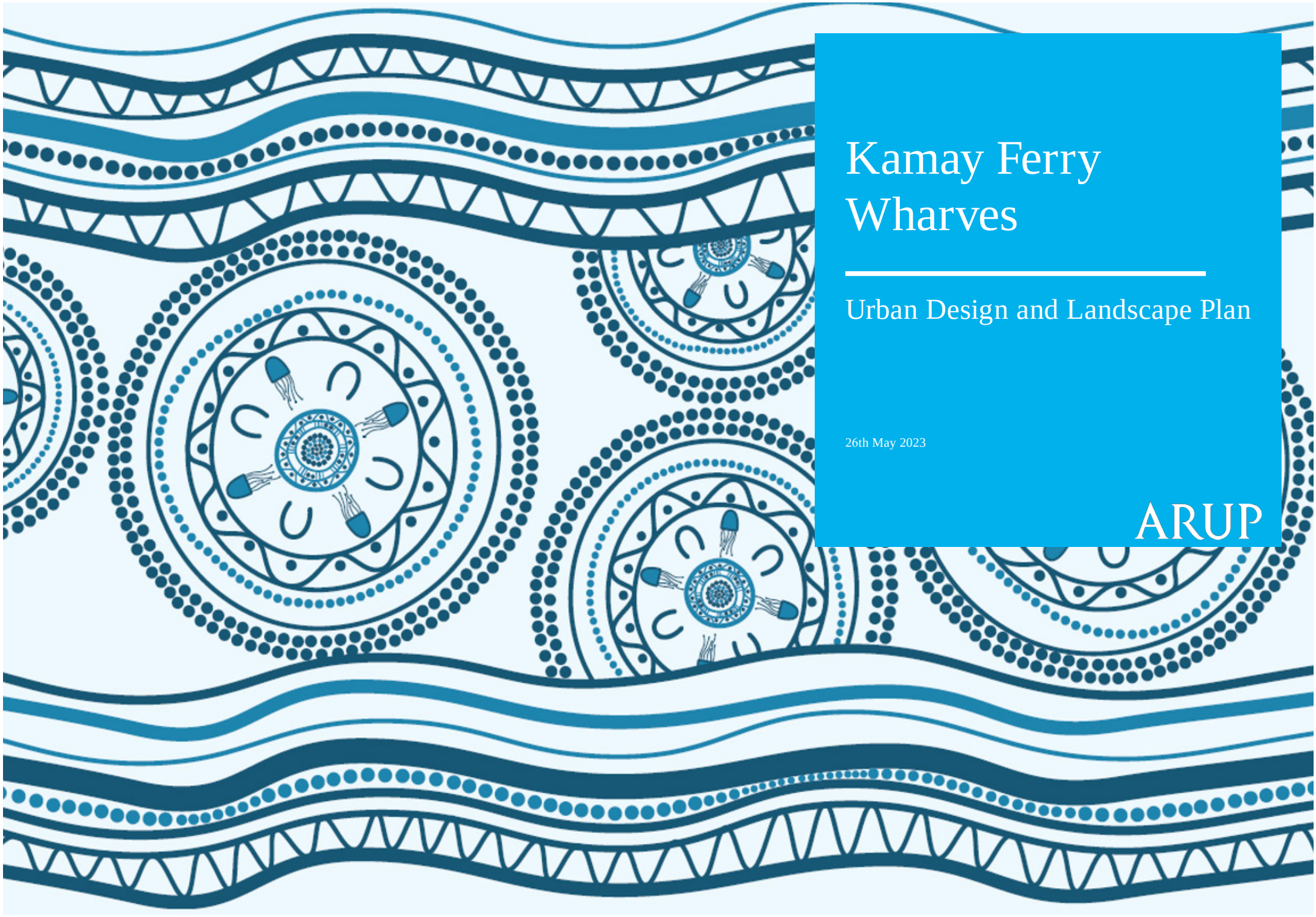

Kamay Ferry Wharves

Urban Design and Landscape Plan

26th May 2023

ARUP

Prepared for

Transport for NSW

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Prepared By	Lorrain Gong, Samyuktha Pillai	26.05.23
Reviewed By	Luke Smith	26.05.23
Approved By	David Dack	26.05.23

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

NSW Planning Policy

Three primary 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)

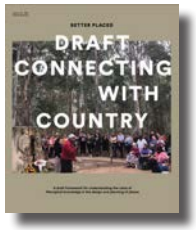
Beyond the Pavement is a high level urban design policy that systematically incorporates urban design thinking into infrastructure projects, with a focus on delivering improved design outcomes and higher levels of community satisfaction.

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)

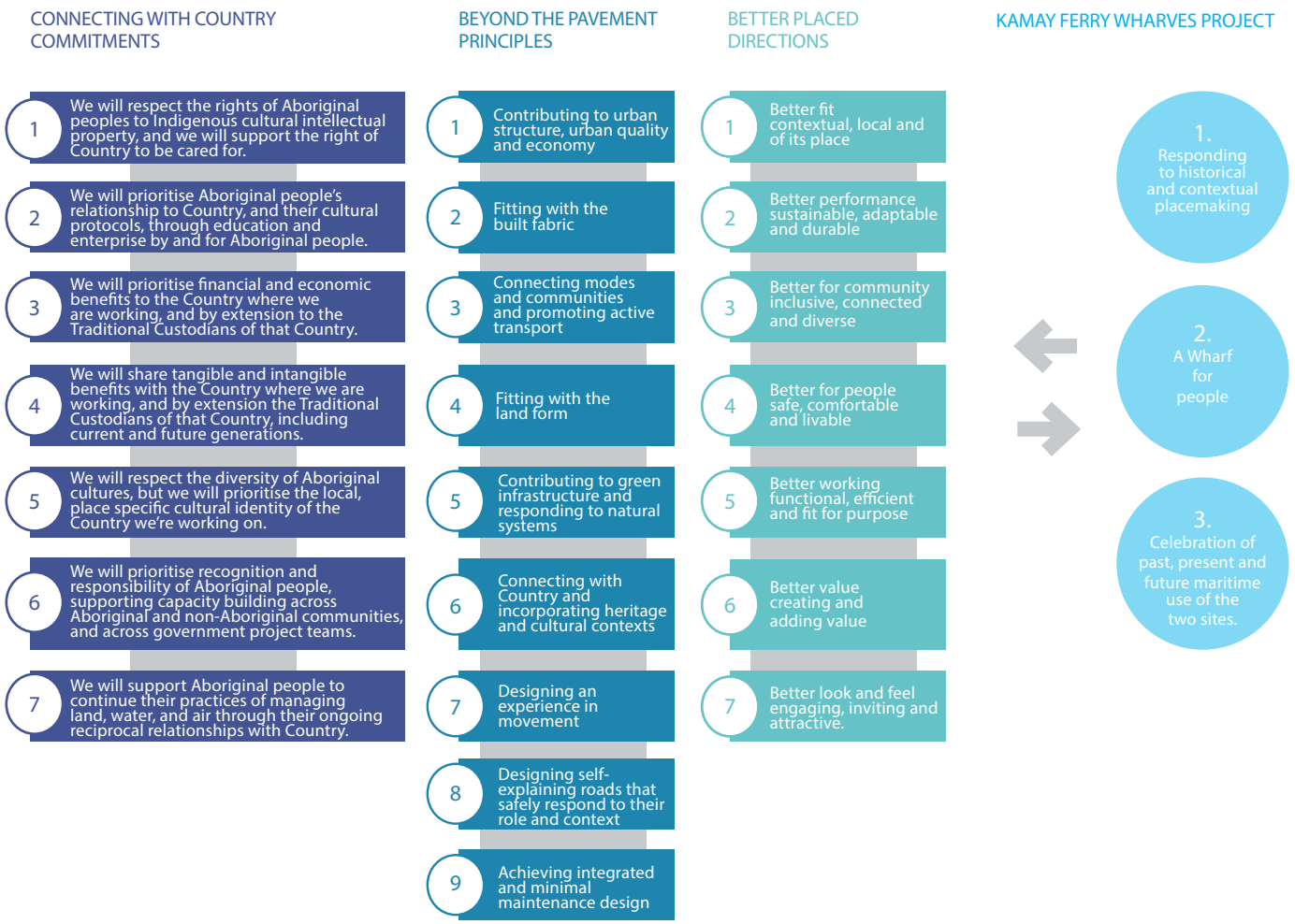
"We need to have curious minds, be prepared for cultural immersion, and allow for other knowledge to be heard. We also need to give permission for others to make their own connection with Country." (Connecting with Country)

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.

