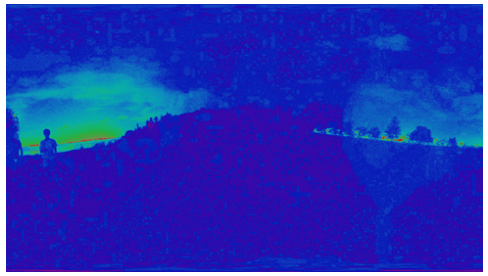
Site	Vertical Illuminance	Horizontal Illuminance	Average Luminance	Facial Luminance	Uniformity	CCT	CRI	Contrast Ratio
1	1.2	1.9	0.30	0.09	0.26	5000	80	0.28
Rationale:								
2	0.1	0.2	0.20	0.0049	0.55	5000	80	0.02

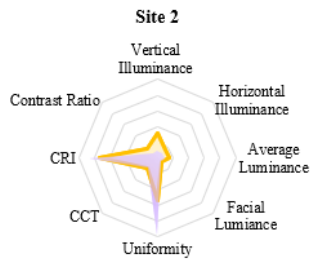
Site 02

- High specularity due to water next to path
- Dark ground surrounding footpath
- Visual and physical transparency poor due to water and foliage
- Low contrast

Potential improvements:

- Providing light to footpath
- Uplighting trees nearby to improve visual transparency
- Lighting treatment interacting with water to create movement and improve experience





Site	Vertical Illuminance	Horizontal Illuminance	Average Luminance	Facial Luminance	Uniformity	CCT	CRI	Contrast Ratio
1	1.2	1.9	0.30	0.09	0.26	5000	80	0.28
Rationale:								
2	0.1	0.2	0.20	0.0049	0.55	5000	80	0.02

Lighting Design Response

La Perouse and Kurnell

The lighting design has been carefully considered and integrated into the architecture and landscape to provide safe and comfortable movement that allows for use through all times of the day. Further, lighting has been designed in accordance with both ASNZS 1158 and 4282.

The wharf is divided into four key lighting zones:

- Landside:

  At Kurnell continuous linear LED lighting is integrated below bench seating with lighting bollards along Monument Track to match existing.

- Gangway:
  At La Perouse and Kurnell continuous linear LED lighting has been designed into the balustrade handrail.
- Shelter:
  At La Perouse and Kurnell linear lighting are mounted within the services channel.
- Tidal:
  At La Perouse and Kurnell pole top luminaires are mounted to the berth structure.

The extensive level of night-time lighting is considered sufficient (by TNSW's Operations and Compliance team) to aid navigation, therefore no additional measures are deemed necessary or provided in the design.

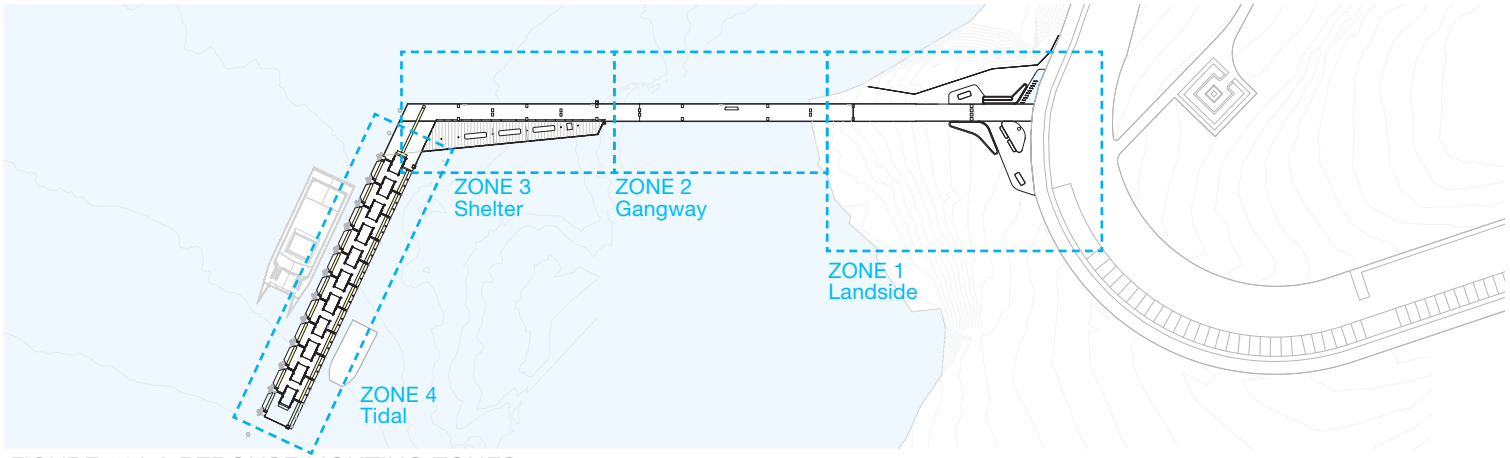


FIGURE 30 LA PEROUSE LIGHTING ZONES

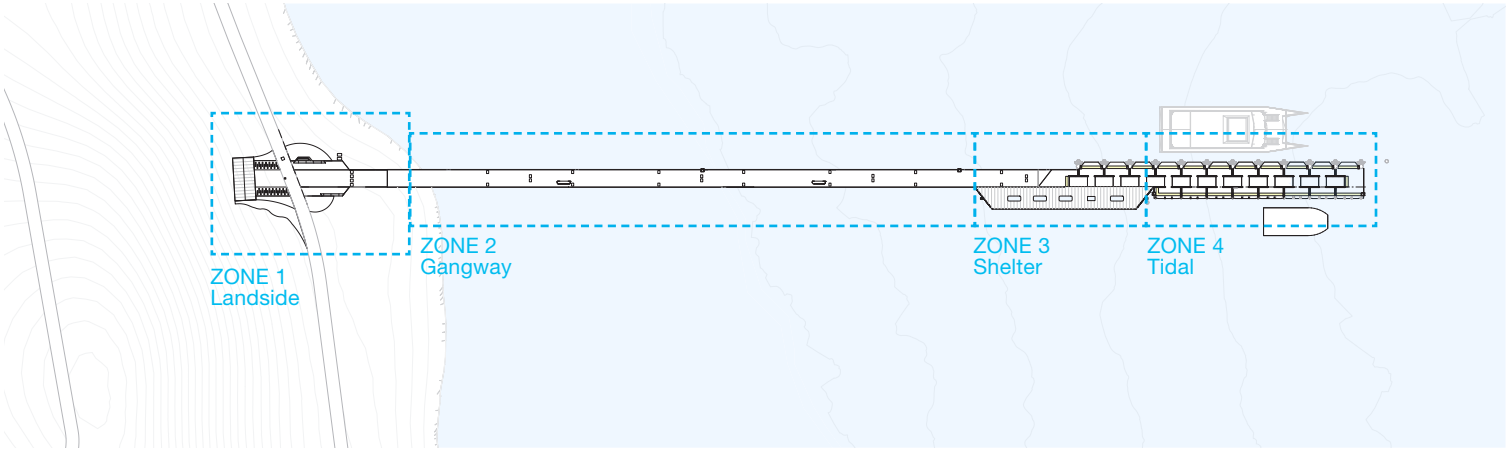


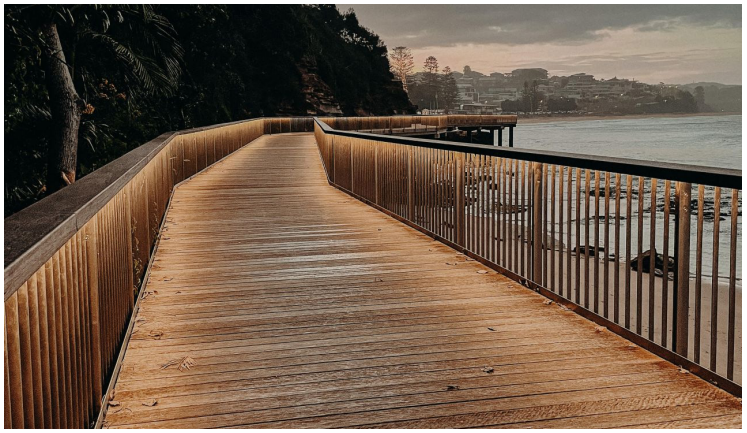
FIGURE 31 KURNELL LIGHTING ZONES

Lighting design mitigation measures have been introduced to reduce light pollution and minmise the effect on wildlife and adjoining properties. This is a balanced a strategy of meeting the various AS/NZS technical standards and TfNSW standards alongside best practices for wildlife lighting. These strategies are outlined as follows:

- The use of adaptive lighting controls to manage light timing and intensity through motion sensors and DALI dimming, along with astronomical time clocks.
- Minimising upward waste light, all luminaires are faced downwards, lighting the intended areas.
- Colour Temperature for the wharves has been selected to be a CCT 3000K, limiting the blue spectrum of light whilst keeping to within the TfNSW standards.
- For Monument Track a new lighting technology has allowed us to propose a technology known as ‘wild light’ which allows the bollards to not only dim but also change colour temperature based on when movement is detected.

The lighting design was not specifically assessed against the ‘National Light Design Guidelines for Wildlife’ dated May 2023 as the guide was issued post the project’s AFC date.

Landscape zone - Light posts



Gangway - Balustrade lighting

Shelter zone - Lighting mounted on columns

Tidal zone - Integrated higher level lighting

State Design Review Panel

Summary of Recommendations and Outcomes

The project underwent 2 consultation sessions with the State Design Review Panel on 18.08.2022 and 20.10.2022. The Design Review Panel Sessions were highly engaged and productive sessions. The panel provided positive feedback (refer Appendix C – SDRP 01 & 02 Advice Letters) and the recommendations made by the panel were taken seriously by the design team and TfNSW. As a result, the design was further refined in direct response to comments. Appendix D contains the full list of comments and outcomes from SDRP01. The following table summarises the comments and outcomes from the SDRP02 session as well as specific refinements that were made to the design.

ID NO	CATEGORY	SDRP COMMENT	DESIGN TEAM'S RESPONSE	ACTIONED
	General	The following elements of the design strategy are supported: • A clear and ongoing plan for Indigenous stakeholder engagement • Reduction in the use of concrete and introduction of trees in the waterside waiting area at La Perouse • A simplified soffit and structural design for the wharf shelters • A simplified structure for the wharves, minimising seabed disturbance • Endemic species selection for landscaped areas	Noted	N/A
1.1	Connecting with Country	The project has developed a ambitious Connecting with Country and Designing with Country response. It is important to maintain this approach over the lifespan of the project, beyond construction.	The Project Community Consultation Strategy outlines the ongoing engagement for the local Aboriginal Communities for the life of the Project.	Y
1.2	Connecting with Country	The Connecting with Country advice from SDRP 01 is still relevant and should continue to be referenced.	Noted. These action where closed out in the SDRP meeting 01. The ongoing engagement with the local Aboriginal Community is outlined in the Project Community consultation Strategy	Y
2.1	Site Strategy and Landscape	Consider the biodiversity of the site and how the species selection, specifically in relation to waterside waiting areas can enhance this.	Planting Palette updated in response to comments. Endemic, coastal species prioritised.	Y (refer pg 34, 35)
2.2	Site Strategy and Landscape	Examine the intersections between the project boundaries and the surrounding Council maintained assets. For example, can the project's edges create a point of continuity, instead of disparity?	Landscape architecture design response at La Perouse further developed in response to comments. Key updates included: • Reduced extent of concrete surface finish • Reduced overall scale of hardscaped area to prioritise grassland and native and endemic planting • Updated levels to provide more gradual gradient transition between landscape area and existing grassland ares • Introduction of native tree species to edges of the hardscaped landscaped area to help mediate transition	Y (refer pg 20, 21, 26, 27
3.1	Architecture	Consider the maintenance and durability of the proposed furniture, including vandalism and replacing timber slats only as necessary.	Design of furniture further developed to consider maintenance and durability, including design of a metal subframe, sizing of timber members and joining details, consideration of the gap between timber members to mitigate opportunity for rubbish to be inserted and generally rationalised form which is less susceptible to damage and vandalism.	Y (refer pg 30 -33, 43)

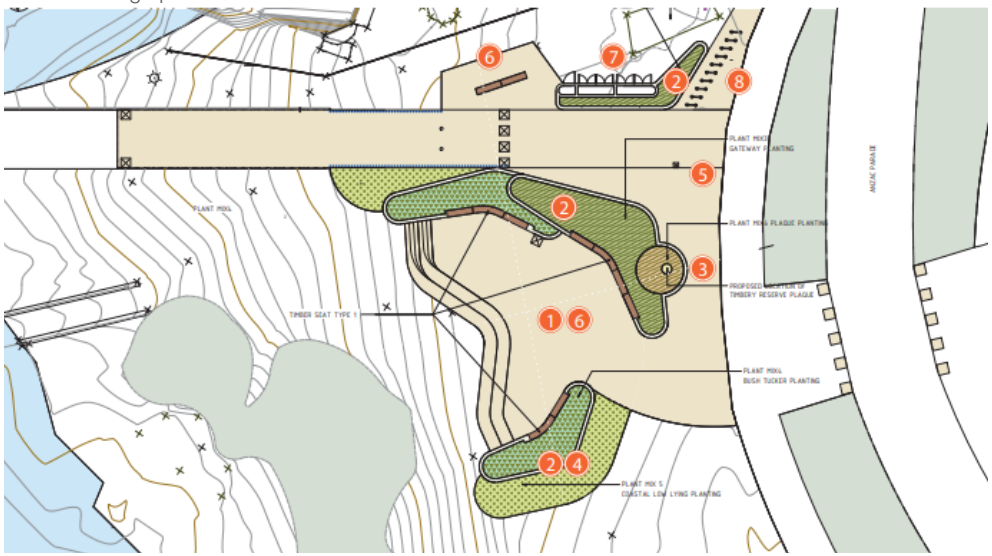
ID NO	CATEGORY	SDRP COMMENT	DESIGN TEAM'S RESPONSE	ACTIONED
3.2	Architecture	The decoupling of the furniture and structural columns is supported and the intention for the furniture to be inclusive of multiple user types is commended. However some of the furniture items appear unnecessarily bulky and blocky, consider the following: a) Reducing the number of types of furniture b) Simplify the angled placement of furniture on the waterside gathering spaces to reduce visual clutter c) Preference a lower form furniture profile (e.g. type A & B) d) Decoupling the bins from the furniture design to facilitate simpler forms e) Considering the 'cut-off' end profile and how it can be softened f) Consider the furniture in direct relationship to each other instead of individual objects to be deployed	The seating has been completely redesigned in response to comments. Key updates include: a) Reduced number of 'types' of furniture forms b) Change from angled placement to aligned placement to reduce visual clutter c) Reduced overall height of furnitures d) Bins decoupled form seating furniture e) Softening of the form of the end of furniture pieces with rounded edges and consistent use of timber hardwood, removal of metal 'end caps' f) Furniture forms across types developed to be more consistent to enable a 'family' of objects, rather than 'individual' pieces.	Y (refer pg 43)
3.3	Architecture	Re-examine the lighting strategy for the wharves, preferencing lower lighting under balustrades and furniture over downlights in the roof soffit.	Reduced linear meterage of lighting channel in the roof soffit, with greater reliance on the lighting integrated into the balustrade to achieve illumination.	Y (refer pg 38, 39)
3.4	Architecture	Investigate the detailing of the short edge of the wharf shelter soffit. Provide the same considerations of fineness and minimal edge detailing as the long side.	Capping piece profile to edge of shelter roof redesigned to appear more visually 'lightweight', this impacts the 'short edge' geometry to make it more refined.	Y (refer pg 43)
3.5	Architecture	Consider the substructure of the wharves, treating them as an important viewpoint for water arrivals.	Bespoke concrete colour identified for the substructure, through bespoke concrete sample review	Y (refer pg 33)
4.1	Miscellaneous	Consider consulting with local Indigenous social enterprise service providers on the biodiversity and plant selection for the sites.	Noted. This is being undertaken with the Marine Biodiversity Offset Strategy and the Community Consultation Strategy	Y
4.2	Miscellaneous	Investigate the relationship of the existing fencing and the proposed fencing landside at La Perouse.	The existing fences will not be impacted and are considered in the UDLP in the Design Response Landscape Architecture. The new wharf structure and landscape area is offset from the existing fence line to avoid visual clash. The new wharf balustrade to the northern side of the jetty at La Perouse is in alignment with the existing fence line to provide consistent language and geometry.	Y (refer pg 20, 21)
4.3	Miscellaneous	Examine the landside facilities at Kurnell and consider the comments for La Perouse to be applicable if relevant	Seating design adjacent to the facilities in the landscape area at Kurnell updated to be consistent with broader design language across the wharf and at La Perouse.in alignment with the existing fence line to provide consistent language and geometry.	Y (refer pg 26, 27)

State Design Review Panel

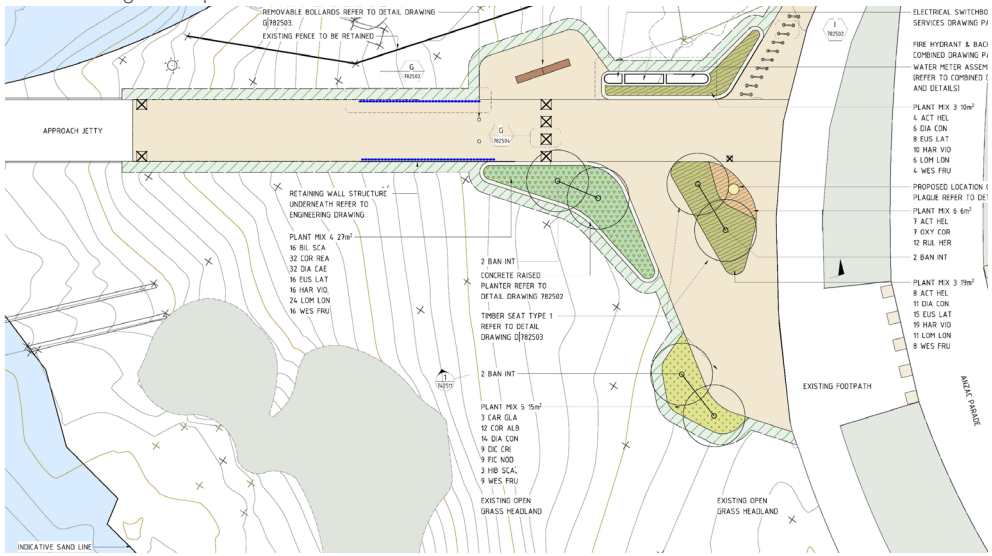
Design Refinement in Response to Feedback

The key areas identified for design development following the SDRP Feedback were: 1. Landscape 2. Wharf Canopies 3. Furniture.

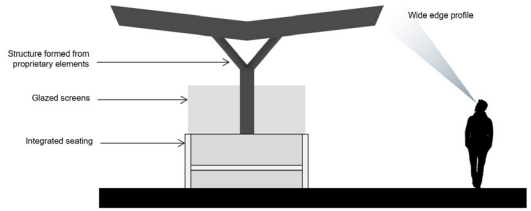
Previous design presented at SDRP 01 on 18.08.2022

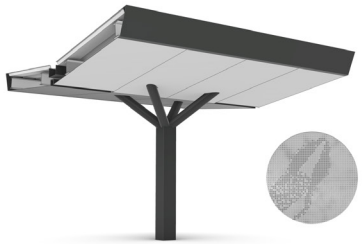


Refined Design in response to SDRP 01

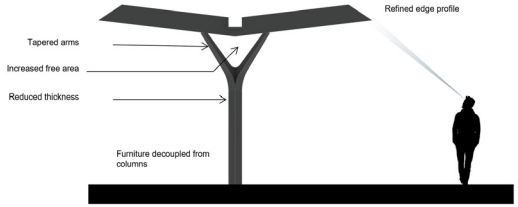


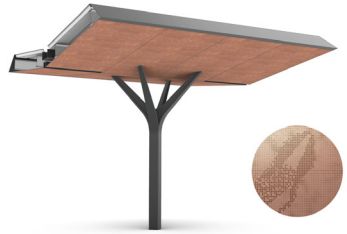
Previous design presented at SDRP 01 on 18.08.2022





Refined Design in response to SDRP 01





02
Landscape Character and Visual Impact Assessment

REFER TO CHAPTER 7 OF THE LCVIA (AUGUST 2021)

Landscape Character and Visual Impact Assessment

The following provides a summary of the landscape character and visual impact assessment in Chapter 7 of the Appendix B - Landscape Character Visual Impact Assessment.

METHOD: The LCVIA adopted an assessment matrix from the Guideline for Landscape Character and Visual Impact Assessment (Transport for NSW, 2020) as shown in the table below. The assessment considered the sensitivity of the existing environment and the magnitude of change to determine the overall impact (refer to Chapter 02 in Appendix B - Landscape Character Visual Impact Assessment).

To assess the landscape character impacts, the landscape study area was divided into eight Landscape Character Areas based on defining characteristics. To assess the visual impacts, 13 representative viewpoint locations were selected to comprehensively illustrate and document the visual amenity of the study area.

Refer to Chapter 05 in Appendix B - Landscape Character Visual Impact Assessment for more details

Sensitivity	Magnitude: High	Moderate	Low	Negligible
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

FIGURE 32 LANDSCAPE AND VISUAL IMPACT ASSESSMENT MATRIX

For more details, please refer to Appendix B - Landscape Character Visual Impact Assessment (LCVIA)

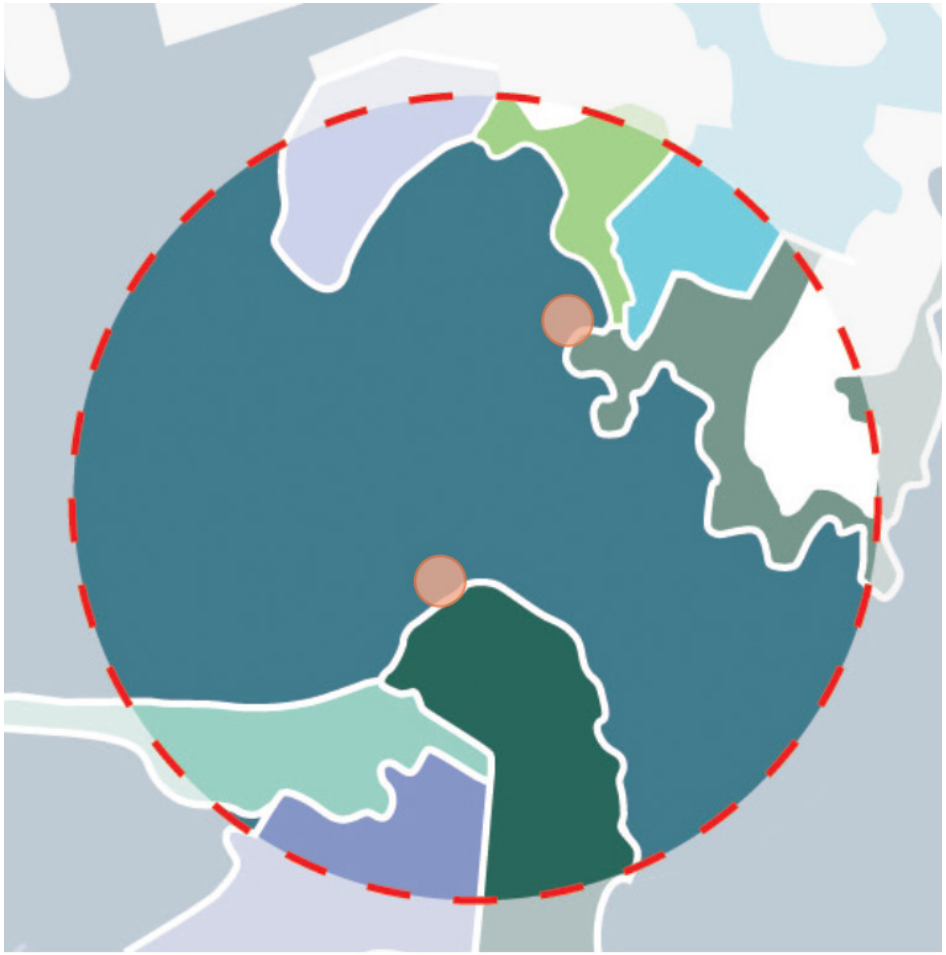


FIGURE 33 LANDSCAPE CHARACTER AREAS

For more details, please refer to Appendix B - Landscape Character Visual Impact Assessment (LCVIA)

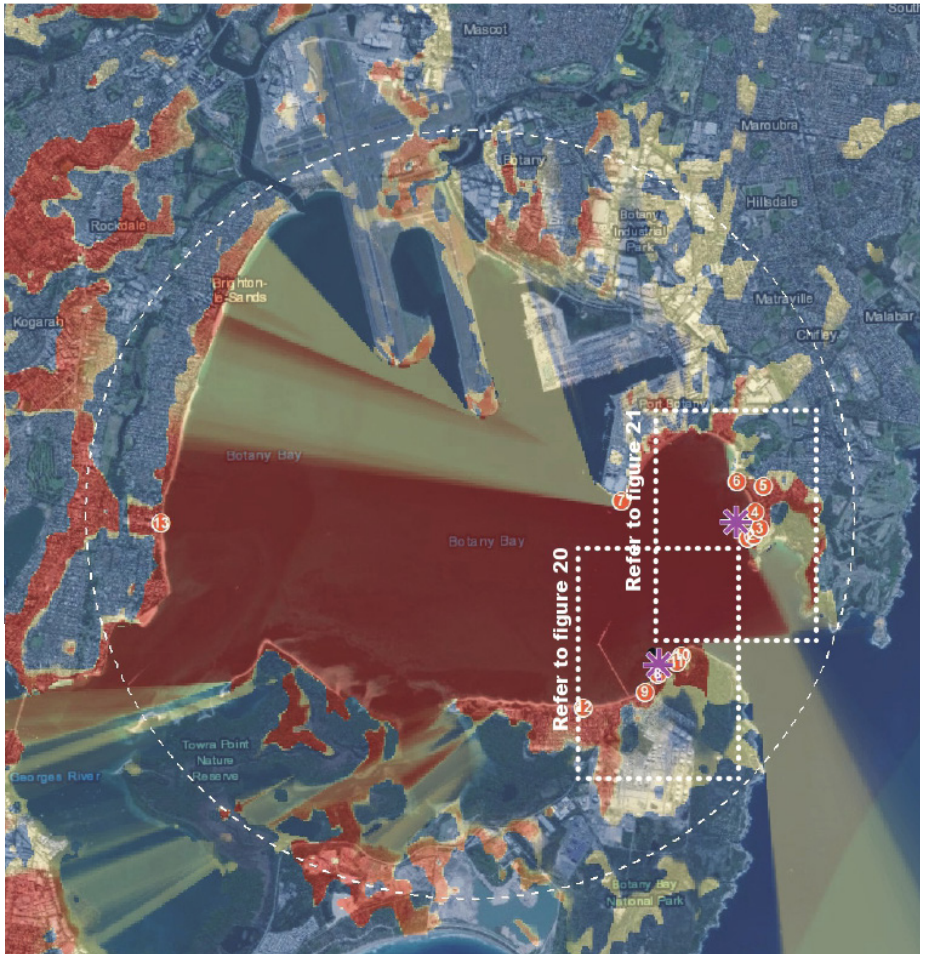


FIGURE 34 STUDY AREA AND VIEWPOINT LOCATION PLAN

For more details, please refer to Appendix B - Landscape Character Visual Impact Assessment (LCVIA)

Summary of Landscape Character

During construction, LCA 7: Kurnell Kamay Botany Bay National Park has been assessed as a High adverse construction impact due to its significantly sensitive nature, National Park designation, 13 month construction timeframe, removal of vegetation and extent of the compound area extents. Refer to Chapter 05: Baseline of Appendix B - Landscape Character Visual Impact Assessment (LCVIA) for further explanation of the assessed baseline sensitivity result. This result also reflects the removal of the existing wharf viewing platform, the introduction of an 85m temporary causeway that will extend from the Kurnell shore-front and the temporary access track that will accommodate large machinery and trucks through the south-western extents of the LCA to the construction site.

The combination of being located within a high quality recreational space, situation along the primary path 'Monument Track' results in a High adverse assessment result for both Construction and Operation. However, it is worth noting that the landscape character assessment for LCA 7 does not take into account the Project's alignment with the objectives outlined in the Kamay Botany Bay National Park Kurnell Master Plan, endorsed by National Parks and Wildlife Service. Refer to page 29 of Appendix B - Landscape Character Visual Impact Assessment (LCVIA) for more information regarding the publication.

LCA 2: La Perouse headland and Kamay Botany Bay National Park is considered to be of a comparable level of sensitivity to LCA 7: Kurnell Kamay Botany Bay National Park being designated as the same National Park - split over the two headlands. During construction, LCA 2 has resulted in a Moderate adverse impact due to a less-intrusive construction methodology compared to Kurnell, however, is still considered to be incongruous with the picturesque headland used for predominately recreational and cultural activities. Refer to Chapter 05: Baseline of Appendix B - Landscape Character Visual Impact Assessment (LCVIA) for further explanation of the assessed baseline sensitivity result.

During operation, La Perouse's concept design incorporates a greater footprint for the wharf and landscape design tie-in. The design aims to support and enhance the highly visited headland's current uses and pedestrian movement paths, whilst allowing for an additional programmed space for 'looking out' across La Perouse Point and Botany Bay. The design responds to the natural contours of the headland and will replace one standard bench seat with various integrated, bespoke seating units and planters. The existing Timbery Reserve plaque will be replaced and reinstated within the landscape design through close stakeholder engagement.

Overall, the physical impact anticipated to the LCAs is considered to be Low adverse and concentrated predominately within the construction footprint, across the two site locations, as a result of the Project. Due to the Project being a 'reinstatement' of the wharf structures and the majority of the Project's marine, structural components located within the Botany Bay environs, the project is not considered to be completely incongruous with the immediate surrounding landscape character. However, is expected to introduce a mostly structural component to the existing aesthetic that contributes significantly to the landscape character at both La Perouse and Kurnell.

Refer to Appendix B - Landscape Character Visual Impact Assessment for more details.

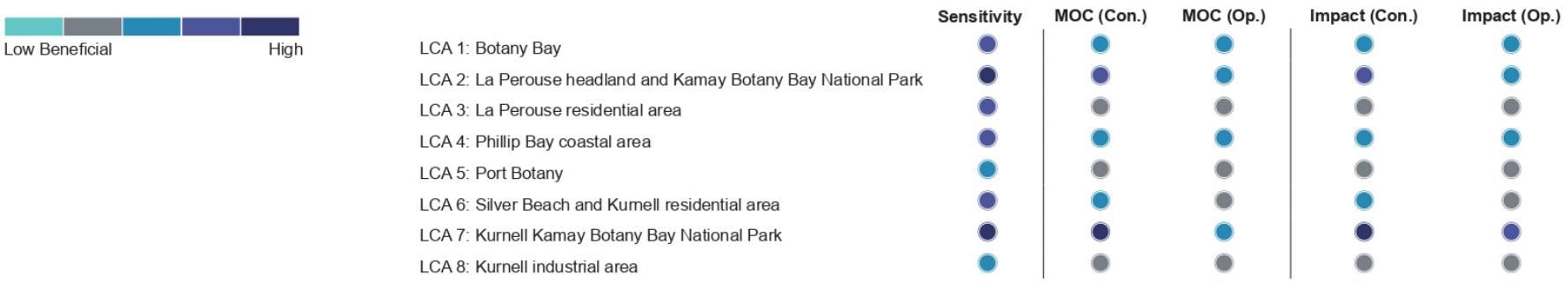


FIGURE 35 LANDSCAPE CHARACTER IMPACT SUMMARY OF ASSESSMENT

For more details, please refer to Appendix B - Landscape Character Visual Impact Assessment (LCVIA)

Summary of Visual Impacts

Overall, Moderate - High adverse visual impacts during both construction and operational phases for the project, are concentrated to viewpoints within relatively close proximity to the works and are also emphasised due to the sensitive receptors and locations of both the Project site locations.

VP 1: Anzac Parade, VP 2: La Perouse Museum and VP 4: Frenchman's Beach has resulted in High-Moderate adverse impacts during construction as direct views towards all components of the construction footprint are anticipated, including; the laydown area, site offices and heavy construction machinery, such as cranes. For the La Perouse project site, these viewpoints will experience the highest impact during construction and will be difficult to mitigate against entirely.

Standard construction mitigation techniques, such as site fencing, are still considered to be incongruous with the existing view from the La Perouse headland and Kamay Botany Bay surroundings. It should be noted that construction impacts are considered to be of a temporary nature – lasting for approximately eight months.

VP 2: La Perouse Museum and VP 4: Frenchman's Beach are the viewpoints that are anticipated to result in the highest visual impact during operation for the La Perouse project site. This is primarily due to the direct views towards the ferry vessel berthing components of the Project. The wharf extends significantly into the Bay and, whilst not considered completely incongruous with the Bay environs and/or selected viewpoint locations – the structure is anticipated to become a dominant focal point of the existing views experienced. Additionally, increased motorised marine vehicular traffic and extended duration at which the vessels will spend within the viewpoints' frame of view will essentially change the overall balance of the existing views.

VP 8: Captain Cook's Landing Place and VP 9: Prince Charles Parade are anticipated to experience the highest visual impact for both construction and operation for the Kurnell project site. Similarly to La Perouse, this is due to direct views towards both the introduced wharf structural components and the high degree of contrast between the construction equipment and the existing visual composition.

The construction footprint does not involve any removal or disturbance of vegetation, particularly the prominent avenue of large Norfolk Island Pine trees along the coastline, that will obstruct direct views from the selected viewpoints to the east of the project site.

Refer to Appendix B - Landscape Character Visual Impact Assessment for more details.

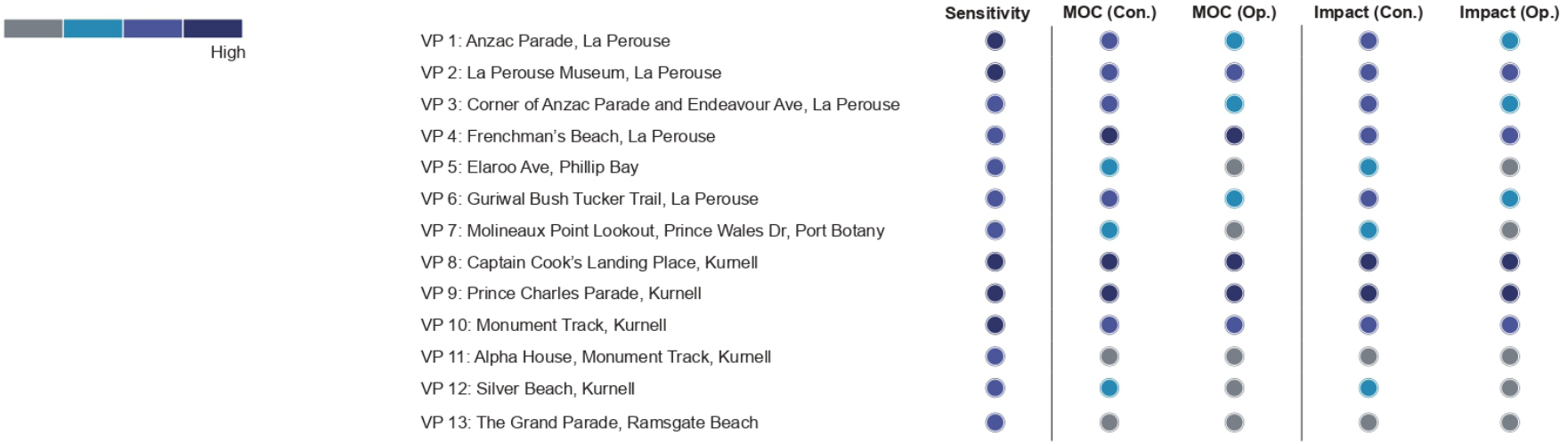


FIGURE 36 VISUAL IMPACT SUMMARY OF ASSESSMENT

For more details, please refer to Appendix B - Landscape Character Visual Impact Assessment (LCVIA)

03

Landscape Character and Visual Mitigation Strategy

Summary of embedded mitigation

This chapter describes the impact mitigation strategy to manage and mitigate the impacts associated with the design, construction and operation of the project.

