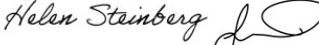

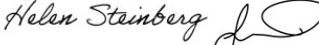

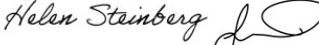









Review of Environmental Factors: Kamay Botany Bay National Park Kurnell Master Plan Works



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1. Brief description of the proposed activity

Proposal description

The Proposal includes the construction of the following elements, which form a part of the 2019 Kamay Botany Bay National Park Kurnell Master Plan:

- Construction of new Visitor Centre and Disability Discrimination Act 1992 (DDA) compliant carpark, landscaping, kerb, gutters, road resurfacing and stormwater connections to the Visitors Centre loop road
- Construction of cricket pitch carpark, reconstruction of the Cricket Pitch amenity building and carpark
- Construction of a new vehicular and path connections to Alpha House
- Creation of a DDA compliant path from the visitor centre to the foreshore
- All major surface upgrades back to the Park entry to support the new Visitor Centre including a fire main, new booster pump room, high voltage electric upgrades and new sewer rising main
- Construction of accessible boardwalk to whale sculptures
- Construction of performance circles
- Alterations to Commemoration Flat carpark and Cape Solander Drive car parking
- Construction of Commemoration Flat amenities and sewerage infrastructure, BBQ and picnic facilities
- Construction of a new walking track connection between the new Cricket Pitch carpark and Cape Solander Drive
- Creek daylighting and boardwalk over Freshwater Stream.

Other alterations and upgrades:

- Upgrade works to the fire services within Kamay Botany Bay National Park ('KBBNP')
- Replacement of existing cabling on Burrawang trail
- New electrical service connection between Alpha House and the new Visitor Centre
- Upgrade works to water supply and sewer services
- Existing amenities block replaced with new amenity buildings, including installation of new underground services to these amenity buildings
- Revegetation and planting works, and associated irrigation services
- Alterations to the existing Meeting Place stone structure to convert it into a Collection Garden
- Construction of new visitor facilities including:
 - Picnic tables
 - Picnic shelters
 - BBQs
 - Bins
 - Bench seats
 - Outdoor showers and drinking fountains
 - Charcoal bins

Location of activity	The Proposal activities are located on the Kurnell headland of the Kamay Botany Bay National Park. The location of the Proposal is shown in Figure 1.
Name of NPWS park or reserve	Kamay Botany Bay National Park
Description of any unreserved land	N/A
NPWS Area	Greater Sydney
Council	Sutherland Shire Council
NSW State electorate	Cronulla
Estimate capital cost of project*	\$22M
Estimated duration of project	18 months
Proposed commencement date	February 2024
Proposed completion date	August 2025

*Publication of the Review of Environmental Factors is required for proposals with a capital investment value of >\$5 million and which commence after 1 July 2022.

This review of environmental factors (REF) has been prepared to assess the environmental impacts of the implementation of Stage 1 of the 2019 Kamay Botany Bay National Park Kurnell Master Plan. Documents relevant to this REF include:

- Appendix A – Threatened species tests of significance (Eco Logical Australia, 2022)
- Appendix B – Aboriginal Cultural Heritage Assessment Report (Coast History and Heritage, 2023)
- Appendix C – Historical Archaeological Assessment and Future Works Impact Mitigation and Management Strategy (Dominic Steele Consulting Archaeology, 2023)
- Appendix D – Heritage Impact Statement (John Oultram Heritage and Design, 2023)
- Appendix E – Flora and Fauna Assessment Report (Narla Environmental, 2023)
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- Appendix G – Bushfire Protection Assessment (Eco Logical Australia, 2023)
- Appendix H – Kamay Botany Bay National Park Plan of Management (NSW National Parks & Wildlife Service 2020)
- Appendix I – Kamay Botany Bay National Park, Kurnell Master Plan (Neeson Murcutt Architects Pty Ltd + Sue Barnsley Design + Freeman Ryan Design (NSW Department of Planning, Industry and Environment 2019).



Figure 1: Location of the activity and proposed works with Master Plan elements

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2. Proponent's details

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NPWS/EES proponents

Area Manager or Unit Manager	Ben Khan, Manager South Sydney Area, NSW National Parks & Wildlife Service
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3. Permissibility and assessment pathway

3.1 Permissibility under NSW legislation

The following sections outline how the activity is permissible under applicable NSW legislation.

3.1.1 National Parks and Wildlife Act 1974 (NPW Act) and NPW Regulation

- Title and relevant sections of plan of management or statement of management intent

Objects of the NPW Act (section 2A)

The NPW Act establishes the NSW National Parks & Wildlife Service (NPWS), which is responsible for the control and management of all national parks, historic sites, nature reserves and Aboriginal areas (among others) in New South Wales. The main aim of the Act is to conserve the natural and cultural heritage of New South Wales.

The objects of this Act (section [s] 2A.1) are as follows:

- a. the conservation of nature, including, but not limited to, the conservation of:
 - i. habitat, ecosystems and ecosystem processes
 - ii. biological diversity at the community, species and genetic levels
 - iii. landforms of significance, including geological features and processes
 - iv. landscapes and natural features of significance, including wilderness and wild rivers
- b. the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:
 - i. places, objects and features of significance to Aboriginal people
 - ii. places of social value to the people of New South Wales
 - iii. places of historic, architectural or scientific significance
- c. fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation
- d. providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.

Providing for the management of land reserved under this Act is in accordance with the management principles applicable for each type of reservation.

The project is consistent with the objects of the Act as the proposed works are considered not to significantly impact the conservation of nature, objects, places or features of cultural value, or public appreciation of nature and cultural heritage and have considered the principles of ecologically sustainable development.

The principal aim of the Proposal is to encourage a greater diversity of people to visit the Kamay Botany Bay National Park ('KBBNP') and improve visitor experience.

The current Visitor Centre, picnic areas and vehicle and pedestrian connections through the KBBNP already foster an appreciation, understanding and enjoyment of nature and cultural heritage and their conservation amongst visitors. However, the Proposal will increase access and facilities for a growing population, including in relation to events and educational opportunities;

natural vegetation and prominent coastal headlands; and sites of Aboriginal and historic heritage value. Additionally, KBBNP is part of a broader network of conservation areas in the region that provide secure protection for native plants and animals, which the proposed activities will encourage through the delivery of best practice conservation and management.

KBBNP has strong cultural and spiritual associations for Aboriginal people including the Bidjigal or Bediagal, and the Gweagal clan of the Dharawal (Tharawal, Turuwal or Thirrourl) language group who occupied the land prior to European presence and after. It is a place from which they can pass on their knowledge of the environment, cultural practices, history and spiritual connections to the land to future generations.

The view across Botany Bay from La Perouse to Kurnell is important to the local Aboriginal community as it provides a visual link to Country. The ferry that once operated between the two places provided an important physical link for this community.

The area also contains several significant Aboriginal sites including the shell midden along the Botany Bay foreshore, Skeleton Cave and a rock art site.

The Proposal respects the cultural significance of KBBNP, both Aboriginal and historic heritage, and acknowledges the works are located within the land of the Gweagal clan of the Dharawal (Tharawal, Turuwal or Thirrourl). Approval under s90 of the NPW Act would be sought for portions of the proposed works that have the potential to impact Aboriginal heritage sites. For these areas an Aboriginal Heritage Impact Permit (AHIP) will be required. The proposed works have been the subject of design development and an Aboriginal Cultural Heritage Assessment Report (Appendix B) has been prepared to accompany the AHIP application.

Overall, it is determined that:

- The Proposal will not significantly impact on biodiversity and ecosystem or processes. It clearly defines areas of construction to improve conservation outcomes with measures to conserve and protect against potential impacts and enhance existing native vegetation. Potential impacts to flora and fauna have been considered in Section 8.1.5 of this REF and impacts and mitigation measures have been assessed as required in Section 9.2.
- The Proposal will improve the condition of the existing walkways and vehicle access, therefore reducing erosion and ongoing impacts to KBBNP.
- The Proposal will improve the quality of experience for KBBNP visitors by upgrading facilities and the delivery of information in a range of formats to foster appreciation, understanding and enjoyment of nature and cultural heritage.
- The likelihood of the Proposal impacting on historical archaeology in the area to be low. Potential impacts to cultural values have been considered in Section 8.2 of this REF and impacts and mitigation measures have been assessed as required in Section 9.5.

Reserve Management Principles (s 30E)

Section 30E of the NPW Act sets out the management principles for national parks in NSW. The consistency of the Proposal with the management principles for national parks is set out below.

- The design of the Proposal has included consideration of the conservation of ecological functioning of KBBNP and the maintenance of the natural landscape. The design has sought to minimise the extent of disturbance, by locating new infrastructure within already disturbed or utilised areas.
- The replacement of the Visitor Centre in the same location as the existing building will minimise disturbance to other areas of the sensitive environment. The Proposal will

also support and enhance the continued public appreciation and understanding of the national park's natural and cultural values by providing improved accessibility, facilities and information for visitors.

- Potential impacts have been avoided and minimised through detailed investigations of the conservation and heritage values of the site and careful design to minimise impacts on those values, and this REF recommends mitigation measures to avoid or minimise impacts to areas of high biodiversity value, natural phenomena and processes, cultural sites and objects.
- In accordance with management principles set out in s 30E the Proposal will also conserve places, objects, features and landscapes of cultural value. The overall study area has been assessed as having low archaeological potential with only very specific areas supporting cultural sites. Recommendations have been included in a project ACHAR to guide approval for disturbing any Aboriginal cultural heritage sites and to manage impacts during construction.

Ecologically sustainable development

References to ecologically sustainable development are included in New South Wales and Commonwealth legislation, and specifically the NPW Act. The Act states “the objects of this Act are to be achieved by applying the principles of ecologically sustainable development.”

The principles of ecologically sustainable development include:

- the precautionary principle – minimise impacts and environmental damage.
- intergenerational equity – ensuring the health, diversity and productivity of the environment are maintained or enhanced for future generations.
- conservation of biological diversity and ecological integrity – biodiversity surveys and assessments have guided the development of the project to minimise environmental impacts.
- improved valuation, pricing and incentive mechanisms – the Proposal has taken into consideration valuation of assets and services to ensure the Proposal is developed in a cost-effective way.

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) adopted the above definition of ecologically sustainable development and added a fifth principle:

- decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

This REF has been guided by these principles when assessing the potential impact of the Proposal. Where uncertainty exists, a precautionary approach has been taken to mitigate potential impacts resulting from the Proposal. Environmental factors are valued in this assessment and the Proposal is considered to be ecologically sustainable within the meaning of the above principles.

Title and relevant sections of plan of management or statement of management intent

The *Kamay Botany Bay National Park Plan of Management (PoM) adopted 2019* (NPWS 2020) applies to the Proposal area.

The objectives of the KBBNP PoM fall under the following overarching themes:

- Protecting the landscape
- Managing and protecting culture and heritage
- Protecting the natural environment

- Providing for visitor use and enjoyment
- Appropriately managing park infrastructure and services
- Appropriately managing of non-park infrastructure and services

The Proposal satisfies the intent of the PoM by promoting public appreciation and sustainable use of KBBNP's natural and cultural values through avoid, minimise and protection measures.

The creation of additional visitor facilities, walking track connections and car parking facilities, including the provision of *Disability Discrimination Act (1992)* (DDA) compliant parking spaces, installation of lighting, and provision for electric vehicle charging points, support the continued and sustainable public use and enjoyment of KBBNP.

The Proposal also aligns with the Scheme of Operations 'Looking After our Cultural Heritage' sections 3-8 which aims to promote Aboriginal and historical values of the park.

Title and relevant section of any applicable conservation action plan (CAP) for an asset of intergenerational significance (AIS) and the relevant AIS site number.

NA

Leasing, licensing and easement provisions (Part 12)

NA

(**for internal NPWS/EES projects only**) NPWS/EES management powers and responsibilities (s 8 and s 12)

Under s 8 (7b) of the NPW Act, the Chief Executive may arrange for the carrying out of such works as the Chief Executive considers necessary for, or in connection with, the management and maintenance of national parks and reserves.

The Proposal is consistent with the PoM and would meet the conservation outcomes under the NPW Act (including provision of sustainable facilities and promotion of historical and cultural heritage values). The Proposal supports the management and maintenance practices used to protect identified natural and cultural values and to provide a durable, low-maintenance facilities for visitor use.

Under s 12, the NPWS is to carry out such works and activities as the Minister directs, either generally or in a particular case in relation to the conservation and protection of wildlife, Aboriginal objects and places, facilities and opportunities for sustainable visitor or tourist use. The proposed activity involves replacement of and improvements to existing visitor infrastructure which will continue to provide "facilities and opportunities for sustainable visitor or tourist use and enjoyment on land reserved under this Act" (s 12.f).

As such, the proposed activity is consistent with the powers and responsibilities of NPWS under s 8 and s 12 of the NPW Act.

3.1.2 Wilderness Act 1987 (for activities in wilderness areas)

Not applicable.

3.1.3 Biodiversity Conservation Act 2016 (BC Act)

The *Biodiversity Conservation Act 2016* (BC Act) provides for the strategic approach to conservation of biodiversity in NSW. The objectives of the BC Act are to:

- Conserve biological diversity at bioregional and state scales.
- Maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations.

- c. Assess the extinction risk of species and ecological communities and identify key threatening processes through an independent and rigorous scientific process.
- d. Establish a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity.

The BC Act is administered by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEE), with the purpose of maintaining a healthy, productive and resilient environment for the greatest wellbeing of the community, now and into the future, consistent with the principles of ecologically sustainable development. The BC Act aims to conserve biodiversity at bioregional and state scales.

As the proposed activities are being considered under Part 5 of the EP&A Act, s 7.8 of the BC Act has been considered. The Proposal will meet the objectives of the BC Act by maintaining a healthy, productive and resilient environment according to the principles of environmentally sustainable development. In particular, it will maintain the diversity and quality of ecosystems into the future by avoiding and minimising impacts to threatened species and ecological communities as well as retaining and enhancing areas of high biodiversity value.

A Flora and Fauna Assessment Report (Appendix E) has been completed and considers whether a significant impact for listed entities could result from the works. In accordance with Section 7.3 of the BC Act, impacts to threatened species and threatened ecological communities are required to be assessed. As such, Tests of Significance were undertaken for Green and Golden Bell Frog (*Litoria aurea*), the Wallum Froglet (*Crinia tinnula*), the Sea Eagle (*Haliaeetus leucogasterin*), Kurnell Dune Forest in the Sutherland Shire and the City of Rockdale and Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions in accordance with the BC Act.

The Flora and Fauna Report is summarised in Section 8.1 of this REF and, in conjunction with this REF, it shows that no significant impact to threatened species (populations), or ecological communities will occur as a result of the Proposal. Therefore, no species impact statement under the BC Act will be required.

Impacts to biodiversity have been minimised and mitigated during project planning and development stages through a range of impact avoidance and minimisation measures recommended as per the Conservation Management Plan (Appendix F) and Flora and Fauna Assessment Report. Avoid, minimise and offset strategies are described in detail in Section 9.2 of this REF. These include the long-term management of vegetation communities and associated ecological threats. Post-construction, rehabilitation protocols would be implemented, and ongoing monitoring and management activities will continue. In particular, monitoring of post-construction impacts from weeds, feral pest animals and diseases will be undertaken in accordance with NPWS procedures and protocols.

3.1.4 Rural Fires Act 1997 (RF Act)

The objectives of the *Rural Fires Act 1997* are to provide for:

- a. the prevention, mitigation and suppression of bush and other fires in local government areas (or parts of areas) and other parts of the state constituted as rural fire districts.
- b. the coordination of bush firefighting and bushfire prevention throughout the state.
- c. the protection of persons from injury or death, and property from damage, arising from fires.
- d. the protection of the environment by requiring certain activities referred to in paragraphs (a) – (c) to be carried out having regard to the principles of ecologically

sustainable development described in section 2 (2) of the *Protection of the Environment Administration Act 1991*.

Under this Act, NPWS is a prescribed fire authority and is responsible for the control and suppression of all fires on lands that it manages. This management is subject to fire management strategies prepared for national parks and other reserved lands. For the Kurnell side of KBBNP, this is the Kamay Botany Bay National Park (Kurnell) Fire Management Strategy (DECC, 2009).

A Bushfire Protection Assessment (Appendix G) was completed as part of this REF. It identifies the bushfire hazard and risks associated with the construction and use of the infrastructure proposed under the Master Plan. The assessment reviews the design against contemporary bushfire protection measures. Although the potential for bushfire exists, fire history shows the majority of unplanned fires are small in size and no fires with damage potential have impacted the Proposal site over the past 40 years. The Assessment provides specific advice on planning for and managing the bushfire risk to the Proposal and surrounding environment. In particular, it suggests that appropriate building construction standard, vegetation management and a robust and reliable bushfire emergency response and evacuation plan are essential to minimising threats to human life and property, and adverse impacts on the natural and cultural features of the KBBNP.

3.2 Assessment pathways

3.2.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

It is confirmed that a REF under Section 5 of the EP&A Act is the applicable assessment pathway if each of the following apply:

- The activity may be undertaken without development consent under the provisions of s 2.73 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 as it is on land (Kamay Botany Bay National Park) which is reserved under the *National Parks and Wildlife Act 1974*.
- on land reserved under the NPW Act or acquired under Part 11 of the NPW Act AND
- for a purpose authorised under the NPW Act.

In accordance with s 2.73 of the of Transport and Infrastructure SEPP, development for any purpose may be carried out without consent on land reserved under the NPW Act if the development is for a use authorised under that Act, namely the protection of land for the conservation of nature and/or the conservation of objects, places or features (including biological diversity) of cultural value within the landscape.

- The activity is not designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2000
- The activity is not state significant infrastructure under Schedule 3(7) of the State Environmental Planning Policy (State and Regional Development) 2011.
- The activity is not designated development under the SEPP (Resilience and Hazards) 2021 as:
 - it is not on land mapped as littoral rainforest or coastal wetland, OR
 - it is on land mapped as littoral rainforest or coastal wetland, AND that land is reserved (not acquired) under the NPW Act, AND the activity is consistent with

the adopted plan of management (s 2.7 (3)(b)-(c)) of the SEPP (Resilience and Hazards), OR

it is on land mapped as littoral rainforest or coastal wetland, AND the activity is routine maintenance with adverse effects restricted to the minimum possible (cl.8(4) of Infrastructure SEPP), OR

it is coastal protection works by a public authority and is either identified in a coastal management program, or is beach nourishment, temporary placement of sandbags or routine maintenance and repair of existing coastal protection works (s 2.16 (2)(a)(i)-(iv) of the SEPP (Resilience and Hazards)).

The activity is not declared to be exempt development under an environmental planning instrument or fails to fully meet the requirements for exempt development.

3.3 Indicate if any of the following NSW legislation is relevant

3.3.1 Coal Mine Subsidence Compensation Act 2017

The activity involves the erection or alteration of an improvement within a mine subsidence district.

The Act is not relevant to the Proposal.

3.3.2 Fisheries Management Act 1994 (FM Act)

The activity affects fish, fish habitat or marine vegetation, including threatened species.

The activity involves the excavation or deposition of material in 'water land' including land that is only intermittently submerged by water.

The Act is not directly relevant to the proposal however the wider KBBNP is close to aquatic reserves that are managed under the FM Act and provide habitat for threatened marine species. A Flora and Fauna assessment was undertaken to consider potential impacts to *Litoria aurea* (Green and Golden Bell Frog – GGBF) and *Crinia tinnula* (Wallum Froglet). No other threatened species were considered likely to occur within the study area.

There are three mapped hydrolines within or, in close proximity to the Proposal (Figure 2). Based on aerial imagery these watercourses appear to be either ephemeral or have been vegetated or developed upon and so are considered to be inactive. A new pedestrian and service vehicle bridge is proposed over Freshwater Stream, which is the western most hydroline within the extent of the proposed works, with additional landscaping works proposed to restore its flow. Despite being "land and vested in a public authority, or land vested in trustees for public recreation or for any other public purpose", this hydroline is not considered to be public water land, due to the absence of water (whether permanently or intermittently). The Proposal will reinstate flows to this stream, and so post-construction it would be defined as public water land.



Figure 2: Hydrolines within the Proposal

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3.3.3 Heritage Act 1977

The activity is on land that contains:

- an item listed on the State Heritage Register (SHR)
- an item not listed on the SHR but identified by NPWS as being of potential state significance
- an item listed on the NPWS Heritage and Conservation Register under s 170 of the Heritage Act (contained in the Historic Heritage Information Management System)
- a place, building landscape feature or moveable heritage item older than 25 years.