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

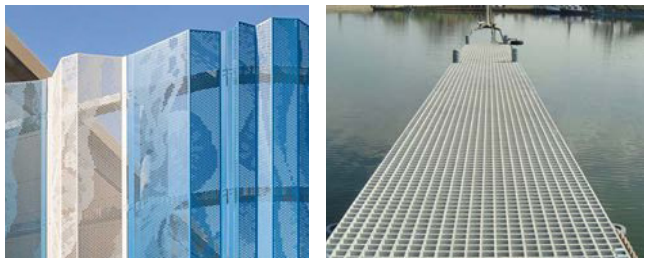


FIGURE 2 USE OF TRANSPARENT MATERIAL TO ENABLE CONTINUED CONNECTION WITH THE LANDSCAPE

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).

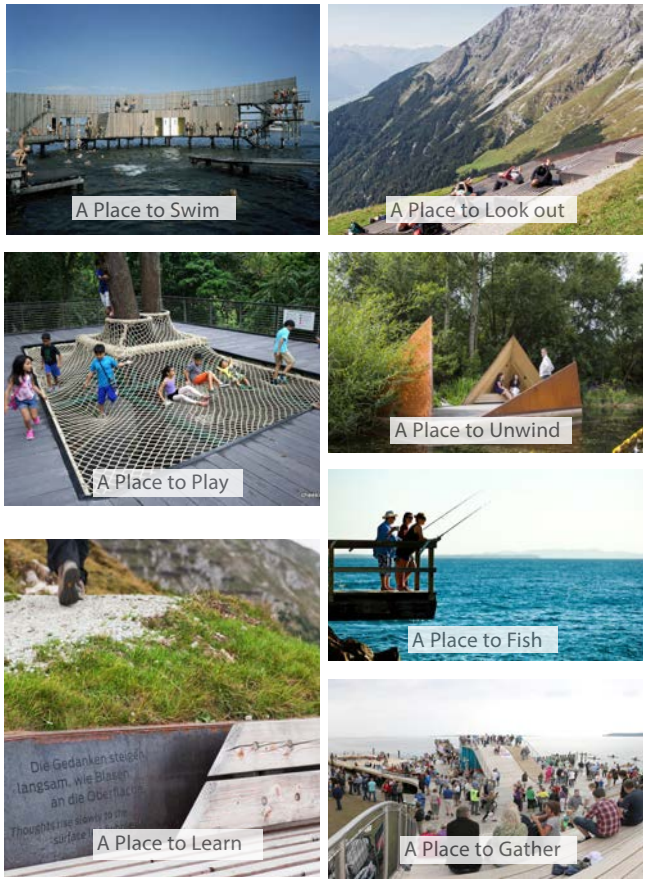


FIGURE 3 FERRY WHARF CONCEPT PRECEDENT IMAGERY

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.

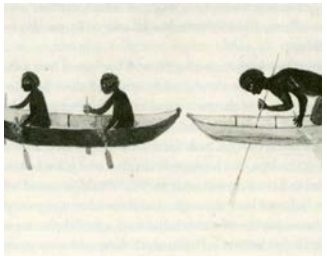


FIGURE 4 (LEFT) 1952 PHOTO OF THE OLD WHARF AT KURNELL.SOURCE: MAX DUPAIN, MAX DUPAIN'S AUSTRALIA.

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

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.

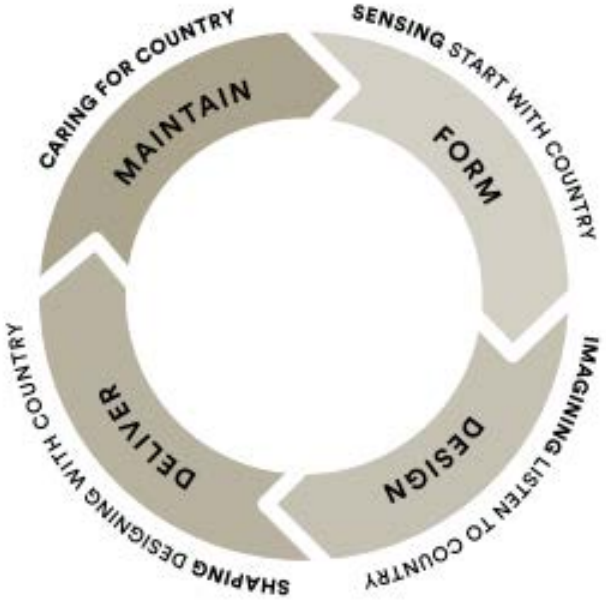


FIGURE 8 ADOPTING NEW TERMINOLOGY TO REFLECT PHYSICAL EXPERIENCES OF COUNTRY DIAGRAM FROM GANSW DRAFT CONNECTING WITH COUNTRY STRATEGY

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.

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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.

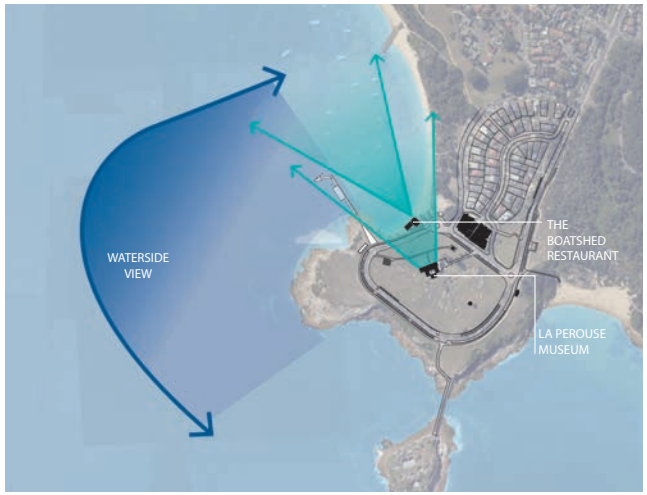


FIGURE 11 LA PEROUSE CAPTURING KEY VIEWS

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.