Construction

As assessed in Chapter 07 of the LCVIA and summarised above in Chapter 2 of this report, the potential impacts on landscape character and visual amenity during construction would be temporary in nature lasting around 13 months over the construction period. The greatest impacts to landscape character would be to landscape character areas rated as highly sensitive to change and those located closest to the construction boundary. Landscape character areas located away from the construction boundary would not be impacted.

The activities taking place onsite and within the construction compound areas along with the physical presence of fencing, equipment (such as cranes), material stockpiles and construction vehicles (including marine barges) would result in a temporary visual impact. The construction would be visible by a large catchment due to the prominent nature of the project locations.

To mitigate adverse landscape character and visual impacts, the following measures have been embedded in the project construction phase:

- Where possible retain existing vegetation and trees
- Limit ground disturbance areas
- Locate compound areas within existing cleared areas and away from sensitive environments and nearby sensitive receivers
- Protect existing heritage features
- Design lighting to avoid glare
- Use site hoardings to reduce visibility of construction equipment and activities
- Rehabilitate and restore the site to its original condition in consultation with National Parks and Wildlife Services.

Operation of the wharves

As outlined within Chapter 3 of this report, an overarching landscape and urban design strategy has been prepared to ensure the project is sensitively, both physically and visually, integrated into the surrounding topography and landscape and urban setting. Three urban design objectives were developed based on the following:

- Connecting with Country commitments,
- Beyond the Pavement principles and
- Better Placed directions.

These objectives have been embedded in the design development process, ensuring adverse impacts are mitigated through the design delivery .

Chapter 07 of the LCVIA and Chapter 2 of this report outline the potential impacts on landscape character and visual amenity from the operation of the project. The iterative process of the design and LCVIA approach means the landscape character and visual amenity assessment considers the design accounting for the various treatments and features included through this design process. The design measures intended to improve the built environment include:

- A slender architectural design of the wharf canopy to reduce the visual bulk and scale
- A material palette that will assist in blending the proposed wharves and seating areas into the surrounding environment
- A design which maintains and frames existing views, particularly heritage views towards historical monuments
- Integrated bespoke seating provisions and feature planting to the La Perouse wharf landside tie-in to define the arrival point and gateway to the project and wharf entrance
- Integrated level changes within the existing topography undulation.

Management measures

The identification of impacts arising from the project that could eventuate during operation of the project is central to the selection of appropriate environmental safeguards.

The following measures are recommended to ensure impacts are further avoided and mitigated during construction and operation of the project.

IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE	RESPONSIBILITY	TIMING
Visual impacts from construction compound areas	• All areas and activities in the construction boundary will be managed to ensure the appropriate storage of equipment, parking, stockpile screening and arrangements for the storage and removal of rubbish and waste materials. • All hoardings will be designed to consider their sensitivity to the surrounding landscape and context – aesthetics will be carefully considered. Preference for neutral colours and designs in proximity help them blend into surrounding environment. • All hoardings will be maintained and perimeter site areas regularly inspected to include the prompt removal of any graffiti. • Site compounds and areas surrounding them will be kept tidy and be regularly cleaned and maintained • Develop ancillary facilities, including the locations of visible structures and plant and perimeter fencing and treatments to minimise visual impacts for adjacent receivers where feasible and reasonable.	Contractor	Construction
Visual impacts from earthworks	• All disturbed areas including the foreshore will be stabilised by the use of appropriate erosion and sediment control methods	Contractor	Construction
Landscape character impacts from vegetation removal	• Where feasible, vegetation will be retained and protected. Clearing and earthworks undertaken within the minimum requirements to establish the construction sites. • Revegetation to respond to the landscape character zones and vegetation patterns to reduce landscape impact over time. • Any future Landscape plans to be developed in line with the landscape and urban design concept	Contractor	Construction
Lighting impacts from evening/ night works in a low light environment	• The use of night lighting will be minimised to that required for security and safety where possible during the construction phase to ensure minimal impact on surrounding ecology and habitat.	Contractor	Construction

Summary of embedded mitigation

IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE	RESPONSIBILITY	TIMING
Rehabilitation of disturbed land	• Undertake landscape and revegetation works in accordance with the urban design and landscape drawings. • Use of indigenous plant species within the landscape design. The identification of the plant species will be undertaken in consultation with the local Knowledge-Holders. Consideration will be given to the engagement of local Aboriginal organisations in the revegetation process. • Interpretative signage relevant to the cultural sites will be prepared in consultation with identified knowledge holders. Consultation with the knowledge holders will occur in regard to potential locations for the placement of the signage.	Contractor	Construction

Achieve design objectives and outcomes	• The Urban Design and Landscape Plan (UDLP) will be implemented under the Construction Environmental Management Plan (CEMP) to ensure:
	  • the design objectives and principles are met and in ensuring material quality is achieved it is important a sampling process is undertaken in consultation with both the client and design team to ensure quality expectations are upheld.
	  • any further consultation requirements are carried out with National Parks and Wildlife Service, Local Aboriginal Land Council and Registered Aboriginal Parties. With regard to the execution of embedding the art strategy it is important prototyping is undertaken and signed off by both the Transport for NSW and full design team to ensure quality standards and design intent is met.
	  • the planting as outlined in the UDLP is implemented and maintained for the specified duration.
	  • any deviation from the design, as documented, needs to be in consultation with both the client and full design team to ensure the quality and design intent is protected and met
		Contractor	Construction

Integration of the Kamay Ferry Wharves project into the Kamay Botany Bay National Park Kurnell Master Plan	• Transport for NSW will consult with National Parks and Wildlife Service to inform the final landscape design at Kurnell. • Any changes required to be made to the landside layout of seating at Kurnell, proposed landscaping and proposed lighting have to be coordinated by the NPWS team in collaboration with the Transport for NSW team and the Arup design team as and when the masterplan is finalised.	Transport for NSW and the Contractor	Prior to construction

IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE	RESPONSIBILITY	TIMING
Ongoing maintenance of landscaping	• The ongoing maintenance of urban design and landscaping items and works implemented for the project shall remain Transport for NSW's responsibility unless satisfactory arrangements have been put in place for the transfer of ownership to another authority. • The landscaping outlined in the Urban Design and Landscape Plan will be maintained to the standards established in the Urban Design and Landscape Plan, unless and until landscaping items have been transferred.	Transport of NSW and the Contractor	Post Construction/ operations
Integration of Cultural artwork	• Delivery of the cultural artwork on site shall be completed in close collaboration with the selected Aboriginal artists and the Gujaga Foundation to ensure the artist intent is achieved. • Any deviation from the design will be considered in consultation with Transport for NSW to ensure the project design objectives are being met.	Contractor	Construction
Future opportunity for further inclusive Aboriginal participation	• Direct participation from Aboriginal-owned businesses and individuals in the construction of the infrastructure should be actively sought out.	Contractor	Construction

04
Condition Compliance Matrix

Condition Compliance Matrix

ITEM	COA	REQUIREMENT	COMPLIANCE WITH COA (Y/N)	REFER UDLP PAGE NO.
1	E90	The SSI must be constructed in a manner that minimises adverse visual impacts of construction on sites on the public domain including provision of high quality public art and graphics to the hoarding surrounding the construction sites, minimising light spill, and incorporating high quality treatments and finishes for temporary structures that reflect the context within which the construction sites are located.	Y	All
2	E91	The SSI must be designed with consideration of: (a) The design objectives, principles and guidelines identified in documents listed in Condition A1; (b) The principles and objectives of the draft Connecting with Country Framework; and (c) Relevant conservation management plans, masterplans and initiatives, where this information is known and/or available Responses to items (a) – (c) must be reviewed by the State Design Review Panel (SDRP) to inform the final design of permanent built works and landscape design of the SSI.	Y	05
3	E92	The SSI must be constructed and operated with the objective of minimising light spillage to surrounding properties and wildlife habitat. All lighting associated with the construction and operation of the SSI must be consistent with the requirements of AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NA 1158 – Lighting for Roads and Public Spaces. Additionally, the Proponent must provide mitigation measures to manage any residual night lighting impacts to protect properties adjoining or adjacent to the SSI, in consultation with affected landowners.	Y	38, 39
4	E93	Adequate lighting and Aids to Navigation must be incorporated into the design of the wharf and jetty for navigation and safety purposes.	Y	38
5	E94	The use of neutral external colour schemes and finishes that avoid reflection to minimise visual impacts must be maximised.	Y	31
6	E95	An updated Urban Design and Landscape Plan (UDLP) must be prepared to inform the final design of the SSI and detail how the SSI is to be maintained. The UDLP must be: - Submitted to the Planning Secretary prior to the construction of the permanent built surface works and / or landscaping, excluding those for ecological requirements, or technical requirements, or requirements as agreed by the Planning Secretary that do not allow for alternate design outcomes; and - Implemented during construction and operation of the SSI.	Y	N/A
7	E96	The Proponent must establish an independent DRP to provide advice and recommendations to the Proponent during the finalisation of the SSI's design and construction detailing to facilitate quality design and place outcomes. The DRP must be formed and hold its first meeting within six months of the date of this approval, or as otherwise agreed with the Planning Secretary.	Y	40-43
8	E102	The relevant councils, Heritage NSW, RAPs, and La Perouse LALC may be invited to the meetings of the Panel as observers or to provide feedback on key design elements of the SSI.	Y	40-43
9	E103	The Proponent must response to the outcomes of the DRP's review. The DRP advice and recommendations, and the Proponent's response to each recommendation must be included when submitting the UDLP to the Planning Secretary for information.	Y	40-43
10	E104	The SSI must be designed to retain as many existing trees as possible. Replacement trees and plantings must be provided at a ratio of no less than 2:1 and deliver a net increase in tree canopy and aim to enhance the relevant council's position in respect of the Sydney Green Grid, unless otherwise agree by the Planning Secretary.	Y	20, 27

ITEM	COA	REQUIREMENT	COMPLIANCE WITH COA (Y/N)	REFER UDLP PAGE NO.
11	E105	Replacement trees must: • Be located on public land in consultation with NPWS, that delivers increased shading to footpaths, pedestrian and cycle paths; • Be of a species suitable to the location, having regard for the local ecology and existing street trees; • Meet the requirements for quality tree stock specified in the AS2303:2018: Tree Stick for Landscape Use; • Be provided no later than six months following the commencement of operation; and • Have a minimum pot size consistent with the relevant council's plans/ programs / strategies for vegetation management, street planting, or open space landscaping, or as agreed by NPWS.	Y	20, 27
12	E106	The ongoing maintenance and operation costs of urban design open space, landscaping and recreational items and work implemented as part of this approval remain the Proponent's responsibility until satisfactory arrangements have been put in place for the transfer of the asset to the relevant authority. Before the transfer of assets, the Proponent must maintain items and work to at least the design standards established in the UDLP.	Y	53
13	E107	Should any plant loss occur during the maintenance period the plants should be replaced by the same plant species unless it is determined by a suitably qualified person that a different species is more suitable for that location.	Y	27, 34
14	E109	Prior to the operation of the SSI the Proponent must install bicycle parking racks near the entrances to the ferry wharves as recommended by the documents listed in Condition A1. At Kurnell, the Proponent must consult with NPWS on the installation of bicycle parking near the ferry wharf. The Proponent must also ensure that dedicated bicycle parking is provided on the ferry service and that the future ferry operator will accept bicycles on board all vessels.	Y	21, 27
15	E110	Continuous active transport paths linking the ferry wharves to the nearest public transport bus stops, located on Anzac Parade, La Perouse and Captain Cook Drive, Kurnell must be provided. Wayfinding signage must be provided to direct commuters from the ferry wharves to the bus stops. In Kamay Botany Bay National Park, all new permanent signage must be provided in consultation with NPWS. The path must be in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads, 2017).	Y	16, 17

05

Conclusion

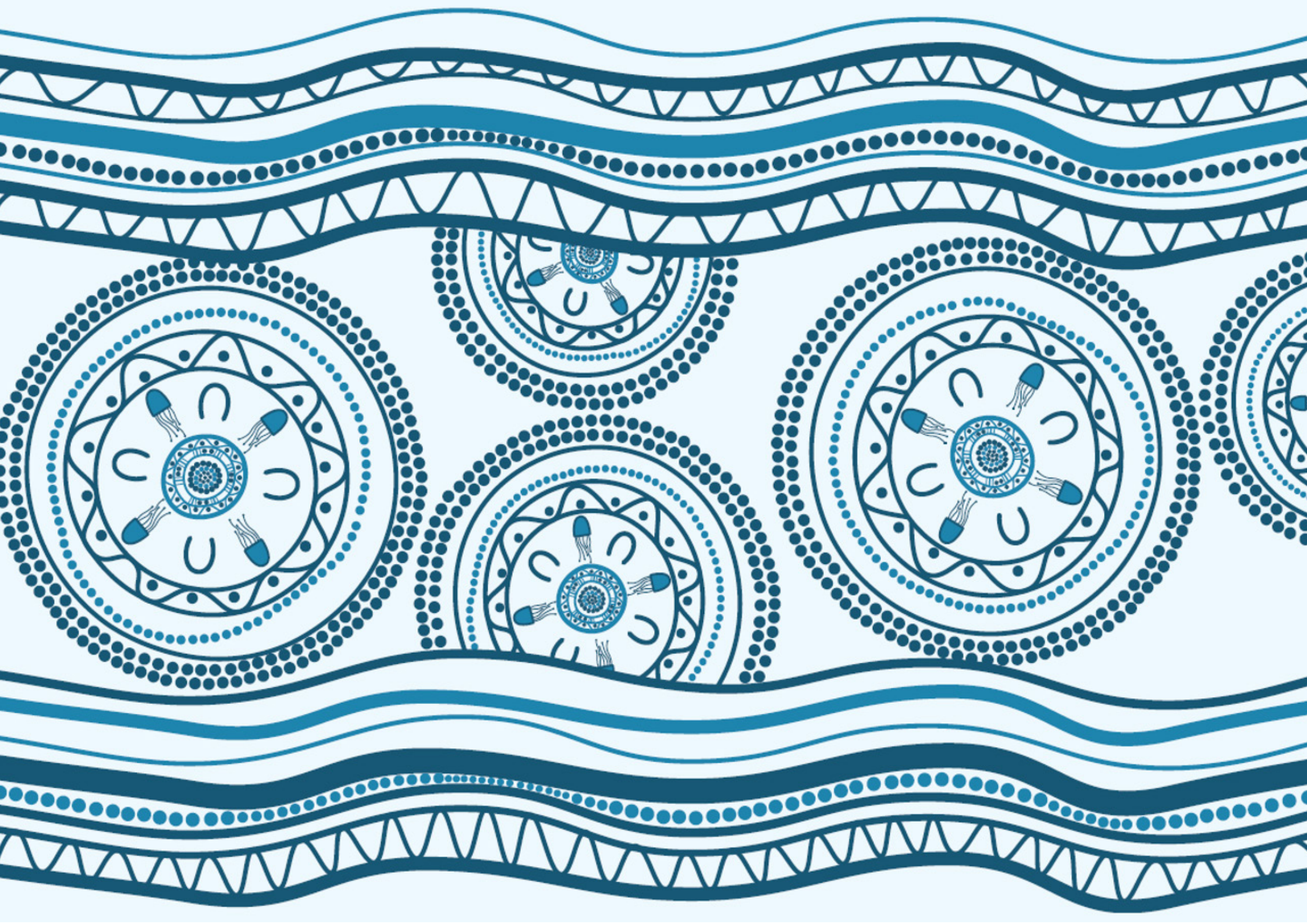
Conclusion

Integrated design outcomes

This report provides an overarching urban design strategy and concept that sensitively, both physically and visually, integrates the project with its surrounding topography, landscape and urban setting, minimising impact and maximising the ferry user experience from land and water. As part of this process the report provides:

- A review of the existing context, landscape character and visual amenity
- A clear vision for the project with clear objectives and supporting principles
- Urban design concept plans to deliver on the urban design vision, objectives and principles and embed the landscape and visual mitigation measures within the project
- An assessment of the potential landscape and visual impacts that may arise as a result of the project
- A summary of the management measures to be included to deliver on the mitigation measures during the future design development and during construction.

In developing the project, this report has enabled a variety of concepts and initiatives to be tested and reviewed in terms of the ability to mitigate impacts and optimise the overall concept design. The integration of the engineering and performance objectives with urban and landscape design objectives has aimed to produce a design outcome that fits sensitively with the existing qualities and characteristics of the area. In order to achieve this, a range of mitigation measures have been incorporated into the project as the design developed. These measures combine to develop a solution that seeks to protect and enhance the existing character of La Perouse and Kurnell.



Appendix A

KAMAY FERRY WHARVES PROJECT

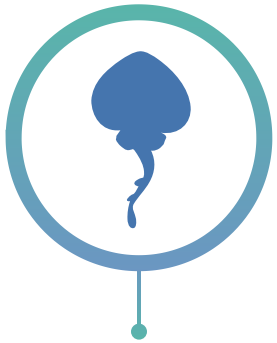
Community Engagement Report

23 September 2021

GUJAGA FOUNDATION

Approach

Approach

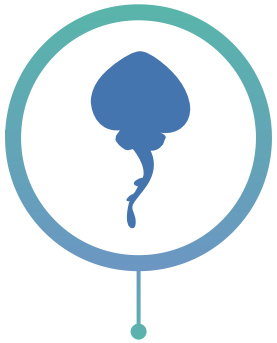


1. Project Team Engagement

Gujaga Foundation Team was selected on the basis of their cultural connection to Kamay Botany Bay

Ensured that project would be delivered in a culturally appropriate way

A number of potential approaches discussed e.g., cultural vs historical



2. Targeted Elder Engagement

Elders were approached on the basis of their cultural authority to speak on behalf of their country and community

Elders provided cultural and historical stories to guide Artists

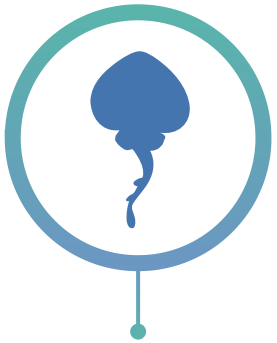
Artists developed conceptual designs

3. Online Survey

Online survey gave broader community the opportunity to provide input

Minimal participation

Artists continued to develop designs under guidance of Elders



4. Additional conversations

Further conversations with interested members of the La Perouse community

Additional community members were able to provide input to designs

Artists refined and added to the designs

5. Community Feedback Session

In person workshop gave La Perouse community an opportunity to provide feedback on designs

No feedback provided which suggests that community is happy with design process

Designs were progressed to a near to final stage

Approach	Gujaga Foundation Team was selected on the basis of their cultural connection to Kamay Botany Bay	Elders were approached on the basis of their cultural authority to speak on behalf of their country and community	Online survey gave broader community the opportunity to provide input	Further conversations with interested members of the La Perouse community	In person workshop gave La Perouse community an opportunity to provide feedback on designs
Outcome	Ensured that project would be delivered in a culturally appropriate way	Elders provided cultural and historical stories to guide Artists	Minimal participation	Additional community members were able to provide input to designs	No feedback provided which suggests that community is happy with design process
Artwork development	A number of potential approaches discussed e.g., cultural vs historical	Artists developed conceptual designs	Artists continued to develop designs under guidance of Elders	Artists refined and added to the designs	Designs were progressed to a near to final stage

1. Project Team Engagement

Overview

- Each member of the Project Team, with the exception of Historian Paul Irish, has an ancient and unbroken connection to Coastal Sydney
- The La Perouse Artist, Jordan Ardler, belongs to a number of families within the La Perouse Aboriginal Community and was guided by Senior Elders
- The Kurnell Artist, Shane Youngberry, is a member of the Gweagal Clan which is traditionally connected to the Kurnell Peninsula and was guided by Senior Elders
- The engagement of the Project Team, the Artists, and the Elders gave our community confidence that this project would be delivered in a culturally appropriate way

2. Elder Engagement

La Perouse

- Senior Elders were engaged to guide the Artist in developing the La Perouse design
- These Elders have a wealth of knowledge on the history of the La Perouse Aboriginal Community

Kurnell

- A senior Elder was engaged to guide the Artist in developing the Kurnell design
- This Elder was able to use his unbroken cultural connection to Kurnell and their Gweagal Clan to share a Dreaming story that has never been published in detail to inspire the design

3. Online Surveys

Overview

- **Dates**: 15 March to 26 March 2021
- **Advertisement**: Shared through La Perouse Alliance mailing lists and LALC Social Media
- **Participants**: 2
- **Substantive questions:**
  - Please describe your association with Kamay/Gamay (Botany Bay). This could include your connections to the La Perouse Aboriginal community
  - Please indicate the type of cultural information you think is important to showcase
  - Please provide a summary of the information you would like to provide
  - Do you have documentation or other material that contributes to your information? If so, are you willing to share before or at interview?
  - Is there anything else you would like to provide or highlight for the panel to consider?
- **Reasons for low participation :**
  - Older generation prefers in-person consultation which was difficult to manage due to COVID risk
- **Project Team response**: Artist attended Elder's meeting to give La Perouse Elders an opportunity to contribute verbally

4. Additional conversations

Overview

- **Time period**: April - March 2021
- **Purpose**: Provide interested community members an opportunity to provide input and feedback to the design
- **Participants**: 11
- **Approach:**
  - Marcia Ella-Duncan suggested that we speak with a number of community members she had already engaged with, predominately in relation to Timbery Reserve
  - The La Perouse Artist, Jordan Ardler, interviewed each of these community members, shared the concept designs, and incorporated their input into the final design
  - Interviews were unstructured which allowed participants to share their experiences on living at La Perouse and translating these into suggestions for the design
- **Commentary:**
  - Due to the proximity of the La Perouse Wharf to the Timbery Reserve, the majority of these community members belonged to the Timbery family
  - The fact that the Elders and Artist engaged all belong to the Timbery family assisted greatly with these conversations

5. Community Feedback Session

Overview

- **Date and time**: 26 March 2021
- **Location**: Community Hall, Yarra House, 1 Elaroo Avenue, La Perouse, NSW, 2000
- **Participants**: 0
- **Approach:**
  - Designs and associated underlying themes were printed off and placed on tables
  - Pens and sticky notes were provided for community members to write down feedback
- **Reasons for low participation:**
  - Engagement of Senior Elders on both the La Perouse and Kurnell sides of Kamay Botany Bay ensured that designs were culturally appropriate
  - Interested parties had already been engaged with through the Elder Engagement and Additional Conversations steps
  - Historically, members of the La Perouse Aboriginal community will only attend feedback sessions when they feel that something is wrong or needs to be corrected. The absence of attendees to this Community Feedback Session suggests that the La Perouse Aboriginal community was happy with the approach

Key Themes

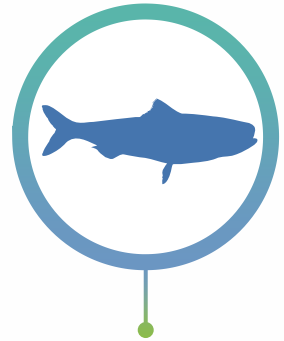
Key themes – La Perouse

1. Reflection of community

Reflection on the presence of the La Perouse Aboriginal community and how it has adapted and evolved over the years

2. Honoring our old people

Paying respect to our old people who, despite the impact of colonisation, were able to survive and thrive on the northern arm of Botany Bay, often through innovative displays of entrepreneurship



3. Contemporary use of Kamay

Celebrating our communities continued cultural practices in relation to the bay such as diving for lobster and fishing for mullet

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Reflection of community

Interview summaries

- The wharves were a community hub where community members would gather to:
  - Eat fish and chips
  - Eat johnny cakes and boil tea
  - Eat plum pudding, pig faces
  - Catch octopus, lobsters, mullet, leatherjackets, crabs and prawns
- The wharves were also a place where community members would:
  - Dive for pennies thrown by tourists
  - Play 2 up outside the paragon
- Community members would also ride the ferry to Kurnell:
  - To collect shells for shellwork
  - As a family day trip
  - As a fun thing to do, especially when the swell was big

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Honoring our old people

Interview summaries

- The wharf was also a commercial hub where community members could:
  - sell artifacts, shell work, boomerangs to tourists
  - Travel to Kurnell to collect shells using baskets they weaved themselves
  - Sell boomerang broaches with names on it
  - Craft boomerangs using glass due to lack of tools
- This practice of riding the Ferry to Kurnell to collect shells then use the shells to make shellwork to sell to tourists is an example of how entrepreneurial and resourceful our old people were
- The crafting and sale of boomerangs by the Timbery family in particular was another example of this

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Contemporary use of Kamay

Interview summaries

- There are still a number of practices we are continued by our community today such as:
  - Hauling mullet
  - Diving for lobster
  - Diving for crabs
  - Fishing
  - Diving for octopus
- It is also great to see the Gamay Rangers boat patrolling Kamay as it is similar to when our community members used to pilot and work on the old ferry

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Key themes – Kurnell

1. Traditional connection

Acknowledging the families belonging to our community who have had a continued connection to the southern arm of Botany Bay since time began

2. Dreaming

Sharing traditional Dreaming stories linked to Kamay, the wildlife it sustains and the people who live on its shores

3. Keeping culture alive

Celebrating the fact that Dreaming stories and cultural practices are still alive and being passed down within our community to this day

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Traditional Connections

Interview summaries

- The following concepts and key messages for the Kurnell wharf were received well:
  - Showcase traditional knowledge that remains in the community
  - Important for the visitor to see an ongoing connection that has not been broken
  - Relevant story that relates to the local clan group and broader cultural group
  - Telling our story, our way
- Promote key Aboriginal identities that relate to Kurnell peninsula
- Ensure consistency with the La Perouse wharf

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Dreaming

Interview summaries

- Dharawal dreaming story held by the Gweagal clan group on how Gamay/Botany Bay was created and relevant to all clan groups around Gamay
- This story has not been documented before, only told within family groups that belong to Gamay
- The story us consistent with other ‘salt water’ cultural groups along eastern NSW.

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Keeping Culture Alive

Interview summaries

- Showcase culture is still present in our community despite being the first contact community
- The use of the wharf could become a teaching area for our young people in our community
- Increase the visitor experience not only to the wharf but to Kurnell National Park as well

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Development of Artwork

Art development process

1. Elder engagement

- Artists spent time with Elders, listened to their stories, then used these stories to create initial concepts
- These initial concepts were tested with the Elders before the Artists continued to develop them

2. Broader community engagement

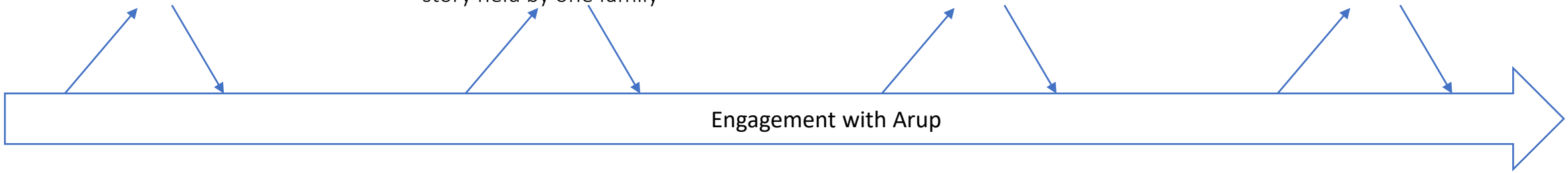
- Jordan Ardler spent time with additional community members to incorporate stories and themes relevant to a range of different families belong to the La Perouse Aboriginal community
- It was not necessary for Shane Youngberry to carry out additional community engagement as the Kurnell artwork was based on a story held by one family

3. Expert advice

- Once the designs were sufficiently developed, the Artists held workshops with leading Design expert Alison Page
- These workshops allowed the Artists to refine the artwork in a manner which will improve their impact once they are built into the structure of the wharf

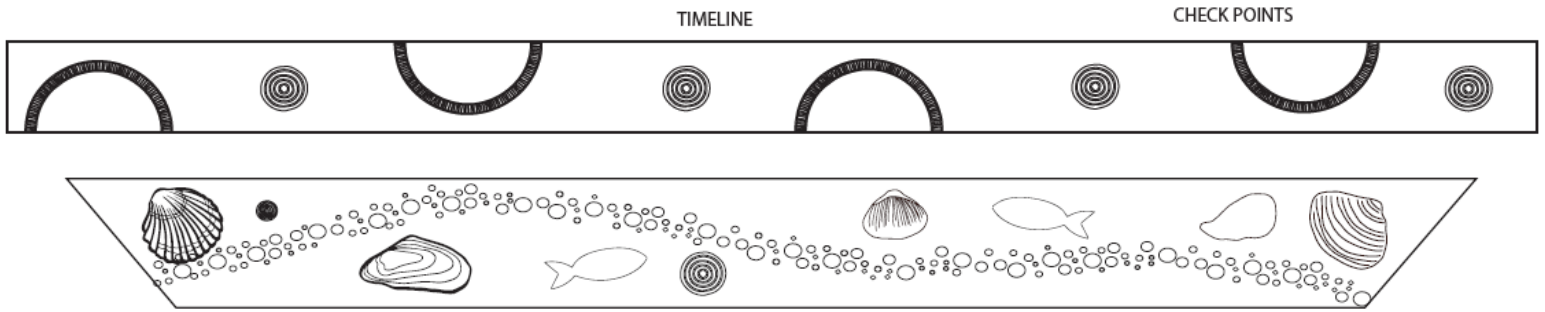
4. Elder approval

- These near to final designs were then presented to the Elders engaged to guide both the La Perouse and Kurnell focused artworks
- The Elders were extremely happy with the result

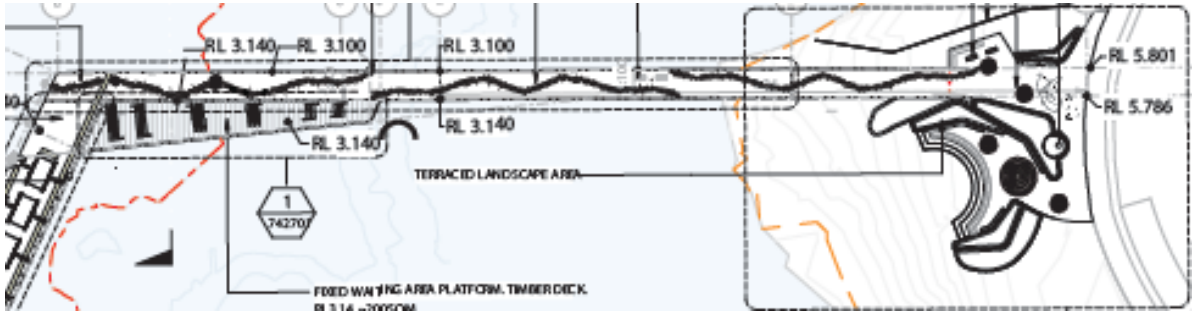


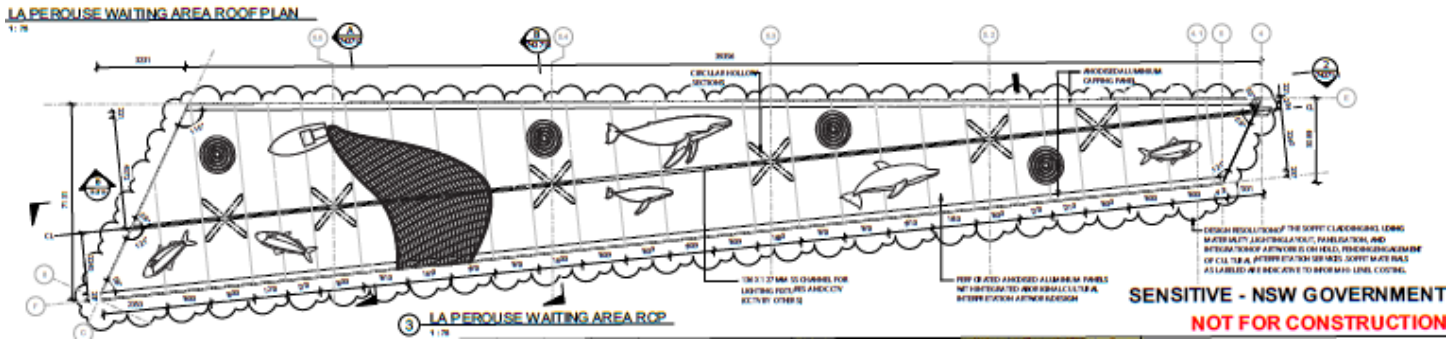
Deep Dive: Progress of La Perouse artwork throughout the process (1/2)

1. Elder engagement



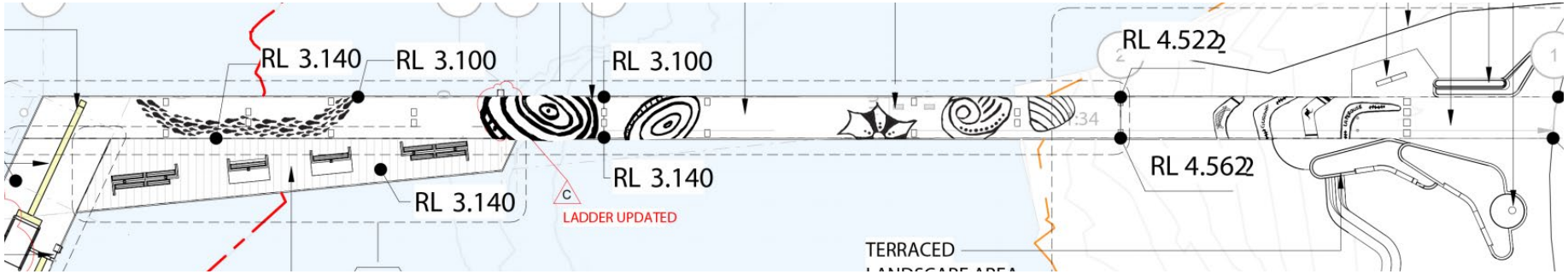
2. Broader community engagement

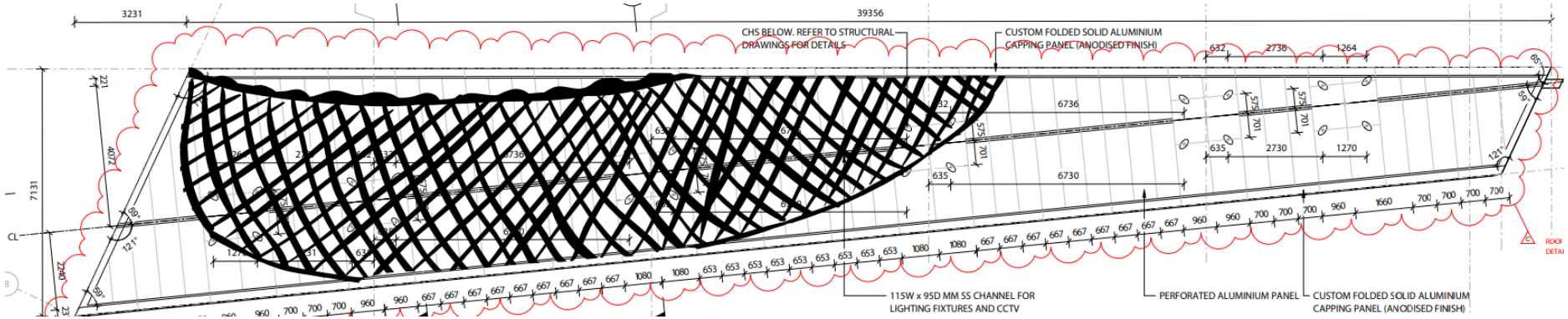




Deep Dive: Progress of La Perouse artwork throughout the process (2/2)

3. Expert advice/ Elder Approval





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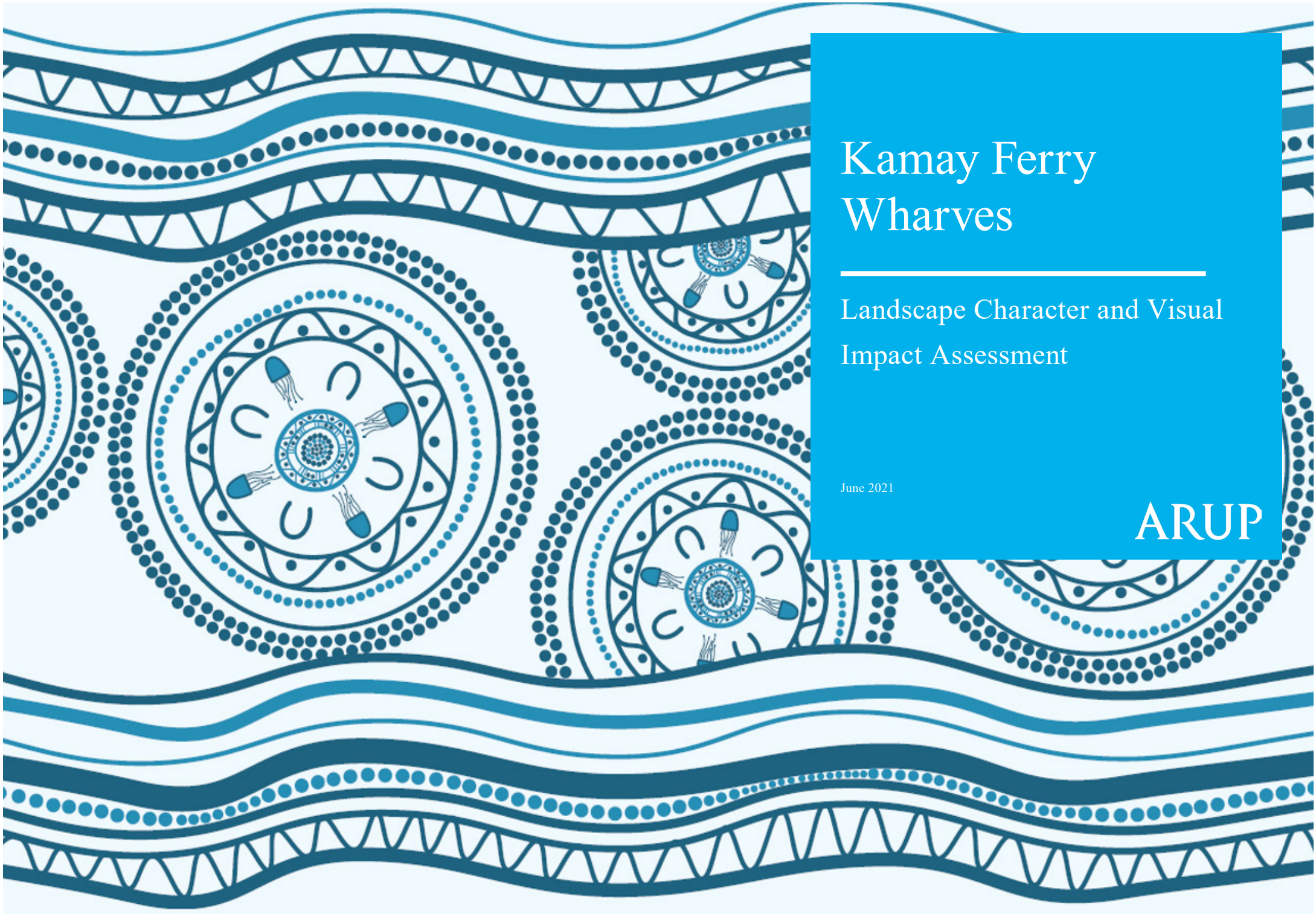
APPENDIX B



Kamay Ferry Wharves

Landscape Character and Visual Impact Assessment

June 2021

ARUP

Contents

01
Introduction

Purpose of this report

Transport for NSW (TfNSW) is seeking approval to reinstate the ferry wharves at La Perouse and Kurnell in Botany Bay (the project) under Division 5.2 of the Environmental Planning and Assessment Act 1979 (EP&A Act) as State Significant Infrastructure (SSI).