The *Heritage Act 1977* (NSW) provides for the protection of conservation of buildings, works, archaeological relics and places of heritage value through their listing on various State and local registers. The Act makes it an offence to harm any non-Aboriginal heritage values without permission.

The Proposal area is listed on the Register as part of the Kamay Botany National Park and Towra Point Nature Reserve (SHR 01918 and shown on Figure 3).

As established by order dated 29 November 2013 under s 57(2) of the *Heritage Act 1977* for engaging in or carrying out activities / works otherwise prohibited by s 57(1) of the Act, three site-specific exemptions applicable to the site permit the execution of some proposed works, as follows:

- Site Specific Exemption 8: New tracks and track maintenance
“New tracks, track maintenance, upgrades and improvements which do not materially affect the significance of the park and do not involve any impacts on archaeological resources and relics.”
- Site Specific Exemption 9: Infrastructure Maintenance and improvement
“Infrastructure maintenance and improvement including: energy saving works and the installation of sustainable technologies (solar power, water tanks etc), electrical supply infrastructure, navigation aids, water and sewerage pipelines, pump stations and pits, existing toilet facilities and enclosed infrastructure, fences, erosion control and soil conservation works, Park User Fee infrastructure (including parking metres and E-tag technologies), maintenance of existing roads, fire and other trails and tracks, including sub-grade, pavement and drainage works where these works do not involve any impacts on archaeological resources or structures identified as being significant.”
- Site Specific Exemption 10: Maintenance and upgrade of existing visitor facilities
“Maintenance and upgrade of existing visitor facilities including toilets, bbqs, picnic shelters, signage, car parks, walking track, fencing, bollards, road barriers and road works.”

A section 60 approval has been sought for the proposal to carry out works on State Heritage Register listed items that are not permitted under the above site specific exemptions and which have the potential to impact its significance. Further details are provided in Section 9.6.

The following items near to the Proposal are identified within the Sutherland Local Environmental Plan 2015 as heritage items:

- Captains Cook landing site

- Captains Cook watering well
- Captains Cook monument
- Landing place and wharf abutment
- Banks Memorial
- Kurnell Monuments (in Kamay National Park)
- Alpha Farm site
- Forby Sutherland Monument
- Solander Monument
- Captains Cook landing place
- Flagpole.

These listings have no statutory implications for development within NPWS estate.

The Conservation Management Plan (Appendix F) identifies conservation objectives of specific items and features of the site, as well as recognising the importance of both tangible and intangible elements of the precinct and the importance of conserving the place as a whole. There are several non-Aboriginal heritage items recorded within KBBNP where the Proposal is located. Significant items of built heritage occupy the site. These include:

- Alpha House, which includes the cellar of the previous farmhouse
- The Inscription Plate
- The Cook Obelisk
- The Solander monument
- The Banks Memorial Seat
- Other monuments in the group, the shelter shed and the remains of the Trust wharf.

Of lesser significance are the Discovery Centre and the other buildings associated with the development of the place as a public reserve.

Further non-Aboriginal heritage listings are detailed in Section 8.2, and impacts and mitigation measures have been assessed as required in Sections 9.5 and 9.6 of this REF.

Aboriginal cultural heritage is discussed in Section 8.2 of this REF and potential impacts and mitigation measures have been assessed as required in Section 9.5.



Figure 3: Heritage designation near the Proposal – SHR01918
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3.3.4 Marine Estate Management Act 2014 (MEM Act)

- The activity affects or directly adjoins a marine park or aquatic reserve, and works are likely to affect plants or animals within the marine park or aquatic reserve.

Not applicable

3.4 Does Commonwealth legislation apply?

3.4.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The activity is on land that contains the following, or the activity may affect:

- world heritage or national heritage values of a place on the World Heritage List or National Heritage List
- the ecology of a Ramsar wetland
- nationally listed threatened species and ecological communities, or listed migratory species
- the Commonwealth marine environment.

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary environmental legislation at the Commonwealth level to protect and manage Matters of National Environmental Significance (MNES) and activities on Commonwealth land.

National Heritage Places registered on the National Heritage List affected by this proposal are:

- The Kurnell Peninsula Headland; and Kamay Botany Bay: botanical collection sites (see Figure 3).

National Heritage places

Approval under the EPBC Act is required for any action occurring within, or outside, a National Heritage place that has, will have, or is likely to have a significant impact on the National Heritage values of the National Heritage place.

The Proposal will maintain and enhance the cultural significance of the place in accordance with the CMP Conservation Guidelines, improving the usability and amenity of the place. The proposal has been assessed against the CMP Conservation Guidelines and is compliant, or capable of complying, as shown in Section 9 of the Heritage Impact Statement (HIS). The HIS in Appendix D has shown that significant impacts to the heritage values of National Heritage places (Kurnell Peninsula Headland and Kamay Botany Bay: botanical collections sites) are not anticipated.

The proposal will not have a significant impact on the National Heritage values of a National Heritage place, as it will not cause any of the following:

- one or more of the National Heritage values to be lost,
- one or more of the National Heritage values to be degraded or damaged, or
- one or more of the National Heritage values to be notably altered, modified, obscured or diminished.

As such, the Proposal will not be a controlled action and therefore no Commonwealth referral is required.

Listed threatened species and ecological communities

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) adopted the definition of ecologically sustainable development and added a fifth principle:

- decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

Threatened Ecological Communities

- 13 communities were identified within 10km of the Proposal site. One EPBC Threatened Ecological Community was identified within the Proposal site: Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland. The vegetation within and surrounding the Proposal, mapped as Coastal Sand Swamp Mahogany Forests, meets the requirements for protection under the EPBC Act to be listed as the Endangered Ecological Community Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland Endangered Ecological Community (EEC). The Proposal will result in the removal of 0.39ha of this EEC. The local occurrence of SSF was mapped as approximately 15.22ha resulting in an impact area of approximately 2.56%. Areas of this community will continue to exist and be protected immediately surrounding the Proposal. As such the proposed activity will not adversely affect habitat critical to the survival of this ecological community. As such, the work is not considered a controlled action and therefore no Commonwealth referral is required.

Threatened Species

- Potential habitat was present for GGFB which is listed as vulnerable under the EPBC Act. An Assessment of Significance (AoS) was completed in accordance with the EPBC Act. In addition, records of several threatened species have been previously recorded within the Proposal area, however no EPBC Act listed threatened species were observed within the Proposal during the site assessment. Overall the low likelihood of encountering threatened species and the AoS has concluded that the impacts on EPBC listed threatened species, including GGFB will not be significant, and the work will not be a controlled action and therefore a Commonwealth referral is not required.

Listed Migratory Species

- 83 migratory species are known to utilise the Proposal area and surrounding environment. The proposed activity will have low impacts to potential foraging habitat and negligible impacts to potential breeding habitat for these species given their migratory nature. In the event that these species forage within the Proposal site, the proposed removal of vegetation will have low impacts to foraging habitat given the large areas of suitable foraging habitat in the surrounding area and in their migratory range. No anticipated net loss of breeding habitat will occur. As such, the proposed activity is unlikely to have a significant impact on these species. Therefore, a Commonwealth referral is not required.

Ramsar Wetlands

- Towra Point Ramsar Wetland is located approximately two kilometres west of the Proposal. There would be no impacts associated with the Proposal on this or any other wetland of international importance.

The Flora and Fauna Assessment Report included tests of significance (Appendix E), considered potential impacts to MNES, found no significant impacts to any identified MNES, and concluded referral is not required.

3.5 Consistency with NPWS policy

Table 1: Summary of Proposal’s consistency with NPWS policies

Policy name	How Proposal is consistent
Cultural Heritage Conservation Policy	This policy applies to the conservation of items of Aboriginal cultural heritage on NPWS lands and items of Aboriginal cultural heritage works by NPWS on non-NPWS lands. The policy recommends seeking input from the relevant Aboriginal community, identification of Aboriginal cultural heritage items on NPWS lands and an assessment of any impacts on heritage items. As part of the Aboriginal Cultural Heritage Assessment Report for the proposed activity, the Aboriginal community has been consulted with, Aboriginal cultural heritage items have been identified and the impact of the proposed activity on these items has been assessed. The proposed activity is generally consistent with this policy.
No Smoking Policy	The <i>National Parks and Wildlife Regulation 2009</i> (NPW Regulation) bans smoking in national parks except for commercially leased or licensed accommodation or residential accommodation in KBBNP. The no smoking policy message will be reinforced on public signs at KBBNP and will also be a requirement of any contractors working on site during construction of the Proposal.
Signage Policy and Procedures	In accordance with this procedure, signage within National Parks should be considered as a whole, not in isolation from each other. They must enhance the visitor experience and be suitable for their purpose as well as being cost effective, easily interpreted, maintained and recognise Aboriginal connection to Country. Signage will be included throughout the Proposal to communicate the stories and information of the natural features, heritage and landscape of the surrounding areas, as well as providing geographical information to guide visitors. Signage along the Proposal would be maintained in accordance with the Asset Management System (AMS).
Tree Risk Management Policy and Procedures	NPWS has a duty of care to manage and, where possible, to minimise the risks from hazardous trees to people in parks and neighbouring landholders. This policy would be implemented during construction and maintenance of the KBBNP to manage visitor and worker exposure and risk.
Walking Tracks Policy	The Walking Tracks Policy works in conjunction with KBBNP Visitor Facilities Manual to determine how walking tracks need to be constructed and maintained. The Kamay Botany Bay National Park walking tracks and trails would be constructed in accordance with these policies.
Pets in Park Policy	The Proposal will be consistent with the Pets in Park policy by including key messages on site. In particular, it will be conveyed that no pets are permitted within KBBNP (unless it is an assistance animal or where there are other provisions in place) at entrance points and throughout KBBNP to inform visitors of this. The construction phase will also ensure no contractors bring pets into KBBNP.

<p>Vehicle Access Policy</p>	<p>The Vehicle Access Policy identifies where vehicles are allowed to access the site, procedures around the construction of new roads; road closures; vehicle towing and recovery; and for car and motorcycle rallies. Upgrades to road infrastructure and carparks undertaken as part of the Proposal will be undertaken in accordance with this policy. This means that vehicle access and associated infrastructure will:</p> <ul style="list-style-type: none"> • be designed with sensitivity to the landscape • be designed to supply opportunities for visitors to understand, enjoy, and appreciate parks, and take maximum advantage of interpretive opportunities and scenic values • not cause unacceptable impacts on the environment and cultural heritage • promote the principles of energy conservation and sustainability • be appropriate and necessary to meet park management needs • provide access to a range of visitor experiences in parks for people with disabilities.
<p>Visitor Safety Policy</p>	<p>This policy outlines NPWS' legal duty of care towards people in parks. It provides guidance about how the Department can address safety issues and reduce risk to park visitors while maintaining park values.</p> <p>The NPWS risk management system is the general instrument used by NPWS to manage risks (NPWS, 2018), and would be utilised by the staff during construction and operation of the Proposal. A Safety in Design assessment of the design of the Proposal has been carried out as part of the design process.</p> <p>In operation, any assets identified as presenting a hazard would be inspected and managed if required as per the Visitor Safety Policy. Written records of inspections and maintenance of assets would be kept.</p>
<p>Accessible Parks Policy</p>	<p>This policy aims to provide a framework for improving access to national parks by integrating accessibility considerations into the planning and management of national parks and the opportunities they provide for visitors, volunteers and the community. This policy addresses the barriers to accessing national parks and visitor experiences that are faced by people with disability. NPWS recognises the health and wellbeing benefits of access to national parks for all people.</p> <p>The Proposal will consider and plan for accessibility and the many ways in which people connect with national parks, including passive and active engagement in recreational, educational and cultural activities</p>
<p>People and Wildlife Policy</p>	<p>This policy seeks to minimise risks of harm to people and damage to property, while ensuring the health, welfare and sustainability of wildlife populations. Implementation of this policy will be supported by procedures at KBBNP that provide guidance on how to record and respond to specific wildlife interaction issues.</p>

3.5.1 NPWS proponents

- Internal NPWS approval* or authorisation, including expenditure.

3.5.2 Other proponents

Table 2: Summary of other proponents

Brief description of the type of approval sought
Section 60 permit under the <i>Heritage Act 1977</i>
Section 90 Aboriginal Heritage Impact Permit under the <i>National Parks and Wildlife Act 1974</i>

Are there any existing approvals, such as permits, leases, licences or easements, which apply to part or all of the proposed activity?

- No
- Yes

Publication triggers

Table 3: Triggers for publication of the Review of Environmental Factors

Permit or approval	Applicable?
Fisheries Management Act, sections 144, 201, 205 or 219	No
Heritage Act, section 57 (commonly known as a section 60)	Yes
National Parks and Wildlife Act, section 90 (AHIP)	Yes
Protection of the Environment Operations Act 1997, sections 47–49 or 122	No

4. Consultation – general

4.1 Consultation required under Transport and Infrastructure SEPP

Consultation with the following authorities is required as the Proposal will affect the items ticked below:

4.1.1 Local Council (sections 2.10, 2.11, 2.12 and 2.14)

- local council infrastructure or services (such as stormwater, sewer, roads and footpaths)
- heritage items listed under the local environmental plan (LEP)
- flood patterns on flood-labile land
- land within the mapped coastal vulnerability area and the activity is inconsistent with a certified coastal management program for the land.

Not applicable.

4.1.2 The proposed activity does not require any statutory consultation with National Park or other C1-zoned land (sections 2.15(2)(a) and 2.15(2)(b))

- land zoned C1 (formerly E1) or on/adjacent to land reserved or acquired under the NPW Act

As NPWS is the proponent, consultation is not required.

4.1.3 Roads or maritime (section 2.15(2)(c) or Schedule 3)

Is the activity:

- a fixed or floating structure in navigable waters
- traffic-generating development on main roads?

Not applicable.

4.1.4 Siding Spring Observatory (section 2.15(2)(d))

- increase the amount of artificial light in the dark night sky within 200 kilometres of the Siding Spring Observatory

Not applicable.

4.1.5 Defence communications buffer (section 2.15(2)(e))

- located within the buffer around the defence communications facility near Morundah as mapped under the Lockhart, Narrandera or Urana LEPs

Not applicable.

4.1.6 Mine subsidence area (section 2.15(2)(f))

land in a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017.

Not applicable.

4.2 Consultation requirements under NPW Act for leases and licences

If the activity requires a lease or licence under s 151 or s 151H of the NPW Act, indicate if it requires:

public consultation under s 151F

referral to the NPW Advisory Council or other advisory committee under s 151G.

4.3 Targeted consultation

In 2018 NPWS engaged Neeson Murcutt & Neille Architects to review the 2008 Kamay Botany Bay Master Plan and to expand it to include the broader Kurnell Precinct geographical area. Community and stakeholder consultation was integral to the development of this plan and included both internal and external stakeholder engagement. This work culminated in the production of the 2019 Master Plan.

Before the project commenced, NPWS commissioned community engagement specialist, Context Pty Ltd (Context) to work with NPWS on a targeted community and stakeholder engagement program in the design of a new master plan for the Kurnell Precinct. Groups engaged included, but were not limited to:

- Aboriginal communities
- the local Kurnell community
- park users and visitors
- school and education users.

As part of the community engagement process at the outset of the 2019 Master Plan development, a Community Reference Panel was established to provide input into the project brief, the site analysis and guide the development of the overall Master Plan design.

Subsequently the Community Reference Panel reviewed the final Master Plan. The Panel included Aboriginal community members, representatives from the offices of state and federal members of parliament, local government and community and interest groups including the Sutherland Shire Business Chamber, Sutherland Historical Society, the Captain Cook Society and the Australian National Maritime Museum.

A Design Review Panel was established by the Office of the Government Architect to review the in-progress development of the Master Plan. The Panel reviewed the Master Plan and provided feedback on two occasions.

A series of workshops with stakeholders also helped to inform the design of the Master Plan. Participants came from a wide variety of backgrounds, including Aboriginal community representatives, historians, cultural institutions, ecologists, park user groups and NPWS park managers. Context, the community engagement specialist engaged by NPWS to manage the

Master Plan consultation, worked closely with the design team to ensure that community and stakeholder feedback has directly influenced the design of the Master Plan.

In addition to workshops that helped inform the Master Plan, feedback has been received through a variety of engagement methods including:

- Public exhibition of the draft Master Plan from the 30th April 2018 to 2nd August 2018,
- Culture days on Country for the local Aboriginal community,
- Formal and informal interviews,
- Focus groups,
- Online and on-site surveys,
- Kids quiz,
- Information evenings and presentation to the La Perouse Local Aboriginal Land Council, and
- Targeted interest group and local community information sessions and workshops.

Community and stakeholder feedback during the Master Plan consultation indicated that the Kurnell Precinct as it is currently presented is underwhelming with poor representation of the importance of the site to Aboriginal people. Consultation also revealed community concerns about degraded vegetation, the poor experience of arriving at Kurnell by car, inadequate way-finding signage, aged interpretation infrastructure and the lacklustre Visitor Centre, as well as many ideas about how the precinct could be enhanced.

The Kamay Project Board was appointed in November 2018 to oversee the implementation of works at KBBNP, including the subject works within the Proposal, in response to a request from the then Prime Minister. The Board included the following members:

- | | |
|--------------------------|---|
| • Bruce Baird | Chair, Kamay 2020 Project Board |
| • Rep for Scott Morrison | Representative of the Member for Cook |
| • Noeleen Timbery | Chairperson, La Perouse Local Aboriginal Land Council |
| • Robert Webster | Representative of the Minister for Environment |
| • Mark Speakman MP | Member for Cronulla |
| • Ben Morton MP | Representative of the Office of Prime Minister |
| • Dillon Kombumerri | Principal Architect, NSW Government Architect |
| • Cr Carmello Pesce | Mayor, Sutherland Shire Council |
| • Dr David Kemp AC | Australian Heritage Council, |
| • Atticus Fleming | Deputy Secretary, National Parks and Wildlife Service |
| • Lil Gordon | Head of Aboriginal Affairs |

Following finalisation of the Kamay Master Plan in 2019, work progressing the Master Plan concepts into a detailed design continued throughout 2020. A select tender panel of ten leading architectural firms were invited in May 2020 to each prepare alternate design options for the new visitor centre and major precinct infrastructure improvements, building upon the themes established by the master plan. Tenders for this work closed in July 2020 after which three submissions were shortlisted for development into concept designs.

The concept designs were placed on public exhibition on the NPWS website for community review from 23 October 2020 to 11 December 2020. The website invited submissions from the community on each concept design, and included a survey seeking input on what respondents

liked and disliked about each proposal and its included elements. In addition to the information on the NPWS website the proposals were displayed at the NPWS Visitors Centre within KBBNP.

An article was published in the St George Leader 23 October 2020, and social media posts from Mark Speakman MP, the St George Leader, the Captain Cook Society – Aust, Kurnell Village News and I Love Kurnell all shared the link to the online exhibition and survey.

Online presentations providing an overview of the concept designs were made to the NPWS Regional Advisory Council on 7 December and La Perouse Local Aboriginal Land Council and La Perouse Aboriginal Community Alliance on 9 December 2020. Presentations to internal NPWS teams were also made during the exhibition period. Due to COVID-19 restrictions, in person consultation was not presented.

A further Design Review Panel was established by the Office of the Government Architect during the exhibition period to inform the selection of the architectural concept to be developed into the final design for the project, and provide guidance to the subsequent design development to ensure that best practice in design is embodied in the proposed works.

This public exhibition process resulted in a total of 125 submissions regarding the three concept designs. This feedback informed the Kamay 2020 Project Board's selection of the concept design by Neeson Murcutt + Neille, who were subsequently engaged in December 2020 to progress their concept design for the works into detailed design documentation.

Detailed design of the works within the Proposal was undertaken throughout 2021 to 2023, during which time face-to-face briefings and consultation were hampered by COVID-19. However, a community information day with selected invitees from the La Perouse community was held on the 22nd October 2021, during which NPWS and Neeson Murcutt & Neille Architects briefed the community on the planned scope of works.

A further community drop-in session was held at Kurnell on 6th December 2023, during which NPWS representatives discussed the proposals with community attendees and answered questions regarding the proposed works.

The Kamay Project Board oversaw the development of the concepts contained within the 2019 Kamay Master Plan, the appointment of Neeson Murcutt + Neille as project architect in late 2020, and the detailed design throughout 2021-2022 of the new Visitor Centre and other visitor infrastructure that form the works within the Proposal.