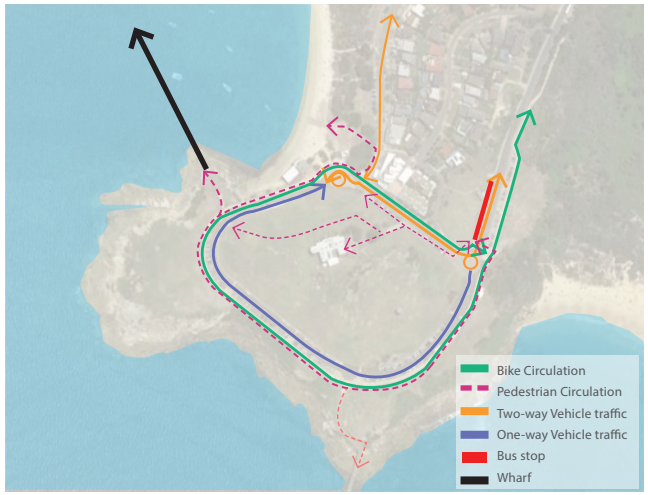


FIGURE 12 LA PEROUSE CONNECTIVITY

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.

Kurnell

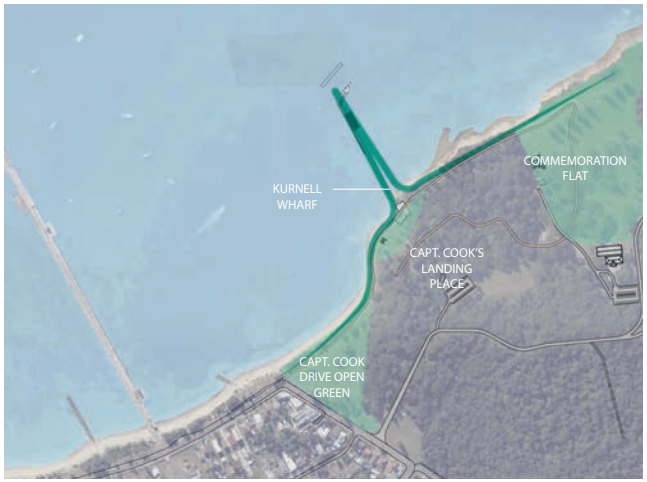


FIGURE 13 KURNELL NATURAL CHARACTER

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.

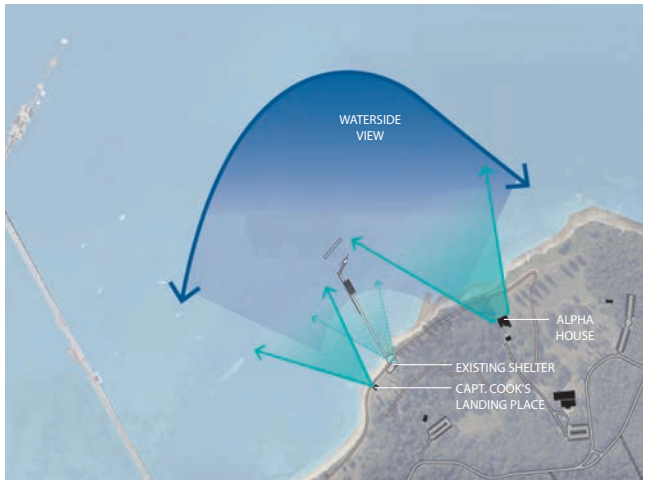


FIGURE 14 KURNELL CAPTURING KEY VIEWS

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.

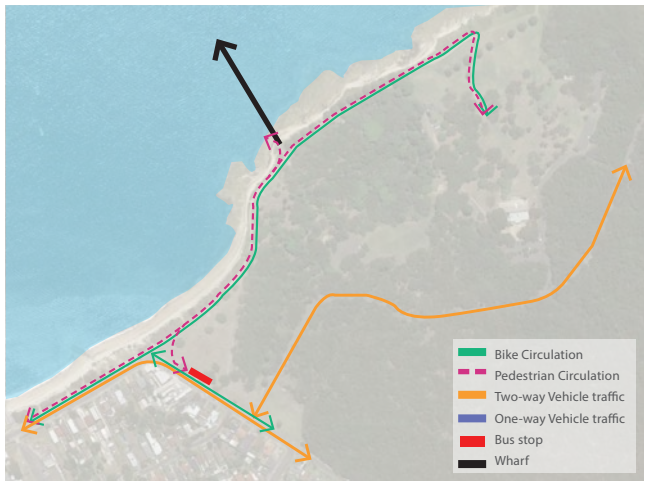


FIGURE 15 KURNELL CONNECTIVITY

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.

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

National Park views

Water & bay views

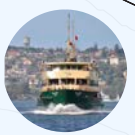
Ferry berth

Recreational berth

Perforated deck allows views to wave action beneath

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



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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.