The purpose of this report is to support and inform the design proccess and the preparation of an Environmental Impact Statement (EIS). It presents a concept design for the project and an assessment of the Landscape Character and Visual Impacts (LCVIA) during both the construction and operation phases of the project.

The results of this assessment will be used to support the required environmental and planning approvals for the project as required under the Environmental Planning and Assessment Act 1979.

Background

The Project

The project would allow for an alternative connection between La Perouse and Kurnell rather than by road. The primary purpose of this infrastructure would be to operate a public ferry service for visitors and the local communities. It would also provide supplementary temporary mooring for tourism-related commercial vessels and recreational boating. Between 1890 and 1974 the historic ferry service operated in Botany Bay and the wharves were eventually decommissioned due to severe damage experienced as a result of a storm. Refer to Chapter 06: Project, page 66 and Figure 23 for the historical wharf alignments.

The project provides opportunities for significant cultural and economic benefits to the local Aboriginal community by providing improved access to culturally significant sites. It is also expected to deliver benefits and opportunities to wider communities on either side of Botany Bay such as investment opportunities in a ferry service and other new visitor/tourist experiences.

Project site

The project is located at La Perouse and Kurnell situated to the north and south of Botany Bay. Both sites are located in the Kamay Botany Bay National Park about 14km south of the Sydney CBD (refer to Figure 1, page 7).

Both areas are recognised as having scenic and environmental value due to the biodiversity and heritage significance. Key environmental features include: Nationally designated parklands that provide high quality recreational areas, the marine habitats that contains seagrass meadows and known and potential heritage items and values including Aboriginal heritage, non-Aboriginal heritage and underwater cultural heritage. The areas have Aboriginal cultural sites and significance dating back thousands of years, and Botany Bay represents the location of the first landing of Captain James Cook in 1770.

Botany Bay, though home to naturally attractive and significant areas around the Project, is predominantly industrial in character. It contains Port Botany, Sydney's main shipping port; Sydney Airport, with runways built on reclaimed land within the Bay; and the Caltex operated oil terminal at Kurnell.

Study objectives & report structure

Broadly summarised, the report is structured with reference to the following tasks:

- Section 01 ‘Project Overview’ (page 8):
  Establishes an understanding of the project relevant to the LCVIA; namely the location, form and scale of the project and the relative physical differences between the current conditions and those which are proposed both during construction and during operation.
- Section 02 ‘ Methodology’ (page 14):
  Provides the methodology through which the potential impacts are identified and assessed, including the project assumptions and limitations.
- Section 03 ‘Legislation and Policy’ (page 26):
  Identifies both physical and statutory components of the landscape and visual baseline which influence character and associated sensitivities.
- Section 04 ‘Context’ (page 34) and Section 05 ‘Baseline’ (page 44):
  Describes the existing landscape and visual character of the study area, via desktop studies and site work, as a means of establishing a baseline against which impacts associated with the project can be assessed.
- Section 06 ‘Project’ (page 66):
  Provides a description of the key elements relevant to the LCVIA within the project. Describes the urban design response, with reference to placemaking and embedded mitigation.
- Section 07 ‘Impact Assessment’ (page 80):
  Provides an assessment of the identified key landscape character areas and representative viewpoints.
- Section 08 ‘Summary of Assessment’ (page 112):
  Provides a summary of the landscape and visual impacts assessed throughout the report. This section includes broadly suggested mitigation measures considered to reduce and manage the impacts beyond the measures that have been incorporated into the project.

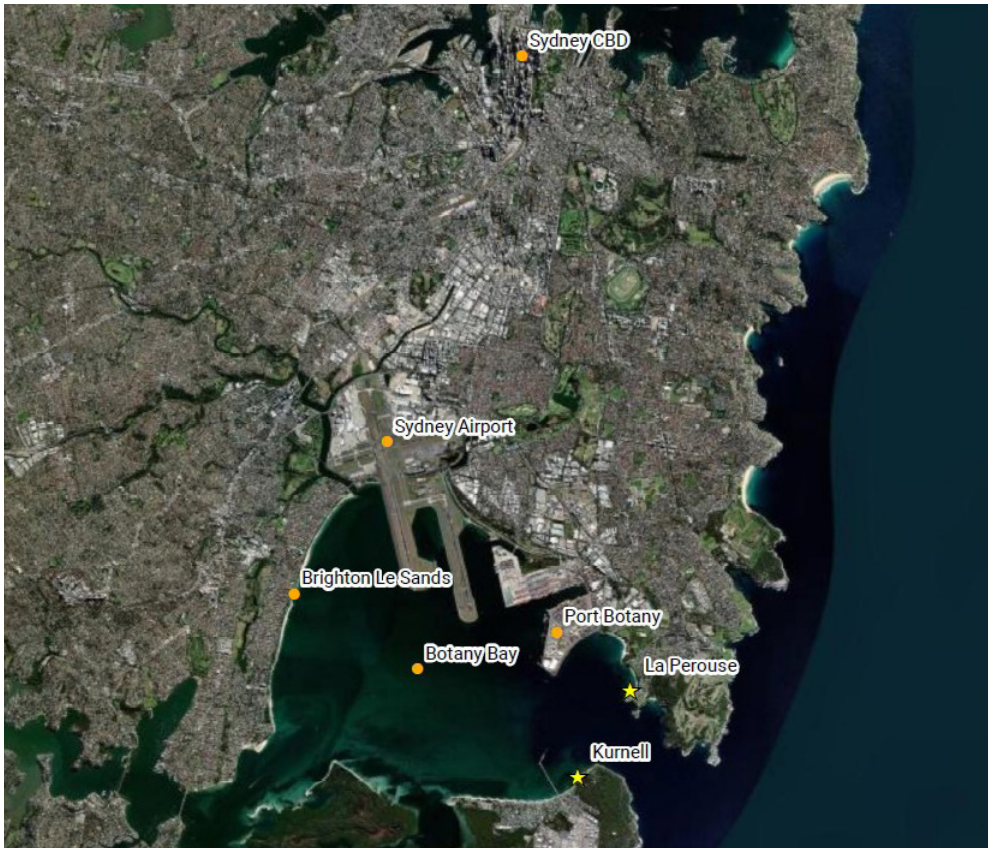


FIGURE 1 SITE CONTEXT

Project overview

Overview

The project (including the construction area) covers an area of about one square kilometre, stretched over both the Randwick City and Sutherland Shire Local Government Areas (LGAs). The wharf at La Perouse is proposed to extend about 100 metres from the shore and the wharf at Kurnell is proposed to extend about 200 metres from the shore. The EIS has been prepared based on the concept design (as summarised in Chapter 06: Project).

If approved, the project would continue to be developed in collaboration with the project stakeholders to ensure the collaborative and integrated design is achieved. It is anticipated that the project would generally progress in-line with the current intent and within the project area.

The main components of the project include:

- Two new wharves, one at La Perouse and one at Kurnell
- Landside paving, access ramps, seating and landscape design at the entrance to the wharves
- Reconfiguration of existing car parking areas at La Perouse to increase the number of spaces (including provision of accessible parking and kiss-and-ride bays)
- Reconfiguration of footpaths around the new car parking area at La Perouse
- Provision for bike racks at La Perouse
- Installation of utilities to service the wharves.

The following description provides an understanding of the key construction and operation activities associated with the project.

Construction

The proposed construction staging, timing and activities will continue to be developed. Pending approval, construction is expected to take up to 13 months, starting in April, 2022. The project would be built and managed by a contractor under a Construction Environmental Management Plan (CEMP) prepared and approved in response to a condition of consent, and in accordance with relevant safety management plans.

The construction of the two wharves will occur at the same time with landside and waterside works occurring simultaneously. The indicative construction method is illustrated in the opposite table.

Construction would take place between standard working hours Monday to Friday 7am to 6pm, and Saturday 8am to 1pm. There would be no work on Sundays or public holidays. However, being within a marine environment, the project would require several activities to be undertaken outside standard working hours for safety reasons.

Stage	Activities	
Stage 1: Site establishment	**La Perouse - April 2022 – May 2022 (1 month)**	**Kurnell - April 2022 – July 2022 (3 months)**
	• Install fencing • Set up compound and laydown areas • Set up site offices and access • Form temporary access roads • Form crane and rig platforms at La Perouse.	• Install fencing • Set up compound and laydown areas • Set up site offices and access • Form temporary access roads • Demolish the existing Kurnell viewing platform • Establish the temporary causeway at Kurnell.
Stage 2: Main construction	**May 2022 - December 2022 (7 months)**	**April 2022- March 2023 (11 months)**
	• Piling • Wharf construction • Car parking reconfiguration and footpaths • Installation of utilities • Installation of wharf furniture • Landscaping.	• Piling • Wharf construction • Installation of utilities • Installation of wharf furniture • Landscaping.
Stage 3: Site demobilisation	**June 2022 – March 2023 (8 months)**	**September 2022 – April 2023 (7 months)**
	• Removal of temporary work areas and site offices.	• Removal of temporary work areas and site offices.

Operations

The wharves would provide berthing access for both ferry vessels and commercial and recreational vessels. Each wharf would create new public spaces that service a range of users for differing mobility needs and interests. Figures 2 and 3 illustrate the main design features for each project area and include:

1. A multi-user and Disability Discrimination Act (DDA) accessible wharf head structure with separate and bespoke berths on each side for ferry operations and recreational boat users. A fixed wharf ramp structure comprises an Fibre Reinforced Plastic (FRP) open mesh flooring. Supporting the deck is a modular steel frame, concrete headstocks and steel tubular pile pairs.
2. At the top of the wharf head lies the protected waiting area featuring fixed bench seating, balustrading, lighting and a generous landing for wharf users. The waiting area comprises a timber deck finish protected by concrete precast deck planks, precast headstocks and steel tubular piles.
3. Protecting the waiting area is a roof design that allows for dappled sunlight and reflection of the water movement creating a space sympathetic to its contextual environment. The roof comprises a translucent fibreglass sheet roof with perforated metal soffit and a structural steel T-frame with timber cladding.
4. Connecting the waiting area to the landside is a 4m wide jetty approach structure that allows for bi-directional flow of wharf users with allowance for seating, balustrading and lighting. The deck is located ~4m above low tide and comprises a robust reinforced concrete deck structure, precast headstocks and steel tubular pile pairs.
5. An expanded entrance/approach from the landside that integrates and grounds the wharf to the context and the park. The entrance zone incorporates seating to foster interactions with the public and allows for a moment of pause in the visitor journey to the ferry and within the park. Bicycle racks are provided at La Perouse.
6. Opportunity areas for cultural artwork integration are located on the perforated roof soffit and fascia, timber decking, concrete deck, balustrades and arrival points.

Further detail on the landscape and architectural design response associated with these features is included in Chapter 06: Project.

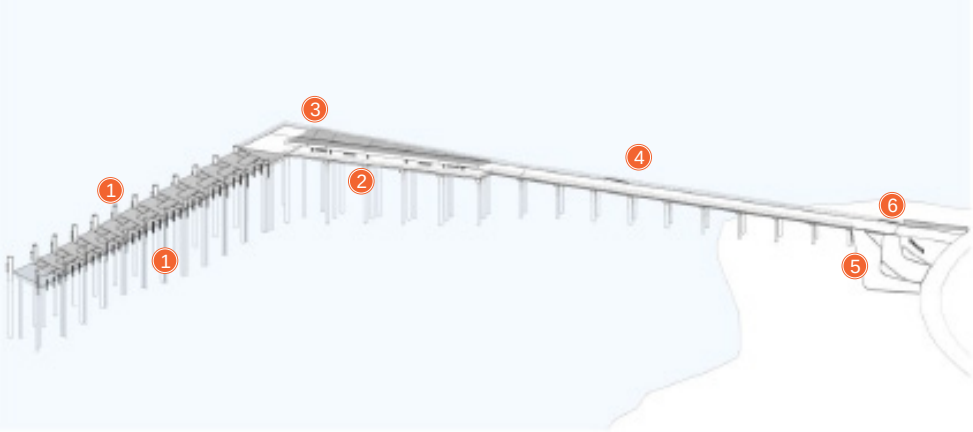


FIGURE 2 LA PEROUSE WHARF CONCEPT DESIGN KEY FEATURES

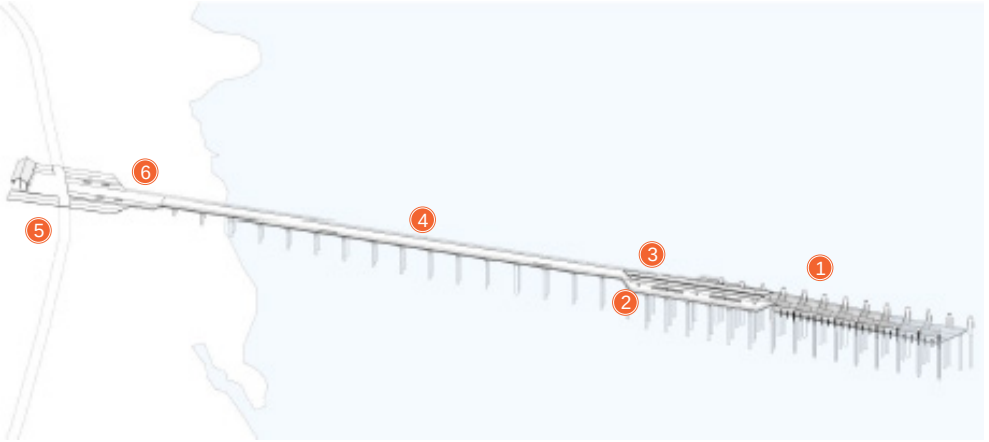


FIGURE 3 KURNELL WHARF CONCEPT DESIGN KEY FEATURES

Relevant SEARs and Agency Requirements

	Environmental Impact Statement The project is described in sufficient detail to enable clear understanding that the project has been developed through an iterative process of impact identification and assessment and project refinement to avoid, minimise or offset impacts so that the project, on balance, has the least adverse environmental, social and economic impact, including its economic impacts.	
1.	1.The EIS must include, but not necessarily be limited to, the following: (l) a statement of the outcomes the Proponent will achieve for each key issue; (m) measures to avoid, minimise or offset impacts must be linked to the impact(s) they treat, so it is clear which measures will be applied to each impact; (n) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts;	Refer to 05 Baseline chapter for Landscape and Visual conditions. Refer to chapters 06 Project and 08 Summary of Assessment for the demonstration of how mitigation has been embedded into the concept design to minimise impacts how any residual impacts will be managed or offset.
	Assessment of Key Issues Key issue impacts are assessed objectively and thoroughly to provide confidence that the project will be constructed and operated within acceptable levels of impact. * Key issues are nominated by the Proponent in the SSI project application and by the Department in the SEARs. Key issues need to be reviewed throughout the preparation of the EIS to ensure any new key issues that emerge are captured. The key issues identified in this document are not exhaustive but are key issues common to most SSI projects.	
1	The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the project location and the surrounding environment. The level of assessment must be commensurate to the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts.	Refer to 05 Baseline for Landscape and Visual conditions and sensitivity assessment results. Refer to 07 Impact Assessment for Landscape and Visual magnitude of change and overall impact results. Refer to 08 Summary of Assessment for an overview of the Landscape and Visual Impacts and embedded mitigation.
2.	Assessment of Key Issues: For each key issue the Proponent must: (a) describe the biophysical, social and economic environment, as far as it is relevant to that issue, including baseline data that is reflective of current guidelines where relevant; (b) describe the legislative and policy context, as far as it is relevant to the issue; (c) identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst case scenario) of the impact (comprehensive risk assessment), the impacts of concurrent activities within the project and cumulative impacts; (d) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies); (e) detail how likely impacts that have not been avoided through design will be minimised, and the predicted effectiveness of these measures (against performance criteria where relevant); and detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures.	Refer to 03 Legislation and Policy for legislative and policy context, as far as it is relevant to the LCVIA and the project. Refer to 04 Context for the biophysical, social and economic environment data collected about the project areas. Refer to 07 Impact Assessment for the identified, described and assessed impacts. Refer to chapters 06 Project and 08 Summary of Assessment for the demonstration of how mitigation has been embedded into the concept design to minimise impacts how any residual impacts will be managed or offset.
3.	Assessment of Key Issues: Where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered, and the proposed measure justified taking into account the public interest.	Refer to 07 Impact Assessment for the identified, described and assessed impacts, 06 Project for the concept design and 08 Summary of Assessment.
	Design, Place and Movement The project is well-designed and enhances the environment where it is located, including improved accessibility and connectivity for communities and public space.	
2.	Place design principles that are reflective of the design objectives in Better Placed, including a focus on: (a) fit – contextually, local and of its place; (b) performance – sustainable, adaptable and durable; (c) community – inclusive, connected, accessible and diverse; (d) people – safe, comfortable and liveable (such as crime prevention through environmental design); (e) working- functional, efficient and fit for purpose; (f) value – creating and adding value; and (g) look and feel – engaging, inviting and attractive.	Refer to Chapter 06 Project.

3.	Place designs, actions and outcomes for the project that protect and facilitate improvements to the built environment, including in relation to: (a) public space (including open space); (b) active and public transport; and (c) views and vistas.	Refer to 06 Project, (Figures 29-34) for placemaking concept design outcomes regarding public space, active movement connections and key views.
5.	The provision of visual representations of the project from key locations to illustrate the project.	Refer to 07 Impact Assessment for visualisations
6.	Demonstration of the project's consistency with the Kamay Botany Bay National Park Plan of Management (2020) and the Kamay Botany Bay National Park: Kurnell Precinct Master Plan (2019).	Refer to 06 Project, (page 76) for demonstration of consistency with the Kamay Botany Bay National Park Plan of Management (2020) and the Kamay Botany Bay National Park: Kurnell Precinct Master Plan (2019).
	Non-Aboriginal Heritage The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of Non-Aboriginal heritage.	
1	Where impacts to National, State or locally significant heritage is identified, the assessment must: (c) consider impacts caused by, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence and architectural noise treatment, drainage infrastructure, contamination remediation and site compounds (as relevant); and	Refer to 04 Context, (pages 40-41) for the Cultural and Heritage description. Refer to 07 Impact Assessment for the identified, described and assessed impacts associated with non-aboriginal heritage components.
	Agency Comments **Additional ESS Recommendations**	
	In addition to the requirements in the draft SEARs and EES' previous submission, EES also recommends the EIS include: 1. An assessment demonstrating consistency of the project with the National Parks and Wildlife Act 1974, the Kamay Botany Bay National Park Plan of Management (2019) and the Kamay Botany Bay National Park: Kurnell Precinct Master Plan (2019).	Refer to 06 Project, (page 76) for demonstration of consistency with the Kamay Botany Bay National Park Plan of Management (2020) and the Kamay Botany Bay National Park: Kurnell Precinct Master Plan (2019).
	Randwick City Council	
	Council recently prepared and exhibited a new set of draft Local Character Area statements that will form part of Council's new comprehensive Planning Proposal currently being prepared. The La Perouse area is within the Bays Local Character Area (LCA), one of 11 LCAs across Randwick City. The Bays LCA contains a Special Character Areas with distinctive qualities including, in particular, the sensitive coastal environment of Frenchmans Bay, Yarra Bay, Bare Island and the La Perouse neighbourhood centre. Additionally, the waters surrounding Bare Island is a very popular snorkelling and scuba diving location within the Kamay Botany Bay National Park. It connects eastward through the Eastern Suburbs Memorial Park picking up the Chinese Market Gardens and connecting to the high value natural environment in the Bunnerong Creek LCA. The following draft character principles have been prepared to set the desired future character of the Bays Local Character Area which should be considered in the planning and design of the proposed ferry wharf: • Built scale that responds to the coastal character of the LCA • Protect and enhance Aboriginal heritage and significant sites • Preserve and enhance the village feel in La Perouse • Improved accessibility around the coastal area with improved signage and wayfinding • Preserve existing natural environments and local flora and fauna for future generations • Ensure future development respects the cultural significance of Indigenous landscapes and sites • Build on existing green grid and biodiversity corridors through the LCA • Improved economic vibrancy as a result of the reintroduced Kurnell to La Perouse ferry. • Greater visitor facilities and experience, compatible with the unique character of Botany Bay • Preserve the biodiversity and continue to protect and rehabilitate the landscapes and ecosystems	Refer to 05 Baseline for reference to Randwick City Council's LCAs and for context regarding the identified and assessed LCAs throughout this report. Refer to 06 Project for reference to the; • protection and enhancement of the identified non-aboriginal and aboriginal heritage and significant sites surrounding the project areas • improved accessibility and movement connections • improved facilities and experience and enhancement to the existing landscape character • the conservation and enhancement of ecological values throughout the concept design.

02

Methodology

Assessment methodology

Guidelines and policy

The LCVIA assessment conforms with the direction offered by the following guidance documents:

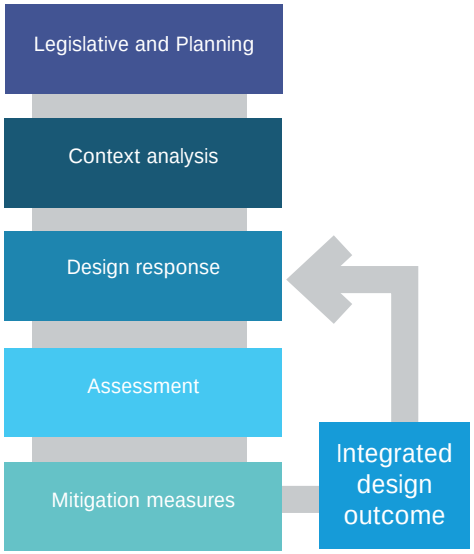
- TfNSW Guideline for landscape character and visual impact assessment, 2020 - Environmental impact assessment practice note EIA-N04.
- TfNSW Beyond the Pavement 2020, Urban design approach and procedures for road and maritime infrastructure planning, design and construction.
- NSW Government Better Placed, An integrated design policy for the built environment of New South Wales.
- The Guidance for Landscape and Visual Impact Assessment, Third Edition, 2013, prepared by the Landscape Institute and Institute of Environmental Management & Assessment, UK.

These guidance documents set out a clear and systematic approach in documenting the baseline landscape and visual conditions, potential impacts and mitigation.

Report approach

The LCVIA approach follows an iterative process where key issues, constraints and mitigation related to the landscape character and visual assessment are integrated into the project. Consistent with Chapter 01: Introduction, the approach consists of the following steps:

- Section 03 Legislation and Policy | A review of State, regional and local planning policy to gather information on the planning objectives and aims that are relevant to the LCVIA.
- Section 04 Context | An analysis of the local context with a focus on landscape and urban features, visual amenity through a selection of representative views, and landscape character. Determination of the sensitivity of the landscape and visual amenity. Sensitivity is defined further on page 15 and in Table 2 on page 18.
- Section 06 Project | Review of the project and the associated design integration and response. Potential impacts that may arise are fed back in to the design development process to embed mitigation measures within the project design and assist with shaping an appropriate landscape, urban design and architectural design response that relates to the SEARs Placemaking requirements.
- Section 07 Impact Assessment | Landscape character area and visual impact are assessed individually. The impact is assessed by combining the sensitivity of the existing area of a view point, with the magnitude of change (scale, contrast, quality, distance) of the project on that area or view. Magnitude of change is defined further on page 15 along with the landscape and visual assessment matrix table.
- Section 08 Summary of Assessment | Where potential impact cannot be resolved through the embedded design process, additional measures are to be explored and discussed further within the LCVIA and further detailed landscape design.



Sensitivity

According to the EIA-N04 Guideline for landscape character and visual impact assessment, sensitivity refers to “the sensitivity of a landscape character zone or view and its capacity to absorb change of the nature of the project and also relates to the type of viewer and number of viewers,” (TfNSW, 2020). It is informed by the analysis of the existing context, for example, the number of people experiencing a view, the analysis of landscape and visual features and their settings, together with the value placed on these locations by the community or by legislation or policy.

Sensitivity is described as either Negligible, Low, Moderate or High. Refer to pages 18 and 19 (Tables 2 and 4) for a description of components that inform the analysis of sensitivity and definitions for the levels of sensitivity.

Magnitude of change

The magnitude of change refers to the nature, scale and duration of the change that is expected to occur. It is described within the EIA-N04 Guideline for landscape character and visual impact assessment as “the measurement of the scale, form and character of a development Proposal when compared to the existing condition and also relates to how far the Proposal is from the viewer,” (TfNSW, 2020). It is informed by an analysis of the loss, change or addition of any feature to the existing landscape or visual amenity.

Magnitude of change is described as Negligible (barely perceptible change), Low (noticeable change), Moderate (considerable change) or High (dominant change). Refer to pages 18 and 19 (Tables 3 and 5) for a description of components that inform the analysis of the magnitude of change and definitions for the assessment categories.

Impact Assessment

The combination of sensitivity and magnitude provide the rating of the landscape character impact or visual impact for individual viewpoints as shown in Table 1.

Table 1: Landscape and visual impact assessment matrix

Sensitivity \ Magnitude	High	Moderate	Low	Negligible
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

Landscape character approach

Landscape character assessment

Landscape character can be defined as the "combined quality of built, natural and cultural aspects which make up an area and provide its unique sense of place", (TfNSW, 2020). It includes all aspects of a tract of land – built, planted and natural topographical and ecological features.

To enable the assessment of impacts on landscape character, Landscape Character Areas (LCAs) have been defined for the study area. LCAs are defined as areas having a distinct, recognisable and consistent pattern of elements making one landscape character area different from another.

Randwick Council has recently identified a new set of Local Character Areas that will form part of Council's new comprehensive Planning Proposal currently being prepared. The La Perouse area is incorporated and sits within the Bays Local Character Area (LCA), one of 11 Local Character Areas across Randwick City. Reference has been made to the Randwick City Council Local Character Areas to assist with defining the LCAs in relation to the project. Please refer to 05: Baseline, page 44 for the identified LCAs and their relation to the Randwick City Councils Local Character Areas.

Impact

The overall impact rating of the project on any given LCA is based on themes of magnitude and sensitivity. The severity of these impacts are calculated using the matrix illustrated in Table 1 (page 15). The landscape magnitude and sensitivity criteria that are used to inform the assessment are illustrated in Table 2 and 3 on page 22.

Impact ratings - Direct impacts

Direct landscape impacts relate to impacts on landscape character that may occur on LCAs as a direct result of the presence of the project within an area of a landscape character. It would result in the loss of the important physical or cultural elements that define the area's landscape character (for example vegetation, buildings, land form).

Impact ratings - Indirect impacts

Indirect landscape impacts relate to potential impacts that may occur on LCAs next to the project and construction footprints. Indirect impacts would affect the content, setting, and therefore perception of an area's landscape character values. This is sometimes termed 'borrowed character.'

Visual approach

Viewpoint selection

A Visual Envelope Map (VEM) is produced to illustrate the theoretical area from which the project would be visible from. Following a review of the VEM, a thorough desktop study and a site visit, representative viewpoints with the potential to be visually affected by some element of the project are identified and selected for further analysis.

Viewpoints were selected to illustrate:

- A range of receptor types including public and private domain views (residents, motorists 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.

Impact

Consistent with the landscape approach, 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 the matrix illustrated in Table 1 (page 15). The visual magnitude and sensitivity criteria that are used to inform the assessment

Study Area

Landscape character assessment

In order to complete the landscape character assessment, the identified assessed study area has been informed by a 5km buffer from the centre of Botany Bay, directly between the two project area locations. This ensures the analysis of the surrounding context of the project area in terms of landscape character.

Refer to Chapter 05: Baseline, Landscape character (page 44, Figure 17) for the illustrated LCA study area boundary.

Visual assessment

In order to complete the visual assessment, the identified assessed study area has been informed by a 5km buffer from the centre of Botany Bay and the VEM, which informs the specific locations of the selected viewpoints. This VEM study area buffer distance has been adopted on the basis of the scale, nature and magnitude of the proposed ferry wharves.

Refer to Chapter 05: Baseline, Visual context (page 48, Figure 19) for the illustrated visual study area boundary.

Photography

A number of photographs were taken to record key views to the project. These photographs were taken with a digital camera at a 50mm equivalent focal length. Where multiple shots were taken in the same location, each photograph was taken with a minimum 40 per cent to maximum 70 per cent overlap to allow for merging into panoramas.

Photomontages

Four photomontages were prepared for the project. These photomontages are intended to act as artist's impressions, illustrating the general location, scale, and relationship of key visual elements with the surrounding landscape. These simulations were created using site photographs, computer modeling and photo editing as follows:

1. A 3D computer model was developed based on a digital terrain model with one metre contour data. The location of these visual simulations was selected to illustrate the range of impacts likely for the project. The digital terrain model does not include buildings and vegetation.

2. The model was positioned over the existing photograph using the GPS coordinates of the location, and a minimum of three existing elements within the photograph as reference points.

3. The photographs have been edited using Photoshop to reflect the likely changes to the view. There is an element of judgment used in the changes shown in these photo-montages.

Assumptions and technical limitations

The following assumptions and technical limitations have informed this study:

- The assessment is based on the EIS Project Description and project details would be further developed during future design stages. Through further engagement with stakeholders and through the design development stage, there is the potential for the final design to vary from that described within this report.

- The photo simulations are based on the concept project design. The end built form may differ from that portrayed in the images and, therefore, these images are purely indicative at this stage.

- The Digital Terrain Model (DTM) developed for topographic mapping was based on a 25m grid derived from LiDAR model.

- It is important to consider the conclusions of this assessment in the context of these limitations however; it is not considered that any of these limitations would have a significant effect on the assessment of impact.

- All discussions and assessments made on the magnitude of change are made relative to the existing landscape baseline condition and do not consider any future development within the study area.

- The designated visual study area is an approximate and based on desk-based study. Professional judgment has been used to predict the likely views of the project. The main elements likely to be visible in the selected views include the ferry wharves.

- Low tide conditions are to be used for assessing the 'worst case' scenario for visual impacts, due the increased exposure of wharf structures.

Landscape assessment approach

Landscape sensitivity

A record of the inherent and intrinsic sensitivity of the landscape and the degree to which it can accommodate change

- Value | The importance of the landscape to society
- Components | Contributing components, such as trees, woodlands, land use, heritage
- Characteristics | Patterns, scenic quality, tranquility etc
- Landscape Character Areas | Homogeneous areas with defining characteristics
- Replacement or substitution | The degree to which inherent components or characteristics can be reserved
- Trends of change | An account of the natural or human activities that may alter the landscape

Table 2: Landscape sensitivity level definitions

High sensitivity	Landscapes which by nature of their character would be unable to accommodate change of the proposed type. Typically these would be: • Of high value of high value with distinct elements and features making a positive contribution to character and sense of place. • Likely to be designated, but the aspects which underpin such value may also be present outside designated areas, especially at the local scale. • Areas of special recognised value, through use, perception or historic and cultural associations. • Likely to contain features and elements that are rare and could not be replaced.
Moderate sensitivity	Landscapes which by nature of their character would be able to partly accommodate change of the type proposed. Typically these would be; • Comprised of commonplace elements and features creating generally unremarkable character but with some sense of place. • Locally designated, or their value may be expressed through non-statutory local publications. • Containing some features of value through use, perception of historic and cultural associations. • Likely to contain some features and elements that could not be replaced.
Low sensitivity	Landscapes which by nature of their characteristics would be able to accommodate change of the type proposed. Typically these would be; • Comprised of some features and elements that are discordant, derelict or in decline, resulting in indistinct character with little or no sense of place. • Not designated. • Containing few, if any, features of value through use, perception or historic and cultural associations. • Likely to contain few, if any, features and elements that could not be replaced.
Negligible sensitivity	Landscapes which by nature of their characteristics would be able to accommodate change of the type proposed. Typically these would be; • Comprised of features and elements that are discordant, derelict or in decline, resulting in indistinct character with little or no sense of place. • Not designated. • Containing no features of value through use, perception or historic and cultural associations. • Likely to contain features and elements that could be readily replaced.