The Board also contributed to the following works during the period 2018-2022:

- the design and installation of the Kamay 2020 sculptures in 2020
- the stabilisation and conservation of the 1870 Cook Obelisk in 2020
- the restoration of historic Alpha House in 2020
- construction of new whale-watching facilities at Cape Solander in 2021-22 (brought into the scope of the Board in 2022)
- Transport for NSW design and construction of the new wharves at Kurnell and La Perouse, due for completion in 2023.

As planning for the work has progressed, updates have been communicated to stakeholders via newsletters circulated by email to all parties who have registered an interest in the project. Updates have also been made via the Kamay project website with alerts on the broader webpage containing details relating to specific work items.

Project briefings have been provided to the Kamay 2020 Project Board, the Greater Sydney Branch Regional Advisory Committee (RAC) and internal NPWS communications.

Below is a list of stakeholders who have been engaged with during the Master Plan development and subsequent detailed design of works within the Proposal.

State-wide stakeholders:

- Internal: Minister for Environment, Dep Secretary NPWS, NPWS Branch Directors – Visitor Experience Branch, Special Infrastructure Projects Branch, DPIE Corporate Communications Branch (Public Affairs, Brand Design and Content Team).
- External: Local Member, Destination NSW, Conservation groups – National Parks Association; Conservation Volunteering Australia; Landcare, Recreational user groups (Bushwalking NSW; NPA)

Greater Sydney Branch stakeholders:

- Internal: Greater Sydney Regional Advisory Committee, NPWS Branch staff, GSB Visitor Experience Manager (Discovery, PUF, Visitor Information)
- External: Commonwealth Government, Local Government, Aboriginal community – La Perouse Local Aboriginal Land Council, Project delivery partners – Transport for NSW, Heritage NSW, NSW Registrar, Sutherland Shire Council, Local community and business, Tourists (Australians from NSW and interstate; international), NSW Government stakeholders, Encounters 2020 Group, Endeavour Taskforce, Special interest groups, Environment Education Centre

4.3.1 Adjacent landowners

KBBNP is one of NSW most popular national parks and currently receives over 800,000 visitors annually. There are weekly and seasonal peak visitation times. In the summer, visitors come to enjoy KBBNP for its recreational values such as the picnic areas; in the winter, visitors enjoy the whale watching opportunities. The Proposal seeks to improve the ability of KBBNP to manage vehicles and access in peak visitation periods and this is expected to provide improvements to local traffic for nearby residents during peak times. Facilities such as the educational facility may increase KBBNP visitation in off peak periods i.e. during the week from school excursions, however overall is not anticipated to significantly increase park visitation from current levels so major impacts to local residents are not expected.

NPWS anticipates that during construction there will be a minor increase in construction vehicles entering the KBBNP but any minor impacts will be short term.

Due to the distance of the majority of the project works from the nearest residential lots, impacts to residents are not expected and targeted consultation with adjacent landowners is not proposed.

4.3.2 Wider community consultation and/or notification of works

Following award of tenders for the works within the proposal, NPWS will undertake letterbox drops to advise immediate residents of the program for the works.

4.3.3 Interest groups and/or notification

In addition to forming part of the Community Reference Panel and having their Chairperson included within the Kamay Project Board, the La Perouse Local Aboriginal Land Council were given an online briefing on the 7th September 2021 and participated in a site briefing regarding the proposed works on the 5th November 2021, during which NPWS and Neeson Murcutt & Neille Architects briefed the Land Council on the planned scope of works.

5. Consultation – Aboriginal communities

Native title notification requirements

1. Is the land subject to an Indigenous land use agreement (ILUA)?

No

Yes

2. Has native title been **extinguished**?

No or unclear

Yes

Native title extinguished by freehold title.

3. Has there been a determination of native title applicable to the land or is there a native title claim pending (check the National Native Title Tribunal website<http://www.nntt.gov.au/>)?

No

Yes

4. If native title is not confirmed as extinguished, is the activity occurring on land reserved as park on or before 23 December 1996 AND is an act in accordance with the purpose of reservation AND

a. is either a 'public work' as per subdivision 24J of the Native Title Act (e.g. a building or other structure that is fixed to the landscape, a road or bridge, a well or a bore, or involves major earthworks)
OR

b. involves the grant of a lease?

No

Yes

Not applicable.

5. If native title is not confirmed as extinguished and the circumstances of Question 4 do not otherwise apply, is the activity either:

a) facility for service to the public (as defined in subdivision 24K of the Native Title Act)
OR

b) a low-level activity (as defined in subdivision 24L of the Native Title Act)?

No

Yes

Not applicable.

5.2 Parks under other joint management arrangements

Is the park's management subject to another joint management arrangement such as a memorandum of understanding?

- No
 Yes

5.3 Other parks

In accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), the Aboriginal community were consulted as part of the Aboriginal Cultural Heritage Assessment for the proposed activity. Consultation included notification to interested parties, provision of proposed methodology and activity information, and seeking feedback and advice on cultural heritage related matters.

Coast History & Heritage (Coast) were engaged by NPWS in 2019 to prepare an Aboriginal Cultural Heritage Assessment Report (Appendix B) and undertake Aboriginal community consultation.

Coast wrote in June 2019 to several agencies requesting details be provided of any Aboriginal people each agency was aware of who may hold cultural knowledge relevant to the area of the Proposal. The Registrar of Aboriginal Owners responded confirming there were no Registered Aboriginal Owners in the project area and recommending that the La Perouse Local Aboriginal Land Council (LALC) be contacted to assist in identifying Aboriginal stakeholders who may wish to participate, which was done.

NPWS had been in discussions with members of the local Aboriginal community over several years in relation to the 2019 Master Plan and the KBBNP Plan of Management. Through those discussions, the NPWS has compiled a list of Aboriginal stakeholders. Coast determined that it would be appropriate for these stakeholders to be included as Registered Aboriginal Parties in relation to the Proposal and sent notices to all such stakeholders.

Coast placed a public notice in the St George and Sutherland Shire Leader in August 2019 calling for registrations of interest from Aboriginal people with cultural knowledge relevant to the project. Several Aboriginal parties registered their interest in reviewing the proposed works.

Coast sent a document containing project information and the proposed assessment methodology to all Registered Aboriginal Parties in September 2019 with nil responses received.

A draft ACHAR for the proposed works was sent to all Registered Aboriginal Parties in January 2023. Responses were received from LALC and one other member of the community. The LALC agreed with proposed recommendations and advised that that if any Aboriginal objects (such as human or animal bone, shell material or stone artifacts) are impacted or unearthed during any activity on the property, the activity must cease, and the NSW Office of Environment and Heritage and La Perouse LALC be contacted immediately.

The responding member of the community expressed concern about traditional custodianship and the location of repatriated ancestral remains. Coast History & Heritage responded noting that consultation had been undertaken in compliance with Regulation and policy, and that no repatriation areas are located within the Proposal area. The complete outcomes of these stakeholder engagements can be seen in Appendix B.

Following the completion of archaeological test pitting works in a portion of the proposed works area during May and June 2023 the project ACHAR has been updated and provided to the Registered Aboriginal Parties for consultation. The consultation period closed on November 28th, 2023 with nil responses received. The ACHAR was updated to record this outcome of consultation.

Concurrently with the above processes, in 2019 NPWS engaged The Office of the Registrar, Aboriginal Land Rights Act 1983 (ORALRA) to undertake an Aboriginal Owners Research Project in the Kamay Botany Bay area, to enable the listing of Aboriginal Owners for the area including Kamay Botany Bay National Park. In September 2023 ORALRA issued the interim report Interim Report (Draft): Aboriginal Owners Kamay Botany Bay and Towra Nature Reserve and opened the Register of Aboriginal Owners for Kamay and is currently receiving applications for inclusion upon the Register. The outcomes of this process will be used to guide further consultation in relation to design of interpretation materials to be delivered as part of the proposed works.

6. Proposed activity (or activities)

6.1 Location of activity

Description of location	Kurnell headland of the Kamay Botany Bay National Park
Site commonly known as	Various sites within KBBNP all within the construction footprint (Figure 1 and Figure 4).
Park name	Kamay Botany Bay National Park
Other tenures	Not Applicable
Lot/DP	Lots 71-76, 85 / DP 908 Lot 323, MP 144
Street address	Cape Solander Drive, Kurnell NSW 2231
Site reference	Easting: 335750 Northing: 6235864 MGA zone: 56



Figure 4: Construction footprint

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6.2 Description of the proposed activity

The elements of the proposed activity are shown on Figure 1.

The implementation of the Proposal would occur over three stages. These stages include:

- Stage 1: Pre-construction
- Stage 2: Construction
- Stage 3: Remediation / site demobilisation
- Stage 4: Operation.

Key activities within the Proposal include:

- Construction of a new Visitors Centre building, located on the footprint of the existing visitor centre, and all service connections associated with the new building.
- Alteration to the existing Visitor Centre car park, including amendments to provide *Disability Discrimination Act (1992)* (DDA) compliant parking spaces, installation of lighting, and provision for electric vehicle charging points.
- Construction of a new Cricket Pitch car park.
- Alterations to the existing Commemoration Flat car park.
- Construction of new formal roadside parking along Cape Solander Drive near the Muru Trail connection.
- Construction of new visitor facilities including:
 - Picnic tables
 - Picnic shelters
 - BBQs
 - Bins
 - Bench seats
 - Outdoor showers and drinking fountains
 - Charcoal bins (area to safely dispose of charcoal waste associated with the BBQs) and associated slabs
 - Paths, bridges and boardwalks providing a DDA-compliant connection to the foreshore, including side paths to the whale sculptures.
- Construction of new kerb and gutters, road resurfacing, and stormwater connections to the path past the Visitor Centre, and to Cape Solander Drive between the entry and exit points of the existing Visitor Centre loop road.
- Construction of a new walking track connection between the new Cricket Pitch car park and Cape Solander Drive.
- Construction of a new vehicular and path connections to Alpha House.
- Construction of performance circles within Commemoration Flat (a popular picnic destination within the Kamay Botany Bay National Park).
- Alterations to the existing Meeting Place stone structure to convert this structure into a new Collection Garden with associated paving, sandstone structures, planting, and side paths.
- Construction of new amenity buildings in the approximate location of the existing Commemoration Flat and Cricket Pitch amenity buildings, including installation of new underground services to these amenity buildings.

- Daylighting of the Freshwater Stream (the process of removing obstructions like concrete that cover the stream) and restoration of the creek bed where this is currently piped.
- Installation of Aboriginal cultural heritage interpretation measures generally located throughout the works area.
- Upgrade of the existing high voltage power supply into the Park, including supply and installation of a new polemount substation and associated connections.
- Upgrade works to the fire services within the National Park, including installation of a new hydrant booster valve assembly at the entry, new hydrant booster pump and pumphouse adjacent to the entry booth, and reticulation of new inground hydrant mains between the above, existing hydrant points, and the new Visitor Centre.
- Upgrade works to water supply and sewer services throughout the National Park, including new pump out sewer pits, rising mains, cold water lines and associated power cabling.
- Revegetation and planting works, and associated irrigation services.

Other:

- It is noted that construction of a new revetment wall to protect the Botany Bay foreshore between Commemoration Flat and the new wharf, with associated stairs for foreshore access also forms part of the Master Plan but is being assessed under a separate development application.
- The reconstruction of the ferry wharves at Kurnell and La Perouse also form part of the Master Plan. These approvals have been progressed under a separate development application by Transport for NSW.

6.2.1 The proposed activity: pre-construction, construction, operation and remediation

Pre-construction

The following work will be undertaken prior to construction activities commencing:

- Dilapidation survey of the site
- Minor site investigation works
- Pre-clearing surveys along designated sections
- Site inductions
- Site establishment and construction compound set up (within the construction footprint shown on Figure 3), including all construction signs and safety information
- Installation of temporary traffic management signage
- Installation of temporary signs for visitors using the roads and walking tracks
- Installation of site erosion and sediment controls, undertaken by construction contractor(s)
- Survey, flagging, fencing and pegging of proposed work sites and limit of works.
- Street signs, warning signs, and wheel stops within the area impacted by the Proposal are to be removed and placed into storage on site (works by Contractor). PUF machines are to be relocated outside the zone of works and placed into storage.

Construction

The proposed construction methods will vary depending on the nature of the activity.

Table 4: Summary of key Proposal activities

Key activities within the Proposal

Construction of a new Visitors Centre building, located on the approximate footprint of the existing visitor centre, and all service connections associated with the new building.

Alteration to the existing Visitor Centre car park, including amendments to provide *Disability Discrimination Act (1992)* (DDA) compliant parking spaces, installation of lighting, and conduit provision for future electric vehicle charging points.

Construction of a new Cricket Pitch car park.

Alterations to the existing Commemoration Flat car park.

Construction of new formal roadside parking along Cape Solander Drive near the Muru Trail connection.

Construction of new visitor facilities including:

- Picnic tables
- Picnic shelters
- BBQs
- Bins
- Bench seats
- Outdoor showers and drinking fountains
- Charcoal bins (area to safely dispose of charcoal waste associated with the BBQs) and associated slabs
- Paths, bridges and boardwalks providing a DDA-compliant connection to the foreshore, including side paths to the whale sculptures.

Construction of new kerb and gutters, road resurfacing, and stormwater connections to the path past the Visitor Centre, and to Cape Solander Drive between the entry and exit points of the existing Visitor Centre loop road.

Construction of a new walking track connection between the new Cricket Pitch car park and Cape Solander Drive.

Construction of a new vehicular and path connections to Alpha House.

Construction of performance circles within Commemoration Flat (a popular picnic destination within the Kamay Botany Bay National Park).

Alterations to the existing Meeting Place stone structure to convert this structure into a new Collection Garden with associated paving, sandstone structures, planting, and side paths.

Construction of new amenity buildings in the approximate location of the existing Commemoration Flat and Cricket Pitch amenity buildings, including installation of new underground services to these amenity buildings.

Daylighting of the Freshwater Stream (the process of removing obstructions like concrete that cover the stream) and restoration of the creek bed where this is currently piped.

Installation of Indigenous interpretation measures generally located throughout the works area.

Upgrade of the existing high voltage power supply into the Park, including supply and installation of a new polemount substation and associated connections.

Upgrade works to the fire services within the National Park, including installation of a new hydrant booster valve assembly at the entry, new hydrant booster pump and pumphouse adjacent to the entry booth, and reticulation of new inground hydrant mains between the above, existing hydrant points, and the new Visitor Centre.

Upgrade works to water supply and sewer services throughout the National Park, including new pump out sewer pits, rising mains, cold water lines and associated power cabling.

Revegetation and planting works, and associated irrigation services.

Remediation/site demobilisation

The proposed site demobilisation activities are:

- Removing the temporary haul roads, site office, compound areas and fencing and restoring the areas to pre-construction conditions.
- Rehabilitating and re-landscaping the site.
- Removing construction equipment, vehicles, and materials once the construction works are complete.

Operation

Ongoing activities would be varied across the various items of the Master Plan Proposal area and will include:

- Exhibition and storage of artefacts and movable heritage items
- Provision of interpretive materials, displays and exhibitions
- Provision of visitor information to park users
- Retail and food sales
- Food service and dining activities
- Event and functions, both private and public
- Commercial activities including tours, filming and photography
- Scientific and educational research activities
- Use of office spaces and other portions of the Proposal area for park management, administration and incident response
- Education activities and administration
- Community and cultural meetings and gatherings
- Use of visitor facilities such as carparking, amenities, picnic and bbq facilities, drinking fountains, rest areas and baby change spaces
- Passive and active recreation activities
- Vegetation maintenance and weed control
- Maintenance of infrastructure including the Visitor Centre and amenity buildings, services, footpaths and recreational facilities
- Routine maintenance checks of utilities
- Monitoring of sensitive heritage sites to ensure they are protected and not subject to vandalism.

The Contractor is required to deliver the project with nil defects. A maintenance schedule is to be provided by the Contractor as part of completion documents. Any periodic maintenance required within the first 12 months is to be carried out by the Contractor. Maintenance required thereafter will be managed by NPWS staff and Gamay Rangers.

6.2.2 The activity footprint (size of the area of impact)

Kamay Botany Bay National Park covers approximately 456 ha on the northern and southern headlands of the entrance to Botany Bay. The Proposal area is situated in the 354 ha Kurnell section of the park.

The full footprint of the overall area within which works are proposed is 6.87 ha, with individual work elements covering 4.49 ha within this footprint.

6.2.3 Proposed construction methods, materials and equipment

Construction methods will vary depending on the nature of the activity. Construction methods and materials have been selected to minimise the impact on biodiversity, heritage and the natural landscape, whilst ensuring sustainability, durability and safety requirements are met.

As detailed in section 6.2.1, construction methodology will broadly include:

- Establishment of erosion and sediment control measures
- Vegetation clearance
- Transportation of materials to site
- Excavation works
- Demolition works
- Replacing old infrastructure, such as fencing and signs
- Landscaping works.

Proposed construction materials include:

- Natural surface
- Mulch and woodchip
- Gravel infill
- Concrete and masonry
- Steel
- Bitumen
- Asphalt
- Signs (wayfinding, interpretation, safety)
- Timber (Seating, Picnic tables, framing)
- Native vegetation.

Materials chosen will be fit for purpose, durable, offer value for money over their design life, and be sympathetic to the natural surrounding environment.

Proposed construction equipment includes:

- Excavators
- Bobcats
- Concrete pumps
- Cranes (mobile and franna)

- Jackhammers
- Chainsaws
- Brush cutters
- Hand tools/power tools
- Trucks
- Light vehicles.

6.2.4 Receival, storage and on-site management for materials used in construction

Materials and equipment will be brought to site via heavy and light vehicles on the existing road network. Deliveries to site would be during standard construction hours. Once within the construction footprint, materials will be transported between compound sites and work locations via existing designated tracks and roads, and within the proposal construction footprint.

Compound sites will be located on Beach Park, near the main park entry gates adjacent to Cape Solander Drive, within the Cricket Pitch precinct, within Commemoration Flat, and in the Visitor Centre carpark area. These sites will be used to store materials, machinery, equipment and include temporary facilities for contractors.

Stockpiled materials will be stored on existing hardstand and disturbed ground within the construction footprint. The sites will include erosion and sediment controls.

6.2.5 Earthworks or site clearing including extent of vegetation to be removed

A total area of 2.71 hectares of vegetation will be cleared or modified during construction of the Proposal. Most of this impacted vegetation is either exotic grassland such as turfed picnic area (1.19ha) or planted vegetation (0.25ha).

The proposed earthworks for the Proposal consist of:

- vegetation clearing and establishment of new walking track sections
- temporary works during the construction stage of the Proposal including topsoil removal, stockpiling, and excavation associated with erosion control measures;
- excavation for
 - Landscaping
 - Building foundations
 - Service trenches
 - Earthwork to level sites, install drainage and grade imported road base for the car parks
 - Post holes for signs, interpretive elements and track furniture
 - Installation of new amenities.

6.2.6 Environmental safeguards and mitigation measures

Measures to avoid, minimise and mitigate environmental impacts have been included in Section 9. Pre-construction activities such as biodiversity and heritage field investigations, feasibility surveys and consultation with key stakeholders were undertaken to limit environmental impacts prior to construction.

During construction, the transportation of materials construction methods and ancillary works have been designed to limit impacts to the national park and its sensitive vegetation, waterways and heritage sites. The measures taken include:

- Using existing roads and tracks for material transportation
- Using hand tools where required to limit the impact of large machinery
- Using sustainable materials for construction
- Implementing strict weed and pathogen hygiene protocols during construction
- Avoiding the removal of sensitive vegetation and habitat features where possible
- Implementing an unexpected finds procedure to manage potential impacts to unknown aboriginal and cultural heritage during construction.
- Implementing safeguards at compound sites such as erosion and sediment controls

A Construction Environmental Management Plan will be developed to manage construction activities. It will address wash down procedures, spill procedures, incident management and will include all the mitigation measures included in Section 10 of this REF.

- Post-construction, disturbed areas would be rehabilitated.
- Demolished materials from the site will be recycled.

The design of the new elements being constructed such as the new Visitor Centre and amenity buildings incorporates the use of stone and concrete, which despite the embodied energy associated with concrete will provide durable facilities suited to the high levels of visitation and the site's proximity to Botany Bay. These materials will require low maintenance and will provide a long service life.