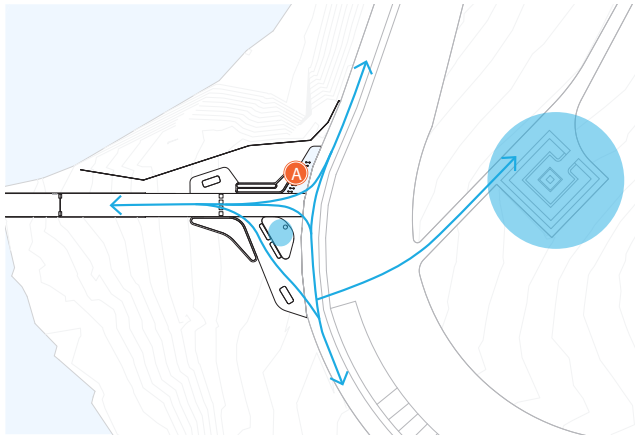


FIGURE 16 LA PEROUSE CONNECTIVITY

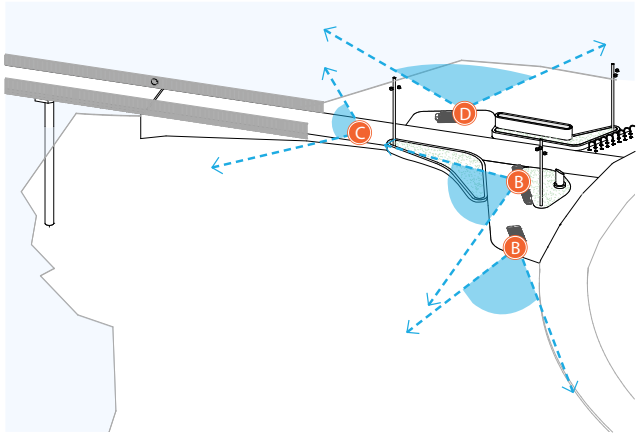
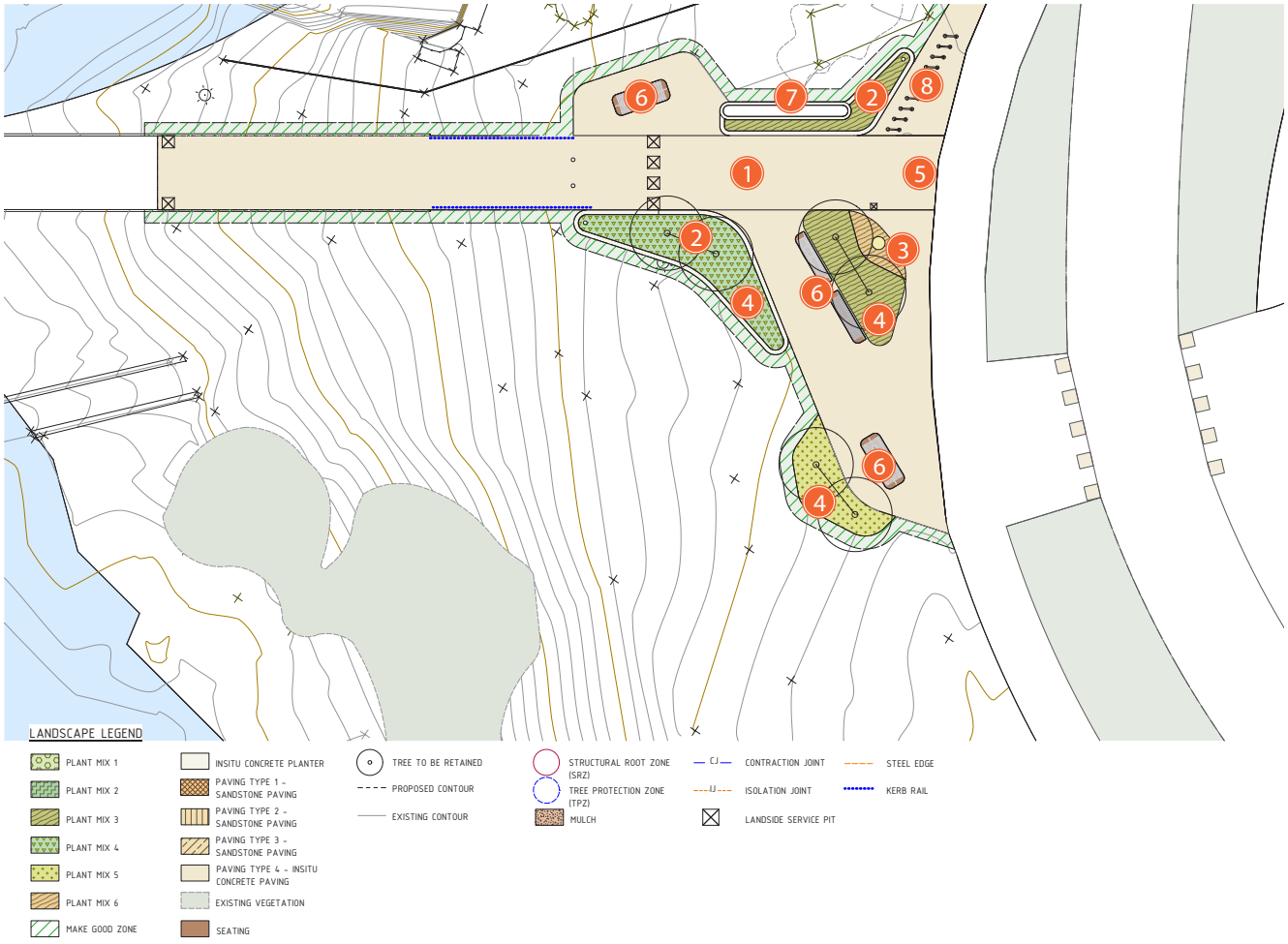


FIGURE 17 LA PEROUSE VIEWS DIRECTIONS



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.





Design Response

La Perouse - Connecting with Country

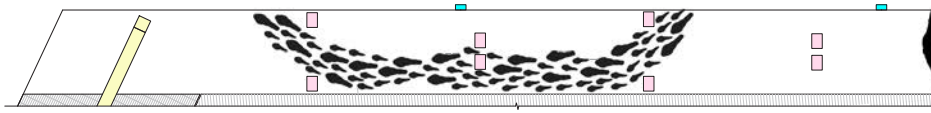
The Design Response:

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 PERFO-RATED METAL PANELS

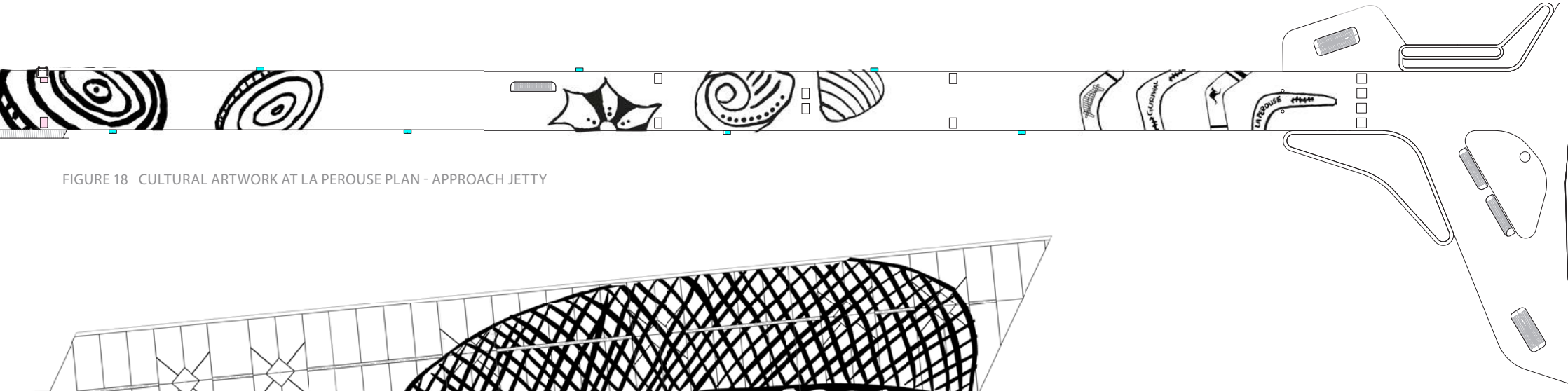


FIGURE 18 CULTURAL ARTWORK AT LA PEROUSE PLAN - APPROACH JETTY

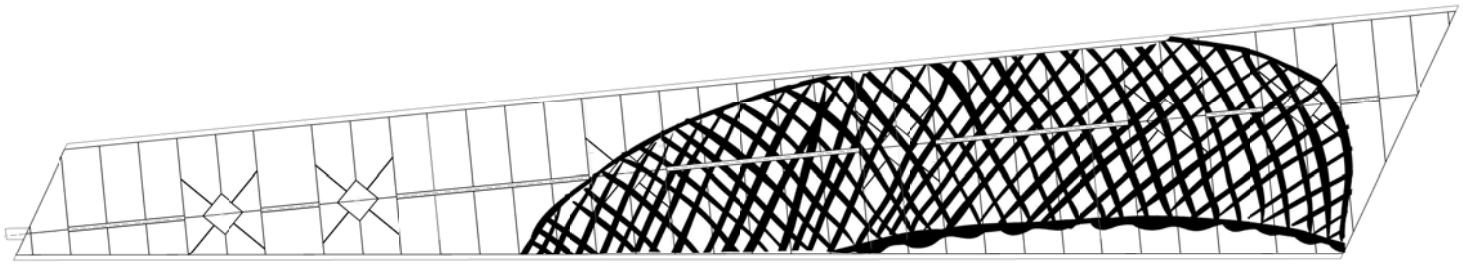


FIGURE 19 CULTURAL ARTWORK AT LA PEROUSE - REFLECTED CEILING PLAN

Design Response

Kurnell Wharf - Architecture

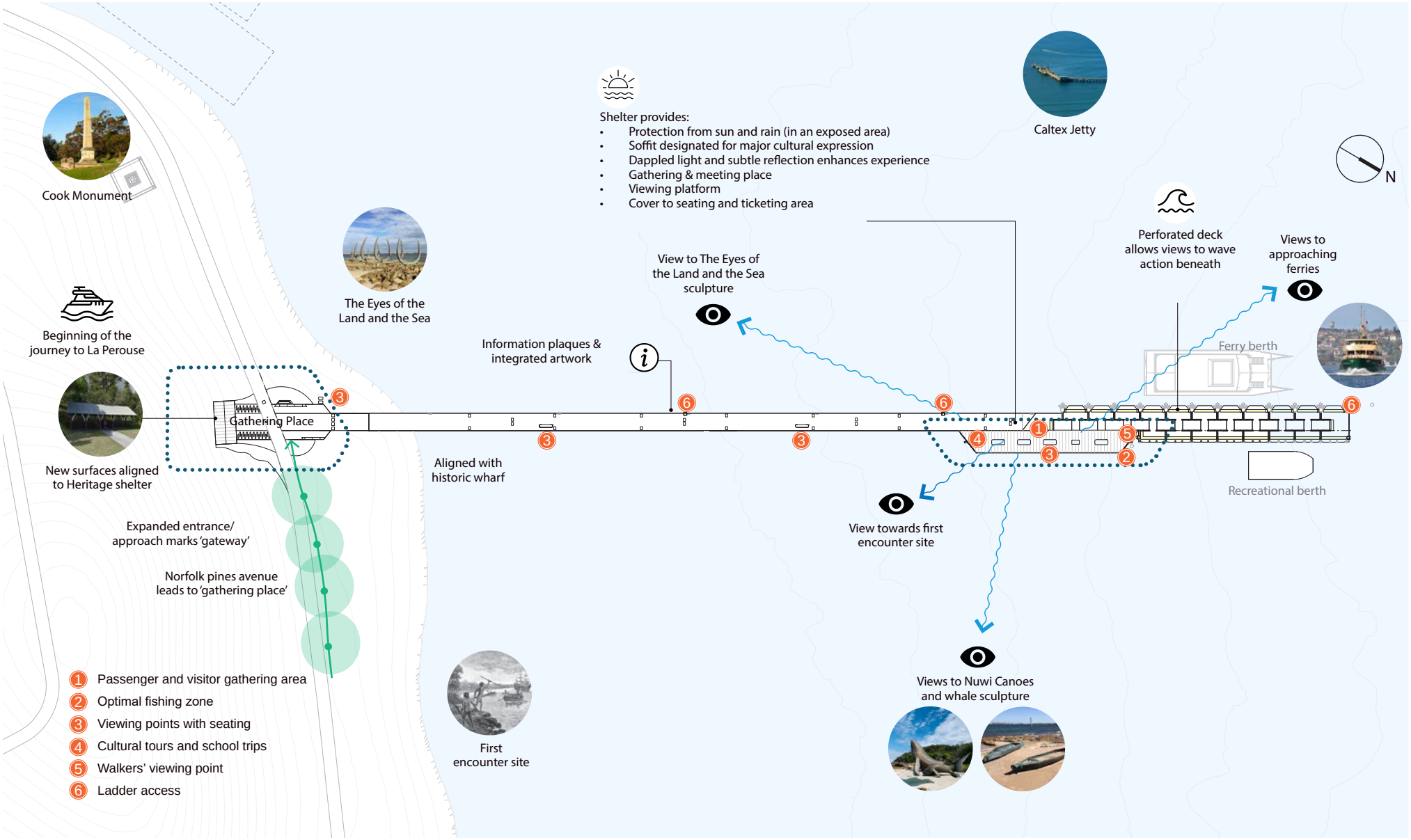
1. Responding to historical and contextual placemaking

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
Aligned with historic wharf
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
View to The Eyes of the Land and the Sea sculpture
Caltex Jetty
Perforated deck allows views to wave action beneath
Views to approaching ferries
Ferry berth
Recreational berth
N
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.

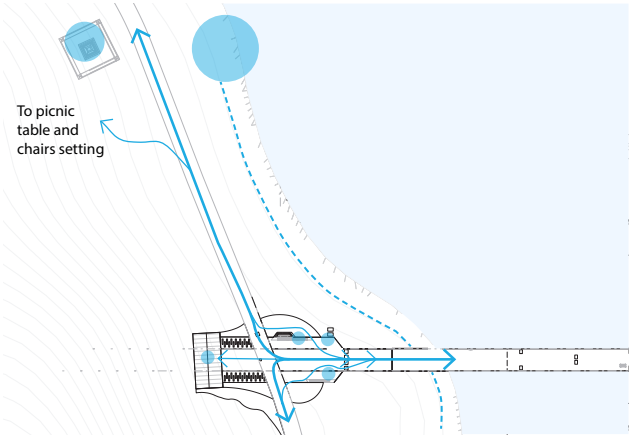


FIGURE 22 KURNELL CONNECTIVITY

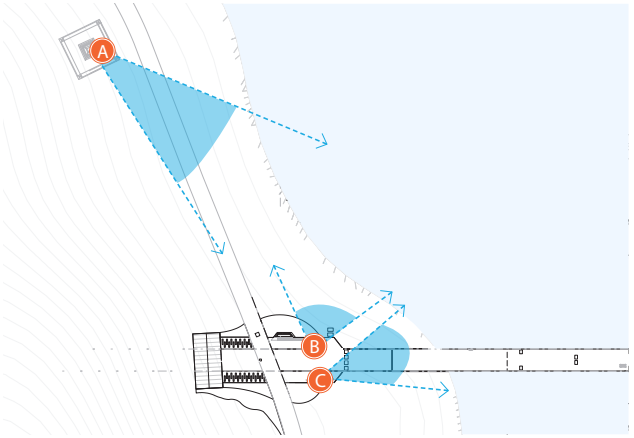
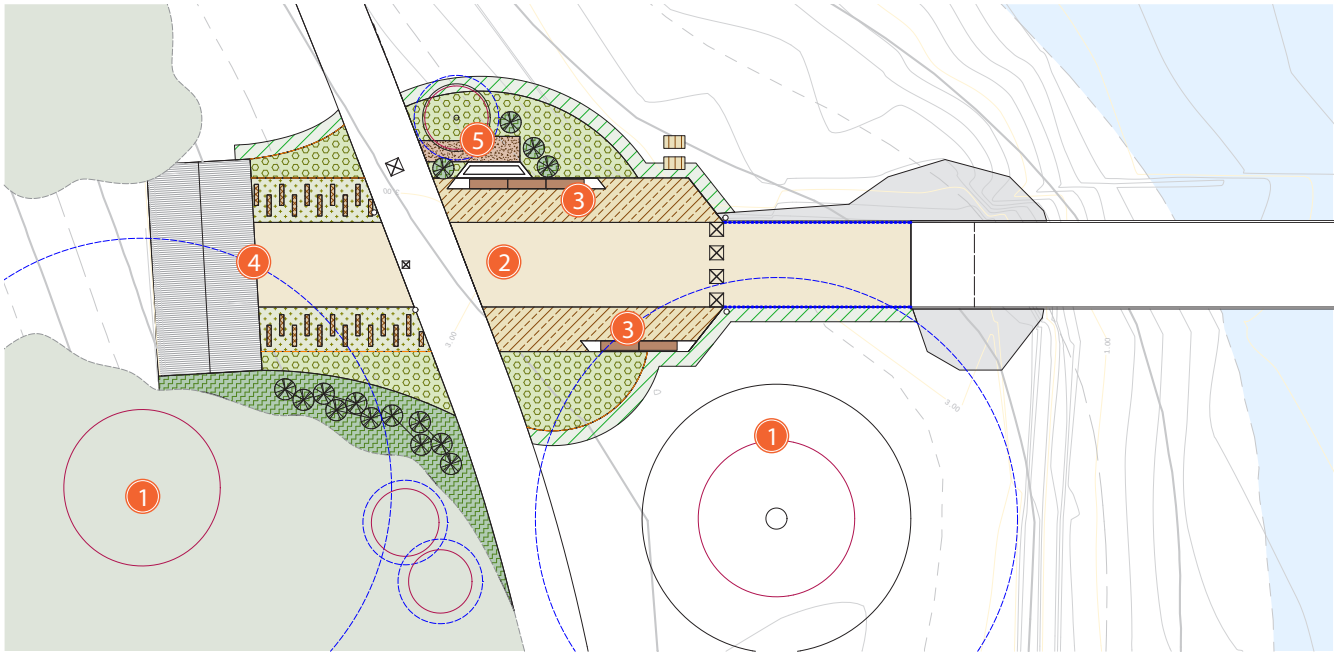


FIGURE 23 KURNELL VIEWS DIRECTIONS



1. Wharf location and associated landscape interface is carefully placed and designed to avoid disturbance to and protect existing Norfolk Pines.
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.