Magnitude of change

The scale, nature and duration of the change and the degree to which the effect can be mitigated

- The scale | Small, medium or large
- Nature | Negative (adverse) or positive (beneficial)
- Duration | Short, medium, long term permanent or temporary
- The mitigation | The degree to which mitigation would reduce the effect

Table 3: Landscape magnitude of change level definitions

High adverse	Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features or elements.
Moderate adverse	Partial loss or noticeable damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic noticeable features and elements.
Low adverse	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features or elements.
Negligible adverse	Barely noticeable loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
No change	No noticeable loss, damage or alternation to character or features or elements.
Negligible beneficial	Barely noticeable improvement of character by the restoration of existing features, and/or the removal of uncharacteristic features, or by the addition of new characteristic features.
Low beneficial	Slight improvement of character by the restoration of existing features, and/or the removal of uncharacteristic features, or by the addition of new characteristic features.
Moderate beneficial	Partial or noticeable improvement of character by the restoration of existing features, and/or the removal of uncharacteristic features, or by the addition of new characteristic features.
High beneficial	Large scale improvement of character by the restoration of features, and/or the removal of uncharacteristic features, or by the addition of new distinctive features.

Visual assessment approach

Visual sensitivity

A record of the visual receptors within the study area and an analysis of the visual sensitivity

- Define visual study area | The areas within which the view is expected to be of concern of importance
- Identify the representative viewpoints | Record important public and provide view points
- The expectation and occupation or activity to inform level of sensitivity | The most sensitive receptors may include residential and public outdoor facilities. Industrial areas may have a low level of visual sensitivity
- The importance of the view | Views that may be designated to safeguard their value or locations that are valued by the communities

Table 4: Visual sensitivity level definitions

High sensitivity	Examples may include: • Residential properties • Users of public footpaths or other recreational trails (e.g National Trails) • Users of recreational facilities where the purpose of that recreation is the enjoyment of the landscape (e.g. National Parks and designated scenic lookouts) • Users of designated tourist routes • Large numbers of viewers.
Moderate sensitivity	Examples may include: • Outdoor works • Users of scenic roads, railway corridors or waterways • Schools and other institutional buildings, and their outdoor areas • Moderate number of viewers.
Low sensitivity	Examples may include: • Indoor workers • Users of main roads or arterial roads • Users of recreational facilities where the purpose of that recreation is not related to the views.
Negligible sensitivity	Examples may include: • Limited numbers of viewers or infrequently accessed view points • Passing interest in their surroundings • Users of minor roads and views from the air.

Magnitude of change

The scale, nature and duration of the change and the degree to which the effect can be mitigated

- Scale | With respect to the loss or addition of features in the view and changes in its composition
- Degree of contrast or integration | Form, scale and mass, line, height, colour, texture
- Nature of view in relation to the proposal | Angle, distance and extent
- Mitigation | The degree to which mitigation would reduce the effect

Table 5: Visual magnitude of change level definitions

High	The project, or part of it, would become the dominant feature or focal point of the view.
Moderate	The project, or part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Low adverse	The project, or part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible adverse	Only a very small part of the project would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view.
No change	No part of the project, or work or activity associated with it, is discernible.

Urban Design Approach

The project is outlined in Chapter 06: The Project and describes the architectural, landscape and urban design vision. To address the relevant SEARs regarding placemaking (refer to page 11, Design, Place and Movement), urban design objectives and principles to guide the design development of the project have been determined. A review of two urban design guidance and policy documents, including Beyond the Pavement and Better Placemaking prepared by TfNSW, was undertaken.

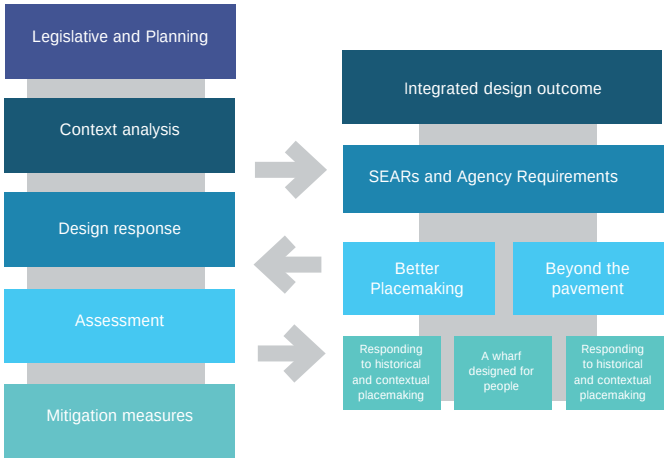
The following pages expand on:

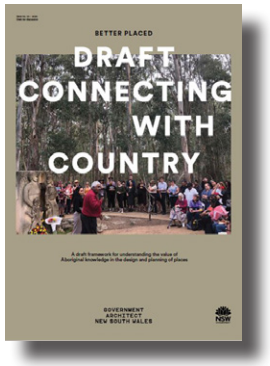
- the background behind these two policies,
- the relationship between the principles and objectives outlined within the two policies (illustrated in table 8, page 20) and,
- the relevance to the project.

These documents, together with an understanding of the local context and project requirements, have informed the development of three urban design objectives for the project:

1. Responding to historical and contextual placemaking
2. A wharf for people
3. Celebration of past, present and future maritime use of the two sites.

Immediate site analysis, including concentrated opportunities and constraints mapping, was undertaken for both sites (refer to Chapter 04: Context). Through an iterative process, impacts highlighted from the LCVIA (refer to 08 Summary of Assessment, page 112 for the summary table) have been fed back to the design team and captured through the proposed conceptual design.





NSW Planning Policy

Draft Connecting with Country

The Connecting with Country document is a draft framework for developing connections with Country to inform the planning, design, and delivery of built environment projects in NSW. It is intended to help project development teams – advocating ways they can respond to changes and new directions in planning policy relating to Aboriginal culture and heritage, as well as place-led design approaches. It also aims to help project teams gain a better understanding of, and to better support, a strong and vibrant Aboriginal culture in our built environment.

It is for community – to help communities advocate their own project initiatives and find common ground, as well as acknowledging diverse perspectives and stories and relationships to Country.

It is for local government – to help them respond to and advocate for community needs in local planning policies and projects.

It is for government agencies – to be better clients by building relationships with communities on Country.

It is for industry – to support better work practices, relationship building, and delivery of better built environment outcomes that are informed and guided by Aboriginal knowledge and leadership.

It is for developers (both Aboriginal and non-Aboriginal) – to understand the unique value of Country and the reciprocal nature.

This Connecting with Country Draft Framework is being tested through a collaborative process with NSW Government delivery agencies. The testing and piloting of this framework will also include deep engagement with Aboriginal people across NSW to inform long-term implementation and to demonstrate the commitment of the Department of Planning, Industry and Environment to nurturing strong relationships with Aboriginal communities.

NSW Planning Policy

Beyond the Pavement (2020)

Beyond the Pavement is a high level urban design policy that systematically incorporates urban design thinking into infrastructure projects, with a focus on delivering improved design outcomes and higher levels of community satisfaction.

It provides guidance on urban design outcomes and expectations, and how to integrate urban design into the infrastructure design process. It identifies urban design principles for TfNSW's projects and provides relevant case studies. These nine principles help define the project outcome, the criteria for success and what is expected in projects. These principles include:

1. Contributing to urban structure, urban quality and economy
2. Fitting with the built fabric
3. Connecting modes and communities and promoting active transport
4. Fitting with the land form
5. Contributing to green infrastructure and responding to natural systems
6. Connecting with Country and incorporating heritage and cultural contexts into projects
7. Designing an experience in movement
8. Designing self-explaining roads that safely respond to their role and context
9. Achieving integrated and minimal maintenance design.

Through Beyond the Pavement, TfNSW commits to providing excellent outcomes for the people of NSW, governed by the 9 over-arching urban design principles that include both physical outcomes and performance-based principles.

There are two principles in particular which relate to wharves:

- Principle two states that a project should avoid adverse visual impacts in the planning and design of roads and wharves.
- Principle three states that projects should incorporate inter modal connectivity in designing the upgrade of existing or building of new ferry wharves.

NSW Planning Policy

Better Placed (2017)

"New development has the potential to transform quality of life for people, stimulate the economy and enhance the environment. The design of the built environment shapes the places where we live, work and meet. The quality of design affects how spaces and places function, how they integrate, what they contribute to the broader environment, and the users, inhabitants and audiences they support or attract.

Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance."

"Better Placed is focused on delivering the kinds of places we collectively aspire to and the best ways to understand and capture the benefits of good design," - Better Placed, 2017.

The seven distinct objectives created to define the key considerations in the design of the built environment are:

1. Better fit - contextual, local and of its place
2. Better performance - sustainable, adaptable and durable
3. Better for community - inclusive, connected and diverse
4. Better for people - safe, comfortable and liveable
5. Better working - functional, efficient and fit for purpose
6. Better value - creating and adding value
7. Better look and feel - engaging, inviting and attractive.

Table 8: Better Placed Objectives and Beyond the Pavement Objectives, Requirements and Principles matrix

	Beyond the Pavement Objectives, Requirements and Principles		
Better Placed Objectives	Beyond the Pavement - 4 Physical Design Objectives	Beyond the Pavement - 3 Performance Requirements	Beyond the Pavement - 9 Design Principles
Better Fit (contextual, local and of its place)	Objective 1 (fit sensitively into the built, natural, and cultural environment in both urban and rural locations)		Principle 2 4 5 & 6 (Fitting with the built fabric / Fitting with the landform / Contributing to green infrastructure and responding to natural systems / Connecting to Country and Incorporating heritage and cultural contexts)
Better Performance (Sustainable, Adaptable & durable)		Performance requirements 2&3 (cost effectiveness & sustainability)	Principle 9 (Achieving integrated and minimal maintenance design)
Better for Community (inclusive, connected and diverse)	Objective 1 & 2 (fit sensitively into the built, natural, and cultural environment in both urban and rural locations / contribute to the accessibility and connectivity of communities and a general permeability of movement through areas by all modes of movement)		Principle 3 (Connecting modes and communities and promoting active transport)
Better for people (safe, comfortable and liveable) Designing self explaining roads that safely respond to movement and place)	Objective 3 (contribute to the overall design quality of the public domain for the community, including transport users)	Performance requirement 1 (safety and towards zero harm)	Principle 7&8 (Designing an experience in movement /
Better working (functional, efficient and fit for purpose)	Objective 2 (contribute to the accessibility and connectivity of communities and a general permeability of movement through areas by all modes of movement)	Performance requirements 2&3 (cost effectiveness & sustainability)	Principle 9 (Achieving integrated and minimal maintenance design)
Better value (creating and adding value)	Objective 4 (revitalise areas and contribute to the local and broader economy) Performance requirements 2&3 (cost effectiveness & sustainability)	Principle 1 & 6 (Contributing to urban structure, urban quality and the economy / Connecting to Country and Incorporating heritage and cultural contexts)	
Better look and feel (engaging, inviting and attractive)	Objective 3 (contribute to the overall design quality of the public domain for the community, including transport users)		Principle 9 (Achieving integrated and minimal maintenance design)

Relevance to this project

Beyond the Pavement and Better Placed are relevant to the entirety of the project, as it is important to consider the broader impacts of the project and associated infrastructure upon existing built form, communities and the natural environments the project transects (including infrastructure associated with temporary construction such as laydown yards and construction lighting). The key purposes of these policies are to ensure that during construction and operation:

- Existing landscape and built environment qualities are understood and protected.
- Built projects contribute to the quality of the built environment in urban and rural contexts and create a legacy for the future.
- The quality of life of local communities is protected or improved in terms of connections, access to facilities, proximity to noise, views, safety and sense of place.

Relevant to the LCVIA, Beyond the Pavement states that:

- The architectural and landscape quality of transport infrastructure should be visually pleasing.
- Transport infrastructure should fit sensitively into its natural setting, protecting the scale and unique qualities of the places in which it is situated.
- Major built elements can add character and help transform areas for the better.
- Viewpoints should be protected and enhanced where possible.
- Heritage and Indigenous features should be protected and enhanced, incorporating them into the design can lead improved outcomes.
- The design quality of structures and elements contributes to how a place looks and feels and how robust and durable it is.
- Major structures (such as bridges, ferries and wharfs) should be planned and designed with special care as they can form ‘gateways’ and signature landmarks in the landscape.
- The location, scale and design of earthworks and structures should be kept in character with the existing landscapes.

03
Legislation and Policy

Legislation and Policy

The planning and legislative framework provides an indication of the land use policies and objectives that are applicable to the project area. This section explores legislation and policy at a National, State and local level and includes:

- Relevant State Environmental Planning Policies (SEPPs) for the study area that may be of specific relevance to the project
- A review of overlays and LEP zones defined at a local level by Randwick City Council and Sutherland Shire Council LGA
- A review of specific policy and strategic frameworks that are of relevance to the project
- A review of the 'Heritage' overlay - specifically, assets of heritage significance at the National, State and Local level located within the study area.

Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act (EP&A) 1979 establishes the framework under which planning and land use management take place in New South Wales, supported by the EPA Act Regulation. It identifies the environmental planning instruments or statutory plans that should be produced to guide development and land use at the local, regional and state level. These plans include SEPPS and LEPs.

National Parks and Wildlife Act 1974

The National Parks and Wildlife Act (NPWA Act) 1974 provides the legislative framework for the conservation of the State's natural and cultural heritage and landscape. It also reserves land, and dictates management principles for the management of that land, including National Parks. It is also intended to foster public appreciated, understanding and enjoyment of nature and cultural heritage.

The State Environmental Planning Policy (Coastal Management) 2018

Parts of the study area are identified as Coastal Environment Areas (refer to Figure 4).

Development consent cannot be granted on this land unless the relevant decision-making authority has considered whether the proposed development is likely to cause an adverse impact on the following LCVIA relevant factors:

- (a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,
- (b) coastal environmental values and natural coastal processes,
- (d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,
- (e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
- (f) Aboriginal cultural heritage, practices and places.

Parts of the study area are also identified as Coastal Use Area (refer to Figure 4).

Development consent cannot be granted on this land unless the relevant decision-making authority has considered whether the proposed development is likely to cause an adverse impact on the following LCVIA relevant factors:

- existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
- (ii) overshadowing, wind funneling and the loss of views from public places to foreshores,
- (iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
- (iv) Aboriginal cultural heritage, practices and places,
- (v) cultural and built environment heritage.

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

Part of the project area, specifically around the Kurnell peninsula, is identified within the SEPP as subject to this policy (refer to Figure 4, SEPP No. 55 and SEPP No.19 boundaries).

The relevant LCVIA aims of this Policy are:

- (a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and,
- (b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

FIGURE 4 DESIGNATIONS

LEP Land use zones

The land use zone sets out controls of land uses, and development activities. An LEP usually sets out land use controls within a zone sets in three sections including, permitted without consent, permitted with consent or prohibited.

The project area is covered by LEPs for Randwick City Council and Sutherland Shire Council. The proposed development is located within zones classified as a 'National Parks and Nature Reserve' and 'Public Recreation', with smaller areas of 'Natural Waterways', 'Neighbourhood Centre, 'Special Purpose', 'Environmental Conservation' and 'Residential' zoning also within the identified study areas. This is illustrated, in further detail, in Chapter 04: Context (refer to Figure 11 and 12 for land use zone boundaries) and described in Table 6.

Table 6: Relevant land use zones within the study area

Zone	Zone name	Relevant objective zone for LCVIA
Sutherland Shire LEP, 2015		
E1	National Parks and Nature Reserves	To enable the management and appropriate use of land reserved as National Parks, reserves and conservation areas.
E2	Environmental conservation	To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values, and prevent development that could destroy, damage or otherwise have an adverse effect on those values. To ensure that development complements and enhances the natural environment in environmentally sensitive areas.
B1	Neighbourhood centre	To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood.
W1	Natural waterways	To protect the ecological and scenic values of natural waterways. To protect and enhance remnant natural features, aquatic habitat, public access and the navigability of waterways. To ensure that the natural scenic qualities of waterways are not diminished through the cumulative impact of man-made structures.
E4	Environmental Living	To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values. To ensure the character of the locality is not diminished by the cumulative impacts of development. To share views between new and existing development and also from public space.
City of Randwick LEP, 2012		
E1	National Parks and Nature Reserves	To enable the management and appropriate use of land reserved as National Parks.
RE1	Public Recreation	To enable land to be used for public open space or recreational purposes. To protect and enhance the natural environment for recreational purposes and protect, manage and restore areas with high biodiversity, ecological and aesthetic values.
B1	Neighbourhood centre	To minimise the impact of development and protect the amenity of residents in the zone and in the adjoining and nearby residential zones.
SP1	Special Activities	To provide for sites with special natural characteristics that are not provided for in other zones. To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.
R2	General Residential	To recognise the desirable elements of the existing streetscape and built form or, in precincts undergoing transition, that contribute to the desired future character of the area.

Kamay Botany Bay National Park Kurnell Master Plan

The Kamay Botany Bay National Park Kurnell Master Plan (Neeson Murcutt Architects Pty Ltd, 2019) is a continuation of the previous Kamay Botany Bay National Park Master Plan (National Parks and Wildlife Service [NPWS], 2008). The 2019 master plan (refer to page 74, Figure 35) focuses on the 'Meeting Place' concept within the Kurnell Precinct of the National Park (defined as "a place where cultures met and continue to meet and where conflict and reconciliation, celebration and sorry business can be acknowledged in the one landscape" Neeson Murcutt Architects, 2019, page 2). The vision of the 2019 master plan is to make the Kamay Botany Bay National Park "a place of significance to all Australians that contributes to their sense of identity as Australians" (page 3).

This is to be carried out by improving visitor access and facilities as well as improving the visitor experience. There are three stages identified in this master plan. These include:

- Stage 1 – Foreshore loop and ferry
- Stage 2 – Arrival at Kurnell and new beach park
- Stage 3 – Broader park upgrade.

The reinstatement of the previous wharves and ferry services is identified as part of Stage 1 of this master plan. The ferry service would improve connection between La Perouse and Kurnell and provide a new type of visitor experience for those entering/traveling around the National Park.

Kamay Botany Bay National Park Plan of Management

The Kamay Botany Bay National Park Plan of Management (NPWS, 2020) covers an area of about 456 hectares. It covers the northern and southern headlands on the entrance to Botany Bay. This management plan outlines actions to achieve the desired outcomes for the National Park as well as regulation tables that set out what recreation and commercial activities are permitted in the park and any requirements to undertake these activities (eg. if consent from the National Parks and Wildlife Service is needed).

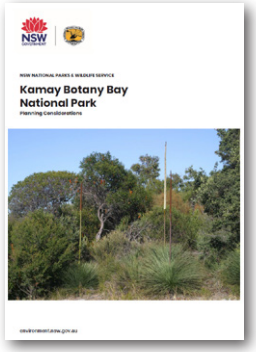
This project reflects Action 14e of the Plan of Management that supports "planning and establishing water-based links, such as a ferry, and associated infrastructure between the La Perouse and Kurnell sections of the park." This has been identified as a priority that should be delivered by 2023.

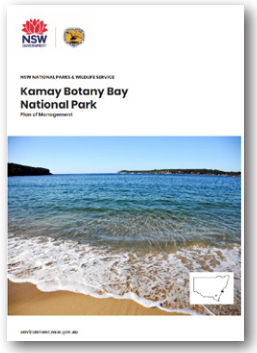
Please refer to Chapter 06: Project, page 78, for objectives within the Kamay Botany Bay National Park Plan of Management that are specifically addressed as a result of the project.

Kamay 2020 Project

The Kamay 2020 Project has been informed by both the Kamay Botany Bay National Park Kurnell Master Plan (Neeson Murcutt Architects Pty Ltd, 2019) and Plan of Management (NPWS, 2020). It is a project that commemorates 250 years since the encounter between Aboriginal Australians and the crew of the Endeavour and aims to deliver improved visitor amenity and access, provide new experiences and acknowledge the diversity of stories associated with the Kamay Botany Bay National Park.

The project is being delivered as part of Stage 1 of the Kamay 2020 Project, and it is compatible with the landside improvements including the installation of commemorative sculptures and other enhancements to the visitor experience at the National Park.





Non-Aboriginal Heritage Designations

Both the La Perouse and Kurnell project areas contain sites incorporating significant heritage. The Kamay Botany Bay National Park is designated as of national heritage importance. Refer to Chapter 04: Context (Land Use - page 36) for further information about the context of the National Park.

Other areas along the coastline, across both project areas, including Frenchmans Bay, Yarra Bay and Silver Beach are designated as of State heritage importance. Refer to Table 7 and Figure 8 for the specific heritage assets located within (and in close proximity to) the project areas.

It will be important for any future development to consider the potential impact on the visibility and landscape setting of these important assets and areas. At the local level also, both study areas contain assets of heritage significance, including monuments associated with Captain Cook and historic buildings, as seen in the opposite Figures 5-7.

Please refer to Aboriginal Heritage report and Non-Aboriginal Heritage for more information.

FIGURE 5 MACQUARIE WATCHTOWER, LA PEROUSE (IMAGE: NSW PARKS)

FIGURE 6 BARE ISLAND FORT (IMAGE: NSW PARKS)

FIGURE 7 CAPTAIN COOKS LANDING MONUMENT, KURNELL

Table 7: Relevant heritage significance within the study area

Register ID	Asset name	Description
National Heritage Significance		
105812	Kurnell Peninsula Headland (comprising Kamay Botany Bay National Park and the Sydney Water land at Potter Point)	Kurnell - The site of first recorded contact between Indigenous people and Britain in eastern Australia. Includes Captain Cook's Landing Place. Valued for its social, cultural and environmental history and significance, and for its rarity as a site.
State Heritage Significance		
5061543	Kamay Botany Bay National Park (North and South) and Towra Point Nature Reserve	Both project areas - Listed for its significance as a rare place demonstrating the continuous history of occupation of the east coast of Australia - demonstrating aspects of the way of life of the Aboriginal people before European settlement, and the first recorded site of contact with Europeans. Also listed for its geological and botanical features, and landmark qualities of the cliffs edging the sea side entrance to Kamay Botany Bay National Park in both the northern and southern sections.
5045621	Bare Island Fort	La Perouse - Significant as an almost completely intact example of late nineteenth century coastal defense technology. The site of the first War Veterans Home founded in Australia.
Local Heritage Significance		
A2506	Silver Beach and roadway	Kurnell - Silver Beach is a stretch of beach on the Kurnell peninsula fronting Botany Bay.
A2503, A2510 – A2522	Various locally significant heritage and archaeological assets associated within Kamay Botany Bay National Park	Kurnell - Includes Muru and Yena tracks, a series of monuments from Captain Cook – Captain Cook's well, monument, watering hole and landing site and landing place, the Banks Memorial and the Alpha Farm site.
I168	La Perouse Museum (former Cable Station)	La Perouse - A two-story Victorian building of historic interest for its original international communications function, and its more recent use by the Salvation Army.
I166	Macquarie Watchtower	La Perouse - The oldest remaining building in Randwick City and ranked among the earliest colonial structures in Australia.
I169	La Perouse Memorial	La Perouse - A symbol of the La Perouse Expedition that is associated with the ongoing relationship between France and Australia.
I167	Tomb of Pere le Receveur	La Perouse - A symbol of the association with the La Perouse expedition and the Roman Catholic Church in Australia. The tomb to a Franciscan monk and naturalist on the La Perouse expedition.
I172	Yarra Bay House	La Perouse - Grand individually styled Edwardian mansion. The only such building in this part of the Municipality. A local landmark in an open setting, on the foreshores of Phillip Bay.
I178	Coast hospital - entrance gates to former CEO's residence	La Perouse - The Coast Hospital Cemetery is of significant historical importance to the story of European colonisation of Australia, and the indigenous population. Coast Cemetery, an aging graveyard that remembers a time when the whole area existed solely to house smallpox victims.

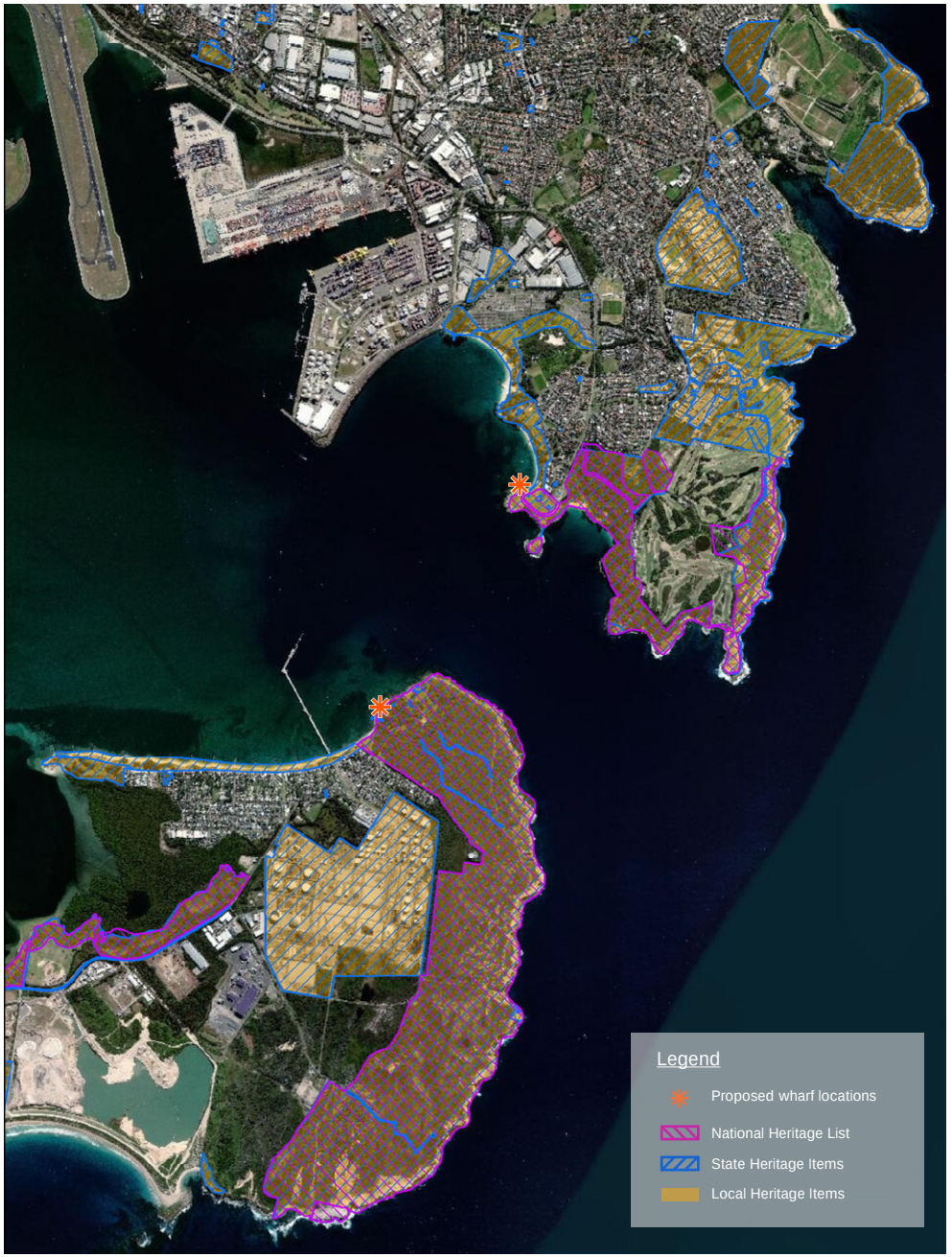


FIGURE 8 HERITAGE

04
Context

FIGURE 9 SETTLEMENTS

Context

Settlements

La Perouse

La Perouse is a suburb located approximately 14km south east from Sydney CBD and is a popular tourist destination that provides open spaces, beaches and rocky shores. It is located within the City of Randwick LGA and contains several historic sites including the Bare Island fortifications, Macquarie Watchtower, Cable Station and La Perouse Museum. La Perouse also holds significant cultural value and a number of its residents identify as Aboriginal Australians. The project area is located in the northern headland within Botany Bay and is situated within the Kamay Botany Bay National Park. La Perouse is surrounded by the adjoining 'coastal' residential communities including Philips Bay and Little Bay that rise from the north and largely consist of single and double storey dwellings. Port Botany is in close proximity to the project area and extends into the Botany Bay environs.

La Perouse is popular with visitors for sight-seeing, swimming, diving, angling and walking. There are also a number of restaurants located on Anzac Parade.

Legend

- LGA boundary
- Proposal area

Kurnell

The project area at Kurnell, is in the Kamay Botany Bay National Park. It has heritage significance as the first meeting place between Aboriginal Australians and the expedition of Captain Cook in 1770.

Attractions at Kurnell include Cook's landing place, commemorative sculptures installed for the 250th anniversary of Cook's landing, and an environmental education centre. To the west of the National Park is a low-density residential area, several shops and an art gallery. The Caltex berthing facility is located about 0.5km to the west of the proposed wharf.

Topography and Hydrology

Botany Bay is an open, oceanic embayment with its source at the confluence of the Georges River at Taren Point and the Cooks River at Kyeemagh. It flows 10km to the east before meeting its mouth at the Tasman Sea. The total catchment is about 55km².

La Perouse

La Perouse Peninsula is the northern headland of Botany Bay and the coast is characterised by rocky sandstone cliffs, that rise up towards the eastern coastline. The cliffs and surrounding terrain rise in elevation to the east towards Little Bay and the NSW Golf Club, with a few smaller sandy beaches at Congwong and Little Congwong Beach. Bare Island is a low sandstone island about 30 m from the shore at the southern end of La Perouse Headland, near the entrance to Botany Bay. To the north of La Perouse Point is Frenchmans Beach which is a popular swimming area. This sandy beach curves around to Yarra Point, and then on to Port Botany. There are no major waterways meeting the coast within this area.

Kurnell

Kurnell is extremely flat and low-lying, reaching an elevation height of approximately 0-4m AHD. The coastline along Botany Bay has a narrow sandy beach and sandstone rock with small rockpools. There are low retaining walls alongside the coastal track, protecting the path from tides. Rock groins are located at regular intervals (every few hundred metres), extending across Silver Beach. To the northeast of the project area, the Kurnell headland forms Kamay Botany Bay National Park, a protected environmental and heritage zone. The soil at Kurnell is described as deep podzols of dunes within swales and organic peats within swamp areas.

FIGURE 10 HYDROLOGY AND TOPOGRAPHY

FIGURE 11LA PEROUSE LAND USE

Land use zones

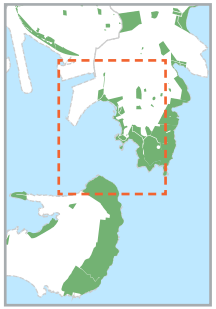
National Park

The Kamay Botany Bay National Park is historically significant and includes the site of first contact in 1770 between Aboriginal Australians and the crew of Lieutenant James Cook's ship Endeavour. This site is known as Captain Cooks Landing Place, and is marked by a monument along the northern shore walking track.

The park is valued for recreational use and is accessed by a number of walking tracks, traversing the coastline and the native bush. The Kurnell Visitor Centre is located on Cape Solander Drive. Nature trails meander through the Kamay Botany Bay National Park connecting Congwong Beach and Henry Head to the La Perouse headland.

Legend

- Proposal area
- B1 Neighbourhood Centre
- B2 Local Centre
- E1 National Parks and Nature Reserves
- E2 Environmentally Conservation
- E4 Environmental Living
- IN1 General Industrial
- IN2 Light Industrial
- IN3 Heavy Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- RU4 Primary Production Small Lots
- SP1 Special Activities
- SP2 Infrastructure
- DM - Deferred Matter



La Perouse

The La Perouse project area, and the adjoining coastline, is dominated by land zones National Parks and Nature Reserve (E1) and Public Recreation (RE1) that wrap around the headland and include: Yarra Bay, Yarra Bay Bicentennial Park, Frenchmans Bay, Congwong Beach and the New South Wales Golf Club for private sports use. Low Density Residential (R2) and Medium Density Residential (R3) occupies the ridgeline/ higher terrain north of the headland and on approach to the surrounding suburbs including: Phillip Bay, Little Bay and Chifley. The La Perouse Aboriginal Land Council - a key building to the local Aboriginal community, is located just east of Yarra Point.

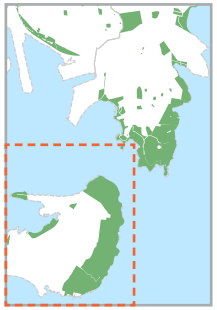
There are many visitors attracted to the coastal location, particularly La Perouse Point, which incorporates various historic sites including Bare Island Fort, Macquarie Watchtower and the La Perouse Museum. Macquarie Watchtower is the oldest remaining building in Randwick City and is set within a grassed reserve which captures coastal views. Bare Island is a low sandstone island (30m from the shore of the southern end of La Perouse Headland) and includes a fortification complex built in 1880 to protect the coast.

Frenchmans Beach and Congwong Beach are popular bathing and swimming beaches. The Guriwal Bush Tucker Trail also connects Frenchmans Bay to Yarra Point, the La Perouse Aboriginal Land Council and continues through to Yarra Bay to the Eastern Suburb Memorial Centre capturing coastal views along the entire length of the trail.

Kurnell

The Kurnell project area, and the entire eastern coastline of the Kurnell Peninsula, is dominated by land zone National Parks and Nature Reserve (E1) and designated as the Kamay Botany Bay National Park. Immediately opposite the National Park is a small area of Neighbourhood centre (B1), which consists of a small number of retail businesses. Environmental Living (E4) dominates the local area of Silver Beach that stretches across the northern coastline of Kurnell and is located west of the project site. Both General and Heavy Industrial zones (IN1 and IN2) consume a large portion of the Kurnell Peninsula.

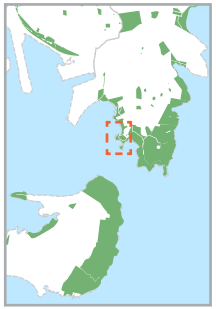
Kurnell's main attraction is the beach front at Silver Beach looking out to Botany Bay. Due to the sheltered nature of the bay, the beach is a popular location for kite surfing and windsurfing.



The Caltex berthing facility, extending out from the Silver Beach coastline is for large vessels. The facility forms part of the infrastructure of the Kurnell Refinery located to the south of Kurnell, and is connected to the wharf through large pipes (alongside the wharf) and located underground within an easement, a few hundred metres through Kurnell.

FIGURE 12KURNELL LAND USE

FIGURE 13 LA PEROUSE VEGETATION



Vegetation

La Perouse

La Perouse Point, and the surrounding headland environs are largely cleared and consist mostly of mown lawn and modified heathland, that occurs as fragmented patches.

The project area is included within the designated Kamay Botany Bay National Park extents however, the vegetation present is restricted to small patches of planted/remnant native and exotic scrub. A small patch of surveyed native vegetation (coastal banksia scrub, refer to Figure 13) is contained to the eastern portion of the headland.

None of the vegetation present at La Perouse is considered to conform to any Threatened Ecological Communities (TEC) and survey results show that all portions of the project area have been impacted by weeds, primarily ferns, grasses and forbs.

Legend

- Proposal area
- Seagrass
- Rock/Reef
- Dry Sclerophyll Forest
- Coastal Heaths
- Maritime Grasslands
- Coastal Banksia Scrub
- Coastal Wattle Scrub
- Planted
- Regeneration

Kurnell

Historically, the majority of Kurnell has been disturbed and consists of predominately planted vegetation or re-growth. Sclerophyll forest dominates the project area with a small amount of Littoral Rainforest present in close proximity to the shorefront (refer to Figure 11).

Cleared grasslands occur within the project area and a large portion of non-endemic trees have been planted within the area including the largely iconic and established pine trees (Araucaria spp.) adjacent to the coastal edge and lining the Monument Track.