Recycled brick masonry will be used for internal walls within the Visitor centre, which combined with the building's floor slab will provide thermal mass to assist with regulation of peak, and rate of change, of internal temperatures and humidity levels.

The Visitor Centre design adopts an energy efficient geothermal mechanical system for a base level of air conditioning appropriate for occupant comfort, and also provides essential thermal and humidity controls necessary for storage and display of sensitive artefacts within the building's exhibition space. Eaves overhangs provide passive shading of both internal and external spaces, and operable glazing is positioned to enable cross ventilation of circulation and office spaces. These measures collectively improve thermal comfort and energy performance.

The Visitor Centre design provides for the capture and storage of rainwater, to be used for toilet flushing and irrigation. Overflow from the water storage system will be directed to restore flows within the daylighted Freshwater Stream.

See Section 9 for further details.

6.2.7 Construction timetable and staging and hours of operation

Works will be delivered progressively in stages.

The purpose of staging construction of the Proposal is twofold:

- Staggering of the Commemoration Flat work is intended to ensure some portions of KBBNP remain available for visitor use during the works, noting Beach Park is currently closed to visitors due to the Transport for NSW wharf project. While the Cricket Pitch and Visitor Centre areas are under construction, the Commemoration Flat carpark, amenity block and picnic areas are intended to be available for visitors to access and use. Once the Cricket Pitch area is completed and available for visitor use,

then works can move into Commemoration Flat areas. Potentially the works to the Visitor Centre will be of the longest duration and will continue throughout both of these phases.

- Staging also intended to manage procurement risk. Cost escalation may result in the cost of some elements exceeding the construction budget, however once the costing from the main construction tender indicates there are sufficient funds to complete all proposed works, then it is expected works will progress to tender and construction of some of all items as soon as possible.

Construction would occur during standard construction hours in accordance with the Interim Construction Noise Guideline. These are:

- 7am to 6pm on Monday to Friday
- 8am to 3pm Saturday
- No work on Sundays or public holidays.

The Proposal seeks to improve visitor experience of KBBNP however if work becomes protracted during construction visitor experience of the KBBNP may be adversely impacted. By extending Saturday construction working hours to 3pm the proposal aims to reduce the overall duration of the works and thereby reduce the impact of the construction phase of the Proposal on park users and the visitor experience.

7. Reasons for the activity and consideration of alternatives

7.1 Objectives and reasons for the Proposal

The Proposal seeks to shape KBBNP further into ‘a place of significance to all Australians that contributes to their sense of identity’ as described in the 2019 Master Plan. The Proposal’s implementation of new visitor infrastructure and facilities in the Kurnell Precinct will support an increase in visitor capacity, including through provision of accessible pathways and facilities, providing facilities to support new community education and interpretation programs and supporting new ways to learn about and enjoy this historically important place and its enduring scenic landscapes. It also will enhance recognition of Aboriginal communities and the Gweagal people, helping to ensure that Aboriginal perspectives and history are heard.

7.2 Consideration of alternatives

The following alternatives were considered:

- Do nothing
- Construction of new infrastructure in a different location to shown in the Proposal
- Removal of existing infrastructure without replacement
- Renovate existing infrastructure

These alternatives were discounted for the following reasons.

7.2.1 Do nothing

Local residents expressed a lack of satisfaction with the current Visitor Centre during community consultation, raising concerns over aging infrastructure (Section 4.3.2). The current Visitor Centre does not provide the level of space needed to support enhanced education programs that enable the full visitor experience and engagement with KBBNP’s rich history. The exhibition space is not fit for purpose or meet the relevant standards to exhibit significant artefacts and items. Existing car parking facilities are undersized to meet visitation demands and some carparking areas are in poor condition and in need of reconstruction to ensure they remain suitable for ongoing use.

Other existing infrastructure within KBBNP is in need of renewal or upgrade. The existing amenity buildings at Commemoration Flat and the Cricket Pitch are in poor condition and affected by substantial corrosion to the coreten wall panels, necessitating renewal (demolition and reconstruction).

There is currently no disabled access between the Visitor Centre and the existing foreshore path, nor is there access to the Kamay sculptures for less able-bodied visitors. Existing wheelchair accessible car spaces throughout the Proposal area do not comply with current DDA requirements.

Existing major services into KBBNP are variously in deteriorated condition or undersized to meet the loads placed upon them, necessitating major service upgrades to fire mains, high voltage

electrical mains and sewer rising mains to bring these systems into compliance with current performance standards.

Because of the abovementioned reasons, the do nothing alternative was discounted as a feasible option.

7.2.2 Construction of new infrastructure in a different location to shown in the Proposal

The Proposal aims to support and enhance the significance of the Meeting Place precinct within KBBNP, and foster an appreciation of, and engagement with, the rich history of the site. As such it is inherent to the purpose of the works that the new Visitor Centre and associated visitor infrastructure be located within this precinct within the national park.

The works are also guided by the 2019 Master Plan and the community consultation that occurred during the formulation of the Master Plan, which was strongly supportive of the works occurring within this precinct and established general locations for each of the key elements that comprise the works.

Various locations within the Meeting Place precinct for the new Visitor Centre, the Collection Garden, pathways and the other infrastructure were considered, including positioning the Visitor Centre building closer to the foreshore or within Commemoration Flat.

Each alternate location created impacts or lacked the attributes necessary for the infrastructure to be positioned in that location, due to factors such as:

- exposure of the Visitor Centre building to a high Bushfire Attack Level (BAL) rating, with resulting constraints on the design and materiality of the building inconsistent with its purpose and precluding it integrating sympathetically with the site;
- constraints associated with Threatened Ecological Communities within the precinct, with minimisation of impacts upon these limiting the footprint available for construction of the Proposal infrastructure;
- terrain gradients limiting the positions in which paths, boardwalks and the Visitor Centre building could be constructed without extensive excavation inconsistent with the sensitive archaeology of the site;
- increased impacts on heritage values resulting from infrastructure positioned at alternate locations;
- the location of existing infrastructure such as carparks, roads and major services and the impacts and feasibility of providing safe and convenient pedestrian and vehicular connections between these existing elements and the new infrastructure to be constructed.

As such the infrastructure as positioned in the Proposal was assessed to be preferable to any alternate locations.

7.2.3 Removal of existing infrastructure without replacement

Existing visitor infrastructure at KBBNP fulfils an important role supporting the high levels of visitation experienced at this national park, and enables park users to visit and experience the nationally significant site.

Facilities such as the existing visitor centre provides essential space for education programs, areas for interpretation and display of artefacts, office space for NPWS park management activities, amenities for public and staff use, and space for car parking.

Visitation levels at KBBNP are expected to increase in future due to the provision of other new facilities within the park such as the new Kamay Ferry Wharf, the recently upgraded Cape Solander Whale Watching Platform, and improvements made to the Cape Baily Walking Track as part of the Great Southern Walk. Removal of the existing facilities without replacement would remove infrastructure essential to support this increasing visitation, with resulting risks to visitor safety and potential adverse impacts on environmentally sensitive portions of KBBNP.

The removal of the existing infrastructure would also remove the current interpretive signage, with adverse impacts upon visitor understanding of the heritage, social and environmental significance of the site.

The removal of existing infrastructure without replacement is not considered to be tenable approach.

7.2.4 Renovate existing infrastructure

The current Visitor Centre is an aging building, with the original northern portion constructed in 1967 and a significant southern extension added in the 1990's. The building is of inadequate size to accommodate the functions required of the new Visitor Centre, and in particular does not provide the level of space needed to support community use, enhanced education programs, the proposed café, and new exhibition spaces. The extensions made to the building in the 1990's have resulted in the building having a cellular layout within two connected modules which are poorly suited to expansion to increase the capacity of the building.

The existing Visitor Centre is a low single storey building constructed with a steel portal frame, clad with a light steel sheet roof and brick external walls. This form of construction offers limited fire protection, provides insufficient space for installation of critical new services, and precludes the provision of environmental controls necessary for an exhibition space suitable for the storage and display of significant artefacts and items. Extensive demolition and reconstruction of the existing building fabric would be necessary to resolve these limitations of the existing building.

Renovation of other existing infrastructure within KBBNP is unviable. The existing amenity buildings at Commemoration Flat and the Cricket Pitch are affected by substantial corrosion to structural framing and the coreten wall cladding, necessitating full replacement of these key elements of the buildings through demolition and reconstruction.

Existing major services into KBBNP are variously in deteriorated condition, noncompliant with current building standards, or undersized to meet the loads placed upon them. The necessary upgrades to fire mains, high voltage electrical mains and sewer rising mains are only possible through complete replacement of this infrastructure.

Because of the abovementioned reasons, the retention and renovation of existing infrastructure was discounted as a feasible option.

7.3 Justification for preferred option

The preferred option is to implement the original Master Plan (Figure 1) with certain elements staged in order to meet budget and operational requirements.

7.4 Site suitability

Table 5: Summary of site suitability for Proposal

Site character	The Proposal provides replacement or upgrades to existing infrastructure in addition to the installation of new structures that increase visitor access and engagement with the Kamay Botany Bay National Park. Selection of the preferred locations for these works was guided by the 2019 Master Plan and the consultation that informed development of the Master Plan, with additional consideration and avoidance of sensitive flora and fauna, cultural heritage items, and bushfire exposure levels. As these constraints were assessed for impact and mitigation measures recommended where necessary, it can be deemed the site is suitable for the Proposal.
Landscape context	The site contains a cultural landscape that records the existence of Aboriginal people as well as historical heritage. The environmental landscape provides an opportunity to learn about and appreciate the diverse natural flora and fauna of the area. The implementation of a new Visitor Centre, cricket pitch precinct and park KBBNP and its natural surrounds and enhance recognition of Indigenous and cultural heritage.
Application of site suitability matrix	N/A
Strategic site assessment (if required by the matrix)	N/A

8. Description of the existing environment

8.1 Natural values

8.1.1 Geology, geomorphology and topography

The Proposal site occurs on a gentle slope that varies from approximately 2m above sea level (asl) to 20m asl.

The geology in the La Perouse and Kurnell project areas comprises Hawkesbury Sandstone with some quaternary and marine sediments along the foreshore. Hawkesbury Sandstone is a sandstone rock comprising fine to coarse sand with quartz, shale and laminite lenses. At the terrestrial surface weathering to Hawkesbury Sandstone likely results in residual soils and along the foreshore sandy beach deposits can be expected. In the marine environment, the Sandstone is overlain by sandy/silty marine sediments with shell fragments.

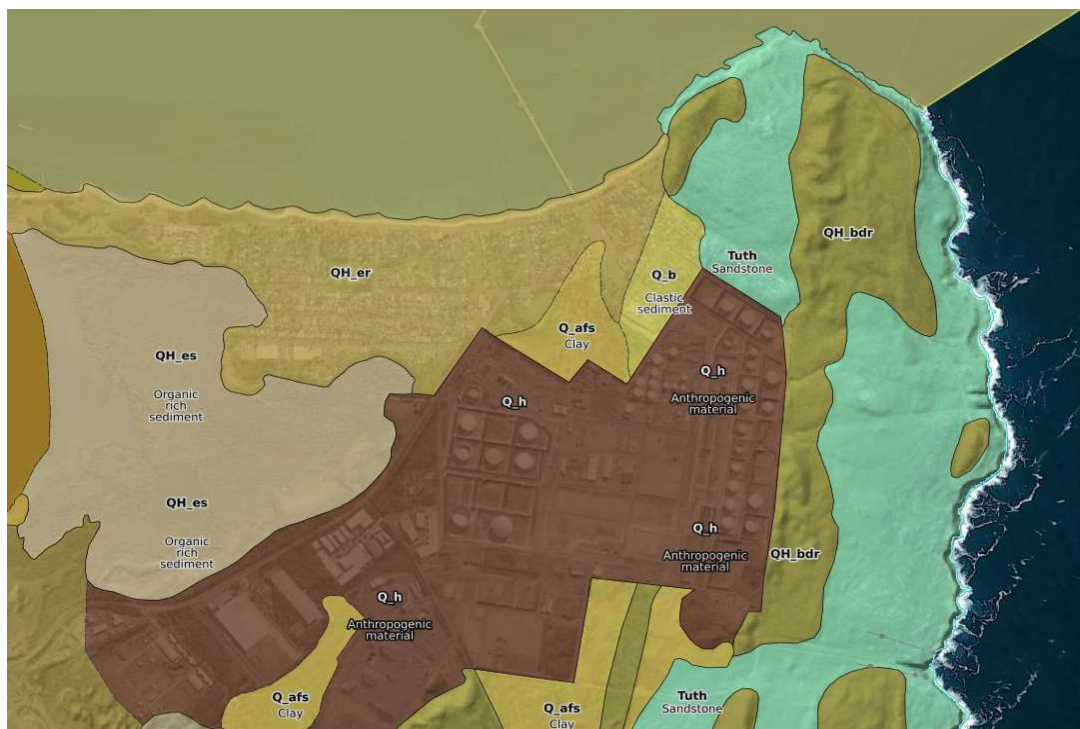


Figure 5: Surface geology of Kurnell (SEED Map, extracted 10 November 2023)

8.1.2 Soil types and properties (including contamination)

Soils

The soils at Kurnell are prone to erosion, which may be increased during construction. This can lead to sediment runoff and the generation of wind-blown dust. Test pits carried out for the Kamay Ferry Wharves investigations in November 2020 encountered bedrock between 0.8 and 1.3 metres at La Perouse and 0.8 to 1.1 metres at Kurnell.

Sutherland Shire LEP 2015 Acid Sulphate Soils (ASS) mapping shows the Proposal area to be within Class 5 meaning ASS is unlikely to be within the Proposal area. Works that lower the water table below 1m Australian Height Datum (AHD) would require detailed assessment,

however this is not anticipated as the Proposal would/would not involve excavation and groundwater dewatering.

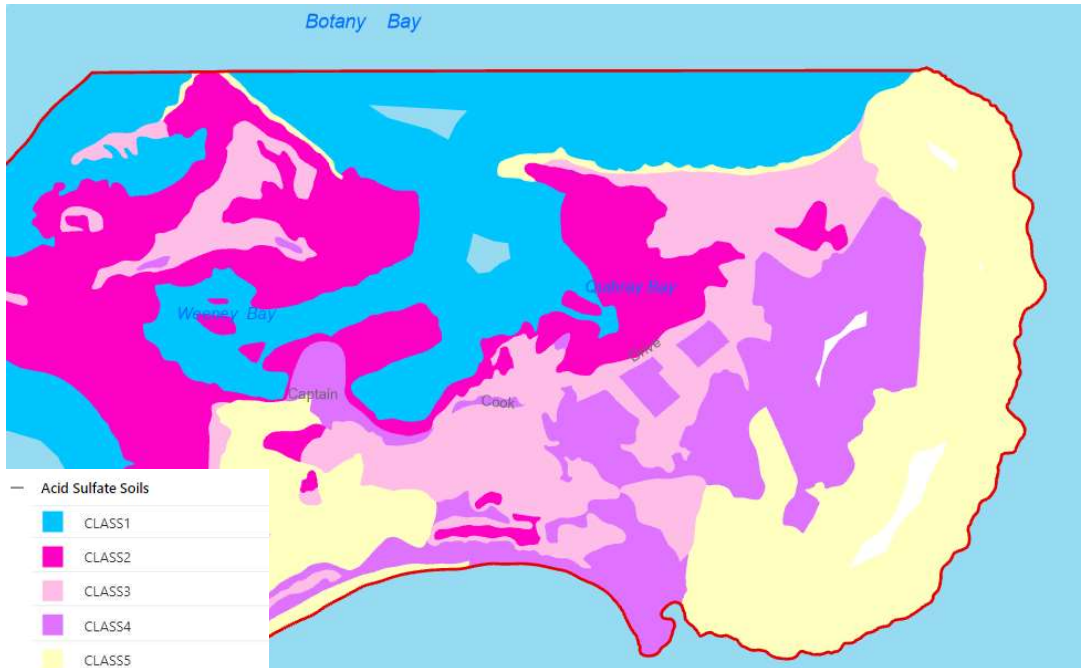


Figure 6: Acid sulphate soils classification (Sutherland Shire Maps, extracted on 9-Nov-2023)

Contamination

The NSW EPA contaminated land database identifies sites that have been notified under section 60 of the *Contaminated Land Management Act 1997* (NSW) ('CLM Act') and showed two records within the Kurnell area. These included a site occupied by Abbott Australasia, 2.5 km south-west of the Proposal, a site occupied by the Caltex Kurnell Terminal, 1.6 km south of the Proposal and a Former Caltex Kurnell Service Station 0.9km southwest of the Proposal.

Current and historical land uses and industries in the above areas have resulted in the contamination of soils and groundwater.

The NSW EPA search identified that regulation under the CLM Act for the Kurnell Caltex Service Station on the Corner of Captain Cook Drive and Solander Street is not required. The search also identified the Former Caltex Kurnell Service Station and showed that known contamination is currently regulated by a licence under the *Protection of the Environment Operations Act 1997* (NSW).

Due to the distance from the Proposal, the inferred groundwater movement direction and minimal excavation works, contaminated soils and groundwater from surrounding EPA notified sites would not be encountered.

There are no contaminated land records within or directly next to the proposal area.

As excavation would be minor and shallow, potentially contaminated groundwater, soils or ASS would not be encountered or handled by construction workers, maintenance workers or the general public during construction and operation.

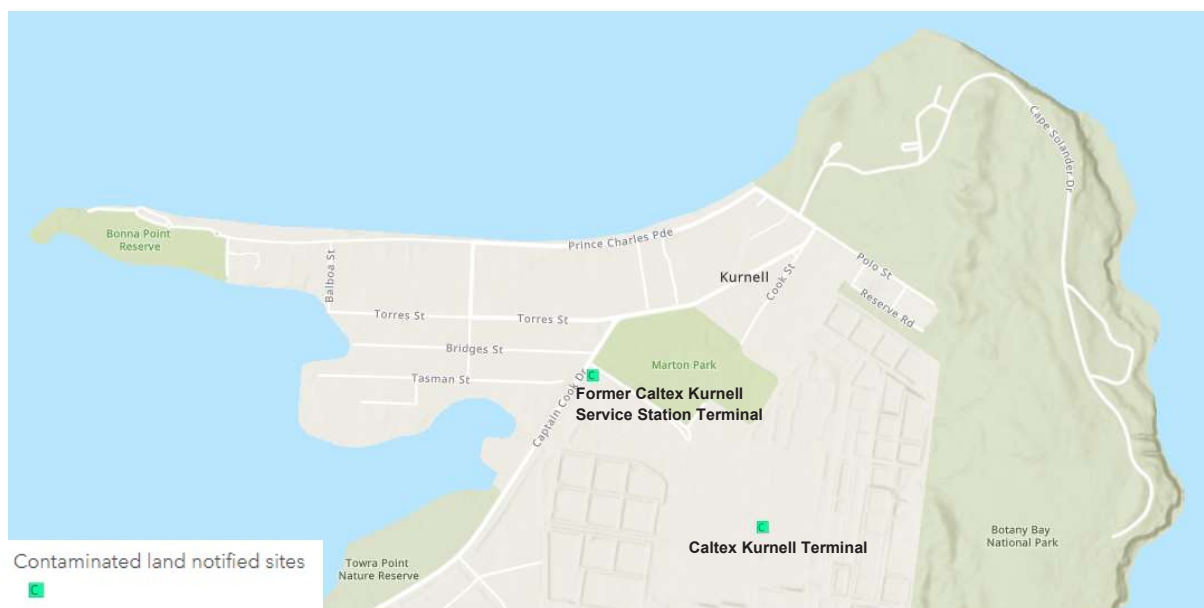


Figure 7: Contaminated land at Kurnell (NSW EPA, extracted 10-Nov-2023)

8.1.3 Watercourses, waterbodies and wetlands (including their catchment values)

Three watercourses have been mapped within or in close proximity to the Proposal (Figure 2). The watercourse mapped in the southwest of the Proposal has been historically piped and is associated with the Freshwater Stream. A new pedestrian and service vehicle bridge is proposed over the creek and with additional landscaping works to restore its flow. The centremost watercourse was not identifiable during the site assessment and may no longer be present.

The Proposal is bounded by the waters of Botany Bay, with approximately 10-15m distance between the Proposal and the mean high-water mark.

Five registered groundwater bores exist within 500m of the Proposal area. Two are registered for domestic use, two for monitoring purposes and one is unknown. Groundwater in the Proposal area has the potential to be saline due to the influence of seawater and is presumed to flow towards Botany Bay.