Design Response

Kurnell - Connecting with Country

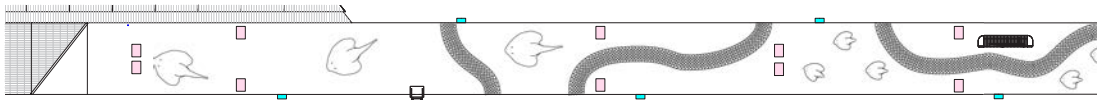
The Design Response:

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

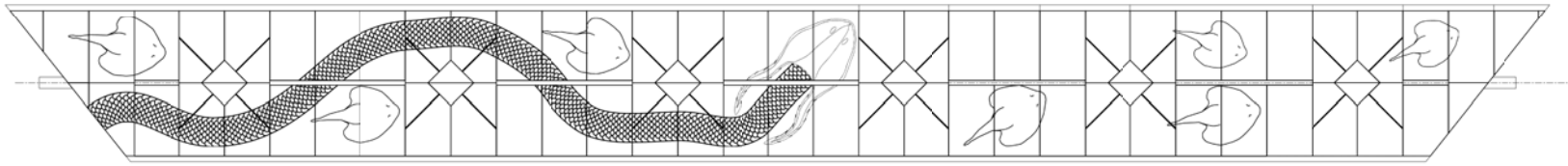


FIGURE 24 CULTURAL ARTWORK AT KURNELL - REFLECTED CEILING PLAN

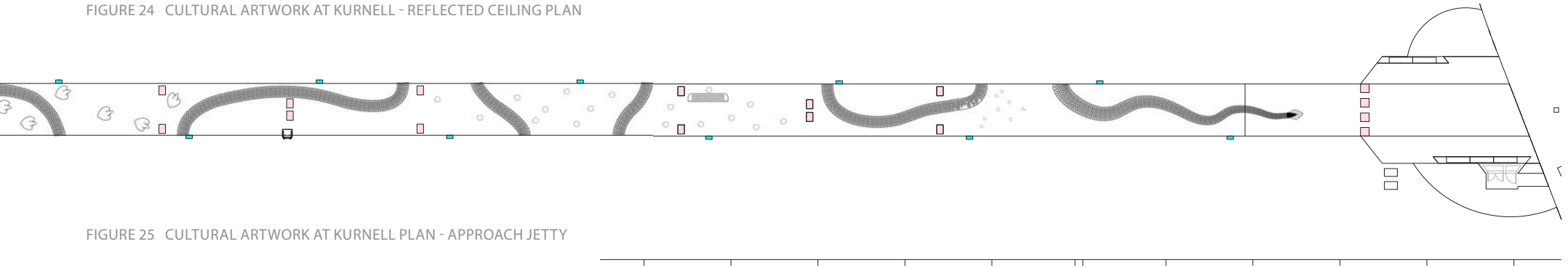
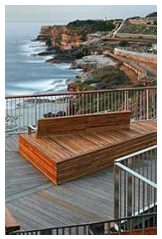
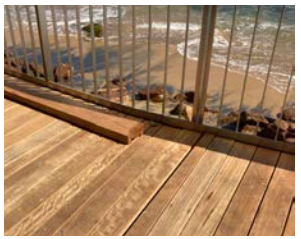


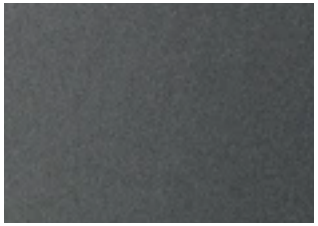
FIGURE 25 CULTURAL ARTWORK AT KURNELL PLAN - APPROACH JETTY

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 and works material and workmanship specifications. The table summarises how the key durability requirements have been implemented into the design.

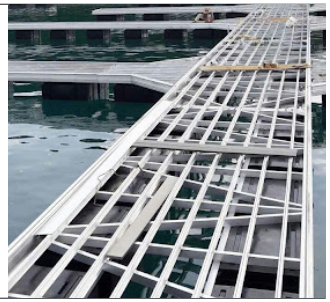
	Location	Design Specification	Image
Timber Elements			
Spotted gum deck /Feature balustrade top rail / Seat cladding	• Waiting Area decking • Balustrade capping • Seating cladding	Hardwood timber specified (Spotted Gum) in Arup QA Specification.	  
Perforated Flooring			
Fibre reinforced polymer (MoultrEX)	• 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 maintanence	
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 'Charcoal Grey'	

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).

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.

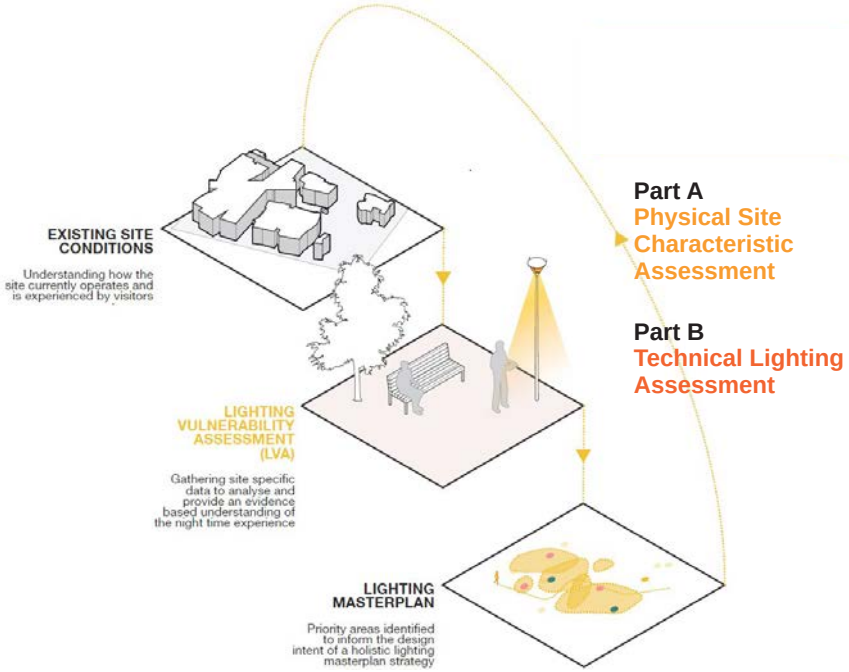


FIGURE 29 LVA SITE LOCATION MAP

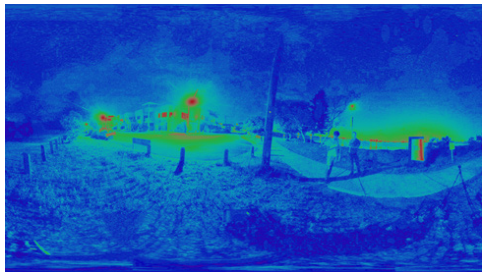
Summary of Findings

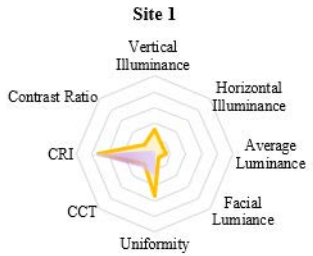
Site 01

- 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





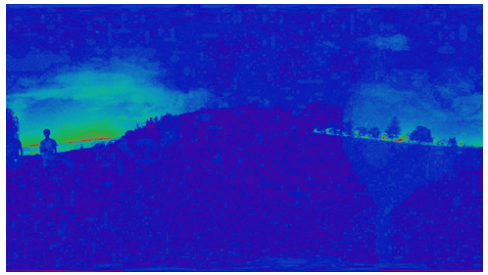
Site	Vertical Illuminance	Horizontal Illuminance	Average Luminance	Facial Luminance	Uniformity	CCT	CRI	Contrast Ratio
1	1.2	1.9	0.30	0.09	0.26	5000	80	0.28
Rationale:								
2	0.1	0.2	0.20	0.0049	0.55	5000	80	0.02