The following TECs were identified within the Kurnell study area and include:

- Kurnell Dune Forest (PCT 661) - Occurs along the foreshore and hind dune area.
- Littoral Rainforest (PCT 1832) - Disects the Kurnell Dune Forest in a north-south directions and buffers the drainage channel 'Cooks Stream'.
- Swamp Oak Floodplain Forest (PCT 1232) - A small patch occurs in the western extents, near the entrance to the National Park along Cape Solander Drive.

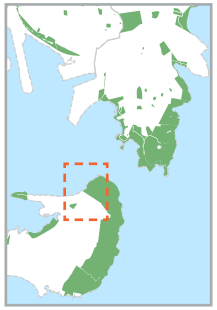


FIGURE 14KURNELL VEGETATION

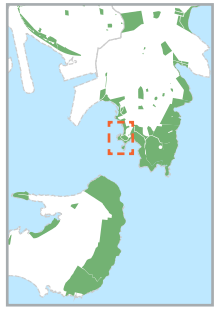
FIGURE 15 LA PEROUSE LAND USE

Culture and Heritage

La Perouse

The La Perouse headland holds a rich and layered history with significant heritage values that are important to all Australians. La Perouse, or Gooriwal, as it is known as to the Muruora-dial people of the area and has Aboriginal cultural sites dating back thousands of years. It is also a point of early contact between the European explorers. The peninsula was “described by European observers as an expanse of low heath full of bird life, which in turn abutted a tidal shore brimming with shellfish,” (NSW Migration Heritage Centre, 2011). A large portion of the population at La Perouse identify as Aboriginal Australians attesting to the continuity of the community’s relationship with the land.

The headland is named after the French navigator Jean-François de Galaup, comte de Lapérouse who landed on the northern beach of Botany Bay, west from Bare Island in 1788, just days after Captain Cook and the first fleet Endeavour. The La Perouse headland developed to serve for military purposes and the State heritage listed structures including; the Bare Foot Island fortifications (constructed in 1889) and the Macquarie Watchtower (constructed in 1821) were erected due to the area being determined vulnerable to foreign naval attack. Other structural heritage elements include the La Perouse Museum (located in the centre of the headland) and the La Perouse memorial monument.



Various aboriginal archaeological artefacts have been recorded within the study area particularly, midden, rock engravings and loose shells. Various locations of artefacts have been updated in terms of project locations (refer to Figure 15). The rock engravings are exposed on sandstone and may be weathered.

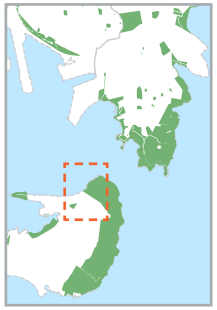
Refer to the Aboriginal Cultural Heritage Assessment Report and Statement of Heritage Impact Report for further information.

Kurnell

Aboriginal peoples have been living in the Sydney Basin and surrounding areas for at least 36,000 years. When Lieutenant James Cook landed in Botany Bay in April 1770, he contacted the Gweagal Aboriginal community of the Dhawaral nation. Due to the originally slow European settlement in Botany Bay, Aboriginal peoples continued to live around the foreshores during the 19th century. The 20th century saw largely industrial development occurring in the township of Kurnell including, sand mining enterprises, development of the oil refinery industrial site and chemical and petroleum plants. The eastern headland of Kurnell was established as a reserve and resulted in little alteration to the landscape and heritage artefacts.

Within the Kurnell study area there are also a number of both aboriginal and non-aboriginal heritage artefacts dispersed including recorded burial locations. Non-aboriginal protected archaeological sites identified surrounding the site include; Captain Cook's landing place, Banks Memorial, Alpha Farm site, Solander monument and Captain Cook's watering hole. The recently installed 250th commemorative sculptures are seen in Figure 16.

To mark the 250th anniversary of Cook's landing on 29 April 2020, three commemorative bronze sculptures were commissioned by National Parks and Wildlife Service (NPWS) in close collaboration with key stakeholders including the La Perouse Local Aboriginal Land Council.



The Eyes of the Land and the Sea is directly adjacent to the Kurnell project and was created by Aboriginal artist Alison Page and Nik Lachacjzak with UAP Australia. Alison Page explained this sculpture, 'brings together different perspectives on our shared history – the bones of a whale and the ribs of a ship – and sits in the tidal zone between the ship and the shore where the identity of modern Australia lies," (NSW Government, 2020).

Refer to the Aboriginal Cultural Heritage Assessment Report and Statement of Heritage Impact Report for further information.

FIGURE 16 KURNELL HERITAGE

05
Baseline

Landscape character

Landscape character assessment seeks to divide the landscape into distinct, broadly homogeneous units with defining characteristics. In this way each character area should be distinct from an adjoining area which will be defined by a different set of key parameters.

The Landscape Character Areas (LCAs) identified as part of this assessment have been derived from a review of planning policy, GIS baseline analysis and site investigations and have been informed by Randwick City Council local character study. The extent of character area analysis is informed by an understanding of potential perceived areas of change that may arise from the project.

In order to complete the landscape and visual baseline, as mentioned in Chapter 02: Methodology, the LCA baseline study area was informed by a 5km buffer from the centre of Botany Bay. This ensures the analysis of the surrounding context of the project area in terms of landscape character.

A total of eight distinct LCAs have been defined, as illustrated in Figure 17. Analysis of these LCAs is provided on the proceeding pages.

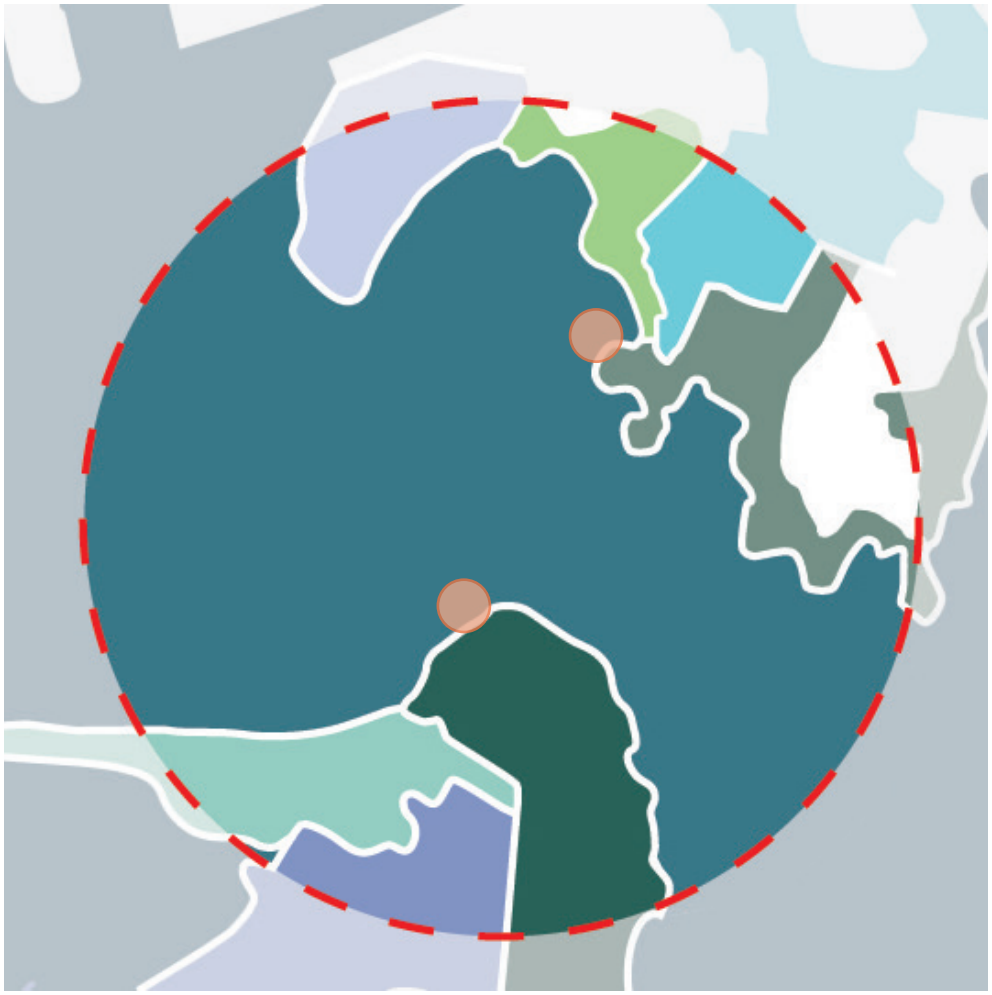


FIGURE 17 LANDSCAPE CHARACTER AREAS

LCA 1: Botany Bay

This LCA encompasses Botany Bay. La Perouse is on the northern headland of Botany Bay and Kurnell is located on the southern headland. Botany Bay, while including high quality natural areas surrounding the project area, is also industrial in character. It now serves as Sydney's main shipping port and includes Sydney airport, with runways built on reclaimed land within the bay and large planes frequenting the runways. Large marine vessels in conjunction with frequent shipping movement and activity is experienced within the bay environs. The landscape is predominately a large, flat water body with views stretching across the bay to the north, south and west.

The sensitivity of this LCA is judged to be **Moderate** due to the LCA containing some features of value through historic and cultural associations, and is additionally comprised of commonplace elements but with some sense of place.

LCA 2: La Perouse headland and Kamay Botany Bay National Park

This LCA is located on the northern headland surrounding LCA 1 and includes the Kamay Botany Bay National Park and the entire extents of the La Perouse headland. The park incorporates various protected historical monuments including Bare Island Fort and Bridge, Macquarie Watchtower, La Perouse Museum and various aboriginal archaeological artefacts. The landscape provides high scenic quality and is heavily vegetated, with the coastal rocky interface, sandy beach front and exposed grassed headland as some of the only cleared components within the LCA. La Perouse headland and Kamay Botany Bay National Park is a highly valued area and is visited regularly, particularly at popular beach spots and various walking trails.

The sensitivity of this LCA is judged to be **High** due to the high quality, scenic components of the LCA (including the expansive vistas and vegetation), the inability for these components to be replaced and, the national significance and designation of the parkland.

LCA 3: La Perouse residential area

This LCA is located to the north-eastern boundary and is defined by homogeneous, parcels of both medium and low density residential properties. It includes moderately sized plots of residential land with a coherent pattern of features, scattered clusters of mature canopy cover and single or double storey residential buildings. Street corridors are narrow and occur at an even distribution across the LCA. It is bound by the Kamay Botany Bay National Park and the Phillip Bay coastal area LCA.

The topography rises gradually in elevation on retreat from the Bay, towards the north-west which allows for intermittent glimpses out towards the water from residential streets and properties.

The sensitivity of this LCA is judged to be **Moderate** due to the LCA comprising of local residential commonplace elements with a sense of place and containing a level of value throughout the community.

LCA 4: Phillip Bay coastal area

This LCA borders the Botany Bay LCA and wraps around the northern headland from north to east. It is nestled between the Port and La Perouse residential area. The LCA is relatively undeveloped and is comprised of predominately recreational and community land uses. Areas that are contained within the LCA include dense coastal heath, coastal forests, cleared, open space, sandy beach fronts, the Yarra Bicentennial Park, the Yarra Oval Sport fields and the La Perouse Local Aboriginal Land Council community centre. The terrain reaches a height of 20m on approach to Phillip Bay and La Perouse residential area, towards the north-east extent of the LCA. Areas of dense vegetation along the coastal edge obstruct direct views out from meandering trails particularly, the Guriwal Bush Tucker Trail that connects Frenchmans Beach to Yarra Point and Yarra Bay.

The sensitivity of this LCA is judged to be **High** due to the LCA containing areas of State designated heritage significance, high cultural significance to the local area and the contributing components that provide high scenic quality.

LCA 5: Port Botany

This LCA is situated directly adjacent to LCA 1 in the northern extents and is defined by heavy industrial uses such as; imports of containers and bulk liquids, processing plants and storage facilities. The landscape is predominately flat, impervious hard surfaces with large, industrial infrastructure or warehouse development. The industrial character extends further north from the project area, whilst experiencing clearly defined edges with the bay interface and the open, forested coastal edge.

The LCA is experienced predominately by industrial workers located, during operative hours, within the Port vicinity. The large crane infrastructure and building scale and form within the LCA reinforce the heavy waterfront industrial nature of the character area.

The sensitivity of this LCA is judged to be **Low** due to the LCA containing defining characteristics however, few features of value.

LCA 6: Silver beach and Kurnell residential area

This LCA is located on the southern headland of the Botany Bay extents and incorporates Silver Beach, the Prince Charles Parade esplanade and the residential extents within Kurnell. The LCA extends west along the Kurnell peninsula and includes specific features such as Bonna Point (towards Towra Point) and Marton Park.

The topography is extremely flat and low-lying and is located within a Medium Flood Prone Land Risk zone as referenced to by the Sutherland Shire Council. It contains homogeneous, parcels of land with predominately residential development designated as E4 Environmental Living consisting of a coherent pattern of features across the mosaic. Clusters of commercial use development is located along Captain Cook Drive and dispersed intermittently across the LCA.

The sensitivity of this LCA is judged to be **Moderate** due to the LCA comprising of local residential commonplace elements with a sense of place and containing a level of value throughout the community.

LCA 7: Kamay Botany Bay National Park, Kurnell

This LCA 7 is located on the southern headland fronting Botany Bay and consists entirely of the designated Kamay Botany Bay National Park. It incorporates the Kurnell Visitor Centre, Cape Solander Lookout, Cape Bailey Lighthouse and the Monument Track that directs visitors through the LCA passing nationally significant landmarks such as Captain Cook's Landing Place and the 250th Endeavour commemorative art installations. The landscape is densely vegetated and is directly linked to the coastal edge.

Kurnell Kamay Botany Bay National Park consists of areas recognised as containing 'special value' and is visited regularly as a destination in itself. The sensitivity of this LCA is judged to be **High** due to: the high quality components of the LCA (including the expansive vistas and vegetation), the inability for these components to be replaced, the National significance and designation of the parkland and, the nationally designated heritage monuments dispersed throughout the park.

LCA 8: Kurnell industrial area

This LCA is located directly west of LCA 7 and directly south of LCA 6 and constitutes both the IN1 General and IN3 Heavy Industrial zones within Kurnell particularly, the Caltex Kurnell Terminal and the Sydney Desalination Plant. The landscape is predominately flat with gradual increase in elevation towards the eastern edge of LCA 8.

The LCA is characterised by large scale warehouse style development, cleared areas of impervious hard surface and industrial infrastructure relating to oil refinery. The LCA is experienced predominately by industrial workers located, during operative hours, within the vicinity.

The sensitivity of this LCA is judged to be **Low** due to the LCA containing defining characteristics however, few features of value.

Randwick City Council has proposed that the La Perouse project area (and surrounding headland) is incorporated within The Bays Local Character Area (refer to Figure 18), which consists of the entire coastal zone from Bare Island to Bumborah Point. Randwick City Council describes The Bay Local Character Area as "gently undulating terrain with expansive views to Frenchmans Bay, Yarra Bay and Port Botany across Yarra Bay Bicentennial Park", (Randwick City Council, The Bays Local Character Statement, page 13).

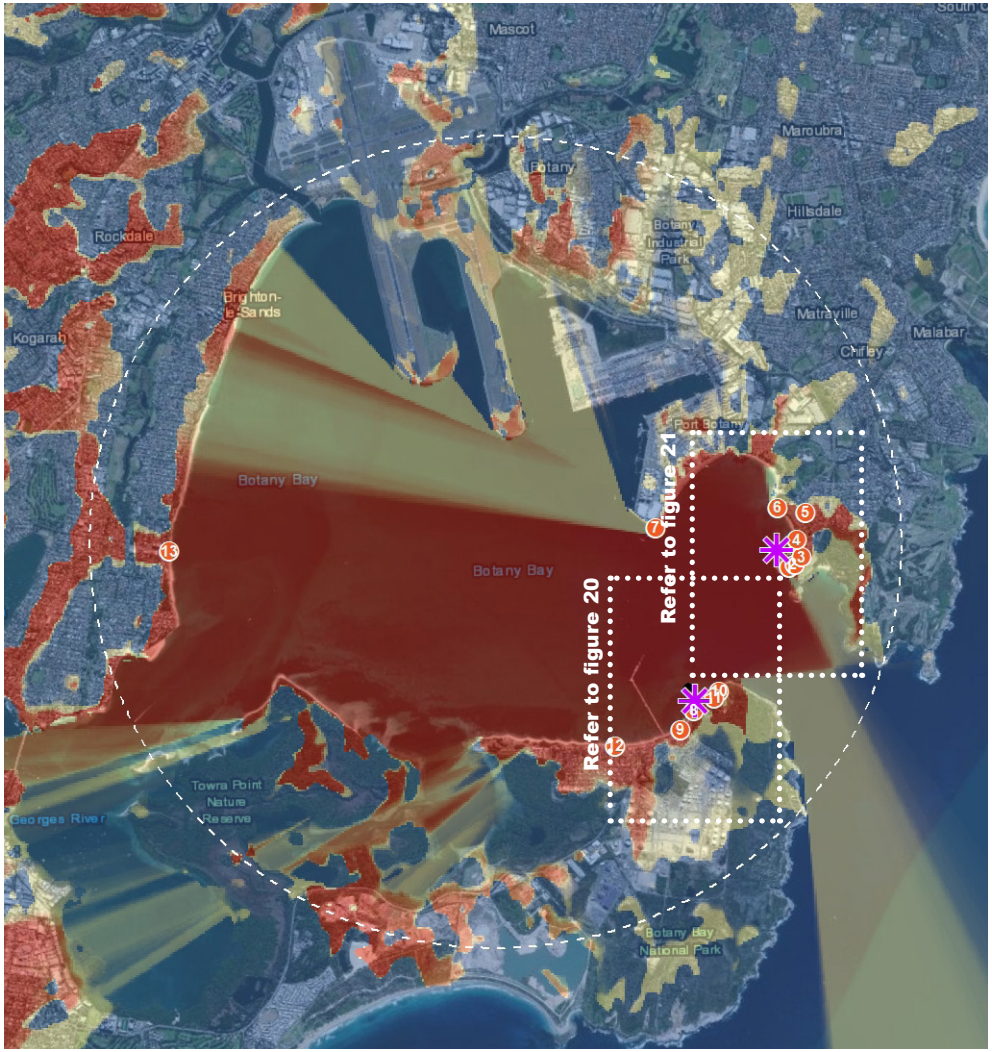
Whilst responding to the Randwick City Council Local Character Areas, the project LCA boundaries have been reviewed at a finer grain and with reference the planning zones, specifically E1 National Park, RE1 Public Recreational and the extent of R1 and R2 residential zones.

The identified Bays Local Character Area principles include:

- Built scale that responds to the coastal character of the LCA
- Protect and enhance Aboriginal heritage and significant sites
- Preserve and enhance the village feel in La Perouse
- Improved accessibility around the coastal are with improved signage and wayfinding
- Preserve existing natural environments and local flora and fauna for future generations
- Ensure future development respects the cultural significance of Indigenous landscapes and sites
- Build on existing green grid and biodiversity corridors through the LCA
- Improved economic vibrancy as a result of the reintroduced Kurnell to La Perouse ferry
- Greater visitor facilities and experience, compatible with the unique character of Botany Bay
- Preserve the biodiversity and continue to protect and rehabilitate the landscapes and ecosystems

FIGURE 18 RANDWICK CITY COUNCIL THE BAYS LOCAL CHARACTER AREA

Visual context



1. Viewpoint 1 - Anzac Parade, La Perouse
2. Viewpoint 2 - La Perouse Museum, La Perouse
3. Viewpoint 3 - Corner of Anzac Parade and Endeavour Ave, La Perouse
4. Viewpoint 4 - Frenchman's Beach, La Perouse
5. Viewpoint 5 - Elaroo Ave, Phillip Bay
6. Viewpoint 6 - Guriwal Bush Tucker Trail, La Perouse
7. Viewpoint 7 - Molineaux Point Lookout, Prince Wales Dr, Port Botany
8. Viewpoint 8 - Captain Cook's Landing Place, Kurnell
9. Viewpoint 9 - Prince Charles Parade, Kurnell
10. Viewpoint 10 - Monument Track, Kurnell
11. Viewpoint 11 - Alpha House, Monument Track, Kurnell
12. Viewpoint 12 - Silver Beach, Kurnell
13. Viewpoint 13 - The Grand Parade, Ramsgate Beach

FIGURE 19 STUDY AREA AND VIEWPOINT LOCATION PLAN

Visual Catchment

Figure 20 represents the study area, for the project from which 13 representative viewpoint locations have been selected. The study area is defined by a 5km buffer from the centre of Botany Bay. This VEM study area buffer distance has been adopted on the basis of the scale, nature and magnitude of the proposed ferry wharves.

The VEM, illustrated in Figure 20, displays the theoretical area from which the project (worst case scenario) could be visible. The VEM is determined by a 'bare earth' surface model which does not take into account vegetation and building footprints that may obstruct views towards the project locations.

A total of 13 representative viewpoints have been selected to comprehensively illustrate and document the visual amenity of the study area. The representative viewpoints were selected based upon a three-stage process:

1. Identification within the VEM,
2. Desktop studies identifying places of significance or within close vicinity of potential sensitive receptors and/or the project, and
3. Ground-truth of viewpoint locations through the site visit conducted on 6 August 2020.

In the proceeding pages, the representative viewpoints have been analysed to document the existing visual composition of the views and assess the viewpoints' level of sensitivity.

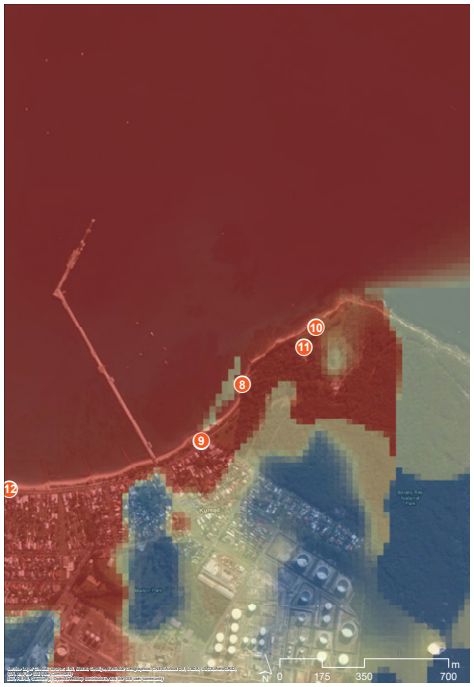
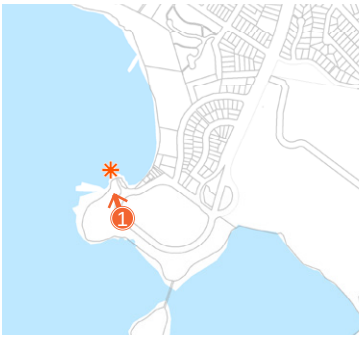


FIGURE 20 KURNELL VEM AND VIEWPOINTS

FIGURE 21 LA PEROUSE VEM AND VIEW POINTS



Viewpoint 1 - Anzac Parade, La Perouse

Baseline description

A representative view from the pedestrian path crossing at La Perouse Point, Anzac Parade. The view is directed north towards Frenchmans Bay and Yarra Point.

The view foreground illustrates a one-way local road circuit, an open, grassed headland and a rock-lined drainage channel with the terrain sloping gradually towards the coastal edge.

The view extends out across Botany Bay to encompass Frenchmans Beach which is surrounded by low-lying plants along the sand dunes that provide embankment stabilisation. Residential properties are visible in the background, set back from the beach front (right side of the view) on higher terrain.

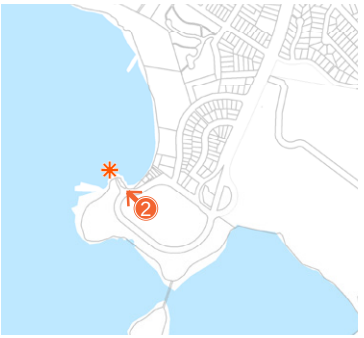
Yarra Point protrudes in front of Yarra Bay and is densely vegetated with a rocky coastal interface. The undulating coastal edge continues to wrap around Botany Bay and reveals the cemetery nestled behind the Point. High-rise buildings extend out from the vegetation directly in the central background of the view.

To the left of the view, Port Botany is visually dominate and includes views towards shipping containers, cranes and other associated infrastructure.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **High** due to the following:

- The high scenic quality of the La Perouse headland and Botany Bay surrounds
- Moderate level of receptors experiencing the view with focus on the surrounding natural environment
- Regular users of the recreational facilities and interest in local characteristics such as tourist walking routes and trails
- Views from the designated Kamay Botany Bay National Park, La Perouse.



Viewpoint 2 - La Perouse Museum, La Perouse

Baseline description

A representative view from the highest level of the La Perouse Point, directly adjacent to the La Perouse museum. The view is directed north-west across the headland, Anzac Parade, Botany Bay and extends towards Port Botany.

La Perouse monument is located in the direct foreground of the view and is a visually dominate, vertical structural element that contrasts against the open grassed headland and expansive view across the bay.

Low level tufting vegetation is scattered across the headland amongst street furniture and assisting public urban features such as fencing, signage and street lighting.

Port Botany, and the associated port infrastructure, acts as a backdrop to the view with large cranes and machinery equipment regularly dispersed across the horizon line.

Looking north, (right of the view) Bumbora Point and mature patches of vegetation obstruct views out towards the industrial development in Matraville.

Yarra Point (seen in the middle ground, far right of the view), including its rocky interface and dense vegetation, obstructs direct views as the headland wraps around towards Yarra Bay.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **High** due to the following:

- The high scenic quality of the La Perouse headland and Botany Bay surrounds
- The current view includes views towards port and industrial infrastructure
- The historic and sensitive nature of the viewpoint location including the La Perouse monument and the museum
- Moderate level of receptors experiencing the view with focus on the surrounding natural environment.

Viewpoint 3 - Corner of Anzac Parade and Endeavour Ave, La Perouse

Baseline description

Viewpoint 3 is taken from the pedestrian path crossing at the intersection of Anzac Parade and Endeavor Avenue. The view is directed south-west towards La Perouse Point and is representative of commercial receptors including local cafes and restaurants.

The viewpoint location is considered to be the activated local centre of La Perouse and incorporates the main entrance to Frenchmans Beach and the Frenchmans Bay Reserve Playground.

To the west, Anzac Parade roundabout is visible (bottom right of the view) and the Boatshed La Perouse restaurant is a dominant focal point within the foreground. It is positioned directly on the beach front and is surrounded by outdoor dining and public street furniture.

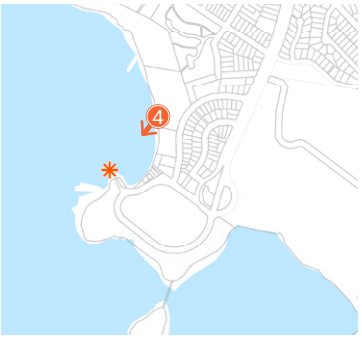
To the south, (bottom left of the view) planted areas adjacent to Anzac Parade roundabout include low level tufting grasses and ground covers. The planting areas continue to be dispersed across the rest of the sloping headland.

The topography slopes gradually from south to west (left to right in the view) and meets a rocky cliff edge that includes intermittent planting between the boulders. Direct views towards the cliff edge, and expansive views across Botany Bay, is obstructed by the Boatshed La Perouse restaurant. Views extend towards Kurnell and Towra Point providing a flat, vegetated backdrop to the view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- The high scenic quality of the La Perouse headland and Botany Bay surrounds
- Moderate level of receptors experiencing the view as the main entrance point to the La Perouse Point and the main beach access point
- Representative view from the local centre of La Perouse and surrounding commercial receptors.



Viewpoint 4 - Frenchman's Beach, La Perouse

Baseline description

A representative view from Frenchmans beach front, accessible from the track off Endeavor Avenue. The view is directed south-west towards La Perouse Point, the adjoining headland, Anzac Parade and extends across Botany Bay towards Kurnell.

The rocky coastal interface and cliff edge is visible from the southern extent of the middle ground of the view (seen to the left) and extends towards the west (middle) of the viewpoint.

Frenchmans Bay waters' encompasses the entirety of the foreground view and incorporates water-based activities such as windsurfing and sailing (right of the view).

La Perouse Point is predominately an open, grassed headland that facilitates lookout points and local trails. The terrain drops as the crumbling rock and land surface meet the waters' edge.

Across the bay, Kurnell's esplanade is visible, where both commercial and residential development occurs between mature vegetation. Direct views towards this esplanade are obstructed by a large-scale wharf (includes restricted access to workers) that stretches off the Kurnell coast and emerges behind La Perouse Point.

Kamay Botany Bay National Park and Towra Point provide a flattened, yet highly dense vegetated, backdrop to the view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- The high scenic quality of Frenchmans Bay and La Perouse Point
- Expansive and panoramic nature of the view
- Moderate level of receptors experiencing the view with focus on the surrounding natural environment.

Viewpoint 5 - Elaroo Ave, Phillip Bay

Baseline description

This viewpoint is representative of residential receivers along the local street Elaroo Avenue, that is situated along the suburban boundary of La Perouse and Phillip Bay. The view is directed south-west towards La Perouse Point and was taken along the adjoining pedestrian pathway.

Double-storey private properties with moderately sized parcels of land are the dominate focal point of the view.

La Perouse Point and Anzac Parade can be seen in the central foreground, located on the lower reaches of the coastline - past the residential properties and the adjoining private canopy cover. Cars are parked along the one-way circuit and the open, grassed area is visible.

Both the buildings and the mature vegetation to the south (left side of the view) allow intermittent views through to Kamay Botany Bay National Park and Inscription Point across Botany Bay.

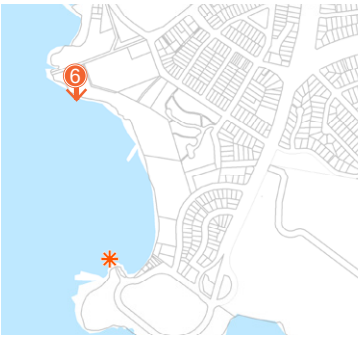
The densely vegetated landscape provides an expansive backdrop to this viewpoint with little variance in elevation.

Past the existing properties in the foreground, urban density increases along Kurnell esplanade to the western extents (right side of the view).

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- Representative view of local residents with a permanent interest in the surrounding environment
- Expansive vista incorporating Kamay Botany Bay National Park and particular heritage monuments located within the national park
- The high scenic quality of the La Perouse headland and Botany Bay surrounds.



Viewpoint 6 - Guriwal Bush Tucker Trail, La Perouse

Baseline description

A representative view from the Guriwal Bush Tucker Trail at Yarra Point. The views are directed south towards La Perouse Point, the adjoining headland, Anzac Parade and extends across Botany Bay towards Kurnell.

Coastal shrubbery heath obstructs direct views towards the Kurnell and the Kamay Botany Bay National Park. The vegetation is somewhat spindly and permeable allowing predominately expansive views across the bay and coastal edge.

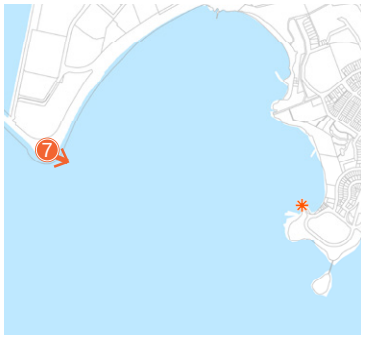
La Perouse Point and headland juts out from the east (left of the view) revealing the rocky coastal edge, open, grassed headland areas and the La Perouse monument. Bare Island Fort can be viewed beyond the headland with the heritage-listed structure shielded by the surrounding undulating land form.

Across the bay, Kamay Botany Bay National Park is visible and provides a picturesque backdrop to the view. Particular landmarks along the Monument Track (within the Kamay Botany Bay National Park at Kurnell) are visible in the opening between mature vegetation in the foreground. These landmarks include; Alpha Farm house, the flagpole and the large, mature pine trees planted along the coastline adjacent to the track. Kurnell local town centre is visible to the west (right side of the view).

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- The high scenic quality of the Guriwal Bush Tucker Trail and Yarra Point
- Expansive vista incorporating Kamay Botany Bay National Park and particular heritage monuments located within the national park
- Moderate level of recreational receptors experiencing the view with focus on the surrounding natural environment.



Viewpoint 7 - Molineaux Point Lookout, Prince Wales Dr, Port Botany

Baseline description

Viewpoint 7 is looking south-east and is situated within a reserved lookout location along the southern boundary of Port Botany. The lookout has restricted access and is located along Prince of Wales Drive at Molineux Point.

The view experienced from the lookout is expansive and stretches across Botany Bay, Yarra Bay, Yarra Point, Frenchmans Bay, La Perouse Point, Bare Island Bridge and Fort and Henry Head.

Pockets of urban density and residential receivers are scattered in clusters amongst the dense vegetation in the eastern extents (left of the view). La Perouse local centre and surrounding development are clustered in the middle foreground illustrating the topographical changes in the landscape.

La Perouse headland is predominately cleared with the red brick La Perouse museum illustrating a stark contrast to the rugged coastal aesthetics.

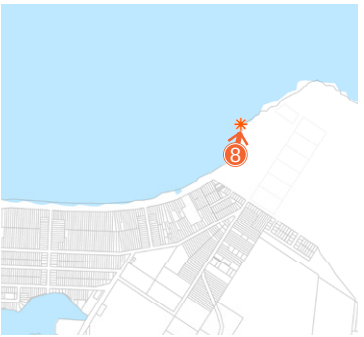
The Bare Island Bridge extends south (right of the view) out from the La Perouse headland connecting Bare Island Fort.

The densely vegetated, undulating coastal edge continues across the viewpoint with the New South Wales Golf Club situated on the ridge line in the middle of the view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- Designated lookout location
- Expansive vista including the Kamay Botany Bay National Park and Bare Island Fort
- The high scenic quality of the La Perouse headland and Botany Bay surrounds.



Viewpoint 8 - Captain Cook's Landing Place, Kurnell

Baseline description

A representative view from the Monument Track, particularly Captain Cook's Landing Place monument, within the Kamay Botany Bay National Park. The view is directed north towards Port Botany, Phillip Bay and La Perouse.

In the foreground, the view is comprised of a rocky coastal edge and the Botany Bay interface (to the left of the view) with low-lying grasses and ground covers planted along the beach embankment (to the right of the view).

An existing wharf structure, referred to as Captain Cook's Landing Observing Deck, is situated in the middle ground of the view extending north-west from the landscape into the water body. The wharf includes seating furniture, simplistic fencing and interpretive panels.

Views, beyond the wharf, open up towards the western portions of the view (left of the view) allowing for an expansive vista across Botany Bay towards the Port.

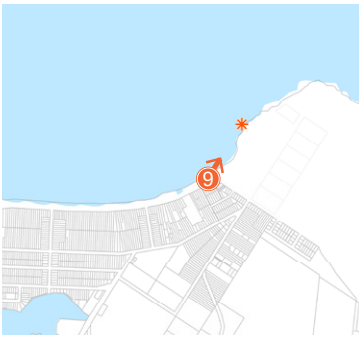
Dominant industrial infrastructure and machinery is visible with high-rise buildings intermittently dispersed across the horizon line providing a backdrop to the view.

The view backdrop extends across the entire horizon line and illustrates various typologies throughout, revealing the cemetery, industrial warehouses within Matraville, Yarra Bay Beach and Point and La Perouse residential properties.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **High** due to the following:

- The high scenic quality of the Monument Track
- Expansive vista from Kamay Botany Bay National Park and particular heritage monuments located within the national park
- High heritage value associated with the view
- Moderate level of recreational receptors experiencing the view with focus on the surrounding natural environment.



Viewpoint 9 - Prince Charles Parade, Kurnell

Baseline description

This view is representative of both commercial and residential receivers within Kurnell and is located along Prince Charles Parade. The view is directed north-east towards the Captain Cook Landing Place monument and existing wharf and expands out across Botany Bay.

The Monument Track is level with the shoreline land form and follows the coastal edge meandering through the mature vegetation and around the National Park. The terrain begins to increase in elevation towards the south-east (right in the view).