Flooding

At Kurnell, the low elevation means the area has potential to be affected by tidal flooding. Sutherland Shire Council completed a flood study for Kurnell in 2009 (WMAwater, 2009). This identified that the Kurnell suburb would be at risk of flooding from rainfall runoff and tidal inundation. The results presented in the flood study show shallow flooding up to a depth of 250 millimetres at Captain Cook Drive (next to the construction boundary) in the 20 per cent Average Exceedance Probability (AEP) event.

Flood depths are shown to exceed 250 millimetres and 500 millimetres along the eastern kerb line of Captain Cook Drive in the 5% Annual Exceedance Probability (AEP) and 1% AEP flood events respectively. The flood study did not extend beyond Captain Cook Drive into the KBBNP. As there are no natural depressions within the remainder of the construction footprint, it is expected that stormwater runoff would be in the form of shallow sheet flow and would permeate through grassed areas.

Drainage

The stormwater drainage at Kurnell also consists of kerb inlet pits along Captain Cook Drive, which are likely to discharge directly to Silver Beach. There is no subsurface drainage infrastructure along Monument Track, so rainfall along this footpath would run off onto nearby grassed areas.

8.1.4 Coasts and estuaries

Botany Bay has a catchment of approximately 55 square kilometres and is relatively shallow with most of Botany Bay being less than five metres deep. The navigation channel is an exception. It runs between Port Botany, the Kurnell Port and Berthing Facility Terminal, and the harbour entrance. Botany Bay is fed by Georges River from the west and Cooks River from the north, and a tidal flow in and out of the heads. The nearshore environment is a coastal use area and is tidally affected.

With respect to environmentally sensitive lands, there are no marine parks or aquatic reserves (as defined under the *Marine Estate Management Act 2014* (NSW)) within the construction boundaries. Towra Point Aquatic Reserve and Towra Point Nature Reserve (a wetland that is protected under the National Parks and Wildlife Act 1974) are located within 1.5 kilometres of the construction boundary.

Waves

Waves at the site of the Kurnell ferry wharf, adjacent to the Proposal, come from the north/north-east around 90 percent of the time. They are typically less than 0.5m in height. They only increase to over one metre during a storm (Transport for NSW, 2021). The waves next to the Proposal would be similar.

Storms

Present-day extreme water levels are based on statistical analyses of measured historical records. These water levels reflect the tide levels (see previous section) and the effects of storm surges and freshwater inflows, which have a minimal effect in this location. The Cooks River does not appear to have a continuous flow or supply high flows into Botany Bay and is understood to have minimal influence on the surrounding water levels. An increase in the predicted ocean water levels is likely to occur during a severe storm however even during extreme events waves are not predicted to be any higher than one metre during a 1-in-200 year storm (Transport for NSW, 2021)

Sediment transport

There has been little sediment movement in the area over the past seven years (Transport for NSW 2021) and the shoreline has generally been stable. There is some potential for coastal erosion during storms, or extreme currents, waves, and tidal conditions. However, recent accretion (build-up of sediments) demonstrates the potential for the shoreline to recover from storm erosion.

8.1.5 Biodiversity

Overview of terrestrial and aquatic biodiversity

The field survey undertaken as part of the Flora and Fauna Assessment Report (Appendix E) identified that the proposed activity occurs mainly on areas of cleared, exotic grassland. However, sections do impact other vegetation communities including:

- Planted Vegetation,
- Coastal Sand Littoral Forest,

- Coastal Sand Swamp Mahogany Forest,
- Coastal Sand Apple-Bloodwood Forest and
- Coastal Sandstone Foreshore Forest (Figure 8).

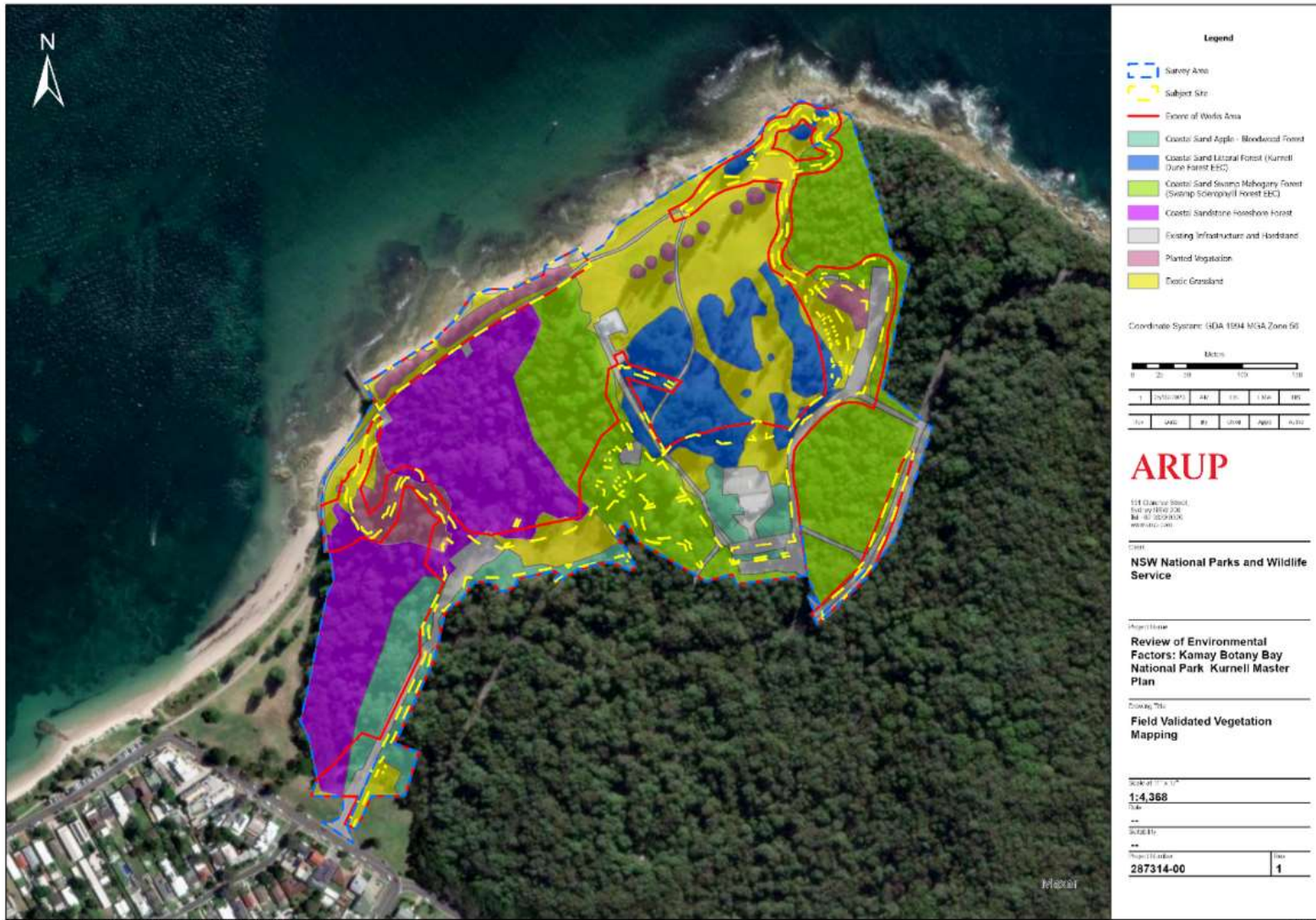


Figure 8: Existing vegetation types in the study area from field surveys

Areas of outstanding biodiversity value or critical habitat

The Proposal is situated partially within two threatened ecological communities (TEC) that are identified as areas of outstanding biodiversity value under the BC Act including:

- Kurnell Dune Forest in the Sutherland Shire and the City of Rockdale (KDF)
- Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (SSF)
- The overall vegetation impacts are summarised in Table 6 and detailed in Appendix E.

Table 6: Approximate areas of vegetation impacted by the proposed activity.

Vegetation Community	Approximate Area Cleared/Modified	BC Act Listed	Associated TEC
Planted Vegetation	0.35ha	-	-
Coastal Sand Littoral Forest	0.21ha	Endangered	Kurnell Dune Forest in the Sutherland Shire and the City of Rockdale
Coastal Sand Mahogany Forest	0.39	Endangered	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions
Coastal Sand Apple-Bloodwood Forest	0.49ha	-	-
Coastal Sandstone Foreshore Forest	0.08m2	-	-
Exotic Grassland	1.19	-	-
Total Vegetation Impacted	2.71ha	-	-
Total EEC Impacted	0.60ha	-	-

The Flora and Fauna Assessment Report (Appendix E) addresses any potential impacts caused by the Proposal to these communities. Through the Tests of Significance undertaken as part of the Flora and Fauna Assessment, it was found that no declared areas of outstanding biodiversity value are likely to be significantly impacted by the Proposal. Additionally, an Assessment of Significance under the EPBC Act for SSF found that the Proposal will not cause any significant impacts to this community.

0.39Ha of SSF is proposed for removal with all impacts restricted to the fringes of this community. The proposed clearing of 0.39ha of this EEC accounts for only 2.56% of the local occurrence and is unlikely to become fragmented or isolated from other areas of habitat as a result of the Proposal. Hence the community will remain intact in areas surrounding the Proposal. Additionally, it is not expected that the proposed activity will modify or destroy abiotic factors (such as water, nutrients or soil) that is necessary for the survival of SSF especially given the small impact area of the proposed development. Furthermore, part of the works involve creek

rehabilitation works which will help improve the flow of water in this area, improving the overall health of the community outside of the Proposal. It is not expected that the removal of 0.39ha will interfere with the recovery of this ecological community given the implementation of the impact mitigation measures as outlined in this report. Photos of validated field vegetation mapping for Coastal Sand Mahogany Forest are shown in Table 4 of the flora and fauna assessment in Appendix E.

The proposed activity will involve the clearing/modification of approximately 0.21ha of low quality KDF. This area accounts for 0.96% of the locally occurring KDF. The vegetation that has been identified for removal from the EEC has been heavily modified with no shrub or ground layers present. Extensive areas of KDF will remain unimpacted across the greater landscape with connectivity continuing to exist as it currently does. Hence the removal of KDF for the Proposal will not become fragmented or isolated from other areas of KDF as a result of the proposed activity. Photos of validated field vegetation mapping for Coastal Sand Mahogany Forest are shown in Table 3 of the flora and fauna assessment in Appendix E.

The Proposal has been designed using the principles of avoiding and minimising impacts, and enhancing threatened communities. As part of these measures, the Flora and Fauna Assessment Report identifies ways to manage key threatening processes that apply or will be increased as a result of the Proposal, including commissioning the services of a qualified and experienced Ecologist prior to construction to undertake an extensive pre-clearing survey to:

- Delineate habitat-bearing trees and shrubs to be retained/removed; and
- Supervise the clearance of trees and shrubs (native and exotic).

Any trees to be removed are to be replaced by locally indigenous native tree species representative of either the KDF or SSF EECs.

Additionally, a Tree Protection Zone (TPZ) is the principal means of protecting trees on construction sites. It is an area isolated from construction disturbance so that the tree remains viable. The Flora and Fauna Assessment Report recommends that activity be avoided within the TPZ.

Further protection measures include the installation of exclusion fencing or flagging around vegetation prior to works commencing to avoid any incidental removal or impacts.

For a complete list of impact mitigation and minimisation measures, see Section 9.2 of this REF and Appendix E.

No threatened flora species identified within the Proposal area were identified as requiring further impact assessment in the Flora and Fauna Biodiversity Report. For a complete list of threatened flora found within the Proposal area and their likelihood of occurrence see Appendix E.

Threatened species and populations

The BC Act vulnerable White-bellied Sea Eagle was observed nesting 23m above ground level in a tree approximately 100m from the closest point of the proposed activity (Figure 9), though the nesting was unsuccessful and did not result in any fledglings. A 5-part Test of Significance concluded that the Proposal is unlikely to have an adverse effect on the life cycle of this species such that a local population is placed at risk of extinction. Impacts are expected to be minimal as the proposed works are not expected to result in an increase in noise greater than what these individuals will be experienced to in their current location (Stephen Debus 2022). No works will be conducted in the vicinity of the nesting trees. The proposed works may temporarily impact foraging habitat for this species. However, as this species is highly mobile, with foraging areas outside the Proposal area. Minor loss of select vegetation from within the Proposal is not considered likely to significantly affect the species. Habitat connectivity will continue to occur in the adjoining section of the Kamay Botany Bay National Park.

Targeted surveys were undertaken for Green and Golden Bell Frogs (endangered under the BC Act and vulnerable under the EPBC Act) and the Wallum Froglet (vulnerable under the BC Act). The Flora and Fauna Assessment identified no individuals within areas considered to be potential habitat. A Test of Significance under the BC Act was prepared for both species and concluded that no significant impacts were likely to occur to GGBF or Wallum Froglet as a result of the Proposal (Appendix E). An additional Assessment of Significance under the EPBC Act was completed for the Green and Golden Bell Frogs, which concluded that the impacts from the Proposal will not be significant, and the work will not be a controlled action and therefore no Commonwealth referral is required (Appendix E). This is because works would be unlikely to fragment or isolate their habitats, water bodies would remain connected and there is potential for increasing their habitat through the revitalisation at Freshwater Stream.

Operational impacts would be limited to routine maintenance works which may include removal of weeds. This would provide a positive impact on amphibian biodiversity within the Proposal area through the maintenance and provision of potential habitat.

No threatened fauna species identified within the Proposal area were identified as requiring further impact assessment in the Flora and Fauna Assessment. For a complete list of threatened flora found within the Proposal area and their likelihood of occurrence, and suggested impact mitigation and minimisation measures, see Section 9.2 of this REF and the Flora and Fauna Assessment Report.



Figure 9: Location of White-bellied sea eagle nest and nearby habitat features

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8.2 Cultural values

8.2.1 Aboriginal cultural heritage

The Proposal is located on Eora country of the Dharawal language group and the Gweagal people and is a highly significant area in the Aboriginal landscape and history. Many individuals and families have historical or cultural connections to the area which remain of high importance to them. In 2019 NPWS engaged ORALRA to undertake an Aboriginal Owners Research Project in the Kamay Botany Bay area, to enable the listing of Aboriginal Owners for the area including Kamay Botany Bay National Park. In September 2023 ORALRA issued the interim report *Interim Report (Draft): Aboriginal Owners Kamay Botany Bay and Towra Nature Reserve* and opened the Register of Aboriginal Owners for Kamay, and is receiving applications for inclusion upon the Register.

The rivers, bay, marine and terrestrial wildlife and vegetation are significant to the Aboriginal people of Botany Bay (Kamay). Vegetation was used for many things including canoes, shields and weapons, nets, twine, rope, medicine, and dwellings. The marine environment was also culturally significant in terms of mythologies surrounding the Bay, ocean, and river. Features that show Aboriginal connection to the Kamay area for thousands of years include grinding grooves, rock shelters, shell middens (an accumulation of shells produced by Aboriginal people which show evidence of cooking and eating practices), campsites, and burials. Art such as engravings and paintings within shelters and expansive sandstone plateaus are also extensive within the Kamay area.

The Proposal area contains a range of Aboriginal archaeological remains of high significance which have been uncovered and recorded over the last 170 years. These have mostly been uncovered as a result of extensive archaeological investigations of the Foreshore Midden in 1968-1970 and across the study area since 2004 but have also come to light through historical land use within the Proposal area. They include burials, a midden, stone artefacts and a rock

Aboriginal Heritage Management System (AHIMS) Results

Archaeological investigations have been undertaken within the study area for more than a century, leading to the recording of a number of Aboriginal sites and Aboriginal human remains (burials). In addition, further Aboriginal human remains and artefacts have been uncovered in the course of agricultural and other activities for over 150 years. A rock engraving site AHIMS #52-3-0221 is the only documented engraving site within the Proposal area, however no proposed works are proximate to this site.

AHIMS contains several recordings that are located in close proximity to the Proposal area, including potential archaeological deposits and several sites occurring within 8km of the Proposal.

Conclusions from Previous investigations

The Aboriginal and Cultural Heritage Assessment Report concluded that it would be unlikely that the in-situ shell midden is located more than approximately 70m from the current shoreline. Some midden shell in a disturbed context was found behind Alpha House during monitoring works in 2020. While this may represent midden in a more elevated position, no in situ midden has been found in this location despite monitoring of a number of trenches over the past 15 years.

Individual burials could be located more than around 70m from the current shoreline (7). These will most likely be from before the arrival of Europeans, but there is at least one burial (that of senior man Cundlemong around the rear of Alpha House in the 1840s), which is documented from the nineteenth century.

Stone artefacts have been found in small quantities. Often, they are in disturbed contexts, but several have been found in apparently natural sand horizons, though still in small quantities and low. It could be expected that more stone artefacts in low densities and/or disturbed contexts may be found elsewhere across the study area.

Significance assessment

In addition to these archaeological elements within the Proposal area, the entire Master Plan area has long been acknowledged as a place of local, state and national significance for both Aboriginal cultural and historical values and its broader historical significance. This is reflected in Aboriginal site recordings and listings, and the inclusion of Aboriginal cultural and heritage values in both State Heritage Register and National Heritage List registrations of the Kurnell section of Kamay Botany Bay National Park. It is highly significant to local Aboriginal people around Kamay, demonstrating their continuing connections to Country.

The Aboriginal Cultural Heritage Assessment Report concluded that while highly significant and in situ Aboriginal cultural heritage is largely restricted to within 70m of the foreshore, low density scatters or isolated finds of shell and stone artefacts could be present in disturbed contexts across the Proposal area (Appendix B).

The Aboriginal Cultural Heritage Assessment Report was updated after test excavations were undertaken in May and June 2023 and concluded that, with appropriate management, all elements of the proposed works can avoid impacts to in situ Aboriginal archaeological remains, with the exception of one area which may require archaeological salvage excavation to manage any artefacts encountered during the works.

The Proposal works will be undertaken in the following phases, with methods based on a very similar approach successfully used in relation to previous works within the same area in 2008 – 2010.

AHIP 1: Aboriginal archaeological test excavation

As noted above, the AHIP for test excavations has been issued under s 90 of the National Parks and Wildlife Act 1974 (NSW), and the test excavations subsequently completed in May and June 2023.

AHIP 2: Construction phase

The results of the test excavation have been used to provide an updated ACHAR which has been distributed to the local RAPs for review and comment, in support of a further AHIP for archaeological monitoring and community collection covering all proposed works. This AHIP will provide for archaeological monitoring and collection of artefacts in disturbed contexts during the proposed works.

A future separate AHIP for the revetment works (elements 108, 109 and 131) may be sought separately and later to other works, as these revetment works will first require development consent from Sutherland Shire Council in addition to internal REF approval.

The quantity and type of Aboriginal archaeological artefacts that may be collected during the works is outlined above, although it is anticipated that few artefacts will be discovered during the works. During consultation to date for this project no Registered Aboriginal Party has expressed a preference for management, however in the past Aboriginal archaeological remains have been reburied within Kamay Botany Bay National Park.

8.2.2 Historic heritage values

The Historic Heritage Information Management System database for Kamay Botany Bay National Park contains 58 items and 'complexes' (collections of items). Of these, 22 items are within the Meeting Place Precinct and 13 individual items and one complex (the monument group) are included on the S170 Register.

Under the *Heritage Act 1977* the NSW Heritage Council, administered by NSW Department of Climate Change, Energy, the Environment and Water, maintains the State Heritage Register (SHR), a register of items and places that are considered to have heritage significance at a state level.

The Proposal area is listed on the Register as part of the KBBNP and Towra Point Nature Reserve. Development in this area would require the consent of the NSW Heritage Council via a Section 60 application. Standard exemptions under Section 57(2) of the Act have been granted allowing minor works such as maintenance and repairs and minor works that will have no impact on the significance of the place.

Heritage NSW also compiles the State Heritage Inventory (SHI), a collated database of all places listed on statutory heritage lists, including Local Environmental Plans. The following elements at the place are listed on the Inventory:

- Cape Solander Drive Captains Cook landing site
- Cape Solander Drive Captains Cook watering well
- Cape Solander Drive Captains Cook monument
- Cape Solander Drive Landing place and wharf abutment
- Cape Solander Drive Banks Memorial
- Cape Solander Drive Kurnell Monuments (in Kamay National Park)
- Cape Solander Drive Alpha Farm site
- Old Princes Highway Forby Sutherland Monument
- Cape Solander Drive Solander Monument
- Cape Solander Drive Captains Cook landing place
- Flagpole.