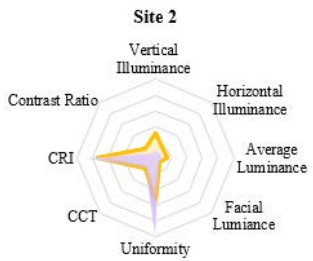
Site 02

- 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.

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

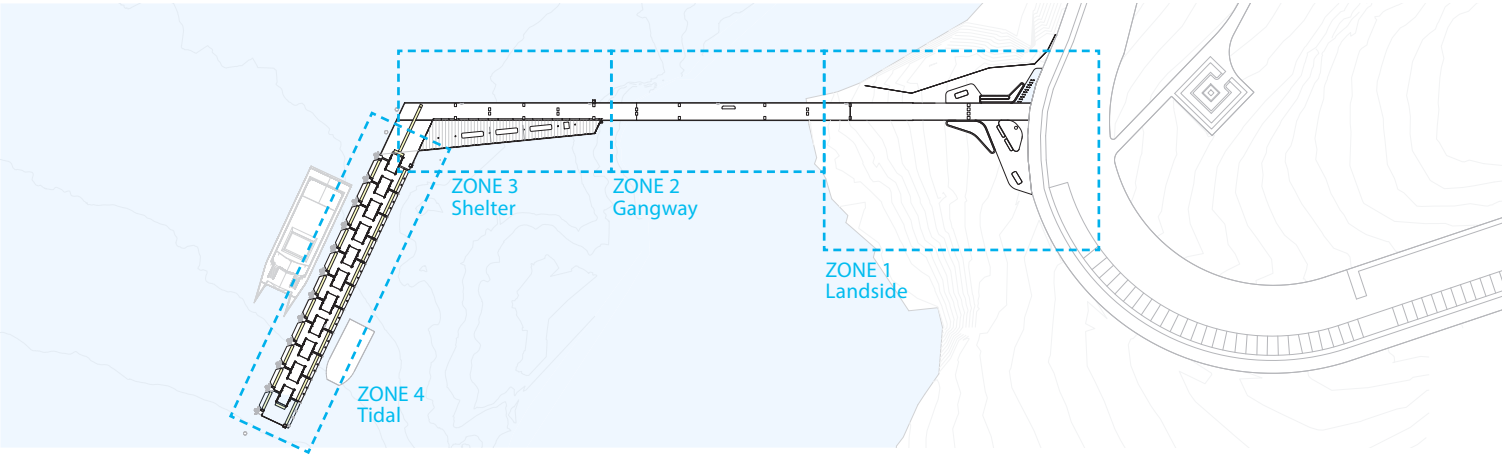


FIGURE 30 LA PEROUSE LIGHTING ZONES

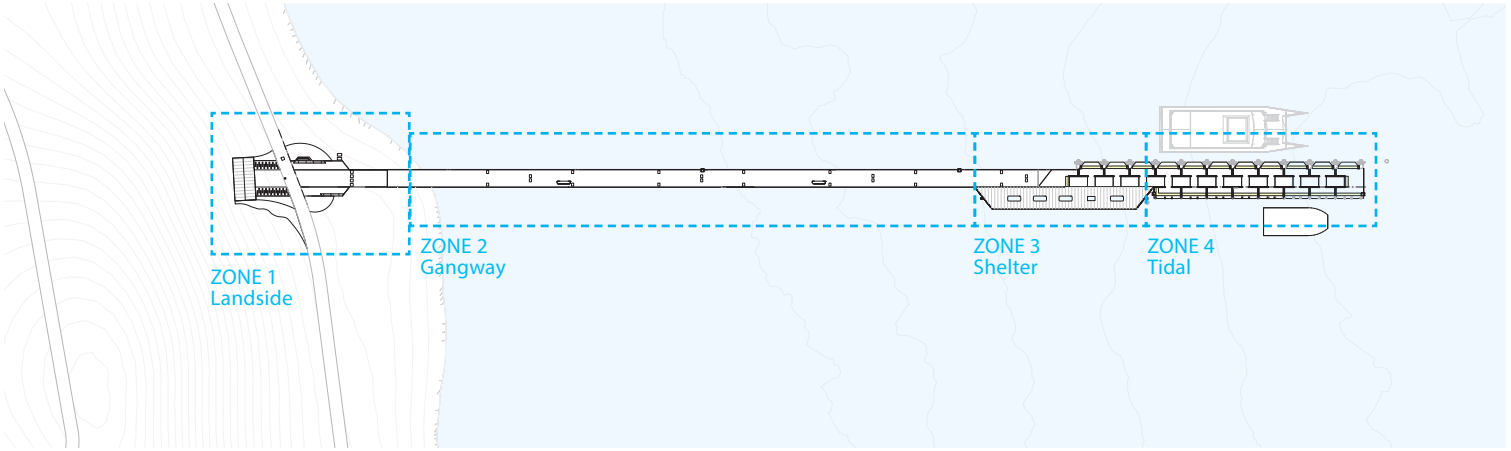
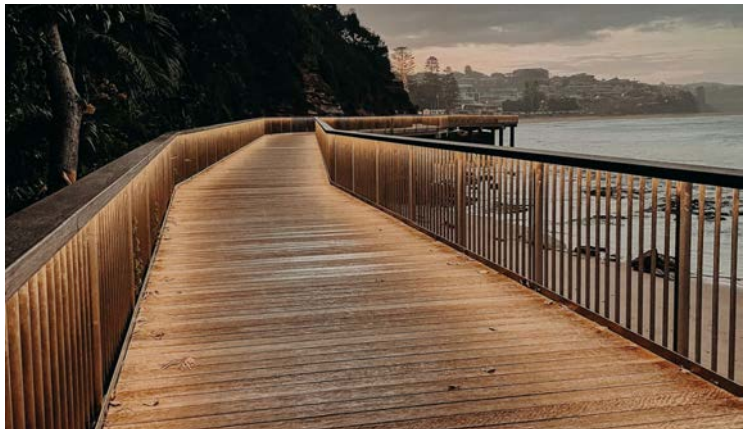


FIGURE 31 KURNELL LIGHTING ZONES

Landscape zone - Light posts



Gangway - Balustrade lighting

Shelter zone - Lighting mounted on columns

Tidal zone - Integrated higher level lighting

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)