Mature and established vegetation consumes the parkland edge and obstructs views through to La Perouse headland or the Kurnell Visitor Centre. The large pine trees enclose the track path and provide a formal avenue separating the beach front and the track.

To commemorate the 250th anniversary of the first encounter between the crew of the HMB Endeavour and the Gweagal people in 1770, the Australian and NSW Government have installed three sculptures at Kurnell. The Eyes of Land and the Sea (created by Alison Page, Nik Lachacizak and UAP Australia) is visible in the middle ground of the view and is located on the rocky coastal edge. It provides an additional cultural landmark along the Monument Track.

La Perouse headland is intermittently visible through the mature trees. Similarly to viewpoint 8, views towards Yarra Bay, Phillips Bay and the cemetery are experienced.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **High** due to the following:

- Expansive vista towards Kamay Botany Bay National Park and particular heritage monuments located within the national park
- Moderate level of receptors experiencing the view due to the viewpoint location along the activated Prince Charles Parade
- Representative view from local shops and commercial receptors of Kurnell and is located along the Kamay Botany Bay National Park western boundary.

Viewpoint 10 - Monument Track, Kurnell

Baseline description

Viewpoint 10 is taken from the Monument Track within the Kamay Botany Bay National Park looking south-west towards the Kurnell local centre.

The central foreground of the view illustrates a flagpole monument directly adjacent to the track. Similar landmarks are distributed along the track and are in close vicinity to the representative viewpoint location.

The Monument Track meanders through the open, turfed landscape before reaching an enclosed section surrounded by large, mature pine trees and a densely established patch of vegetation.

The topography gradually slopes towards the waters' edge and provides an area of sandy beach front before transitioning into a rocky interface. The coastal edge wraps around behind the established pine trees and becomes visibly obstructed.

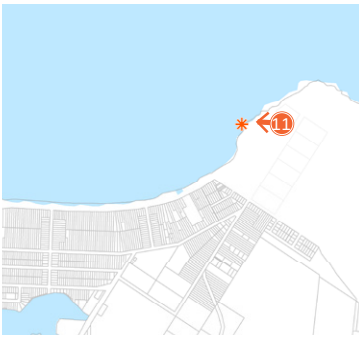
The local township of Kurnell is visible in the view background and extends west (right of the view) across the horizon line, along with the predominately flat, vegetated backdrop. Urban development is nestled amongst dense vegetation. Direct views are obstructed by a large working wharf off the Kurnell coast that has restricted access.

The open views towards Botany Bay within this viewpoint, exhibit the use of various vessels and water crafts within the surrounding bay environment.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **High** due to the following:

- The high scenic quality of the Monument Track
- Expansive vista from Kamay Botany Bay National Park and particular heritage monuments located within the national park
- Moderate level of recreational receptors experiencing the view with focus on the surrounding natural environment.



Viewpoint 11 - Alpha House, Monument Track, Kurnell

Baseline description

This representative view is located along Monument Track within the Kamay Botany Bay National Park directly in front of the heritage structure referred to as Alpha House looking south-west towards Botany Bay and the existing wharf structure.

The view is heavily dominated with large, mature vegetation blocking open views towards the esplanade along Kurnell.

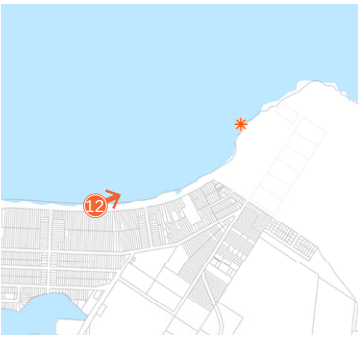
The foreground displays a designed timber deck, seating and associated interpretive panels across the waterway, referred to as Cook's Creek. Riparian sedges and grasses are planted along the waterway and between the established trees.

Glimpses of the rocky coastal interface and bay are visible through the vegetation. The viewpoint location has been situated on noticeably higher terrain then the waters' edge. Views are consistently obstructed and closed throughout the entire view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- The high scenic quality of the Monument Track
- Views from Kamay Botany Bay National Park and particular heritage monuments located within the national park
- Moderate level of recreational receptors experiencing the view with focus on the surrounding natural environment.



Viewpoint 12 - Silver Beach, Kurnell

Baseline description

Viewpoint 12 is taken from an extended decking platform on Silver Beach directly opposite Prince Charles Parade, looking east towards the Kamay Botany Bay National Park.

The view illustrates the sandy beach front in the southern extents (right in the view), meets the waters' edge and allows an expansive view across the bay. Various stretches of organised rock protection, to prevent erosion, are dispersed evenly across the beach front.

The Caltex berthing facility (with restricted access) stretches out into Botany Bay from the Kurnell coast and extends horizontally across the entire view. The infrastructure obstructs direct views towards the Monument Track, the coastal interface within the Kamay Botany Bay National Park and views experienced across the bay towards Henry Head.

Dense vegetation from the Kamay Botany Bay National Park (viewed on both sides of the bay) provides an extensive backdrop for the view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- Moderate level of receptors experiencing the view due to the viewpoint location along the activated Prince Charles Parade
- Expansive vista across Botany Bay
- Moderate level of recreational receptors visiting Silver Beach and experiencing the view with focus on the surrounding natural environment.

Viewpoint 13 - The Grand Parade, Ramsgate Beach

Baseline description

Viewpoint 13 is located along The Grand Parade, opposite Ramsgate Road, at Ramsgate Beach and includes representative views from surrounding commercial businesses such as local cafes and restaurants.

The view is directed east towards both La Perouse Point and Kurnell and is situated along the pedestrian path along the esplanade. Expansive views across Botany Bay dominates both the fore and middle ground of the view.

Background views eventually reach both headlands of La Perouse and Kurnell in addition to the adjoining headlands (Henry Head and Cape Banks). The land form is split allowing views to spill out of the Bay extents towards the South Pacific Ocean.

Clusters of development are visible sprawling across the landscape in concentrated patches. Kurnell experiences industrial development (right of the view) nestled within the dense vegetation backdrop and situated at a higher elevation then the coastal edge.

Views towards the Caltex berthing facility are visible and extend out from Kurnell coast towards the entrance of Botany Bay. Overall, the composition of the landscape is expansive and predominately level across the horizon line of the view.

Sensitivity

The sensitivity of the representative viewpoint is judged to be **Moderate** due to the following:

- Moderate level of recreational receptors visiting Ramsgate Beach and experiencing the view with focus on the surrounding natural environment
- Moderate level of receptors experiencing the view due to the viewpoint location along the activated Grand Parade
- Representative view from local shops and commercial receptors of Ramsgate Beach.

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06

Project

FIGURE 22 LA PEROUSE VISUALISATION OF THE CONCEPT PROPOSAL

FIGURE 23 KURNELL VISUALISATION OF THE CONCEPT PROPOSAL

Urban Design

This chapter outlines the landscape, urban design and architectural vision for the project and defines the design objectives and principles to guide the development of the project.

The project, as mentioned in Chapter 01: Project Overview (refer to pages 8 and 9), will see the reinstatement of two local wharfs, located at La Perouse and Kurnell, which will provide a ferry connection between the two headlands of Botany Bay. The naturally picturesque sites hold deep indigenous value as well as European heritage, as discussed throughout 04: Context, and currently draws tourists and recreational visitors year-round. The wharves will not only celebrate these attributes, but will benefit the wider community through increased accessibility and connectivity.

Great design outcomes come from a deep understanding of place and program. It is fundamental that the landscape, architecture and urban design response for the project is appropriate, respectful and is sympathetic to their overall surroundings and context. The wharves will serve a functional purpose as well as acting as 'placemaking gateways' between land and water for visitors and locals, representing the urban communities and parklands they are joining.

Building on the direction provided within the Beyond the Pavement (TfNSW, 2020) and Better Placed (GANSW, 2017), three key urban design objectives were considered to achieve project aspirations:

1. Responding to historical and contextual placemaking
2. A Wharf for people
3. Celebration of past, present and future maritime use of the two sites.

These objectives have been applied to the concept design, and will contribute to influence as the project design develops in the future.

Urban Design Objectives and Principles

Objective 1: Responding to historical and contextual placemaking

This objective aims to ensure that the urban, landscape, architecture and engineering designs are well integrated, respond to historical context and capture and enhance key views and vistas.

The proposed wharf site locations possess an extensively rich maritime history, that has endured through various historic events that have unfolded on the sites - and continues today. The project will continue to celebrate and reinforce the connection between the land and the water. The design and the location of the project will also acknowledge the previous locations of the historic wharf infrastructure that was destroyed in 1974.

Sympathetic design will be essential to ensure the wharves are submissive to the natural landscape character and the existing historical monuments whilst maintaining and framing existing vistas. In order to protect heritage values, the design of the project will not encroach on any protected viewing corridors or disturb existing passenger flow directions. Framing key views will drive the design of the proposed roof structures. The design of the two wharves will also respond to the unique qualities and materiality of the two individual sites (La Perouse and Kurnell).

Objective 1 responds to:

- BetterPlaced design objective - ‘Better Fit’
- Beyond the Pavement design objective - ‘Fitting sensitively into the built, natural and cultural environment of its location’
- Beyond the Pavement design principles - ‘Fitting with the built fabric’, ‘Fitting with the landform’, ‘Contributing to green infrastructure and responding to natural systems’, ‘Connecting to Country’ and ‘Incorporating heritage and cultural contexts’.

The assisting principles to achieve this objective include:

- Celebrate and reinforce this continued connection between the land and the water
- Acknowledge the old locations of the historic wharf infrastructure
- Utilise the existing passenger flow directions throughout the sites
- Maintain and frame existing views, particularly heritage views towards historical monuments
- Respond to the unique qualities and characters of the two individual sites.

“I understand and respect the importance of the monuments to non-aboriginal people. But as an aboriginal person my memories and values are in the natural environment which connects me to the country and the old people”

– La Perouse Aboriginal community member, Dean Kelly, 2007.

FIGURE 24LA PEROUSE (TOP) AND KURNELL (BOTTOM) HISTORIC WHARF ALIGNMENTS AND PEDESTRIAN MOVEMENT PATHS

Objective 2: A wharf designed for people

This objective aims to bridge the gap between distinct communities by creating a publicly accessible waterway connection that unifies the Botany Bay area.

Acting as ‘gateways’, the wharves will celebrate this journey and offer new frontages and a sense of arrival to La Perouse and Kurnell National Park. While the wharves are designed to be fit for purpose, it is also designed to encourage flexibility of users and activities. The entrance to the wharves include landscape interventions using endemic species and integrated seating that create a sense of place. The waiting areas accommodate enough seating provisions for the ferry users and for those who want to enjoy the views. There is also sufficient space for fishing off the wharves.

Both La Perouse and Kurnell are highly significant to Australia as the ‘meeting place’ of the Aboriginal and European cultures and thus, the site allows for opportunities to recognise cultural impact and explore pathways towards reconciliation. The focus of the wharf design is to serve as an engaging educational tool.

The diverse stories that can be gained through indigenous history and engagement, community and local identity will also be strongly embedded throughout the details of the wharf design. The accessible layout and details of the wharf, including provision of adequate weather protection, creates an inclusive and equitable design whilst also maintaining standards for human comfort and safety. In addition to being a transport amenity, the wharf will also be a place to gather, a place to fish, a place to look-out and unwind, a place to swim, a place to play, a place to learn and a place that adds value to the evolving identity of the neighborhood.

Objective 2 responds to:

- BetterPlaced design objectives - ‘Better for Community’, ‘Better for People’, and ‘Better Working’
- Beyond the Pavement design objectives - ‘Contributing to the overall design quality of the public domain for the community’ and ‘Contributing to the accessibility and connectivity of communities by enhancing general permeability of movement through areas by all modes of movement’
- Beyond the Pavement design principle - ‘Designing an experience in movement’, ‘Connecting modes and communities’ and, ‘Promoting active transport’.

The assisting principles to achieve this objective include:

- Encourage flexibility of users and activities
- Create an inclusive and equitable design
- Allow the design to serve as an educational tool
- Embed details of local identity and community within the design and add value to the evolving identity of the neighborhood
- Maintain standards for human comfort and safety
- Adhering to Beyond the Pavement’s three performance requirements (safety and towards zero harm; cost effectiveness and sustainability).

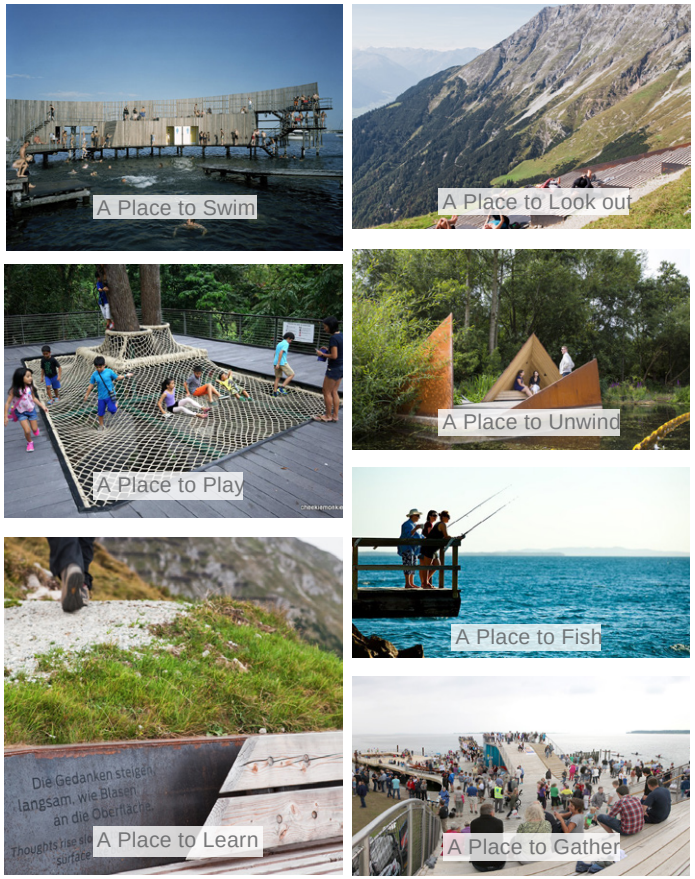


FIGURE 25 FERRY WHARF CONCEPT PRECEDENT IMAGERY

Objective 3: Responding to historical and contextual placemaking

This objective aims to foster a sense of local pride and identity by educating the public about the historical and present-day maritime activities and providing a high quality architectural response that is pragmatic, streamlined and cost effective.

While the project responds to the individual sites, they are unified using simple expressed materials and timber. This chosen material expression takes functional design and material cues from boat and ship design thus, tying the wharves to the sites' maritime and fishing history. The wharf design and materiality will educate the public on both the historical and present-day maritime activities and routes (including pre colonial, Captain Cook's and current local navigational fishing routes) whilst also fostering a sense of local pride and identity.

In alignment with the rich fishing history of the Botany Bay headland, the wharves will have adequate spaces to allow for recreational fishing. The finishes and the details of the wharves will be robust while also being welcoming and aesthetically pleasing. This will add social and financial value to its immediate context whilst also supporting tourism and further investments around the locality. The maritime inspired design approach for the project aims to create a high quality architectural response that is highly pragmatic, streamlined and cost effective. The material choices of concrete, timber, FRP, aluminum panels and metal chain work ensures high level of performance and lower maintenance in the marine environment.

Objective 3 responds to:

- BetterPlaced design objectives - 'Better Performance', 'Better Value', and 'Better Look and feel'
- Beyond the Pavement design objectives - 'Contributing to the overall design quality of the public domain for the community', and 'Revitalising areas and contributing to the local and broader economy'
- Beyond the Pavement design principles - 'Contributing to urban structure, urban quality and the economy', 'Connecting to Country and Incorporating heritage and cultural contexts', and 'Achieving integrated and minimal maintenance design'.

The assisting principles to achieve this objective include:

- Foster a sense of local pride and identity through the use of particular materials
- Allow for recreational fishing activities to occur
- Utilise robust and low maintenance, yet aesthetically pleasing materials
- Create a high quality design response.

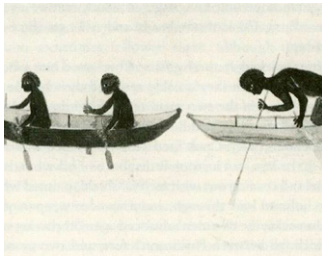


FIGURE 26(LEFT) 1952 PHOTO OF THE OLD WHARF AT KURNELL.SOURCE: MAX DUPAIN, MAX DUPAIN'S AUSTRALIA.

FIGURE 27(RIGHT) ABORIGINAL MEN FISHING, BY TUPAIA SOURCE: BRITISH LIBRARY, LONDON.

FIGURE 28(LEFT) AERIAL LOOKING OVER CAPTAIN COOK'S LANDING PLACE MONUMENT, KURNELL.

FIGURE 29(RIGHT) EXPRESSED STEEL AND TIMBER CLAD STRUCTURE SIMILAR TO THAT OF BOAT AND SHIP DESIGNS. SOURCE: CHROFI.

Design, Place and Movement

In order to specifically address the Design, Place and Movement SEAR requirements (refer to page 11) to ensure holistic integration of the design with the surrounding local context, the diagrams seen below and opposite have been developed. They demonstrate the design intent with particular reference to open space, capturing views and connectivity.

La Perouse

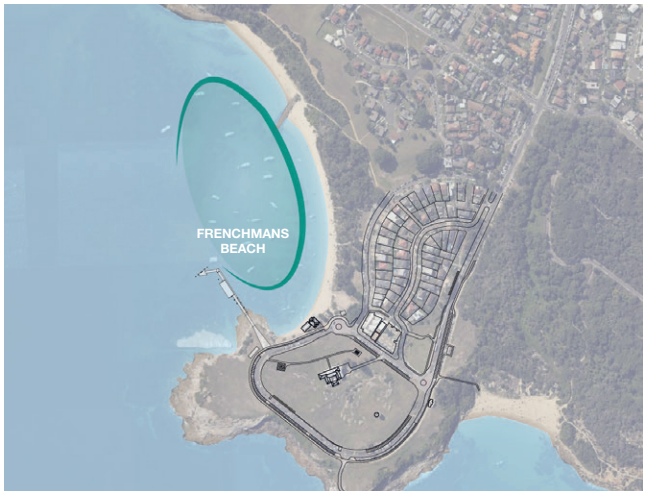


FIGURE 30 LA PEROUSE NATURAL CHARACTER

La Perouse has an enclosed cove that naturally protects Frenchman's Beach users. With the proposed wharf footprint extending off La Perouse point and towards Molineaux Point, the project contributes to, and emphasises the existing protected character of Frenchman's Beach.

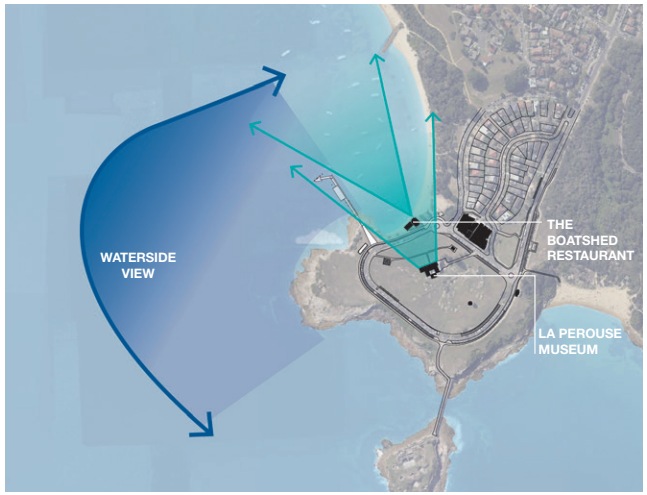


FIGURE 31 LA PEROUSE CAPTURING KEY VIEWS

In order to protect heritage values, the design of the wharf will not intrude on any protected viewing corridors. Landside heritage views from and towards the La Perouse museum and the Boatshed restaurant are also protected through the design of the structural components. The framing of both the landside and the waterside views will drive the design of the proposed roof structures.

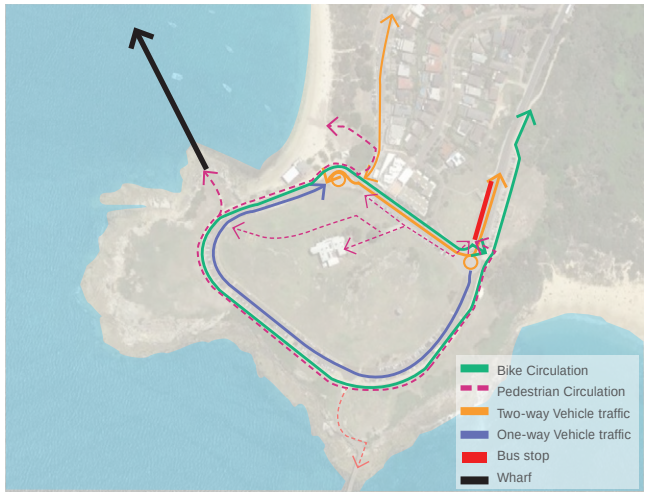


FIGURE 32 LA PEROUSE CONNECTIVITY

The proposal aims to enhance general permeability of movement through the Botany Bay area by interconnection of multiple modes of movement including the connection to waterway transport. Provision of active transport is achieved through integrated pedestrian and bicycle pathways within the project.

Kurnell

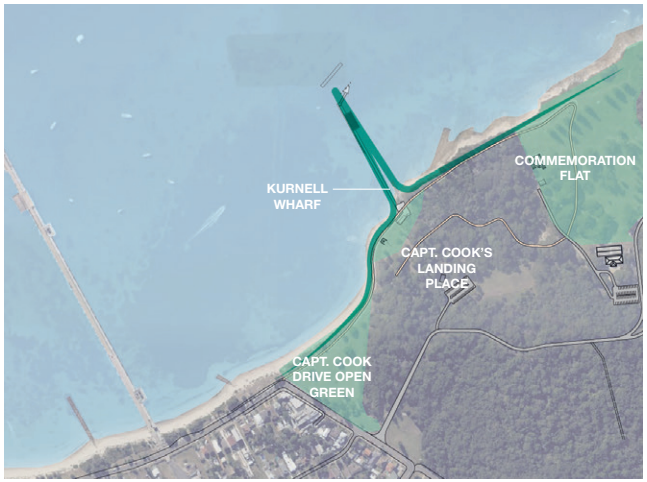


FIGURE 33 KURNELL NATURAL CHARACTER

Either side of the proposed Kurnell wharf, there are existing patches of extensively vegetated spaces that will be tied together by the wharf site location. The proposed structure will also celebrate the historic wharf alignment and the passenger flow directions.

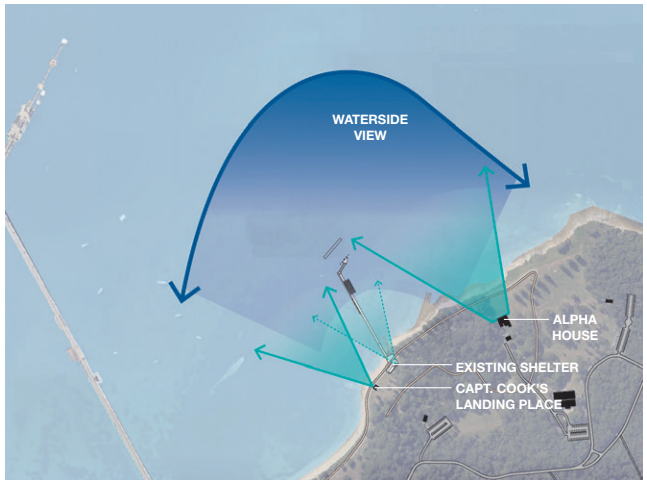


FIGURE 34 KURNELL CAPTURING KEY VIEWS

In order to protect heritage values, the design of the wharf will not intrude on any protected viewing corridors. In particular, the landside heritage views of the various heritage elements along the Monument Track including; Captain Cook's Landing Place monument and the Alpha house structure. The framing of the waterside views will drive the design of the proposed roof structures.

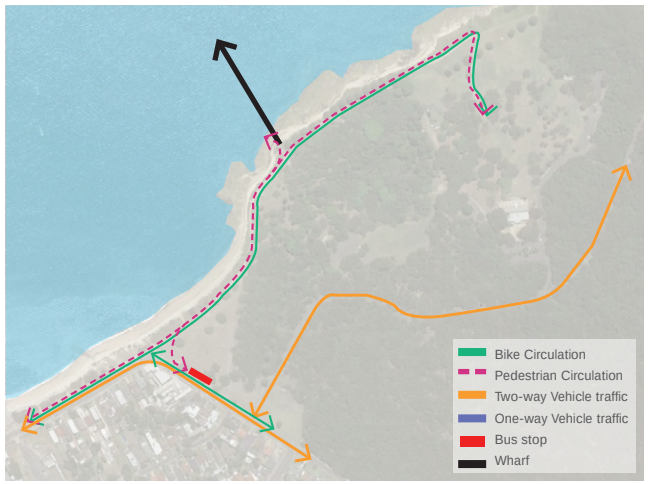


FIGURE 35 KURNELL CONNECTIVITY

The proposal aims to enhance general permeability of movement through the Botany Bay area by interconnection of multiple modes of movement including the connection to waterway transport. Provision of active transport is achieved through integrated pedestrian and bicycle pathways.

Design Response

La Perouse

The landscape design at La Perouse includes the provision of integrated seats and planters that are shaped as a response to and a reflection of the geometry of the wharf architecture whilst responding to the terrain and the expansive vista offered at this location.

During future design stages, there is the potential for the shape and form of the arrival point to respond to local stories and a historical narrative that could come from further detailed engagement with the local community.

Capturing views

Key views out from La Perouse point, Frenchmans Bay and the wharf itself have been captured by the direction and placement of the seating within the integrated planters. The landscape tie-in provides a lookout area for the entire La Perouse Point headland and invites all visitors of the headland to stop and experience the vista and the Botany Bay environs.

Refer to Figure 35 (opposite) to see the captured key view directions including:

1. Views out towards Kurnell, Botany Bay and Kamay Botany Bay National Park.
2. Views out towards ferry wharf docking location to facilitate passenger awareness.
3. Views out from ferry boardwalk towards Frenchman's Bay and Yarra Point.

Integrated bespoke seating and planters

The design promotes subtle level changes in the topography and includes three 'steps' or level changes. The planters act as a natural extension out from the terrain and inclusive access is provided through gentle gradients connecting the terraces. This creates pockets of clustered planting and formal seating furniture whilst also allows for informal seating opportunities within the 'stepped' seating edge.

Connectivity

The configuration of the integrated seating and level changes have been designed to connect to the existing movement network, particularly the main footpath adjacent to Anzac Parade that wraps around the entire headland and the footpath that traverses the open, grassed central median that currently, leads users to the La Perouse Monument and La Perouse Museum.

The wharf entry is located at the intersection of these two paths, providing a meeting point an rest point that frames the coastal views. The design also works with the existing designated pedestrian cross-over point and maintains this key connection to the surrounding heritage monuments.

Planting palette

Planting palettes will respond to the coastal local character of the headland and will contain low-lying, native species to ensure the views out towards the coastline and Botany Bay are preserved and connection to the local context and landscape is maintained.

Planting areas will frame the formal seating arrangements and soften the 'hardscaped' elements of the design (including paving and timber seats) whilst providing further private nooks for seating. The opportunity to incorporate interpretive panels of the rich historic nature of the location, and wider Kamay Botany Bay National Park, should be developed with indigenous consultants local to the La Perouse area.

The overall design for La Perouse, is illustrated opposite in Figure 37 and includes:

1. An expanded entrance/approach from the landside that integrates and grounds the wharf to the context and the park.
2. An entrance zone that provides seating to foster interactions with the public and allows for a moment of pause in the visitor journey to the ferry and within the park.
3. Information plaques that are incorporated into the balustrade design to offer educational opportunities.
4. A waiting area that is extended to allow for fishing off the wharf. This spacious zone permits for a deep and wide roof profile that provides ample weather protection.
5. A roof design that allows for dappled sunlight and reflection of the water movement thereby creating a space sympathetic to its contextual environment.
6. An overall form with components such as the entrance wharf, seating and berths, can provides a unified experience that is responsive to the local context.

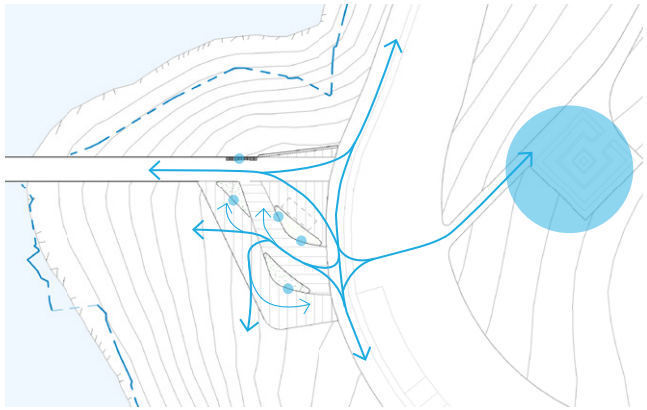


FIGURE 36 LA PEROUSE CONNECTIVITY

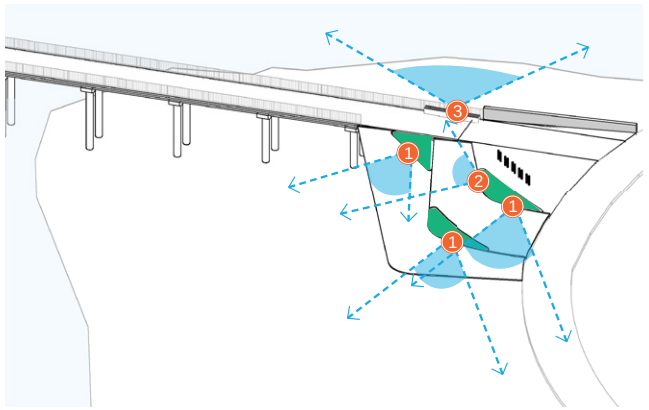


FIGURE 37 LA PEROUSE VIEWS DIRECTIONS

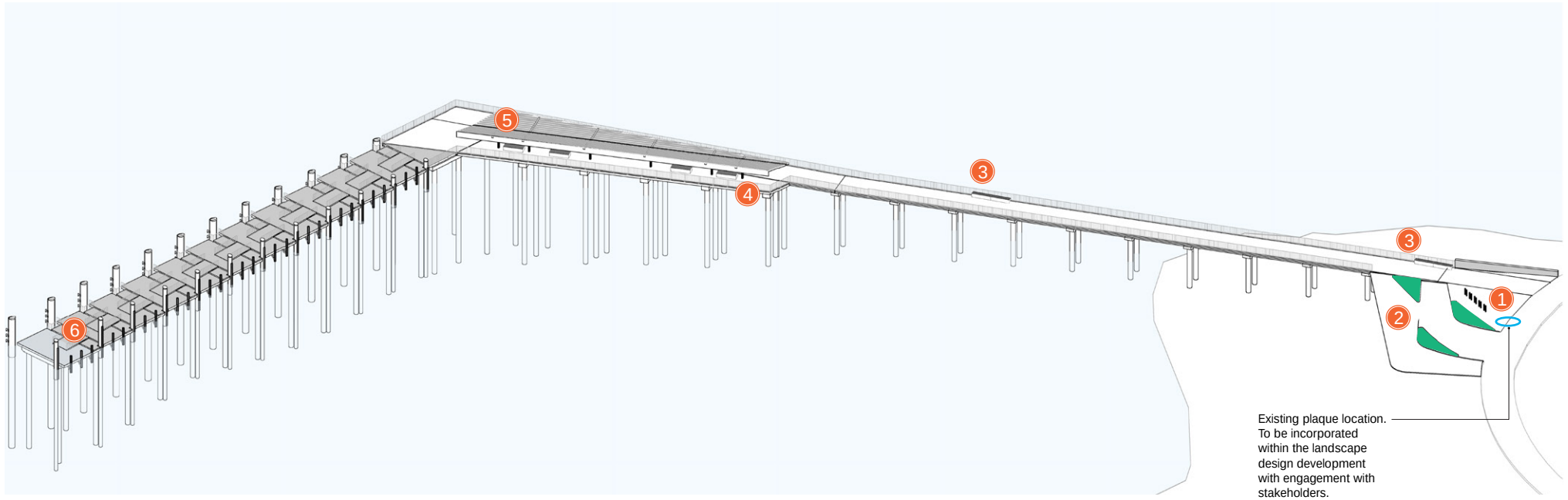


FIGURE 38 LA PEROUSE CONCEPT DESIGN

Kurnell

The land side tie-in for Kurnell responds particularly to the sensitive cultural nature of the project area and provides a subtle planted backdrop to the surrounding heritage and cultural monuments including Captain Cooks Landing Place, the Eyes of the Land and Water sculpture and the existing heritage listed shelter located within the project site.

Capturing views

Direct views towards these landmarks are maintained and promoted through the low-level planting palette and the seating provisions.

Refer to Figure 38 (opposite) to see the captured key view directions including:

1. Direct views currently experienced from Captain Cook's monument out towards Botany Bay are protected and maintained.
2. Views out towards ferry wharf docking location to facilitate passenger awareness.
3. Direct views towards the Eyes of the Land and the Water sculpture.

Connecting to the existing

The landscape concept is humble in its approach and aims to integrate and blend the wharf's structural components within the sensitive setting of the Kamay Botany Bay National Park by providing a formal entrance gateway to the jetty from the popular Monument Track.

The landscape design is located directly adjacent to the four mature Norfolk Pine trees that continue as a planted avenue, lining the Monument Track that meanders further throughout the Kamay Botany Bay National Park. The landscape concept for Kurnell aims to respect the dominant visual and aesthetic character offered by the pine trees by allowing a chance to stop and celebrate the wide-spread views out across the Bay and providing a rest point that takes advantage of the large shaded grassed patch underneath the pine tree canopy.

Planting

Linear patches of planting adjoin the wharf architecture and paved entrance way, celebrating the architectural design and acting as an extension of both the existing heritage shelter and the densely planted coastal heath and Kurnell Dune Forest that currently abuts the Monument Track.

Similarly to La Perouse, the chosen planting palette will be locally sourced and reflect the native species from the project area. The opportunity to incorporate interpretive panels of the rich historic nature of the location, should be developed with indigenous consultants local to the Kurnell area and integrate with the interpretive panels located along the existing wharf structure (to be decommissioned) and further north at Captain Cook's Creek.

The overall design for Kurnell, is illustrated opposite in Figure 40 and includes;:

1. An expanded entrance/approach from the landside that integrates and grounds the wharf to the context and the park.
2. An entrance zone that also has seating to foster interactions with the public and allows for a moment of pause in the visitor journey to the ferry and within the park.
3. Information plaques that are incorporated into the balustrade design to offer educational opportunities.
4. The fishing deck which is adjacent to the waiting area to offer added amenity to the wharf.
5. A waiting area that extends past the roof to allow for people to gather and look out at the end of the wharf.
6. A roof design allows for dappled sunlight and reflection of the water movement thereby creating a space sympathetic to its contextual environment.
7. An overall form with components such as the entrance wharf, seating and berths, can provides a unified experience that is responsive to the local context.