Other memorials and important heritage sites are the Freshwater Stream, a stacked sandstone seawall which was constructed in the early 1960s, and commemorative Norfolk Island Pines, some of which were planted in 1881 during a visit by British royalty. The listings have no statutory implications for development at the place but reflect the listing of the items in the Sutherland Local Environmental Plan 2015.

A Heritage Impact Statement (Appendix D) was undertaken by John Oultram Heritage & Design to assess the impacts of the Proposal on any historical heritage sites within the Proposal area, and to provide recommendations for mitigation to reduce or prevent impact. A summary of the Heritage Impact Statement is provided below.

The values of the Kamay cultural landscape, the enduring landform, remnant local native vegetation and cultural plantings are complex, layered and interconnected with the many values embodied by the KBBNP. Notably, the Heritage Assessment concluded that no historically significant plantings will be affected by the works.

Studies that have been previously undertaken in the Proposal area, including by Design 5 – Architects Pty Limited (D5HA), list various memorials in the Proposal area and the works carried out to them over time including:

- Cook's Stream
- Inscription Plate
- Cook's Obelisk
- Prince's Tree (later cut down)
- Forby Sutherland's Grave
- Flagstaffs
- Solander Monument
- Cook's Well
- Banks Memorial Seat
- Isaac Smith Monument
- Captain Cook's Buoy
- Anchor.

Since the completion of the D5HA report, other sculptures have been placed in the Proposal area including:

- The Nuwi Canoes and Wi-Yanga and Guring The Whales by Theresa Ardler and Julie Squires.
- the Rock Weave hand made by Aboriginal Master Weaver Phyllis Stewart.
- The Eyes of the Land and Sea an abstraction of the ribs of the HMB Endeavour by Alison Page and Nik Lachaczak.

Overall, the Heritage Assessment suggests that the following areas where substantial disturbance has occurred in the past have a low level of archaeological potential including:

- roads
- car parks
- Discovery Centre and car park
- Cricket Pitch
- Alpha House site
- marquee site
- Cook memorial
- Banks memorial
- The dam
- the foreshore area.

The majority of KBBNP was identified to be of high Aboriginal archaeological potential, and the areas identified in the Heritage Assessment as being of low potential need to be treated with caution. A full explanation with recorded locations of heritage items can be found in Appendix D.

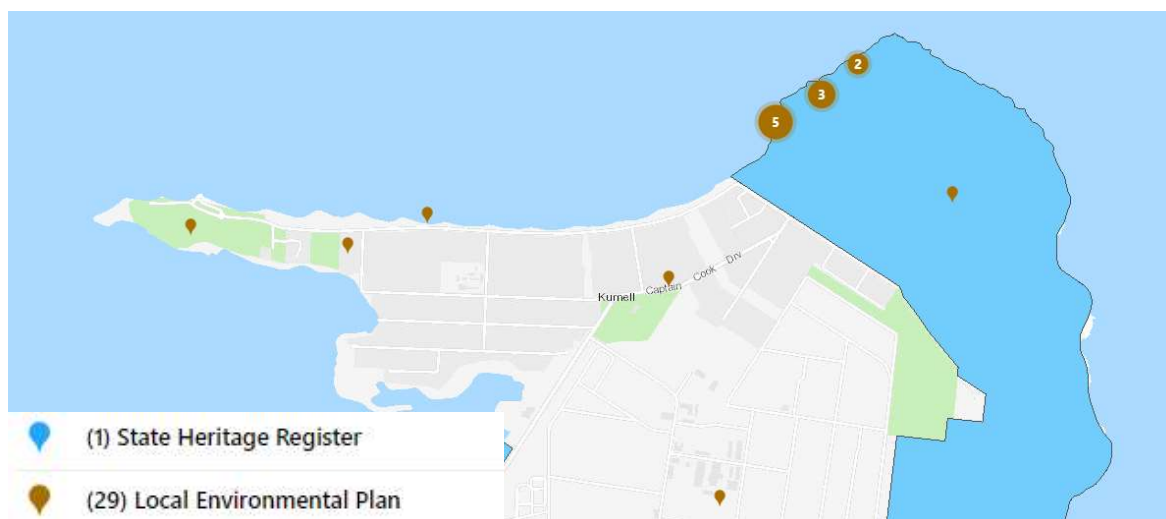


Figure 10: Places listed on statutory heritage lists, including Local Environmental Plans (State Heritage Inventory, extracted 9 November 2023)

8.3 Social values

8.3.1 Traffic and access

Captain Cook Drive is the only road connecting Kurnell and the Kamay Botany Bay National Park to the Sutherland Shire area and wider Sydney area. The road is used by private vehicles, heavy vehicles and cyclists, with a designated cyclist lane / road shoulder in both directions of travel. The National Park is accessible by vehicle, public transport, walking and cycling from several roads and walking trails. The main park entrance is located on Cape Solander Drive which is a sealed road.

The Proposal is accessible by pedestrians from the Monument Track which starts at the intersection of Prince Charles Parade and Captain Cook Drive to the east of the Proposal, extends west to Commemoration Flat and continues south to the Kurnell Visitor Centre. Vehicles entering the National Park from Cape Solander Drive can park in the National Park at the Cape Solander lookout. The Monument Track is a shared pedestrian and cyclist path.

A bus stop (Stop ID: 223134) on Captain Cook Drive provides public transport access to the National Park. The bus stop supports the 987 bus which is a loop service between Cronulla train station and Kurnell. Buses operate roughly between 6am to 9pm, at approximately half hour intervals during peak times and hourly intervals during non-peak times.

Parking

A review of existing parking at Kurnell showed that:

- There are no parking restrictions along Captain Cook Drive. Along Prince Charles Parade there is unrestricted 90 degree car parking. Further south along Prince Charles Parade, on-street parallel parking is restricted between 6am and 6pm on weekends and public holidays. Vehicle access to the Kamay Botany Bay National Park (the National Park) is from 7am to 7.30pm from Cape Solander Drive. Paid parking applies in the National Park.
- The busiest time for car parking is predicted to occur on the weekend, with the highest occupancy recorded at 1pm (91 per cent), which reduced to 78 per cent by 2pm. While this suggests the highest parking demand at Kurnell is over a lunch time on weekends, there is sufficient space to accommodate this demand on all but a few days of peak

visitation each year, such as Christmas Day, Australia Day, and some Sundays during peak whale watching season. On these peak days overflow parking and traffic control measures are currently implemented within the National Park.

Pedestrian footpaths

At Kurnell, footpaths are provided along the northern and southern sections of Prince Charles Parade, along the southern end of Captain Cook Drive between Prince Charles Parade and Polo Street. The footpaths also extend along the northern side of Princes Charles Parade between Polo Street and Torres Street. The northern footpath along Princes Charles Parade connects onto Monument Track in the National Park. Monument Track connects to the Visitor Centre in the National Park, and to other walking trails including Muru Trail, Yena Trail and Cape Bailey Track.

Cycling

Captain Cook Drive in Kurnell forms a popular road cycle route with people cycling through the National Park to the Cape Solander Whale Observation Platform. Sutherland Shire Council recently completed the Silver Beach Promenade which is a 1.5 kilometre shared path that connects from Bonna Point Reserve to the National Park.

8.3.2 Noise and vibration

The following noise and vibration receptors are identified:

- Users of KBBNP when walking, resting or cycling, on the beach, at the jetty or at Commemoration Flat
- Residents in the Kurnell community and businesses along Captain Cook Drive
- Recreational or private boat users, and other types of vessels, when passing by the headland
- Flora and fauna such as frogs and birds.

The noise and vibration environment at the Proposal area is mainly influenced by natural noises (wind, waves, frogs and birds) and some anthropogenic noises (voices, vehicles, planes and lawnmowers).

Additional dust and odours may affect the Proposal area during construction. There would also be a slight increase in general construction vehicle related noise which could negatively impact residents and local business. These impacts are considered to be low because of their temporary nature. Cumulative construction noise impacts associated with the Kamay Ferry Wharves project would also be temporary and minor.

Construction impacts would not impact boats and vessels passing by the Kurnell headland due to the distance of the boats and vessels from the headland as well as the temporary passing nature.

A pair of White-Bellied Sea Eagles are known to nest in a tree 100m away from the closest area comprising the proposed works (

Figure 9). Potential noise impacts were assessed as part of the Flora and Fauna Assessment Report (Appendix E), which concluded there would be no significant impacts to the pair of sea eagles. Other fauna within the Proposal area and the broader area includes frogs and migratory shore birds. No nightworks are proposed and noise and vibration impacts would be temporary in nature. Further mitigation measures are discussed in Section 9.1.

8.3.3 Recreation values

Kurnell is located at the southern headland of the National Park, which is a popular place for walking, swimming and fishing.

Consultation outcomes suggest that amenity and recreation are values that the local community holds in high regard. Kurnell provides views and vistas across Botany Bay and host important heritage sites. In addition, the site provides access to wide variety of recreational activities including, walking and cycling paths, swimming, snorkelling diving, boating and fishing. Protecting local access to open space, views and recreational activities is important to the community so that they can continue to appreciate the amenity of the area and the recreational opportunities it provides. The KBBNP PoM supports the recreational value of the park and sets out objectives to support recreational and visitor use.

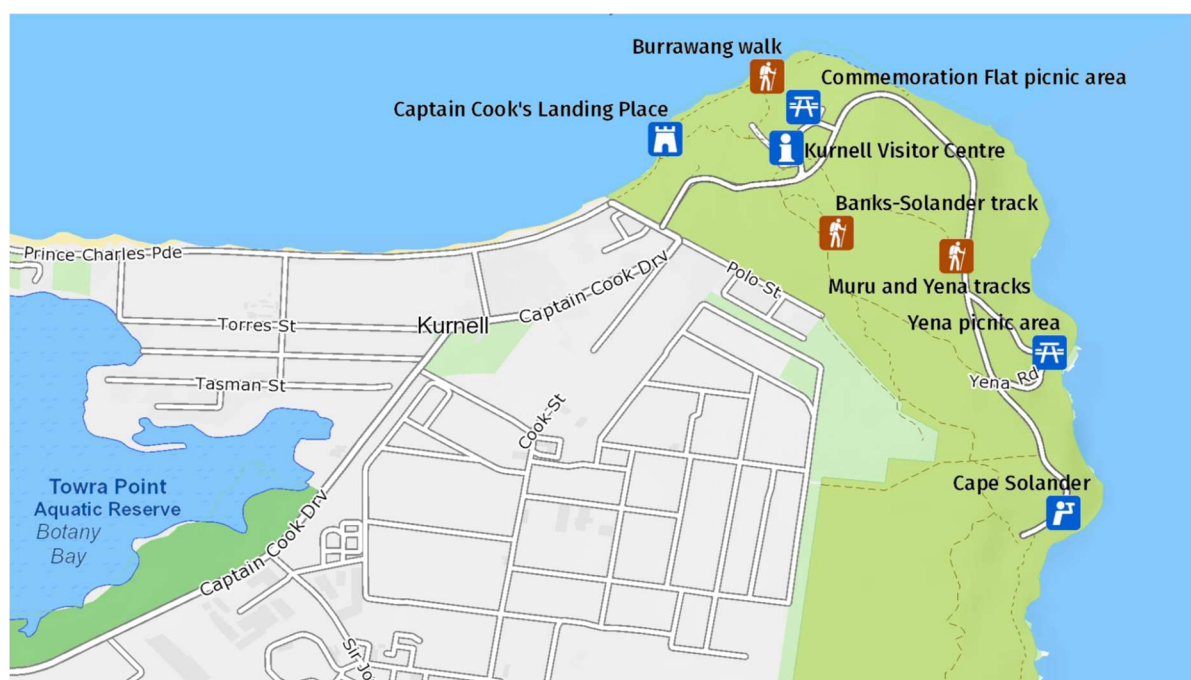


Figure 11: Recreation values of Kurnell (NSW National Parks and Wildlife Services webpage, extracted 9-Nov-2023)

8.3.4 Scenic and visually significant areas

The Kurnell project area maintains a natural setting that dominates, defines and influences the social, amenity and cultural values of Kamay Botany Bay National Park. Kurnell township is very low lying, the highest point being about four metres above sea level. The southern shoreline of Botany Bay consists of low sandstone rock and a narrow sandy beach (Silver Beach) to the south of the project area. There are low retaining walls alongside Monument Track and rock groynes at regular intervals along Silver Beach. The Kurnell side of Kamay Botany Bay National Park is mostly vegetated with cleared patches of grassed areas near the Kurnell Visitor Centre and Captain Cook Drive. Sclerophyll forest dominates the area with small areas of Littoral rainforest. Exotic pine trees line Monument track between the Kurnell viewing platform and the Joseph Banks Monument.

The KBBNP PoM recognises the scenic value of KBBNP and notes 'the enduring scenic landscapes that define the entrance to Botany Bay and are a continuing connection between the place that existed prior to 1770 and today'. Section 6 of the PoM sets out objectives for protecting the scenic values of KBBNP.

While the Kurnell headland is largely a natural landscape, there are numerous built heritage items including the Kurnell ferry wharf site, amenities, Visitor Centre, monuments and sculptures.

The following visual receptors are identified:

- Users of KBBNP would have views of the Proposal when walking or cycling along the Monument Track, on the beach or at the jetty, during operation.
- Recreational or private boat users, and other types of vessels, would have views of the Proposal when passing by the headland, during construction and operation.
- Future ferry users would have views of the Proposal when on the ferry service and at the ferry wharf, during operation.
- Visitors to the La Perouse headland would have distant views of the Proposal, during construction and operation.

8.3.5 Education and scientific values

The Kurnell Visitor Centre located within the National Park is an important education facility for the National Park and Aboriginal culture. Education is delivered through several means including:

- the NPWS Discovery Program, hosting school groups and other activities
- a Department of Education Environmental Education Unit hosting school excursion groups
- commercial tour operators providing school education programs
- informal visitor attendances at the exhibition spaces within the Visitor Centre and viewing of interpretive material throughout KBBNP, including visits by community groups.

These education activities utilise the exhibition and interpretive content within the Visitor Centre, interpretive signs and audio content situated throughout KBBNP broadly, inspections of historical sites such as the Freshwater Stream and Alpha House, and tours of the 2020 sculptures and monuments referencing the arrival of HMB Endeavour, Lt James Cook, Banks and Solander and contact with the Aboriginal community.

Section 6 of KBBNP PoM sets out objectives for looking after cultural heritage including supporting Aboriginal community engagement enabling Aboriginal people to provide educational opportunities and protecting aboriginal cultural sites, objects and significant places. Section 6 also sets out objectives for protecting historic heritage sites, objects and significant places.

Table 3 in the KBBNP PoM supports and allows research activities (scientific and educational and related to conservation or park management purposes) with consent.

8.3.6 Interests of external stakeholders

Targeted consultation has been undertaken with lessees, commercial businesses, the local community and Aboriginal communities to capture their input into the Master Plan design – see Sections 4.3 and 5 and Appendix B for further detailed information.

8.4 Matters of National Environmental Significance

The Flora and Fauna Assessment (Appendix E) identifies Matters of National Significance (MNES) relevant to the Proposal. An EPBC Act Protected Matters Search was undertaken as part of the Flora and Fauna Assessment which found that impacts to Matters of National Environmental Significance as a result of the Proposal are not likely to be significant. Accordingly, a controlled activity referral under the EPBC Act is not required for the Proposal. Table 7 provides a summary of the MNES assessment which is further addressed in Section 9.7.

Table 7: MNES Summary

Matters of National Environment Significance	Results	Comment
World Heritage Properties	N/A	-
National Heritage Places	4	Kamay Botany Bay National Park is located on Kurnell Peninsula listed on the National Heritage list. The Heritage Impact Statement (Appendix D) concludes that the Proposal does not have a significant impact on heritage values and that Commonwealth referral under the EPBC Act is not required.
Wetlands of International Importance	1	The Proposal is not in proximity to the Towra Point Nature Reserve which is a listed Ramsar site. No impacts to this area will result from the proposed master plan.
Great Barrier Reef Marine Park	N/A	-
Commonwealth Marine Areas	1	The proposed works will not impact any Commonwealth Marine Areas
Threatened Ecological Communities	13	One EPBC Threatened Ecological Community was identified within the Proposal area: <ul style="list-style-type: none"> Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland. An Assessment of Significant Impact Criteria has been undertaken for this community (Appendix E)
Threatened Species	100	No EPBC Act listed threatened species were observed within the Proposal area during the site assessment, however potential habitat was present for several species. Threatened species with potential to occur within the Proposal area have been assessed for potential impacts in Appendix E.
Listed Migratory Species	83	The proposed activity will have low impacts to potential foraging habitat and negligible impacts to potential breeding habitat for these species given their migratory nature. These species may forage within the Proposal area but there are large areas of suitable foraging habitat in the surrounding area and in their migratory range, so the proposed removal of vegetation will have

low impacts to foraging habitat. No anticipated net loss of breeding habitat is expected. As such, the proposed activity was not assessed to have a significant impact on these species; therefore, a referral to Commonwealth pursuant to the EPBC Act is not required.

9. Impact assessment

9.1 Physical and chemical impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
1. impact on soil quality or land stability?	<input checked="" type="checkbox"/>	Short-term low adverse Long term positive	<p>The proposed works involve excavation and disturbance of land during construction of the masterplan elements outlined in the proposal. Due to the relatively flat topography of the area, the risk of erosion and sedimentation during construction is considered to be low. However, there is still a risk of:</p> <ul style="list-style-type: none"> • possible soil compaction • soil destabilisation due to clearing of vegetation • soil destabilisation due to soil movement • Due to the distance from the Proposal from surrounding EPA notified sites, the inferred groundwater movement direction and minimal excavation works, contaminated soils and groundwater from surrounding EPA notified sites would not be encountered at the Proposal. • repairs and upgrades to existing concrete pathways will result in ground disturbance and vegetation clearing, however impacts would be localised and the construction footprint would be 	<ul style="list-style-type: none"> • A Construction Environmental Management Plan (CEMP) will include standard practice mitigation measures to manage potential impacts to soil quality and land stability. A Spill Management Plan, Soil and Water Management Plan and ASS management measures in accordance with Managing Urban Stormwater, Soils and Construction (Landcom, Vol 1, 4th ed. March 2004). • Stop work in wet or waterlogged conditions. • The staging of the construction works will minimise the volume of soil disturbed at any one time. • There will be some excavation and removal of weeds within the Freshwater Stream to restore the natural character and landform and enhance the biodiversity value of the stream. • There will be minor disturbance to the grass turf, temporarily exposing bare soil and locally affecting surface stability. However, there will be a positive impact on bank stabilisation in the long-term due to native plantings during the site demobilisation stage.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>limited to the minimum extent required to undertake the Proposal.</p> <ul style="list-style-type: none"> during operation impacts to soil quality or land stability are not expected. the on-going operation of the new visitor facilities will not impact on soil quality of land stability. 	<ul style="list-style-type: none"> Soil compaction in and along creek lines will be minimised by use of small (<3 tonne) earthmoving equipment. Vehicles, equipment, and materials would predominantly be stored in demarcated stockpile areas. Impacted areas will be restored progressively.
<p>Has a landslide or rockfall hazard been identified? If so, attach the risk assessment (using the Health and Safety Risk Matrix) and confirm if professional geotechnical advice has been sought on managing the risk. If the risk is assessed as high or above, a risk treatment plan must also be attached. N/A</p>				
<p>2. affect a waterbody, watercourse, wetland or natural drainage system – either physically or chemically (e.g. due to runoff or pollution)?</p>	<input checked="" type="checkbox"/>	<p>Negligible negative impacts.</p> <p>Long term positive impacts</p>	<p>Additional paved areas could increase the rate of stormwater runoff into surrounding waterways but are not expected to significantly affect local stormwater runoff.</p> <p>The daylighting (naturalisation) of the Freshwater Stream through the removal of piped sections and recreation of the natural stream bed profile is likely to have no adverse impact on local wildlife relying on water sources, and will expand habitat for wildlife in the long term.</p> <p>The on-going operation of the new visitor facilities will not affect a waterbody, watercourse, wetland or natural drainage system – either physically or chemically.</p>	<ul style="list-style-type: none"> All new paved areas will be designed to drain freely. All new footpaths will be designed to drain into grassed areas to promote infiltration and cleansing of pollutants. Stop work in wet or waterlogged conditions. Stockpiled material should be stored away from waterways. Implement standard measures and controls to minimise erosion and manage sediment control risks to prevent pollution of waterways (Managing Urban Stormwater, Soils and Construction (Landcom, Vol 1, 4th ed. March 2004).