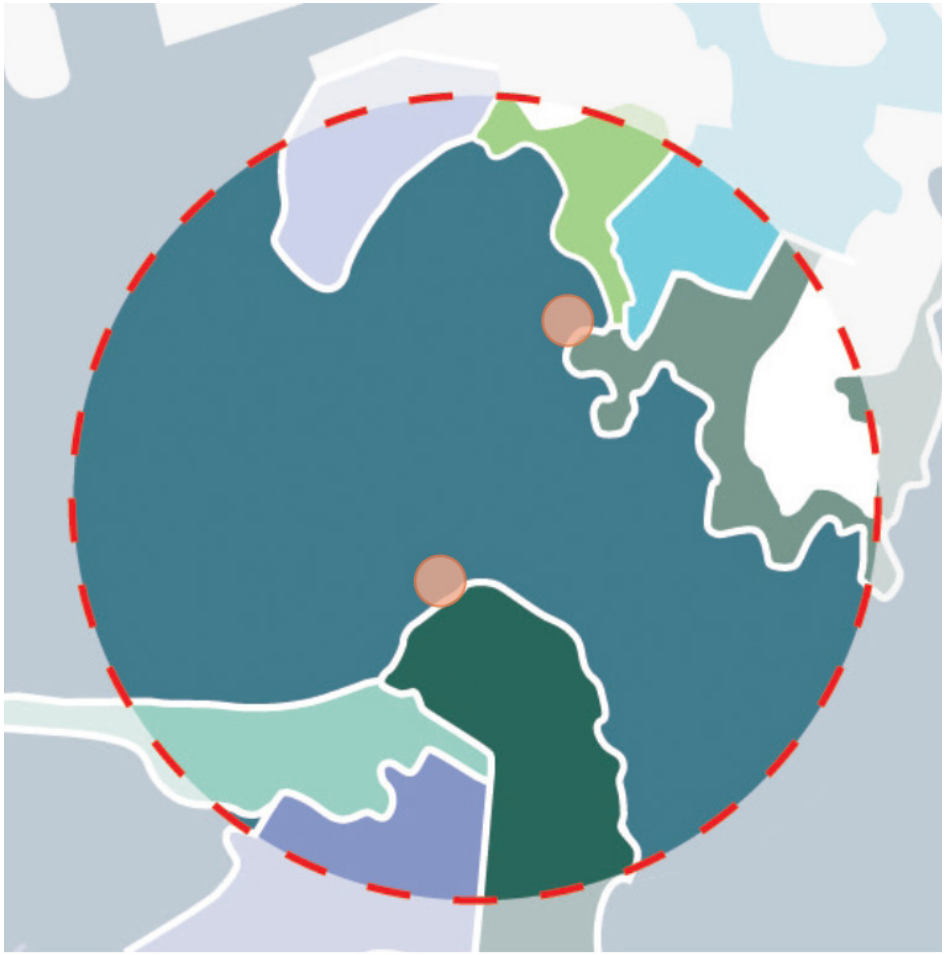
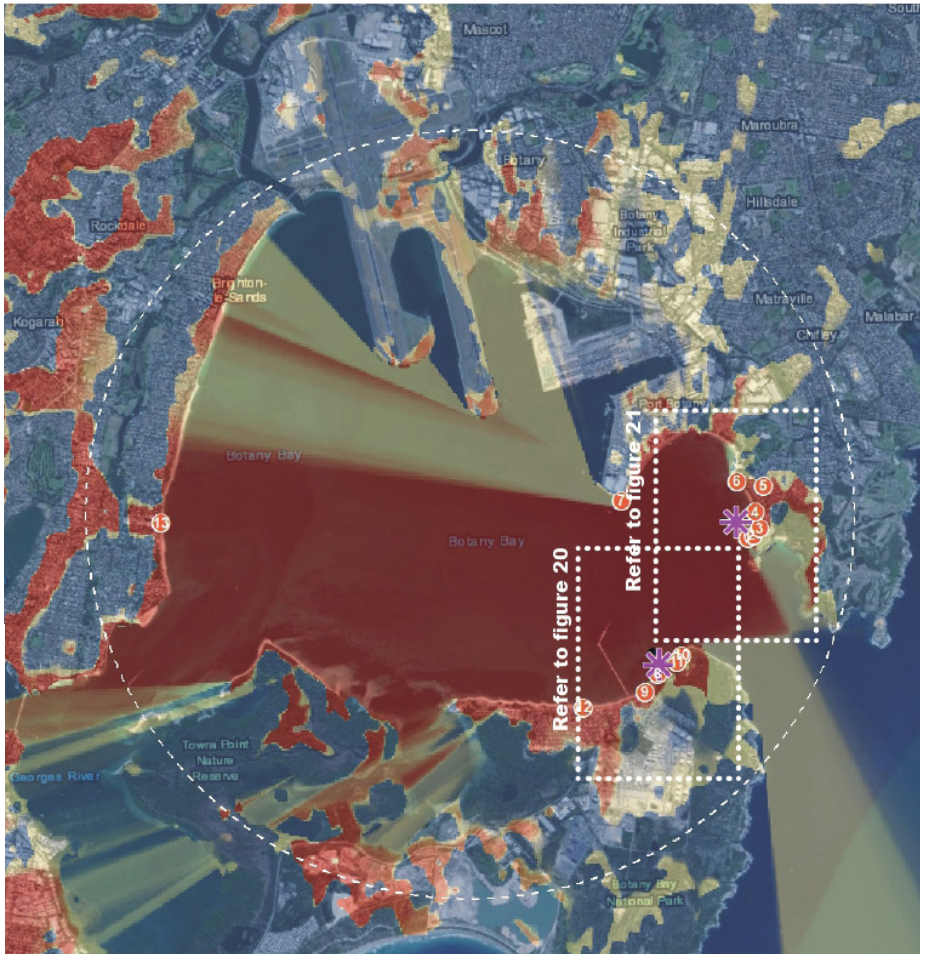


FIGURE 33 LANDSCAPE CHARACTER AREAS

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



Legend

- Proposal area
- LCA1: Botany Bay
- LCA 2: La Perouse headland and 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

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 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 highquality 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

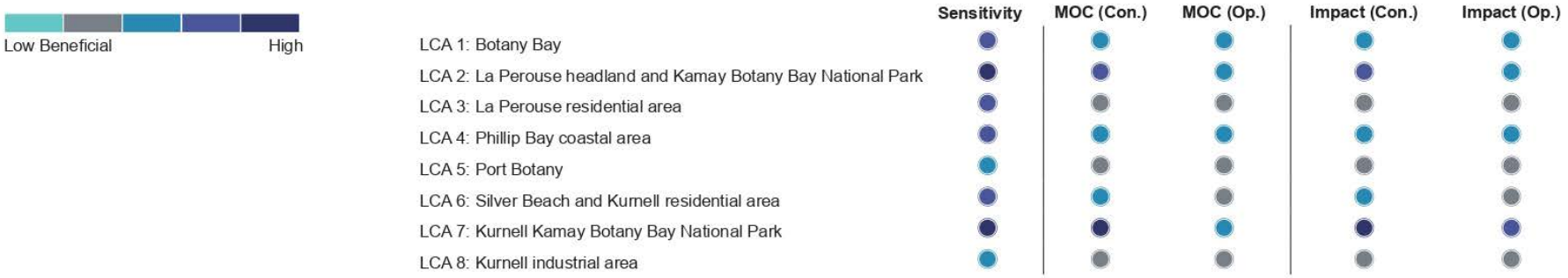


FIGURE 35 LANDSCAPE CHARACTER IMPACT SUMMARY OF ASSESSMENT

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.
	  • oany 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

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.