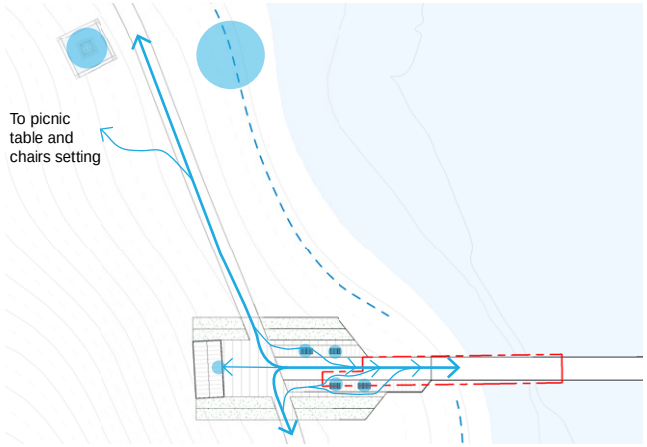


FIGURE 39KURNELL CONNECTIVITY

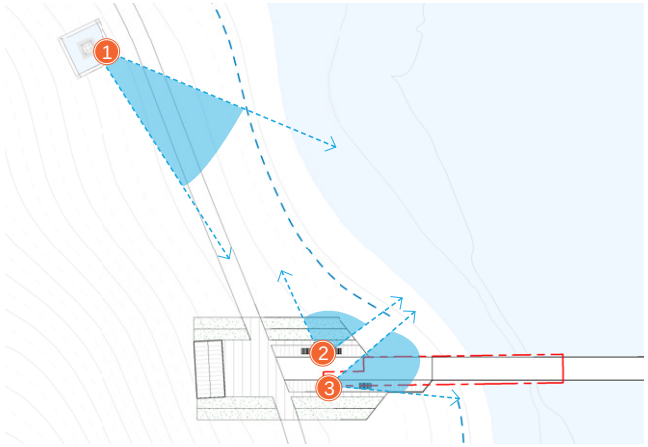


FIGURE 40KURNELL VIEWS DIRECTIONS

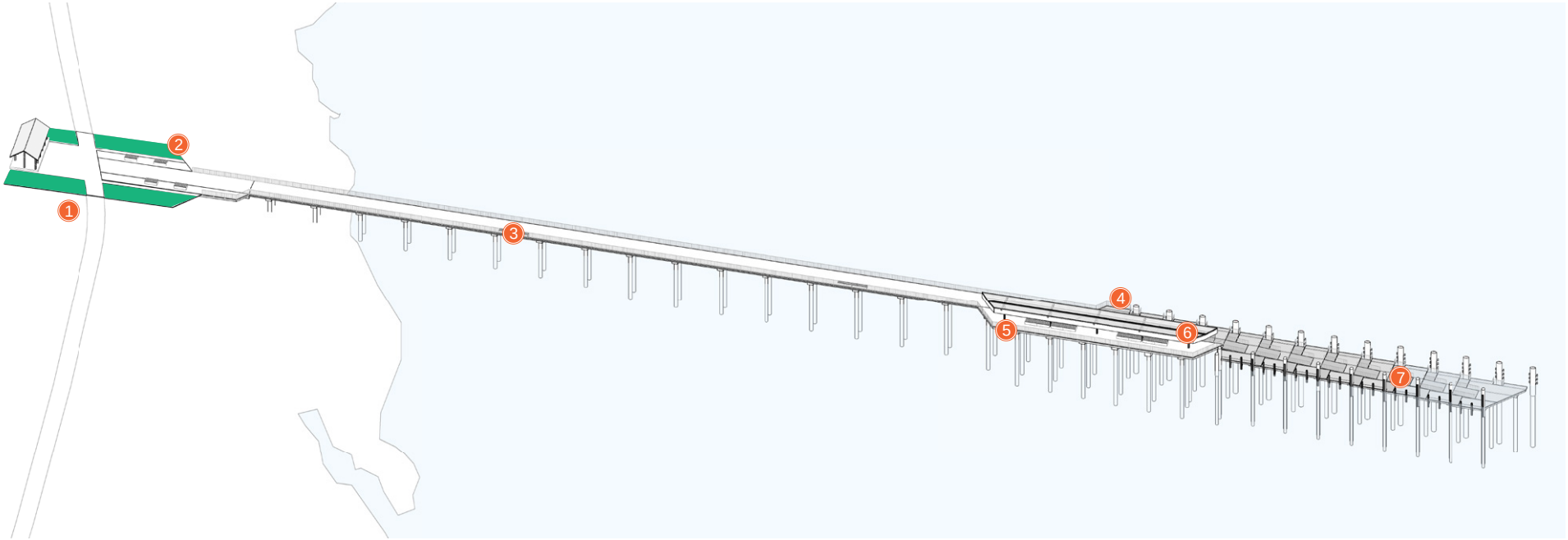


FIGURE 41KURNELL CONCEPT DESIGN

Plan of Management (2020)

The project is consistent with the Kamay Botany Bay National Park Plan of Management (TfNSW, 2020) by addressing the following objectives:

- Promoting public appreciation and understanding of the park's cultural and natural values.
- Sympathetic design to the natural landscape and features thus celebrating views and vistas without encroaching on the heritage view corridors.
- Supporting aboriginal community engagement in the detail design of the wharf.
- Providing recreational opportunities that attract more visitors.
- Providing links and connections to a network of walking and shared-use tracks between La Perouse and Kurnell within the National Park that provide sustainable access to key features and destinations and link to regional walks.

Kurnell Precinct Masterplan

The project is consistent with the Kurnell Precinct Masterplan (Neeson M etc 2019) by addressing the following objectives:

- The wharf itself is an integral part of the masterplan and the overall design for the upgraded Kurnell precinct.
- New and upgraded interpretation signage and informative plaques on the wharf provides further education opportunities supported by the masterplan.
- Architectural details of the waiting area roof and balustrades will incorporate aboriginal narratives through engagement with the local indigenous communities and artists. This is in alignment with the masterplan's acknowledgment of the role of the Aboriginal community in telling its stories at Kamay Botany Bay National Park.
- The wharf itself provides a sense of arrival on to the Kurnell precinct and creates a threshold and a space for reflection proposed in the masterplan
- The design of the wharf embraces the masterplan principles of – Respecting cultures and creating an inclusive space with balanced indigenous and European presence and; Amplifying the unique natural characteristics and beauty of the site through design and using it to heal, recover and bridge cultures.

FIGURE 42 KAMAY BOTANY BAY NATIONAL PARK KURNELL MASTER PLAN

Indicative species palette

The chosen planting palette used across both La Perouse and Kurnell project sites will reflect the local character and indigenous species endemic to the area. Species selection will be developed during subsequent design stages to incorporate further feedback from stakeholders.

LA PEROUSE - COASTAL WATTLE SCRUB	
Allocasuarina distyla | Scrub sheaoak	Shrub
Acacia suaveolens | Sweet-scented wattle	Shrub
Darwinia fascicularis	Shrub
Lomandra longifolia | Spiny headed mat rush	Grass
Melaleuca armillaris	Shrub
Westringia fruticosa | Coastal rosemary	Shrub

KURNELL - DUNE FOREST + COASTAL HEATH	
Banksia ericifolia | Health Banksia	Large shrub
Banksia serrata | Old Man Banksia	Large shrub
Breynia oblongifolia | Coffee Bush	Shrub
Cissus antarctica | Kangaroo Vine	Climber
Leptospermum laevigatum | Coast Tea-tree	Small tree
Monotoca elliptica | Tree Broom Heath	Shrub


A. distyla


A. suaveolens


D. fascicularis


A. distyla


L. laevigatum


M. elliptica


L. lomandra


M. armillaris


W. fruticosa


B. oblongifolia


M. armillaris


C. antarctica

07

Impact assessment

Landscape character assessment

FIGURE 43 LANDSCAPE CHARACTER AREAS

0 0.5 1 2km

This section documents the components that have the potential to change or influence the landscape (magnitude of change) and the potential impacts that may arise on the LCAs.

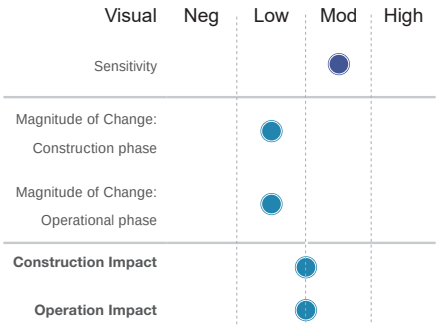
LCAs 1: Botany Bay, 2: La Perouse Kamay Botany Bay National Park and 7: Kurnell Kamay Botany Bay National Park are physically impacted by the project.

LCAs 3: La Perouse residential area, 4: Phillip Bay coastal area, 5: Port Botany, 6: Silver Beach residential area and 8: Kurnell industrial area, are not directly impacted by the project.

Legend

- Proposal area
- LCA1: Botany Bay
- LCA 2: La Perouse Kamay Botany Bay National Park
- LCA 3: La Perouse residential coastal area
- LCA 4: Phillip Bay coastal area
- LCA 5: Port Botany
- LCA 6: Silver Beach and Kurnell residential area
- LCA 7: Kurnell Kamay Botany Bay National Park
- LCA 8: Kurnell industrial area

FIGURE 44 LCA 1: BOTANY BAY



LCA 1: Botany Bay

This LCA is associated with the Botany Bay water body extents and includes the immediate site extents (for both La Perouse and Kurnell). The magnitude of change to the Botany Bay LCA are assessed for both the construction and operational phases.

Construction phase

The magnitude of change is considered to be **Low** due to the following:

- Demolition of the existing viewing platform structure (at Kurnell) contributing to a slight loss to the existing character.
- Introduction of a temporary causeway at Kurnell (85m length, 10-12m width), a large marine barge to assist with construction of the project. Construction of the causeway will include a gradual extension of the structure. This is considered an extension of the existing presence of infrastructure within this LCA, particularly the adjoining Caltex berthing facility extending off Silver Beach.
- The average daily vessel movements during construction are estimated to be an average of eight vessel movements per day, with a peak of 20 vessel movements per day. This significantly increases the number of motorised vessels in the bay, however this is not considered to be incongruous with the existing character.

The Moderate sensitivity and Low magnitude of change would result in a **Moderate-Low adverse** landscape impact.

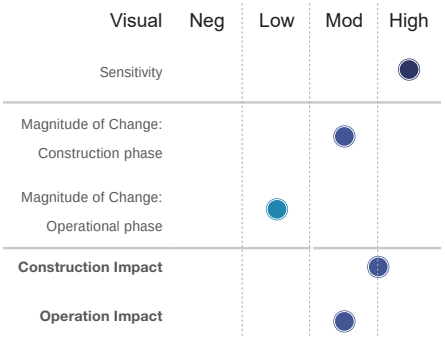
Operational phase

The magnitude of change arising from the project is assessed to be **Low** due to the following:

- The project is anticipated to accommodate up to three vessels per hour (with a turnaround time of approximately 15 minutes) increasing the existing presence of motorised water vehicular traffic in the LCA.
- The wharf structure is considered to result in an increase in the scale of structural elements within the bay.

The Moderate sensitivity and Low magnitude of change would result in a **Moderate-Low adverse** landscape impact.

FIGURE 45 LCA 2: LA PEROUSE HEADLAND AND KAMAY BOTANY BAY NATIONAL PARK



LCA 2: La Perouse headland and Kamay Botany Bay National Park

This LCA is associated with the northern portion of the Kamay Botany Bay National Park and La Perouse headland. It includes the immediate site extents (for La Perouse). The magnitude of change to LCA 2 is assessed during both construction and operational phases.

Construction phase

The magnitude of change is considered to be **Moderate** due to the following:

- Introduction of 'fenced off' construction site establishment including the laydown area, site amenities and office and the adjoining crane platform (lasting overall 13 months). Large scale heavy machinery and construction equipment is considered an uncharacteristic additional feature.
- Temporary access will be installed to provide access from Anzac Parade (5m width and 45m length) to accommodate approximately 12 vehicles, on average a day. This is uncharacteristic to the existing nature of the picturesque headland.
- Moderate level of land disturbance (approximately 4 900m^3) and earthworks associated with the proposed wharf tie-in and installation of utilities considered as noticeable damage to the existing rocky, coastal interface.

The High sensitivity and Moderate magnitude of change would result in a **High-Moderate adverse** landscape impact, however, this impact is considered to be of a temporary nature.

Operational phase

The magnitude of change arising from the project is assessed to be **Low** due to the following:

- The permanent wharf structure extends significantly off the naturally exposed headland. This is anticipated to result in a change to the existing aesthetic that contributes to the landscape character by adding further structural elements to the expansive vista which is considered uncharacteristic to the existing landscape character of the headland.
- The Project introduces an expanded entrance to the wharf structure that is designed with the natural topography of the headland, includes the provision of additional planting of local species and provides further seating for visitors.

The High sensitivity and Low magnitude of change would result in a **Moderate adverse** landscape impact.

FIGURE 46 LCA 3: LA PEROUSE RESIDENTIAL AREA

LCA 3: La Perouse residential area

This LCA is associated with the La Perouse residential LCA and is indirectly affected by the project. The magnitude of change to the La Perouse residential LCA is assessed during both the construction and operational phases.

Construction phase

The magnitude of change is considered to be **Negligible** due to the following:

- The land based haulage route for construction traffic is anticipated to be directed past the eastern border of this LCA (along Anzac Parade) that are considered to be barely noticeable features.

The Moderate sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

Operational phase

The magnitude of change arising from the project is assessed to be **Negligible** due to the following:

- Changes are not anticipated to result in direct physical impacts to this LCA.

The Moderate sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

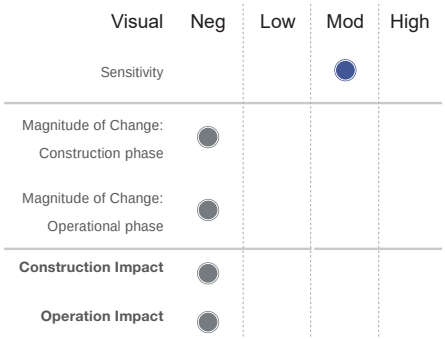
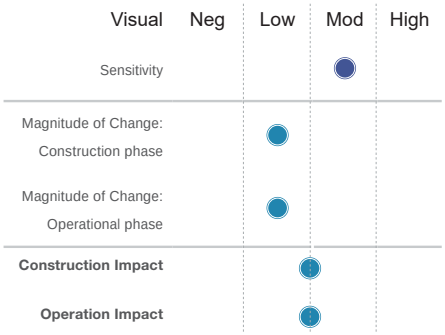


FIGURE 47 LCA 4: PHILLIP BAY COASTAL AREA



LCA 4: Phillip Bay coastal area

This LCA is associated with the Phillip Bay headland, beaches and adjoining parklands and is indirectly affected by the project. The magnitude of change to this LCA is assessed during both the construction and operational phase.

Construction phase

The magnitude of change is considered to be **Low** due to the following:

- The change is not anticipated to result in direct impacts to this LCA.
- The addition of new, but uncharacteristic features or elements in adjoining LCAs 1: Botany Bay and LCA 2: La Perouse headland and Kamay Botany Bay National Park, which contributes to the 'borrowed character' of this LCA.

The Moderate sensitivity and Low magnitude of change would result in a **Moderate-Low adverse** landscape impact.

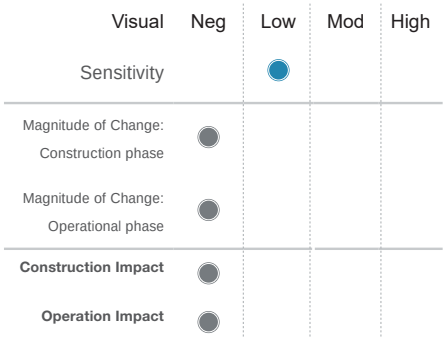
Operational phase

The magnitude of change arising from the project is assessed to be **Low** due to the following:

- The change is not anticipated to result in direct impacts to this LCA however, due to the close proximity of the directly impacted LCA 1: Botany Bay and the recreational nature of LCA 4, impacts to the landscape character is anticipated.
- The increased motorised vessel activity and the permanent wharf structure itself, is anticipated to result in a change to the setting of this LCA by adding further structural elements to the expansive vista.

The Moderate sensitivity and Low magnitude of change would result in a **Moderate-Low adverse** landscape impact.

FIGURE 48 LCA 5: PORT BOTANY



LCA 5: Port Botany

This LCA is associated with Port Botany and is indirectly affected by the project. The magnitude of change to this LCA is assessed during the construction and operational phase.

Construction phase

The magnitude of change is considered to be **Negligible** due to the following:

- The change is not anticipated to result in direct impacts to this LCA.
- The change is not anticipated to result in indirect impacts to this LCA.

The Low sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

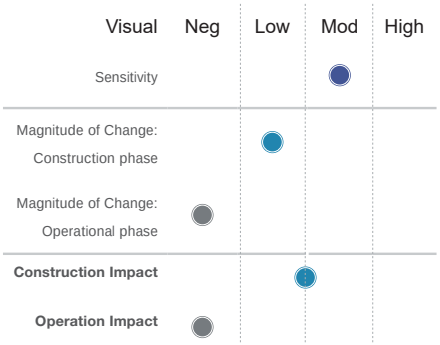
Operational phase

The magnitude of change arising from the project is assessed to be **Negligible** due to the following:

- The change is not anticipated to result in direct impacts to this LCA.
- The change is not anticipated to result in indirect impacts to this LCA.

The Low sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

FIGURE 49 LCA 6: SILVER BEACH AND KURNELL RESIDENTIAL AREA



LCA 6: Silver Beach and Kurnell residential area

This LCA is associated with Silver Beach and the Kurnell esplanade and residential area and is indirectly affected by the project. The magnitude of change to this LCA is assessed during the construction and operational phase.

Construction phase

The magnitude of change is considered to be **Low** due to the following:

- The land based haulage route for construction traffic is anticipated to be directed through the south-east extent of this LCA (along Captain Cook Drive).

The Moderate sensitivity and Low magnitude of change would result in a **Moderate-Low adverse** landscape impact.

Operational phase

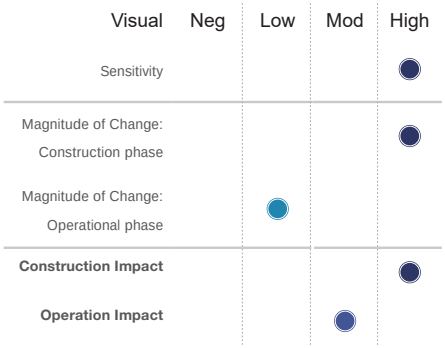
The magnitude of change arising from the project is assessed to be **Negligible** due to the following;

- The change is not anticipated to result in direct impacts to this LCA.
- The change is not anticipated to result in indirect impacts to this LCA.

The Moderate sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

Refer to Appendix One (page 121 for Figures referring to construction site establishment areas and extent of ground disturbance).

FIGURE 50 LCA 7: KURNELL KAMAY BOTANY BAY NATIONAL PARK



LCA 7: Kurnell Kamay Botany Bay National Park

This LCA is associated with the southern portion of the Kamay Botany Bay National Park and includes the immediate site extents (for Kurnell). The magnitude of change to this LCA is assessed during the construction and operational phases.

Construction phase

The magnitude of change is considered to be **High** due to the following:

- Introduction of 'fenced off' construction site establishment including the laydown area, site amenities and the site office (lasting overall 21 months). Large scale heavy machinery and construction equipment is considered an uncharacteristic, additional feature within the parkland extents.
- Introduction of a temporary road to provide access from Captain Cook Drive to follow Monument Track (5m width (extending to 8m), 25m length) to accommodate vehicles.
- An African olive tree adjacent to the footpath and 5 juvenile trees adjacent to the wharf would be removed to facilitate the construction works
- Utilities trench, considered as a noticeable disturbance within this LCA.

The High sensitivity and High magnitude of change would result in a **High adverse** landscape impact.

Operational phase

The magnitude of change arising from the project is assessed to be **Low** due to the following:

- The project has been considered to ensure the design effectively responds to the Nationally and State significant sites in the area.
- The introduction of a reinstated ferry wharf, and associated landscape and urban design, in the same location as the existing platform structure.

The High sensitivity and Low magnitude of change would result in a **Moderate adverse** landscape impact.

Refer to Appendix One (page 121 for Figures referring to construction site establishment areas and extent of ground disturbance).

FIGURE 51 LCA 8: KURNELL INDUSTRIAL AREA

Visual	Neg	Low	Mod	High
Sensitivity		●		
Magnitude of Change: Construction phase	●			
Magnitude of Change: Operational phase	●			
Construction Impact	●			
Operation Impact	●			

LCA 8: Kurnell industrial area

This LCA is associated with heavy and general industrial zones within Kurnell and is indirectly affected by the project. The magnitude of change to this LCA is assessed during the construction and operational phase.

Construction phase

The magnitude of change is considered to be **Negligible** due to the following:

- The change is not anticipated to result in direct impacts to this LCA.
- The change is not anticipated to result in indirect impacts to this LCA.
- Extension to the presence of infrastructure within this LCA.

The Low sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

Operational phase

The magnitude of change arising from the proposal is assessed to be **Negligible** due to the following:

- The change is not anticipated to result in direct impacts to this LCA.
- The change is not anticipated to result in indirect impacts to this LCA.
- Extension to the presence of infrastructure within this LCA.

The Low sensitivity and Negligible magnitude of change would result in a **Negligible** landscape impact.

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Visual assessment

Following the VEM that was included in Visual Context (refer to page 48), the viewsheds have been separated for both sites to assist in analysing the visual impacts of the individual wharves. Refer to Figure 51 for the La Perouse VEM and Figure 52 for the Kurnell VEM.

The viewsheds have been generated from evenly dispersed ‘points’ placed on the top of the proposed structures within the 3D model. The viewshed is illustrated in a way that highlights the degree of visibility from the 3D model project components against the ‘bare earth’ surface model (refer to Chapter 04 Baseline, page 49). Consistent with the baseline analysis, 13 viewpoints have been assessed to represent the potential visual impacts that may arise as a result of the project.

Viewsheds, from each individual viewpoint, have been generated to inform the analysis for the key structural elements associated with the project (refer to Chapter 06 Project, page 66). The viewpoints are illustrated on the following pages and are accompanied by a description of the design components that have the potential to change the existing visual composition (magnitude of change) and the potential impacts that may arise.

FIGURE 52 LA PEROUSE VIEWSHED

FIGURE 53 KURNELL VIEWSHED

FIGURE 54 VIEWPOINT 1 VIEWSHED

Viewpoint 1 Anzac Parade, La Perouse

Magnitude of change

The representative view from the pedestrian path crossing at La Perouse Point, Anzac Parade is situated approximately 160m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Moderate** magnitude of change due to:

- Direct views towards the designated site office location, plant access and laydown area and site fencing during construction and would form a noticeable element in the view, readily apparent to the viewer.
- Direct views towards land that is expected to be disturbed by Piling (Bored Piles), and the areas for reconfigured car parking.
- Direct views (and in close proximity to) towards the identified haulage route for large machinery and trucks to access the site.

Operation

The operation phase impacts arising from this project is considered to be **Low** magnitude of change due to:

- Wharf structure, including berthing and departing locations, is not a particularly elevated feature and would be largely obstructed by the existing land form.
- The proposed wharf tie-in works including landscaping, gradual sloping of the surrounding wharf entrance and urban street furniture such as seating introducing placemaking qualities integrated with the existing view composition.
- The existing visibility towards the Port Botany and the associated industrial marine character.

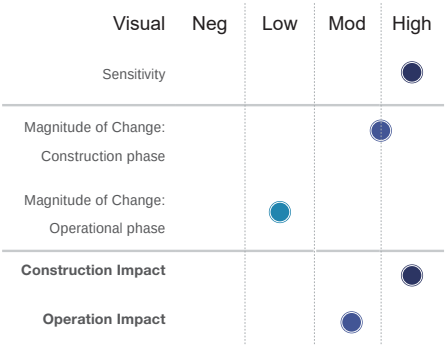
Visual Impact

Construction

The High sensitivity and Moderate magnitude of change is judged to result in a **High-Moderate adverse** impact during construction.

Operation

The High sensitivity and Low magnitude of change is judged to result in a **Moderate adverse** impact during operation.



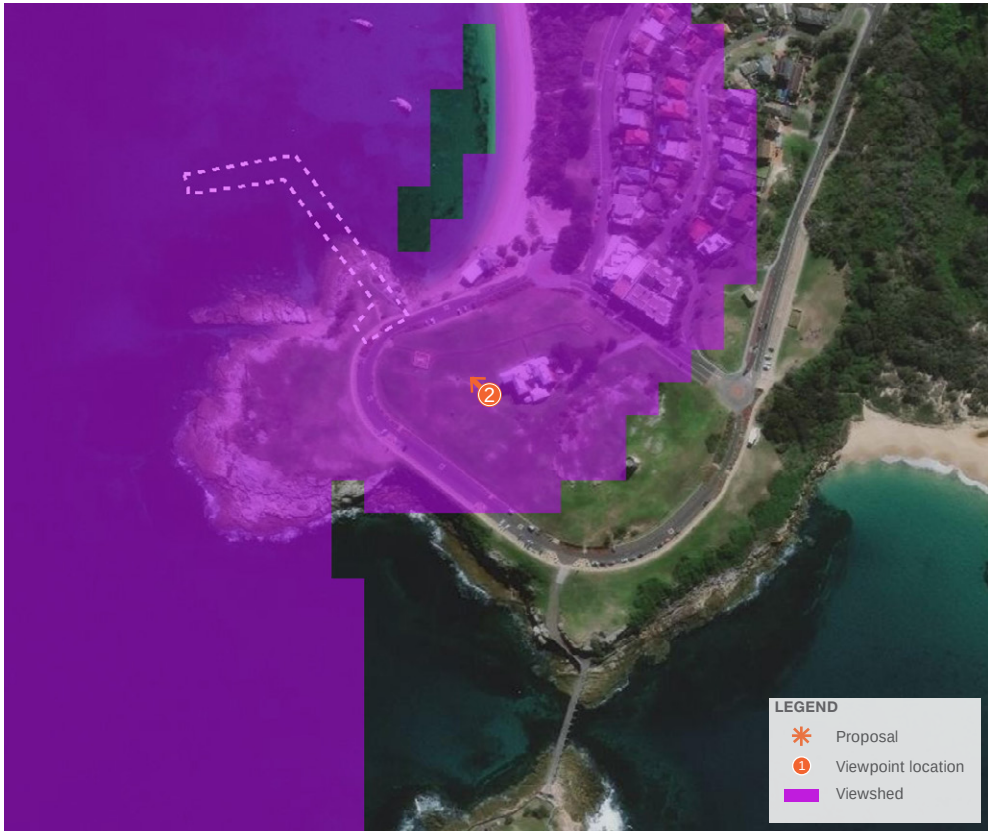


FIGURE 55 VIEWPOINT 2 VIEWSHED

Viewpoint 2 La Perouse Museum, La Perouse

Magnitude of change

A representative view from the highest point of the La Perouse headland, directly adjacent to the La Perouse museum and is situated approximately 175m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Moderate** magnitude of change due to:

- Moderate degree of contrast between construction equipment and the existing recreational view composition and features.
- Direct views are anticipated towards the designated site office location, plant access and laydown area and the site fencing during construction and would form a noticeable element in the view, readily apparent to the viewer.
- Direct views towards land that is expected to be disturbed, particularly the utilities trench and wharf tie-in area.

Operation

The operation phase impacts arising from this project is considered to be **Moderate** magnitude of change due to:

- Increased visibility of ferry vessel traffic activity within the Botany Bay extents and structural components directly visible.
- Integration of ‘place-making’ within the proposed design including additional lookout points and landscape design.
- The existing visibility towards the Port Botany and the associated industrial marine character.

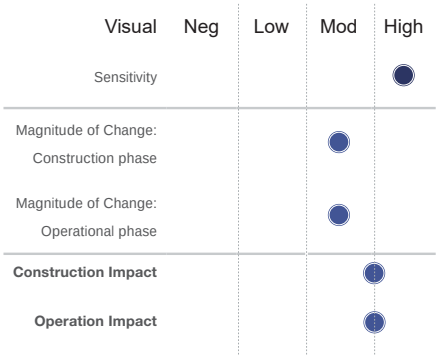
Visual Impact

Construction

The High sensitivity and Moderate magnitude of change is judged to result in a **High-Moderate adverse** impact during construction.

Operation

The High sensitivity and Moderate magnitude of change is judged to result in a **High-Moderate adverse** impact during operation.



Viewpoint 2 - Photomontage

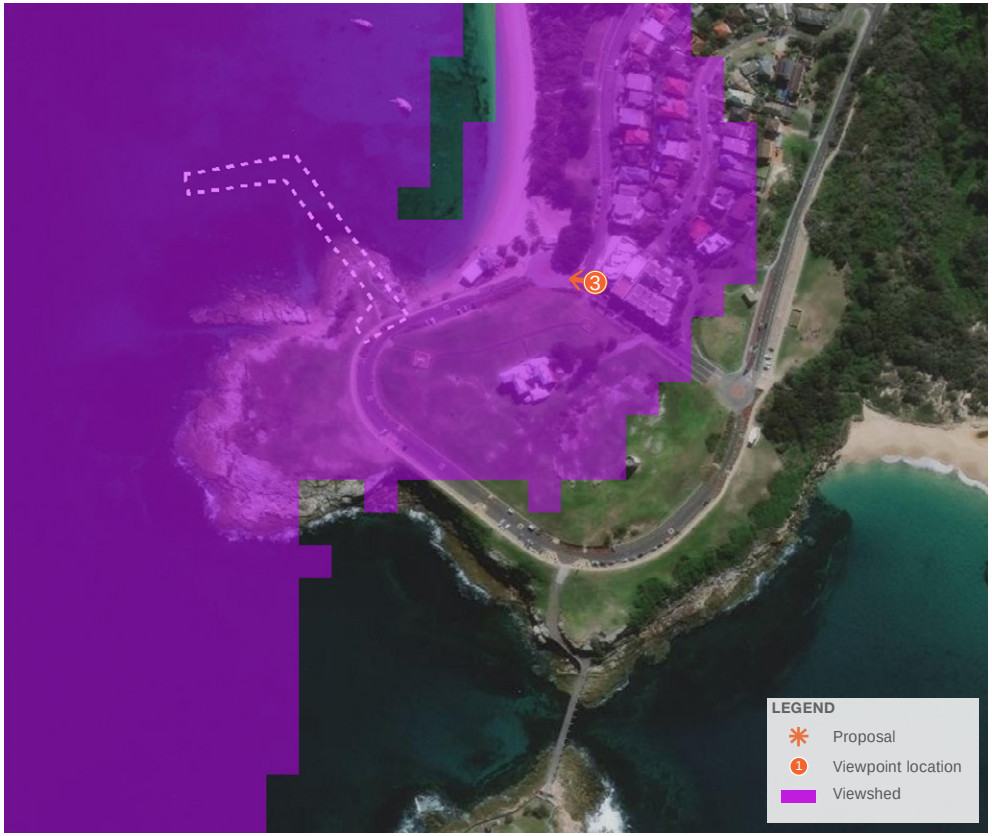


FIGURE 56 VIEWPOINT 3 VIEWSHED

Viewpoint 3 Corner of Anzac Parade and Endeavour Ave, La Perouse

Magnitude of change

The representative view from the pedestrian path crossing at the intersection of Anzac Parade and Endeavor Avenue and is situated approximately 200m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Moderate** magnitude of change due to:

- Moderate degree of contrast between construction equipment and the existing recreational/commercial view composition and features.
- Direct views are anticipated towards the designated site office location, plant access and laydown area and the site fencing during construction and would form a noticeable element in the view, readily apparent to the viewer.

Operation

The operation phase impacts arising from this Proposal is considered to be **Low** magnitude of change due to:

- Obstructed visibility towards the dominate structural features of the Project.
- Integration of 'place-making' within the proposed design including additional lookout points and landscaping that would become noticeable to the receptor.

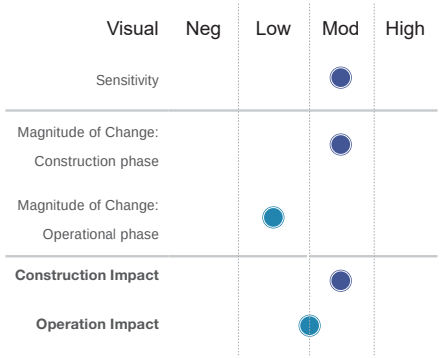
Visual Impact

Construction

The Moderate sensitivity and Moderate magnitude of change is judged to result in a **Moderate adverse** impact during construction.

Operation

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during operation.



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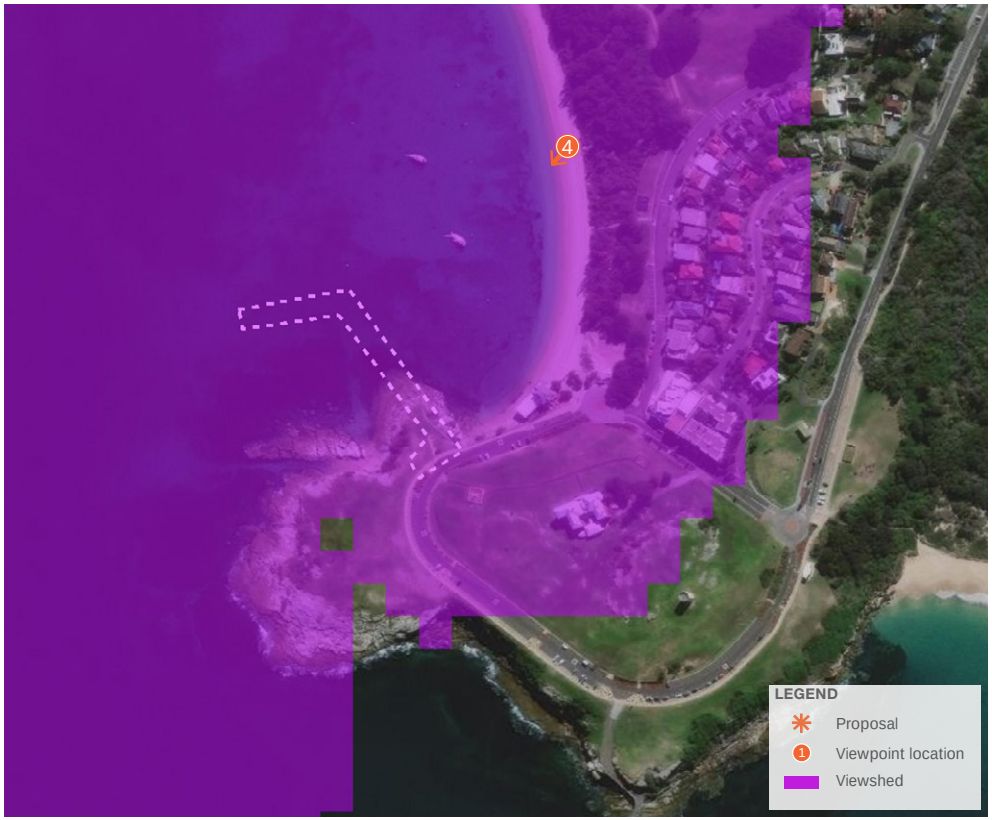


FIGURE 57 VIEWPOINT 4 VIEWSHED

Viewpoint 4 Frenchman's Beach, La Perouse

Magnitude of change

The representative view from Frenchmans beach front accessible from the track off Endeavor Avenue and is situated approximately 185m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **High** magnitude of change due to:

- High degree of contrast between construction equipment and the existing recreational view composition and features.
- Direct views are anticipated towards the plant access road and crane platform during construction and would form a noticeable element in the view, readily apparent to the viewer.
- Construction site, particularly the crane and marine barge, would become the dominate focal point of the view.

Operation

The operation phase impacts arising from this project is considered to be **High** magnitude of change due to:

- Increased visibility of ferry vehicular activity within the Botany Bay extents.
- High degree of contrast between the wharf (structure) and the natural composition of the view including water body and geology (headland).
- The project would become the focal point of the view.

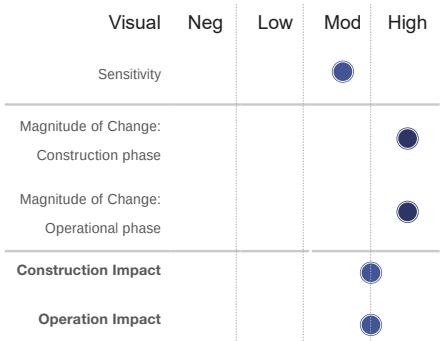
Visual Impact

Construction

The Moderate sensitivity and High magnitude of change is judged to result in a **High-Moderate adverse** impact during construction.