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
3. change flood or tidal regimes, or be affected by flooding?	<input checked="" type="checkbox"/>	Minor positive	<p>KBBNP has the potential to be affected by tidal flooding during a large storm surge, however this would be a rare event. The Proposal will not involve the installation of any works that affect tidal regimes and so is not considered to have an effect on these regimes.</p> <p>Works proposed include the construction of new kerb and gutters and stormwater connections to the surrounds of the Visitor Centre, to the Cricket Pitch carpark, and to Cape Solander Drive which are anticipated to improve existing drainage within the KBBNP. Overall impacts to local flood and tidal regimes are negligible and works would not be significantly affected by flooding.</p> <p>The on-going operation of the new visitor facilities are not expected to have any impact on existing local flood and tidal regimes.</p>	<ul style="list-style-type: none"> As above.
4. affect coastal processes and coastal hazards, including those under climate change projections (e.g. sea level rise)?	<input type="checkbox"/>	NA	NA	NA
5. involve the use, storage or transport of hazardous substances, or use or generate	<input checked="" type="checkbox"/>	Negligible	<p>No significant hazardous substances are to be used in the works.</p> <p>The on-going operation of the new visitor facilities will not involve the use, storage or transport of</p>	<p>Should the use of any minor hazardous substances be required during construction:</p> <ul style="list-style-type: none"> The Contractor is to submit an environmental management plan confirming management of any

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
chemicals which may build up residues in the environment?			hazardous substances, or use or generate chemicals which may build up residues in the environment.	hazardous substances to be used in the construction works.
6. involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	<input checked="" type="checkbox"/>	Short-term low adverse Long term low impact.	<p>There will be a temporary increase in waste and associated emissions during construction including construction or excavated material, solid and liquid wastes, and vehicle related waste. However, this impact is considered low as it will be short-term in nature.</p> <p>During operation additional significant impacts associated with the generation or disposal of gaseous liquid or solid wastes are not expected.</p>	<ul style="list-style-type: none"> Waste control measures would be addressed in the CEMP. Implement standard waste management measures that address the waste management hierarchy (avoid and reduce > reuse > recycle > recover > treat > dispose) would be adhered to in accordance with the EPA's Waste Classification Guidelines (2014). Recycling and general waste bins would be provided onsite and clearly marked to allow proper segregation and disposal of general construction site office and personnel generated wastes. Stockpiled materials will be stored on existing hardstand and disturbed ground within the construction footprint.
7. involve the emission of dust, odours, noise, vibration or radiation?	<input checked="" type="checkbox"/>	Short-term low adverse	The noise and vibration environment at the Proposal area is mainly influenced by natural noises (wind, waves, frogs and birds) and some anthropogenic noises (voices, vehicles, planes and lawnmowers). Additional dust and odours may affect the Proposal area during construction. There would also be a slight increase in general construction vehicle related noise which could negatively impact residents and local business.	<ul style="list-style-type: none"> The Proposal will be undertaken in stages to minimise disruption to community and local wildlife. Additionally, there will be a closure of the adjacent portions of KBBNP during the construction phase minimising impacts to users. Most work during the construction phase of the activity will occur at least 250m from the urban area of Kurnell and impacts will be mitigated by this buffer distance.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>These impacts are considered to be of low significance because of their temporary nature. Cumulative construction noise impacts associated with the Kamay Ferry Wharves project would also be temporary and minor.</p> <p>The on-going operation of the new visitor facilities will not create dust, odours, noise, vibration or radiation.</p>	<p>The CEMP would include standard construction noise and vibration management measures in accordance with the Construction Noise Guideline (Draft, 2021). These measures would include:</p> <ul style="list-style-type: none"> • when not in use, vehicles and equipment would be turned off. • construction would occur during the following construction hours: <ul style="list-style-type: none"> ○ 7am to 6pm on Monday to Friday. ○ 8am to 3pm Saturday. ○ No work on Sundays or public holidays. <p>Work outside normal hours is justified to minimise ongoing impacts to visitor experience.</p>

9.2 Biodiversity impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
1. affect any declared area of outstanding biodiversity value or critical habitat or environmental asset of	<input checked="" type="checkbox"/>	Short-term low adverse	The Proposal occurs within two threatened ecological communities identified as areas of outstanding biodiversity value including Kurnell Dune Forest in the Sutherland Shire and the City of Rockdale (KDF) and Swamp Sclerophyll Forest on	<ul style="list-style-type: none"> • The location of the proposed activity has been strategically placed to avoid the removal of trees where possible • Engage a suitably qualified ecologist prior to commencement of the Proposal to undertake an

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
intergenerational significance?			<p>Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (SSF) that are identified as areas of outstanding biodiversity value under the BC Act.</p> <p>The vegetation that has been identified for removal from these communities accounts for only a small proportion of these communities occurring across the greater landscape, which will remain intact. The KDF community in the Proposal area has also been heavily modified with no shrub or ground layers present making it low quality.</p> <p>As such, through the Tests of Significance undertaken as part of the Flora and Fauna Assessment (Appendix E), it was found that no declared areas of outstanding biodiversity value are likely to be significantly impacted by the Proposal. Hence any impacts to these communities are considered to be low and temporary in nature.</p> <p>Works within the Freshwater Stream will restore the currently piped creek to its original free flowing state, which will ultimately improve the state of the vegetation community and local fauna that rely on it.</p> <p>The on-going operation of the new visitor facilities will not have an impact on biodiversity value, critical habitat or environmental assets.</p>	<p>extensive pre-clearing survey, clearly delineate threatened communities and supervise clearance of vegetation.</p> <ul style="list-style-type: none"> • Vegetation removal around the Freshwater Stream to be restricted to hand removal of weeds only. Additional works proposed to restore this piped creek involve unavoidable tree removal however the works will restore the piped creek which will improve the state of the vegetation community and the local fauna that rely on Freshwater Stream. • Implement protection zones in accordance with Australian Standard Protection of trees on development sites (AS 4970-2009) for trees within and adjacent to the Proposal for the duration of construction to avoid damage to critical root zones and/or bark. • Prior to any works commencing, exclusion fencing or flagging is to be installed around all vegetation not proposed for removal by the proposed activity to avoid any incidental removal or impacts. • Any trees proposed to be removed are to be replaced by locally indigenous native tree species representative of either the Kurnell Dune Forest or Swamp Sclerophyll Forest EECs. Trees are to be replaced at a minimum 1:1 ratio. • Toolbox talks for site workers to include information on the threatened species.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<ul style="list-style-type: none"> • Appropriate erosion and sediment control to be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. • Allocate all materials within the designated stockpile locations away from any vegetation that is planned to be retained. Avoid importing any soil from outside the site in order to avoid the potential of incurring indirect impacts on biodiversity values as this can introduce weeds and pathogens to the site.
<p>2. result in the clearing or modification of vegetation, including ecological communities and plant community types of conservation significance?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>The proposed activity will involve the clearing/modification of small areas of exotic grassland and planted vegetation that do not conform to the natural distribution of vegetation in the area, along with small areas of native vegetation communities as abovementioned. Further details are provided within the Flora and Fauna Assessment Report (Appendix E).</p> <p>Clearing and modification of these areas is considered to be minor due to the presence of higher quality vegetation in the greater landscape that can be utilised by local fauna with connectivity continuing as it currently does.</p> <p>The location of the proposed activity has been strategically placed to avoid the removal of trees where possible in addition to large areas of vegetation that may be of high ecological value.</p>	<ul style="list-style-type: none"> • Vegetation removal / disturbance is to only occur within the designated construction footprint. • All vehicle movement restricted to existing tracks and trails.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>Extensive areas of threatened ecological communities will remain unimpacted across the greater landscape and are unlikely to become fragmented or isolated from other areas of habitat as per the Assessments of Significance conducted under the EPBC Act and undertaken as part of the Flora and Fauna Assessment Report (Appendix E).</p> <p>The on-going operation of the new visitor facilities will not have an impact on vegetation, including ecological communities and plant community types of conservation significance.</p>	
<p>3. endanger, displace or disturb terrestrial or aquatic fauna, including fauna of conservation significance, or create a barrier to their movement?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>Three vulnerable species were identified within the Proposal site including the White-bellied Sea Eagle (<i>Haliaeetus leucogaster</i>), the Green and Golden Bell Frogs (<i>Litoria aurea</i>) and the Wallum Froglet (<i>Crinia tinnula</i>). Assessments of Significance under NSW and Commonwealth legislation for these species showed impacts from the Proposal to be unlikely to affect them (not significant) (Appendix E).</p> <p>The Proposal would be unlikely to fragment or isolate their habitats, water bodies would remain connected and there is potential for increasing their habitat through the revitalisation at Freshwater Stream. Operational impacts would be limited to routine maintenance works which may include removal of weeds. This would provide a positive</p>	<ul style="list-style-type: none"> • Engage an Ecologist to complete a pre-clearing survey and supervise the clearance of trees and shrubs (native and exotic) in order to capture, treat and/or relocate any displaced fauna. • Stop work where threatened fauna is unexpectedly encountered. Engage a suitably qualified ecologist to determine management actions and advise when works can re-commence, under what conditions and in which locations. • Identify measures to protect areas of significant habitat value to the Green and Golden Bell Frog and Wallum Froglet from construction activities and vehicle access. • Protect vegetation outside the immediate works area.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>impact on amphibian biodiversity within the Proposal area through the maintenance and provision of potential habitat.</p> <p>An Assessment of Significance under the BC Act undertaken as part of the Flora and Fauna Assessment Report found that potential impacts to birds, including migratory seabirds and shorebirds are likely to be minimal during construction as birds would be able to find unaffected, available habitat in the broader area. Additionally, the Flora and Fauna Assessment Report found that the Proposal would not cause greater disturbance to sea eagles than what they are currently habituated to.</p> <p>Operational impacts would be limited to routine maintenance works. This would result in no loss of native species. It would also not contribute to the ambient noise levels locally, again avoiding any impact on the nearby sea eagle nesting site.</p> <p>The on-going operation of the new visitor facilities will not endanger, displace or disturb terrestrial or aquatic fauna, including fauna of conservation significance, or create a barrier to their movement.</p>	<ul style="list-style-type: none"> • Implement a zero waste policy and safe disposal of all wastes off site in accordance with EPA guidelines. • Stockpiles to be only within the construction footprint. • All hollow-bearing trees (including dead trees) must be retained. In the event a hollow-bearing tree is required to be removed, works shall be stopped, NPWS notified and a qualified ecologist engaged to oversee the removal and to safely relocate any fauna that may be inside. All removed hollows are required to be replaced by nest boxes at a 1:1 ratio within the retained vegetation adjacent the Proposal. • The proposal includes the installation of rainwater retention tanks to hold rainfall from the Visitor Centre roof and allow the water to be redirected down the creek line over a longer time to reduce the impact of increased water volumes from the Visitor Centre roof catchment. • Pipes within which the Freshwater Stream currently flows will be removed, further increasing potential habitat for fauna using waterways within the site. • Noise monitoring is to be conducted during construction undertaken in Sea Eagle nesting season to ensure works do not exceed the levels outlined in Noise Monitoring Report (PWNA 2022). If works are expected to be exceed this noise limit, then monitoring should be conducted by a suitably

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<p>qualified person to ensure such works are not adversely impacting the breeding pair of White Bellied Sea Eagles.</p> <ul style="list-style-type: none"> • Implement site environmental controls that include but are not limited to: • Storage and containment of oil, fuel, or other products in sealed containers away from watercourses. • Keep a functioning spill kit on site for clean up of accidental spills. • Ensure equipment is leak free and repair leaks immediately. • A Construction Environment Management Plan (CEMP) will be prepared by the construction contractor to include these mitigation measures and include procedures around encountering unexpected flora and fauna.
4. result in the removal of protected flora or plants or fungi of conservation significance?	☒	Negligible	<p>The proposed activity is situated predominately on areas of cleared, exotic grassland. No threatened flora was identified at the time of the Flora and Fauna Assessment (Appendix E) in May 2021. Additionally, it was determined that the proposed activity will have no significant impact on species that have potential to occur on site. Therefore, no further assessment of impacts pursuant the BC Act (e.g. Biodiversity Development Assessment Report [BDAR]) and/or EPBC Act (Referral to Commonwealth) will be required.</p> <p>or plants or fungi of conservation significance, as noted above.</p>	<p>Whilst impacts have been assessed to not be significant, clearing would be overseen by a qualified ecologist to avoid and minimise impacts and removal of protected flora.</p>

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>The on-going operation of the new visitor facilities will not result in the removal of protected flora or plants or fungi of conservation significance.</p>	
<p>6. contribute to a key threatening process to biodiversity or ecological integrity?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>The proposed activity will result in the following Key Threatening Processes (KTPs) listed under Schedule 4 of the BC Act:</p> <ul style="list-style-type: none"> • Clearing of native vegetation; and • Removal of dead wood and dead trees. <p>These activities are considered to have minor impacts due to the retention of native vegetation and habitat in the greater landscape and proposed mitigation measures.</p>	<ul style="list-style-type: none"> • Dead timber (including standing or fallen branches) and leaf litter must not be removed from work areas. Move dead timber and leaf litter to the retained vegetation adjacent to the Proposal site to maintain habitat features in the area. • Native, cleared or trimmed vegetation with no attached weed material will be placed nearby. All non-native material must be removed from work sites.
<p>7. introduce weeds, pathogens, pest animals or genetically modified organisms into an area?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>Five (5) Priority Weeds for the Greater Sydney region were identified within the Proposal site as per the Flora and Fauna Assessment (Appendix E):</p> <ul style="list-style-type: none"> • <i>Anredera cordifolia</i> (Madeira Vine); • <i>Asparagus aethiopicus</i> (Ground Asparagus); • <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i> (Bitou Bush); • <i>Lantana camara</i> (Lantana); and • <i>Olea europaea</i> subsp. <i>Cuspidata</i> (African Olive). <p>Impacts from these weeds are considered to be low and restricted to the construction phase as a result</p>	<p>Weed management will be undertaken throughout the proposed activity area, including the removal of Priority weeds.</p> <ul style="list-style-type: none"> • The listed Priority Weeds must be managed in accordance with the Biosecurity Act 2015. Any weeds would be appropriately bagged and disposed of at a licenced waste management facility. • Best practice materials and equipment hygiene methods will be implemented to prevent the introduction of weeds and pathogens. • Ensure any imported construction materials are weed and pathogen free. Wash down procedures against introduction of chytrid, phytophthora and

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>of weed management measures introduced in the Proposal area.</p> <p>The on-going operation of the new visitor facilities will not introduce weeds, pathogens or pests.</p>	<p>weed species to/from site in accordance with Saving Our Species Hygiene Protocols (DPIE 2020).</p>

9.3 Community impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
<p>1. affect community services or infrastructure?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p> <p>High positive ongoing</p>	<p>Parts of KBBNP will be temporarily closed to visitor use during construction, temporarily disrupting use of KBBNP and its facilities.</p> <p>The on-going operation of the new visitor facilities will meet the objectives of the KBBNP PoM which are:</p> <ul style="list-style-type: none"> • Park infrastructure adequately services management and visitor needs and has minimal environmental impact • Existing park infrastructure is maintained or upgraded to meet management and visitor needs. 	<ul style="list-style-type: none"> • Construction will be staged to minimise impacts to the environment and recreational and visitor use. • Temporary site offices including portable toilets, skip bins, and clearly marked recycling and waste bins will be established to maintain visitor experience of KBBNP during construction. • Alerts will be put in place on the NPWS website warning users of KBBNP of any closures or interruption to availability of infrastructure.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
2. affect sites important to the local or broader community for their recreational or other values or access to these sites?	☒	Short-term low adverse High positive ongoing	<p>The Proposal would have negligible operational impacts to vehicular, pedestrian and cyclist traffic along the foreshore. However, visitor access to KBBNP may be temporarily disrupted during construction in other areas.</p> <p>The on-going operation of the new visitor facilities will improve recreational value, improve visitor access and experience of the KBBNP.</p>	<ul style="list-style-type: none"> • Site compound areas would be established in small areas throughout the works zone. These are existing hardstand areas, or cleared and mown areas, and no vegetation removal would be required. Additionally, a Construction Environment Management Plan (CEMP) would be prepared which would provide best practice industry standard traffic, pedestrian safety and access management measures. Mitigation measures to reduce the impact of traffic during the construction phase include but not limited to: • Any heavy vehicles or construction equipment being delivered to the site would avoid peak traffic times. • Parking space would be provided in the site compound area within Beach Park to avoid cumulative impacts of vehicle parking during peak construction stage. • Access for emergency vehicles such as fire trucks would be maintained. Emergency vehicles would enter the construction compound from Cape Solander Drive and would use the access track and Monument Track to access the Proposal area. • Fencing and signage would be in place around KBBNP to deter unauthorised access. • The section of the access road between Captain Cook Drive and the previous jetty to the west of the Proposal would be shared with the Kamay Ferry

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<p>Wharves project. This would reduce the cumulative construction footprint of these projects.</p> <ul style="list-style-type: none"> • The Monument Track provides an access route between the previous jetty and Commemoration Flat. Any other required access routes would be appropriately established with track mats or similar temporary protective measures to minimise potential impacts to the middens. • Implementing track closures and installing clear signage at both ends of the Monument Track. • Encouraging construction workers to use ridesharing and public transport.
3. affect economic factors, including employment, industry and property value?	<input checked="" type="checkbox"/>	Long-term medium positive	<p>Some KBBNP services may be closed during construction. However, the Proposal would temporarily increase the number of construction workers and bring a small positive impact on local employment (predominantly trades and labourers) and income for local business, in particular the food and beverage shops along Captain Cook Drive.</p> <p>The on-going operation of the new visitor facilities will enhance the KBBNP experience for residents and visitors and support Indigenous cultural education. This, along with increased community use of the facilities within the new Visitor Centre, could provide positive employment and cultural engagement opportunities for the local Indigenous</p>	Opportunities for local employment during construction of the Proposal should be considered to elevate employment and reduce traffic impacts in and out of Kurnell.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			<p>population. Thus, operational socio-economic impacts would be overall positive.</p> <p>The proposal would support the objectives of the KBBNP PoM maintaining and enhancing recreational value and visitor use.</p>	
4. have an impact on the safety of the community?	☒	Negligible On-going positive impact.	<p>The potential impacts to the community are negligible provided site safety measures and procedures below are implemented:</p> <ul style="list-style-type: none"> • The new stair access to the Botany Bay Foreshore and canoe sculpture will provide safer visitor access to these areas; • The new DDA-compliant boardwalk to the whale sculptures will provide safer and more equitable access to this area; • The new boardwalk connecting the Cricket Pitch carpark and Cape Solander Drive will provide safer and more equitable access between these areas of KBBNP; • construction of a new Visitor Centre and DDA compliant carpark, landscaping, kerb, gutters, road resurfacing and stormwater connections to the Visitors Centre loop road • creation of a DDA compliant path from the visitor centre to the foreshore • the boardwalk over Freshwater Stream will provide a safer and equitable connection 	<p>Implement and follow relevant standard construction site safety measures and procedures that include but are not limited to:</p> <ul style="list-style-type: none"> • Install temporary traffic management signage • Install temporary signs for visitors using the roads and walking tracks • Install site erosion and sediment controls, undertaken by construction contractor(s) • Survey, flagging, fencing and pegging of proposed work sites and limit of works • Remove construction equipment, vehicles, and materials once the construction works are complete • Ensure ongoing maintenance of footpaths and recreational areas (if required) throughout construction • Routine maintenance checks of utilities • Ensure work vehicles do not obstruct vehicular or pedestrian traffic, or private driveway, public facility or business access.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
			between the Cricket Pitch carpark and the new Visitor Centre.	
5. cause a bushfire risk?	<input checked="" type="checkbox"/>	Short-term low adverse Medium positive ongoing	<p>KBBNP is classified as bush fire prone land and is located within a wider landscape of bush fire prone land. The bushfire hazard (i.e. the core bush fire prone land) is large and continuous enough to be at risk from larger sized bushfires. There is an increased threat of bushfire events due to climate change, which can be managed but is somewhat unavoidable.</p> <p>Analysis of the hazard, bushfire history and potential fire behaviour at the site indicates there is potential for major fire attack, thus bushfire protection and emergency management are critical. There are a number of measures that can be taken and provided they are implemented will improve the bushfire protection of the proposed development.</p> <p>A Bushfire Protection Assessment (Appendix G) was completed as part of this REF to mitigate continued threats. It identifies the bushfire hazard and risks associated with the construction and use of the infrastructure proposed under the Master Plan. Instructions for the management and protection of the Proposal from bushfire threats as set out in the Asset Protection Zones (APZ) Maintenance Plan in the Bushfire Protection Assessment will be followed.</p>	<p>Appropriate building construction standards will be met.</p> <ul style="list-style-type: none"> • Prepare a robust and reliable bushfire emergency response and evacuation plan prior to construction. <p>Maintain the APZs around the proposed Visitor Centre to prevent a higher level of bushfire risk. Managed open spaces within the development site are to be maintained to Inner Protection Area standards:</p> <ul style="list-style-type: none"> • Mow grass to 100mm height. Leaves and debris should be removed. <p>Landscaping will not reduce the available APZ from the current footprint and will maintain current management and maintenance standards. Any landscaping proposed in proximity to the Visitor Centre, will aim to achieve the specifications of an Inner Protection Area:</p> <ul style="list-style-type: none"> • canopy cover should be less than 15% (at maturity); • trees (at maturity) should not touch or overhang the building; • lower limbs should be removed up to a height of 2 m above ground; • canopies should be separated by 2 to 5 m; and • preference should be given to smooth barked and evergreen trees.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<ul style="list-style-type: none"> • create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings. • shrubs should not be located under trees. • shrubs should not form more than 10% ground cover. • clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. • Smoking is not permitted in National Parks. • Upgrades to fire protection services into KBBNP including fire hydrant upgrades, new fire main and pump booster room will improve NPWS capacity to address bushfire risks. • The AS 3959 construction standard has been applied to the Visitor Centre building to meet or exceed the buildings BAL exposure (BAL-19); • Upgrades to Foreshore Loop access tracks will aim to provide for alternate access/egress for emergency services vehicles. • The supply of water, electricity and gas supplies to the proposed buildings should meet the RFS performance criteria outlined in Table 7 of the Bushfire Assessment (Appendix G). • Any building protection systems may have dependencies that warrant additional bushfire protection (e.g. protection of pumps, power supply and pipes for fire water supply); and