Operation

The Moderate sensitivity and High magnitude of change is judged to result in a **High-Moderate adverse** impact during operation.



Viewpoint 4 - Photomontage

FIGURE 58 VIEWPOINT 5 VIEWSHED

Viewpoint 5 Elaroo Ave, Phillip Bay

Magnitude of change

The representative view of the surrounding residential receivers from the pedestrian path along Elaroo Avenue, Phillip Bay is situated approximately 365m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Low** magnitude of change due to:

- Views towards construction machinery may be perceptible through gaps in the houses and/or vegetation however, the distance of the viewpoint from the proposed construction area would not alter the overall balance of the view.

Operation

The operation phase impacts arising from this project is considered to be **Negligible** magnitude of change due to:

- The ferry vessels being a characteristic feature within the view.
- The project would be perceptible however, will not alter the overall balance of the elements within the existing view.

Visual Impact

Construction

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during construction.

Operation

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.

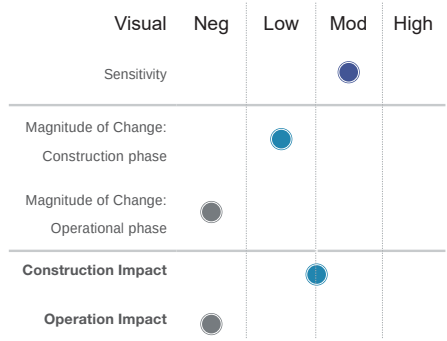


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FIGURE 59 VIEWPOINT 6 VIEWSHED

Viewpoint 6 Guriwal Bush Tucker Trail, La Perouse

Magnitude of change

The representative view from the Guriwal Bush Tucker Trail, Yarra Point and is situated approximately 585m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Moderate** magnitude of change due to:

- High degree of contrast between construction equipment and the existing recreational view composition and features.
- Views towards the crane and marine barge would form a perceptible feature and would be readily apparent to the receiver.

Operation

The operation phase impacts arising from this project is considered to be **Low** magnitude of change due to:

- The ferry vessels are considered a characteristic feature within the view. Vessel traffic will increase however, will temporarily pass through the view at various times throughout the day.
- The structure does not obstruct views towards the open headland or national park.
- The project would be perceptible however, will not alter the overall balance and is considered to be congruous with the features of the view.

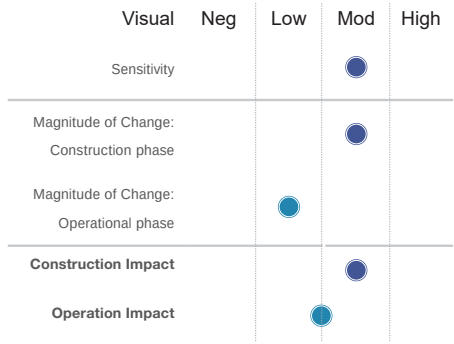
Visual Impact

Construction

The Moderate sensitivity and Moderate magnitude of change is judged to result in a **Moderate adverse** impact during construction.

Operation

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during operation.



Viewpoint 6 - Photomontage

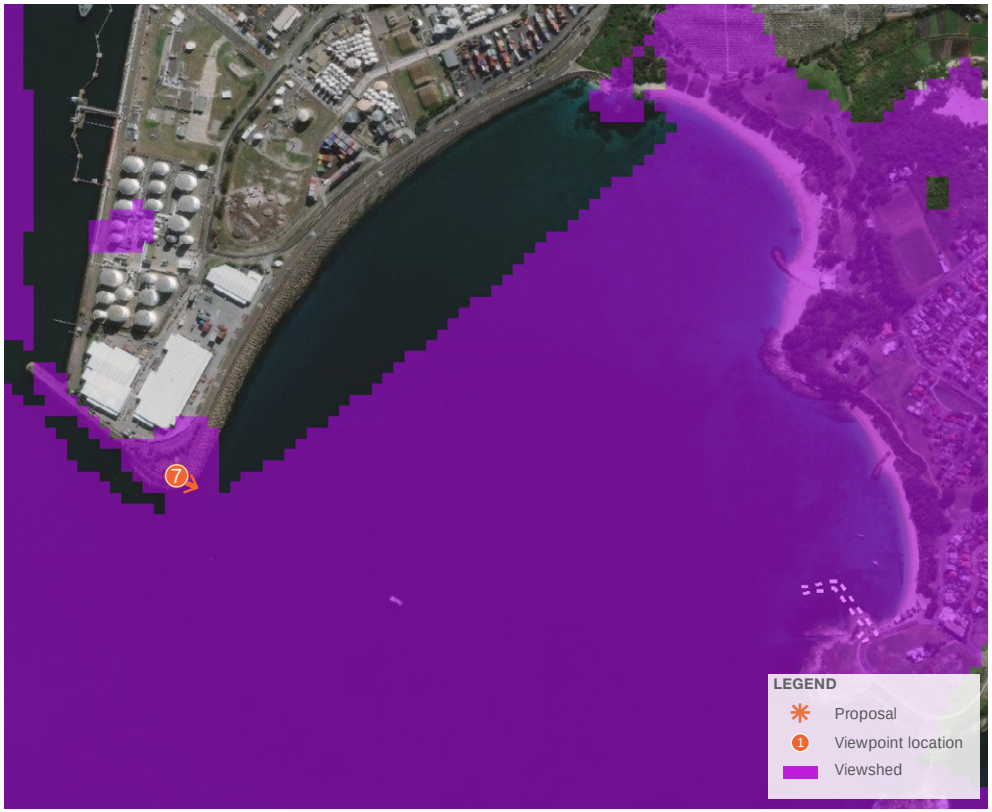


FIGURE 60VIEWPOINT 7 VIEWSHED

Viewpoint 7 Molineaux Point Lookout, Prince Wales Dr, Port Botany

Magnitude of change

The representative view from the reserved lookout location along Prince of Wales Drive at Molineux Point and is situated approximately 1.6km from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Low** magnitude of change due to:

- Moderate degree of contrast between the construction equipment, particularly vertically dominate cranes, and the expansive nature of the view that stretches horizontally.
- The distance at which the project may be visible, would form a barely noticeable feature in the view.

Operation

The operation phase impacts arising from this project is considered to be **Negligible** magnitude of change due to:

- Increased visibility of ferry vehicular activity within the Botany Bay extents.
- Slight degree of contrast between the proposed wharf structure and the natural composition of the view including water body and geology (headland).
- The distance at which the project may be visible, would form a barely noticeable feature in the view.

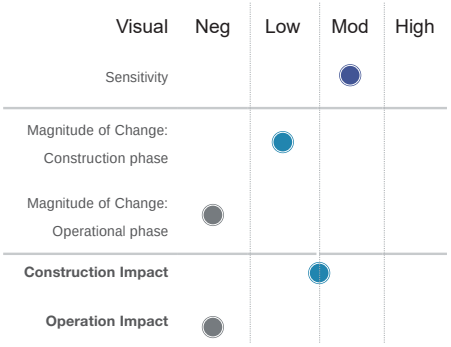
Visual Impact

Construction

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during construction.

Operation

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.



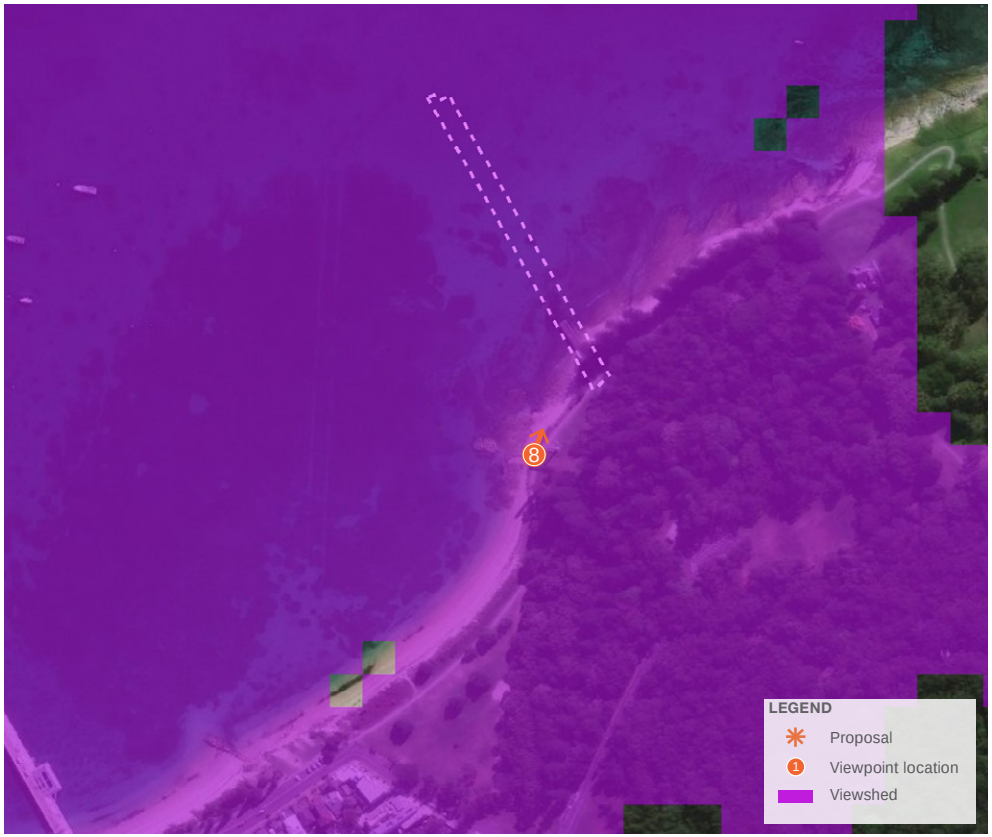


FIGURE 61 VIEWPOINT 8 VIEWSHED

Viewpoint 8 Captain Cook's Landing Place, Kurnell

Magnitude of change

The representative view is from the Monument Track, particularly Captain Cook's Landing Place monument, within the Kamay Botany Bay National Park and is situated approximately 100m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **High** magnitude of change due to:

- Direct views towards the wharf structure tie-in, temporary causeway (extending 85m from the land) and heavy machinery including the piling plant during construction and would form a dominant feature in the view, readily apparent to the viewer.
- High degree of contrast between construction equipment and the existing recreational view composition and features.
- Existing views towards large cranes and industrial equipment across the bay region.

Operation

The operation phase impacts arising from this project is considered to be **High** magnitude of change due to:

- An increase in motorised water vessel activity close to the viewpoint location, becoming a focal point during berthing and departing from the wharf.
- The project is congruous with the existing wharf structure, however is a substantially larger extension into the Bay.

Visual Impact

Construction

The High sensitivity and High magnitude of change is judged to result in a **High adverse** impact during construction.

Operation

The High sensitivity and High magnitude of change is judged to result in a **High adverse** impact during operation.

Visual	Neg	Low	Mod	High
Sensitivity				●
Magnitude of Change: Construction phase				●
Magnitude of Change: Operational phase				●
Construction Impact				●
Operation Impact				●

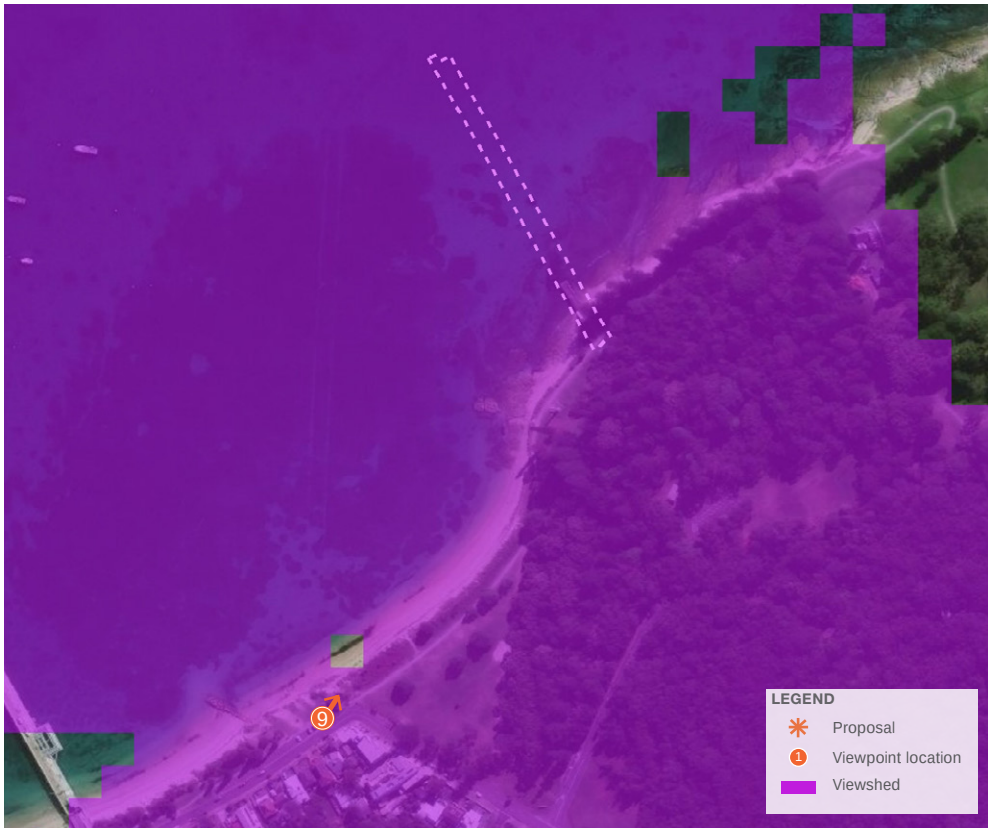


FIGURE 62 VIEWPOINT 9 VIEWSHED

Viewpoint 9 Prince Charles Parade, Kurnell

Magnitude of change

The representative view along Prince Charles Parade opposite Silver Beach, Kurnell and is situated approximately 370m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **High** magnitude of change due to:

- Direct views towards the wharf structure tie-in, temporary causeway (extending 85m from the land) and heavy machinery, including the piling plant, during construction would form a dominant feature in the view, readily apparent to the viewer.
- High degree of contrast between the introduced cranes and machinery and the picturesque composition of the view, particularly the two heritage monuments visible in close proximity to the works (Captain Cook's Landing Place and The Eyes of Land and the Sea sculpture).

Operation

The operation phase impacts arising from this project is considered to be **High** magnitude of change due to:

- Increased motorised water vessel activity in the view during operative times and expected to increase at peak ferry times.
- The project is congruous with the existing wharf structure, however is a significantly large extension into the Bay environs.

Visual Impact

Construction

The High sensitivity and High magnitude of change is judged to result in a **High adverse** impact during construction.

Operation

The High sensitivity and High magnitude of change is judged to result in a **High adverse** impact during operation.

Visual	Neg	Low	Mod	High
Sensitivity				●
Magnitude of Change: Construction phase				●
Magnitude of Change: Operational phase				●
Construction Impact				●
Operation Impact				●

Viewpoint 9 - Photomontage

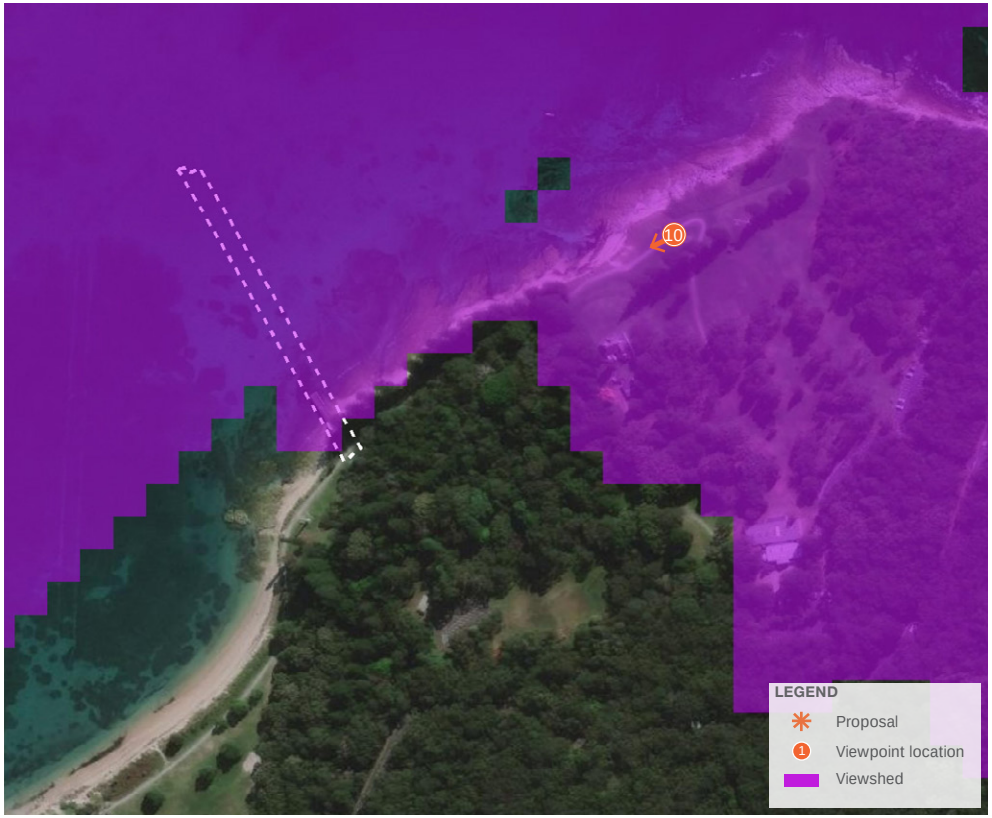


FIGURE 63VIEWPOINT 10 VIEWSHED

Viewpoint 10 Monument Track, Kurnell

Magnitude of change

The representative view from the pedestrian path along the Monument track within the Kamay Botany Bay National Park, Kurnell which is situated approximately 300m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Moderate** magnitude of change due to:

- Direct views towards the temporary causeway (extending 85m from the land) and heavy machinery including the piling plant during construction and would form a noticeable feature in the view, readily apparent to the viewer.
- The existing view composition is of a high scenic quality and would include a slight degree of contrast with the addition of heavy construction equipment. However, direct views exist towards the Caltex berthing facility and is considered characteristic to the Project.

Operation

The operation phase impacts arising from this project is considered to be **Moderate** magnitude of change due to:

- Direct views towards the wharf ramp and fixed platform which would add a noticeable structural feature in the foreground of the view.
- The ferry vehicles berthing and departing will be regular, increasing water vessel traffic in the surrounding area and directly visible from this viewpoint.

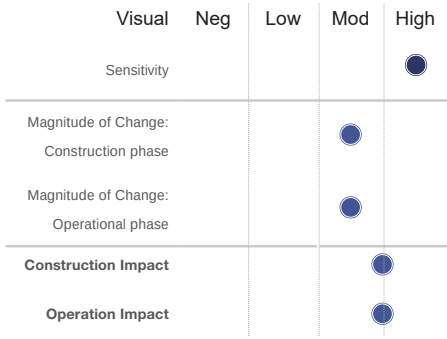
Visual Impact

Construction

The High sensitivity and Moderate magnitude of change is judged to result in a **High-Moderate adverse** impact during operation.

Operation

The High sensitivity and Moderate magnitude of change is judged to result in a **High-Moderate adverse** impact during operation.



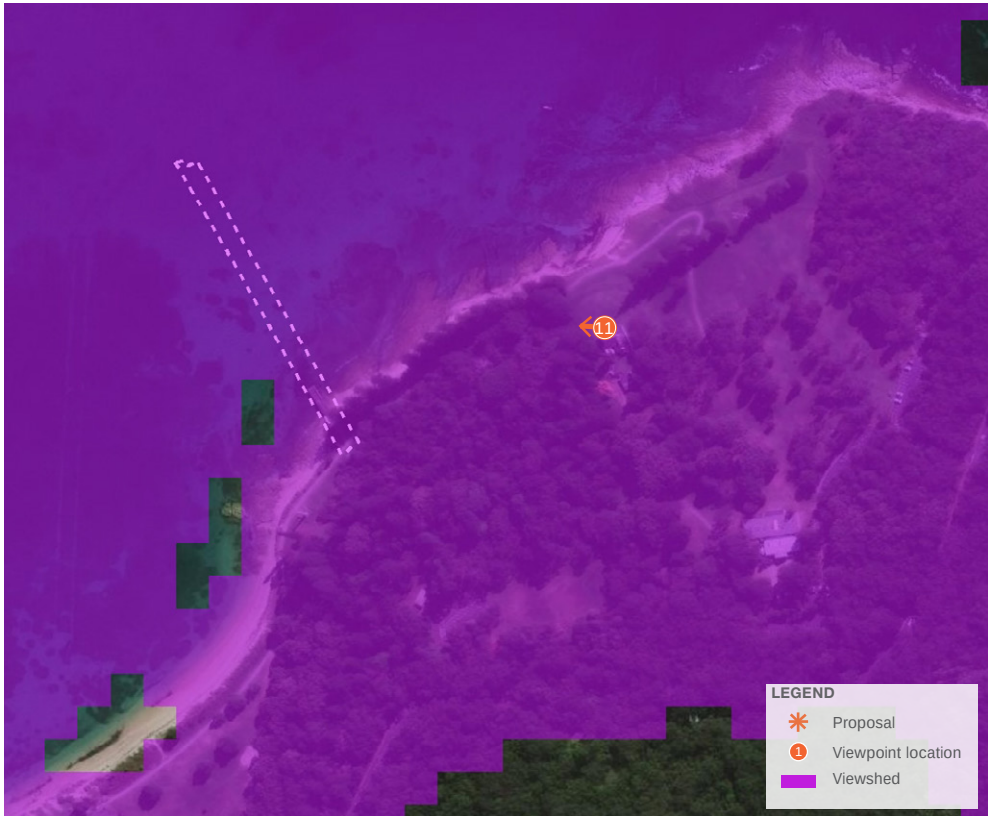


FIGURE 64 VIEWPOINT 11 VIEWSHED

Viewpoint 11 Alpha House, Monument Track, Kurnell

Magnitude of change

The representative view along Monument Track, directly in front of the heritage structure referred to as Alpha House within the Kamay Botany Bay National Park and is situated approximately 230m from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to include **Negligible** due to:

- The majority of views towards the construction works for the Project are blocked by the existing established and dense vegetation.

Operation

The operation phase impacts arising from this project is considered to be **Negligible** magnitude of change due to:

- The majority of views towards the operational works for the Project are blocked by the existing established and dense vegetation.

Visual Impact

Construction

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.

Operation

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.

Visual	Neg	Low	Mod	High
Sensitivity			●	
Magnitude of Change: Construction phase	●			
Magnitude of Change: Operational phase	●			
Construction Impact	●			
Operation Impact	●			

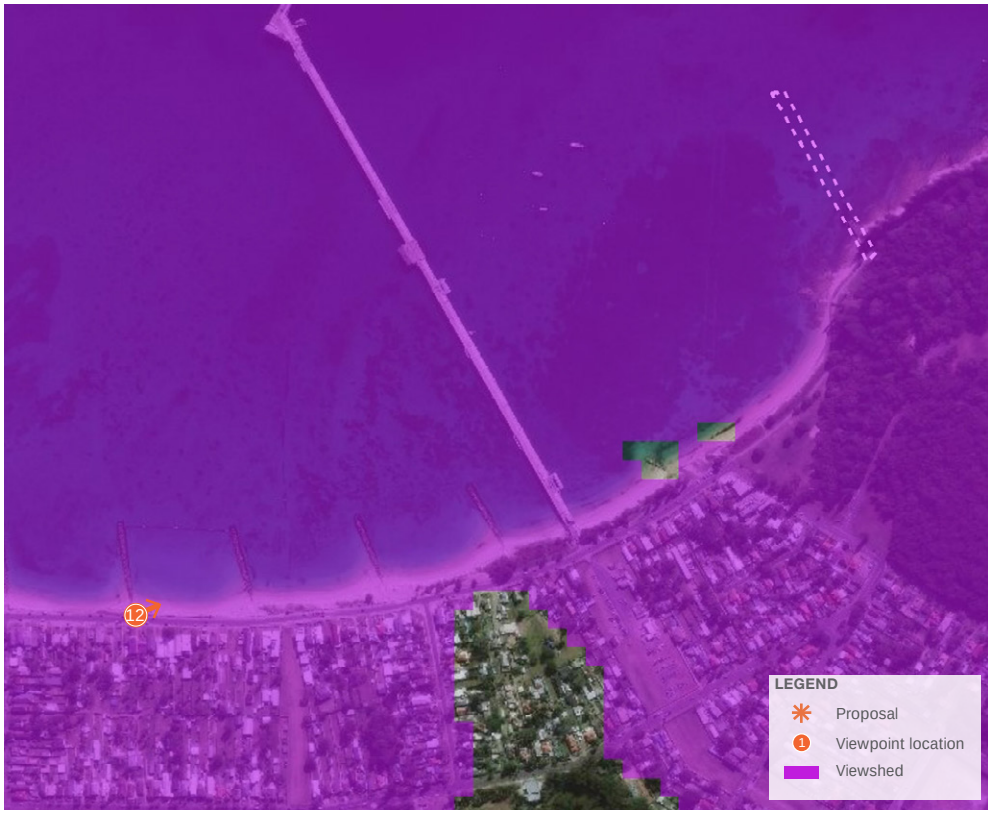


FIGURE 65VIEWPOINT 12 VIEWSHED

Viewpoint 12 Silver Beach, Kurnell

Magnitude of change

The representative view from Silver Beach along Prince Charles Parade, Kurnell and is situated approximately 1.2km from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Low** magnitude of change due to:

- Views are anticipated to be possible towards construction machinery, particularly cranes and the marine barge, during the construction of the project and would provide a vertical feature noticeable against the densely vegetated backdrop.

Operation

The operation phase impacts arising from this project is considered to be **Negligible** magnitude of change due to:

- Views towards the wharf roof canopy may be discernible however, direct views would be obstructed due to the existing Caltex berthing facility off Silver Beach and it would form a barely noticeable feature or element of the view.
- Ferry vessels would be discernible, introduced elements within the view however, is not incongruous with the existing composition of the view.

Visual Impact

Construction

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during operation.

Operation

The Moderate sensitivity and Low magnitude of change is judged to result in a **Moderate-Low adverse** impact during operation.

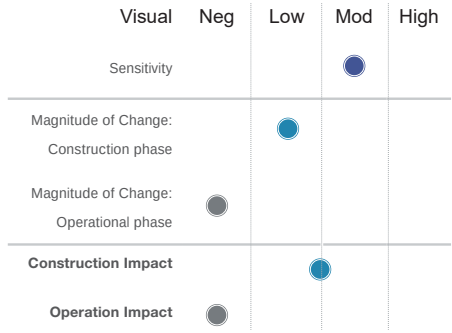


FIGURE 66VIEWPOINT 13 VIEWSHED

Viewpoint 13 The Grand Parade, Ramsgate Beach

Magnitude of change

The representative view is located along The Grand Parade, opposite Ramsgate Beach and is situated approximately 6.75km from the project boundary.

Construction

The construction phase impacts are assessed to be of a temporary nature and is considered to be a **Negligible** magnitude of change due to:

- Views towards construction works may be discernible however, the scale of the introduced components in comparison to the distance of the representative viewpoint would result in the project being barely noticeable.

Operation

The operation phase impacts arising from this proposal is considered to be **Negligible** magnitude of change due to:

- Views towards operative works would be barely noticeable from the distant viewpoint location and is considered not incongruous with the Botany Bay setting and the existing view composition.

Visual Impact

Construction

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.

Operation

The Moderate sensitivity and Negligible magnitude of change is judged to result in a **Negligible** impact during operation.

Visual	Neg	Low	Mod	High
Sensitivity			●	
Magnitude of Change: Construction phase	●			
Magnitude of Change: Operational phase	●			
Construction Impact	●			
Operation Impact	●			

08

Summary of Assessment

Summary of assessment

	Sensitivity	MOC (Con.)	MOC (Op.)	Impact (Con.)	Impact (Op.)
LCA 1: Botany Bay					
LCA 2: La Perouse headland and Kamay Botany Bay National Park					
LCA 3: La Perouse residential area					
LCA 4: Phillip Bay coastal area					
LCA 5: Port Botany					
LCA 6: Silver Beach and Kurnell residential area					
LCA 7: Kurnell Kamay Botany Bay National Park					
LCA 8: Kurnell industrial area					

Visual impact

	Sensitivity	MOC (Con.)	MOC (Op.)	Impact (Con.)	Impact (Op.)
VP 1: Anzac Parade, La Perouse					
VP 2: La Perouse Museum, La Perouse					
VP 3: Corner of Anzac Parade and Endeavour Ave, La Perouse					
VP 4: Frenchman's Beach, La Perouse					
VP 5: Elaroo Ave, Phillip Bay					
VP 6: Guriwal Bush Tucker Trail, La Perouse					
VP 7: Molineaux Point Lookout, Prince Wales Dr, Port Botany					
VP 8: Captain Cook's Landing Place, Kurnell					
VP 9: Prince Charles Parade, Kurnell					
VP 10: Monument Track, Kurnell					
VP 11: Alpha House, Monument Track, Kurnell					
VP 12: Silver Beach, Kurnell					
VP 13: The Grand Parade, Ramsgate Beach					

Landscape Character Impacts

During construction, LCA 7: Kurnell Kamay Botany Bay National Park has been assessed as a **High adverse** construction impact due to its significantly sensitive nature, National Park designation, 13 month construction time-frame, removal of vegetation and extent of the compound area extents. Refer to Chapter 05: Baseline for further explanation of the assessed baseline sensitivity result. This result also reflects the removal of the existing wharf viewing platform, the introduction of an 85m temporary causeway that will extend from the Kurnell shore-front and the temporary access track that will accommodate large machinery and trucks through the south-western extents of the LCA to the construction site.

The combination of being located within a high-quality recreational space, situation along the primary path 'Monument Track' results in a **High adverse** assessment result for both Construction and Operation. However, it is worth noting that the landscape character assessment for LCA 7 does not take into account the Project's alignment with the objectives outlined in the Kamay Botany Bay National Park Kurnell Master Plan, endorsed by National Parks and Wildlife Service. Refer to page 29 for more information regarding the publication.

LCA 2: La Perouse headland and Kamay Botany Bay National Park is considered to be of a comparable level of sensitivity to LCA 7: Kurnell Kamay Botany Bay National Park being designated as the same National Park - split over the two headlands. During construction, LCA 2 has resulted in a **Moderate adverse** impact due to a less-intrusive construction methodology compared to Kurnell, however, is still considered to be incongruous with the picturesque headland used for predominately recreational and cultural activities. Refer to Chapter 05: Baseline for further explanation of the assessed baseline sensitivity result.

During operation, La Perouse's concept design incorporates a greater footprint for the wharf and landscape design tie-in. The design aims to support and enhance the highly visited headland's current uses and pedestrian movement paths, whilst allowing for an additional programmed space for 'looking out' across La Perouse Point and Botany Bay. The design responds to the natural contours of the headland and will replace one standard bench seat with various integrated, bespoke seating units and planters. The existing Timbery Reserve plaque will be replaced and reinstated within the landscape design through close stakeholder engagement.

Overall, the physical impact anticipated to the LCAs is considered to be **Low adverse** and concentrated predominately within the construction footprint, across the two site locations, as a result of the Project. Due to the Project being a 'reinstatement' of the wharf structures (refer to Chapter 01: Introduction; Purpose of this report) and the majority of the Project's marine, structural components located within the Botany Bay environs, the project is not considered to be completely incongruous with the immediate surrounding landscape character. However, is expected to introduce a mostly structural component to the existing aesthetic that contributes significantly to the landscape character at both La Perouse and Kurnell.

Visual Impacts

Overall, **Moderate** - **High adverse** visual impacts during both construction and operational phases for the project, are concentrated to viewpoints within relatively close proximity to the works and are also emphasised due to the sensitive receptors and locations of both the Project site locations.

VP 1: Anzac Parade, VP 2: La Perouse Museum and VP 4: Frenchman's Beach has resulted in **High-Moderate adverse** impacts during construction as direct views towards all components of the construction footprint are anticipated, including; the laydown area, site offices and heavy construction machinery, such as cranes. For the La Perouse project site, these viewpoints will experience the highest impact during construction and will be difficult to mitigate against entirely.

Standard construction mitigation techniques, such as site fencing, are still considered to be incongruous with the existing view from the La Perouse headland and Kamay Botany Bay surroundings. It should be noted that construction impacts are considered to be of a temporary nature – lasting for approximately eight months.

VP 2: La Perouse Museum and VP 4: Frenchman's Beach are the viewpoints that are anticipated to result in the highest visual impact during operation for the La Perouse project site. This is primarily due to the direct views towards the ferry vessel berthing components of the Project. The wharf extends significantly into the Bay and, whilst not considered completely incongruous with the Bay environs and/or selected viewpoint locations – the structure is anticipated to become a dominant focal point of the existing views experienced. Additionally, increased motorised marine vehicular traffic and extended duration at which the vessels will spend within the viewpoints' frame of view will essentially change the overall balance of the existing views.

VP 8: Captain Cook's Landing Place and VP 9: Prince Charles Parade are anticipated to experience the highest visual impact for both construction and operation for the Kurnell project site. Similarly to La Perouse, this is due to direct views towards both the introduced wharf structural components and the high degree of contrast between the construction equipment and the existing visual composition. The construction footprint does not involve any removal or disturbance of vegetation, particularly the prominent avenue of large Norfolk Island Pine trees along the coastline, that will obstruct direct views from the selected viewpoints to the east of the project site.

Refer to the following pages to engage the embedded mitigation strategies employed within the concept design for both project site locations.

Summary of embedded mitigation

Following the summary of landscape and visual impacts on the previous pages, a series of mitigation techniques have been proposed and embedded within the conceptual design.

To visualise the embedded mitigation strategies highlighted within the following Table, refer to Chapter 06: Project.

Embedded design mitigation to reduce construction impacts

- Limit clearing and earthworks to the minimum required to establish the construction sites.
- Minimise disturbance experienced to mature vegetation.
- In consultation with land owners, restore all areas disturbed by construction in accordance with the landscape concept plans.
- Develop ancillary facilities, including the locations of visible structures and plant and perimeter fencing and treatments to minimise visual impacts for adjacent receivers where feasible and reasonable.
- It is assumed that ancillary areas will be rehabilitated to their previous condition.
- Site hoarding to be neutral colours and design to assist with responding to the natural surrounding landscape.
- Ensure temporary site hoarding as well as any permanent fencing design is appropriate to the landscape character area and fits sensitively into its surroundings.

Embedded design mitigation to reduce operational impacts

- Integrate bespoke seating provisions and feature planting into the to La Perouse wharf landside tie-in to define the arrival point and gateway to the project and ferry ramp entrance.
- Plant palette to respond to the open, cleared nature of La Perouse point with a similar form and structure as the existing clumps of low-lying, coastal shrubbery planting.
- Revegetate using native species to strengthen and respond to the existing landscape character and strong community connection.
- Integrate level changes with the existing topography undulation where possible.
- Slender architectural design the wharf canopy to reduce the visual bulk and scale of the wharf. Increase visual permeability through structural components and connection to the surrounding coastal character.
- Material palette of wharf structures to assist in blending into surrounding environment.
- Maintain and frame existing views, particularly heritage views towards historical monuments.
- Lighting is to be developed in further detail in the following phases of design and is to be designed in accordance with AS4282-1997 Control of the obtrusive effects of outdoor lighting and AS/NZS 1158.3.1:2020 Lighting for roads and public spaces, Part 3.1: Pedestrian area (Category P) lighting - Performance and design requirements.

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09

Appendix One

Construction extents

La Perouse

Refer to Proposal Description - Figures 5-23 and 5-26.

FIGURE 67 EXTENT OF GROUND DISTURBANCE

FIGURE 68 SITE ESTABLISHMENT

Kurnell

Refer to Proposal Description - Figures 5-24 and 5-27.

FIGURE 69 EXTENT OF GROUND DISTURBANCE

FIGURE 70 SITE ESTABLISHMENT AREAS