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<ul style="list-style-type: none"> The Emergency Management Plan for KBBNP will be updated to reflect new buildings and infrastructure proposed, and emergency management prescriptions of PBP and recommendations outlined in this report. Specifically, that procedures within the Plan prescribe leaving early and non-operation during days of elevated fire danger, along with preparation of robust evacuation plans, procedures and visitor information.
6. affect the visual or scenic landscape?	☒	Short-term low adverse	<p>As the construction of the Proposal would coincide with the construction of the Kamay Ferry Wharves, a portion of KBBNP would be closed. Thus, landscape and visual impacts would be limited to the local community and businesses along Prince Charles Parade and Captain Cook Drive that are close to the Monument Track and Cape Solander Drive entrances. Businesses include two cafes and one restaurant with views towards the east, where the Kamay Ferry Wharves project would be located. From these businesses, the view would be mostly “behind” the Kamay Ferry Wharves project and thus would not elevate the visual amenity impact.</p> <p>During operation the Proposal will support the objectives of the KBBNP and seeks to improve recreational value, improve visitor access and experience of the KBBNP.</p>	Staged construction will minimise short term temporary visual impacts.

9.4 Natural resource impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
1. result in the degradation of the park or any other area reserved for conservation purposes?	<input checked="" type="checkbox"/>	Short-term low adverse	<p>With the implementation of the abovementioned mitigation measures for potential physical and chemical and biodiversity impacts, there is low chance of degradation of KBBNP or any other areas reserved for conservation purposes during construction.</p> <p>During operation the Proposal supports the objectives of the KBBNP and seeks to improve recreational value, improve visitor access and experience of the KBBNP.</p>	<p>A CEMP will be developed to manage construction activities. It will address the following and include all the mitigation measures in this REF. In addition:</p> <ul style="list-style-type: none"> no work is permitted outside the proposal area use existing roads and tracks for access and material transportation to prevent degradation post-construction, rehabilitate disturbed areas to the pre-construction condition.
2. affect the use of, or the community's ability to use, natural resources?	<input type="checkbox"/>		NA	NA
3. involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials? ^	<input type="checkbox"/>	Negligible Low Negative	The construction works will use construction materials (including timber and concrete and water) derived from natural resources however materials will be used for beneficial reuse in the construction of the new park facilities. Small amounts of fuel will be used to power vehicles, hand tools, machinery and plant.	<p>The use of materials will be beneficial as they will contribute to improved facilities as part of the proposal and enhanced visitor experience.</p> <p>Wastage will be minimised by the waste minimisation measures outlined in this REF. In addition:</p> <ul style="list-style-type: none"> Turn of vehicles and machinery when not in use to minimise fuel use Use recycled materials where possible

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
4. provide for the sustainable and efficient use of water and energy? †	☒	Long-term medium positive	The proposed works include sustainability and energy efficiency and water saving measures.	<ul style="list-style-type: none"> • Demolished materials from the site will be reused on site where possible, or recycled. • The Proposal's design incorporates stone and concrete, providing durable facilities suited to KBBNP's high levels of visitation and location. These materials will require low maintenance and will provide a long service life. • Recycled brick masonry and concrete slabs will be used within the Visitor centre, providing thermal mass to assist with regulation of internal temperatures and humidity. • The Visitor Centre design adopts an energy efficient geothermal mechanical system. Eaves overhangs provide passive shading of both internal and external spaces, and operable glazing is positioned to enable cross ventilation of circulation and office spaces. • The Visitor Centre design provides for the capture and storage of rainwater, to be used for toilet flushing and irrigation.

9.5 Aboriginal cultural heritage impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
1. disturb the ground surface or any culturally modified trees?	☒	Short-term low adverse	<p>Some ground disturbance will occur as part of the proposal.</p> <p>However, potential impacts are considered to be short-term in nature due to the considerable measures put in place to investigate each proposed impact in detail and ensure that impacts to in situ Aboriginal cultural heritage can be avoided either through design or with archaeological test excavations potentially needed only to inform final management in some areas. Master Plan works which may be able to be undertaken prior to the completion of any test excavation will not include any within the test excavation area.</p> <p>No scarred trees were identified within the Proposal area.</p>	<p>An Aboriginal Heritage Impact Permit (AHIP) will be sought under s90 of the National Parks & Wildlife Act 1974 (NSW) for monitoring and collection as indicated in Figure 62 of the ACHAR (Appendix B).</p> <p>Table 13 in the Aboriginal Cultural Heritage Assessment Report (Appendix B) identifies the following mitigation measures that should be implemented for relevant elements within the Masterplan (refer Figure 1).</p> <ul style="list-style-type: none"> • Undertake archaeological monitoring and community collection of any Aboriginal archaeological remains in disturbed contexts • Undertake limited archaeological salvage where modification of design is not feasible to avoid in situ archaeological remains or substantial quantities of archaeological remains in disturbed contexts. • Manage potential presence of Aboriginal human remains in accordance with procedures outlined in the Aboriginal Cultural Heritage Assessment Report (Appendix B). <p>Prepare and implement an unexpected aboriginal heritage finds procedure this will include:</p> <ul style="list-style-type: none"> • Stop work and contact DCCEEW Environment Line (131 555) to notify them of the find.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<ul style="list-style-type: none"> • Do not recommence any work at the particular location until appropriate actions have been undertaken and specific advice has been provided by the DCCEE in accordance with Part 6 of the <i>National Parks & Wildlife Act 1974</i>. • All excavation works during demolition or construction are subject to archaeological monitoring to enable any archaeological remains or other relevant features to be rapidly identified. • All workers involved in excavation works onsite undertake an Aboriginal Cultural Heritage Induction as part of their overall WHS induction for the site. This will explain the nature of the dune sands and the types of features that are being looked for, the procedures for archaeological monitoring that are to be followed and procedures in the event of unexpected finds. The induction is to be developed and delivered by a suitably qualified archaeologist in conjunction with the La Perouse Local Aboriginal Land Council. • In general, the use of heavy machinery should be minimised along the foreshore between the ferry wharf and 40m east of the Solander Monument, and within 70m landward of the foreshore in this area, due to the potential impacts of compaction and vibration on subsurface archaeological remains. Only soft-tread light vehicles should be permitted in this area to minimise vibration and surface damage.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
				<ul style="list-style-type: none"> • Movement of vehicles and plant equipment to and from construction areas should be via prescribed routes which avoid as much as possible the area within 70m of the foreshore between the ferry wharf and 40m east of the Solander Monument where the Foreshore Midden is known to be present. • Protect Aboriginal cultural heritage by utilising minimally invasive excavation techniques to ensure that the minimum possible impact will be sustained to any intact in situ archaeological remains. Essentially this involves using small 'shovel probes' and avoiding impact to in situ Aboriginal objects where possible. <p>Note: Where there is a departure from the mitigation measures outlined within Table 13 of Aboriginal Cultural Heritage Assessment Report (Coast History and Heritage, March 2023) in Appendix B of this REF, the mitigation measures within in the ACHAR in Appendix B prevail.</p>
2. affect or occur near known Aboriginal objects, Aboriginal places or an Aboriginal cultural asset of intergenerational significance?	☒	short-term medium adverse	<p>There is some possibility that artefacts may be uncovered during stages of construction in the following areas:</p> <ul style="list-style-type: none"> • Commemoration Flat paths • Foreshore revetment works • Visitor Centre • Commemoration Flat carpark • Amenity block 	Implement relevant measures as required as above.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
<p>If so, can impacts be avoided? How?</p>			<ul style="list-style-type: none"> • Picnic areas • Boardwalk to the whale sculptures • Collection garden • Cricket Pitch • Freshwater Stream. <p>There is an isolated and lower likelihood of impact and uncovering artefacts near the cricket pitch, Visitor Centre, Commemoration Flat carpark, amenity block, picnic areas, collection garden and Freshwater Stream than the Commemoration Flat paths, foreshore revetment and boardwalk to the whale sculptures, which have a moderately higher likelihood of artefacts occurring. Any impacts will be managed through safeguards and so are considered to be short-term in nature.</p> <p>The on-going operation of the new visitor facilities will not affect known Aboriginal objects, Aboriginal places or an Aboriginal cultural asset of intergenerational significance. The new visitor infrastructure will promote understanding and protection of Aboriginal cultural heritage.</p>	
<p>3. affect areas:</p> <ul style="list-style-type: none"> - within 200 m of waters - within a sand dune system - on a ridge top, ridge line or headland 	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>The masterplan works are within 70m of the foreshore and within 200m of watercourses (Freshwater Stream).</p> <p>There is a rock engraving on the Kurnell peninsula (Aboriginal Heritage Information Management</p>	<ul style="list-style-type: none"> • Identify a 'no harm area' to protect the rock engraving. • Install barriers to limit access during construction. • Implement all relevant measures as required for managing heritage impacts indicated above.

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
<ul style="list-style-type: none"> - within 200 m below or above a cliff face - in or within 20 m of a cave, rock shelter or a cave mouth? <p>If so, can impacts be avoided? How?</p>			<p>System #52-3-0221), which is the only documented engraving site in proximity to the Stage 1 Master Plan area. Although it is highly eroded, and the motifs are largely indeterminate, the site retains high scientific significance as a part of the suite of archaeological remains in this area, including the Foreshore Midden. However, the rock engraving site does not extend to areas being constructed and can be protected from indirect impacts.</p> <p>During operation impacts are not expected from the proposal.</p>	
<p>4. affect wild resources which are used or valued by the Aboriginal community or affect access to these resources?</p>	<input type="checkbox"/>	<p>NA</p>		<p>NA</p>
<p>5. affect access to culturally important locations?</p>	<input checked="" type="checkbox"/>	<p>Short-term low adverse</p>	<p>The Kurnell headland supported a variety of historically significant Aboriginal plants, animals and seafood resources, and a semi-permanent freshwater stream, which is of continuing cultural significance and will be temporarily inaccessible during construction.</p> <p>Access to KBBNP will be impacted during construction however these impacts will be short term and temporary.</p>	<p>Construction will be staged to minimise longevity of impacts to access to culturally important locations within KBBNP.</p>

9.6 Other cultural heritage impacts during all stages of the activity

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
1. affect or occur near places, buildings or landscapes of heritage significance?	☒	Negligible, short term adverse Long term, high, positive	<p>Areas affected by the Proposal including roads, car parks, the Discovery Centre and car park, the cricket pitch, the Education Centre, Alpha House site, the marquee site, Cook memorial, Banks memorial, the Freshwater Stream, and the foreshore area have a low level of archaeological potential.</p> <p>Ongoing maintenance works for the Proposal during operation would be limited to minor weeding or lawn mowing, which would require no excavation and therefore would avoid any impact on the heritage record.</p> <p>There will be an impact to cultural heritage values resulting from the demolition of existing structures with heritage significance such as the Discovery Centre.</p> <p>During operation the Proposal will generate a long term positive impacts on cultural heritage values by providing improved facilities within KBBNP that will support enhanced appreciation of the significance of the place.</p>	<p>The Heritage Impact Statement (Appendix D) recommends measures for implementation prior to and during future site works phases to further reduce the risk of archaeological impact including:</p> <ul style="list-style-type: none"> • completing on- site heritage inductions before site works activities start, • undertaking historical-archaeological monitoring and recording during works in the vicinity of identified historical-archaeological sensitivity, • Implement an unexpected finds policy that responds managing unexpected finds. <p>The implementation of the proposed works will enhance landscape and cultural heritage values and preserve the existing heritage record.</p>
2. impact on relics or moveable heritage items, or an area with a	☒	Short-term low adverse	There is a generally low probability that works will expose intact and in situ historical-archaeology but the future discovery of potentially culturally	The Heritage Impact Statement recommends measures for implementation prior to and during future site works

Is the proposed activity likely to...	Applicable? *	Impact level	Reasons	Safeguards/mitigation measures
high likelihood of containing relics?			significant relics cannot be discounted nor can the future discovery of isolated relics and/or disturbed archaeological materials. Any impacts are considered to be short-term due to safeguards around ongoing monitoring and responding to unexpected finds.	<p>phases to further reduce the risk of archaeological impact including:</p> <ul style="list-style-type: none"> • completing on- site heritage inductions before site works activities start, • undertaking historical-archaeological monitoring and recording in specific circumstances during works in the vicinity of identified historical-archaeological sensitivity, • responding to and managing unexpected finds.
3. impact on vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)?	☒	Negligible	Historic and commemorative plantings (plantings recorded in the Captain Cook Landing Place Trust Tree Register) have been identified as being of local significance for memorable representative values. Notably, the Heritage Impact Statement concluded that no significant plantings will be affected by the Proposal as remanent and cultural plantings will be retained and there will be a reinforcement of Indigenous plantings in the Precinct including the removal of weeds and exotic plantings that are considered intrusive.	All plantings of exceptional, high and moderate significance should be tagged prior to construction commencing. Ongoing maintenance works for the Proposal would be limited to minor weeding or lawn mowing, which would require no additional impacts to identified significant plantings.

9.7 Impacts on Matters of national environmental significance (MNES) under the EPBC Act during all stages of the activity

Is the Proposal likely to affect MNES, including:	Applicable? *	Likely impact	Reasons	Safeguards/mitigation measures
1. listed threatened species or ecological communities)?	<input checked="" type="checkbox"/>	Short-term low adverse	As per Section 9.2. and Appendix E	As per Section 9.2 and Appendix E
2. listed migratory species?	<input checked="" type="checkbox"/>	Short-term low adverse	The Flora and Fauna Assessment (Appendix E) noted that migratory species (also listed in Appendix A of this REF) may forage and breed within the Proposal area. However, the assessment notes that impacts to any potential foraging habitat is expected to be low and no anticipated net loss of breeding habitat is expected. As such, the proposed activity is unlikely to a significant impact on these species and a Referral to Commonwealth pursuant to the EPBC Act is not required.	Implement relevant mitigation measures detailed in Section 9.2.
3. the ecology of Ramsar wetlands?	<input type="checkbox"/>	N/A	N/A	N/A
4. world heritage values of World Heritage properties?	<input type="checkbox"/>	N/A	N/A	N/A
5. the national heritage values of national heritage places?	<input checked="" type="checkbox"/>		Kamay Botany Bay National Park is located on Kurnell Peninsula, listed on the National Heritage list. The Heritage Impact Statement (Appendix D) concludes that the Proposal does not have a	The Heritage Impact Statement recommends measures for implementation prior to and during future site works phases to further reduce the risk of archaeological impact including:

Is the Proposal likely to affect MNES, including:	Applicable? *	Likely impact	Reasons	Safeguards/mitigation measures
			significant impact on heritage values and that Commonwealth referral under the EPBC Act is not required.	<ul style="list-style-type: none"> • completing on- site heritage inductions before site works activities start • undertaking historical-archaeological monitoring and recording in specific circumstances during works in the vicinity of identified historical-archaeological sensitivity, • responding to and managing unexpected finds.

10. Proposals requiring additional information

10.1 Lease or licence Proposals under s 151 NPW Act

Proponents must complete and submit a **sustainability assessment** together with the REF. Under NPWS policy this requirement **also** applies where NPWS is the proponent for projects of the kind listed in s 151A of the NPW Act.

For information on the sustainability assessment criteria and guidelines, including assessment templates, go to the [Sustainability assessments page](#).

Indicate which sustainability assessment is attached:

- special activities or uses involving more than 400 people
– Sustainability Assessment **Template 2**
- built structures and facilities
– Sustainability Assessment **Template 3**.

Note that for **minor activities and uses** (usually events and similar Proposals involving fewer than 400 people), a streamlined and combined REF and sustainability assessment template is available (**Template 1**).

10.2 Telecommunications facilities under s 153D NPW Act.

Factors requiring consideration	Response
1. Are there feasible alternative sites for the facility on land that is not reserved under the NPW Act?	N/A
2. Does the site of any aboveground facility cover the minimum area possible?	N/A
3. Is the facility to be designed and constructed to minimise risk of damage to the facility from bushfires?	N/A
4. Has the site and construction of the facility been selected to, as far as practicable, minimise visual impact?	N/A
5. Is it feasible to use an existing means of access to the site?	N/A
6. Is the facility essential for the provision of telecommunications services for land reserved under the NPW Act or for surrounding areas to be served by the facility?	N/A
7. Will the facility be removed and the site restored as soon as possible after the facility becomes redundant (e.g. due to changes in technology)?	N/A
8. Has the site been selected after taking into account the objectives set out in any plan of management relating to the land?	N/A
9. If feasible, will the facility be co-located with an existing structure or located at a site that is already disturbed by an existing lease, licence, easement or right of way. If co-location is proposed, please indicate if:	N/A
<input type="checkbox"/> the proponent will be the owner of the facility	
<input type="checkbox"/> the proponent will be a co-user of the facility.	

10.3 Activities within the Sydney Water Catchment

Activities within the catchment are subject to the provisions of the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011. The following factors require consideration.

Factors requiring consideration	Response
1. Does the activity incorporate any current recommended practices and performance standards endorsed or published by Water NSW that relate to the protection of water quality?	N/A
2. If the activity does not incorporate current practices or standards referred to in question 1, how will the activity achieve outcomes not less than these?	N/A
3. Will the activity have a neutral or beneficial effect on water quality?	N/A

10.4 Activities in Murray riverine land

Applies to activities on lands within the land application map of the Murray Regional Environmental Plan No 2—Riverine Land (REP).

The following matters listed under clause 10 of the REP require consideration.

Matters related to relevant planning principles	Response
Access	
1. Will the activity alienate or obstruct access to the foreshore of the River Murray?	N/A
2. Will the activity adversely impact the stability of riverbanks and vegetation growth due to uncontrolled access?	N/A
Bank disturbance	
3. Will the activity disturb the shape of the bank and riparian vegetation?	N/A
Flooding	
4. Where the activity is occurring on land subject to inundation by floodwater:	N/A
a. Are there hazards involved in developing the land?	N/A
b. Will the activity have a redistributive effect on floodwater?	N/A
c. Will the activity pose a pollution threat in the event of a flood?	N/A
d. Will the activity add to cumulative effects on the behaviour of floodwater?	N/A
e. Will infrastructure developed as part of the activity need to be replaced in the event of a flood? If so, at what cost?	N/A
Land degradation	
5. Will the activity seek to avoid or reduce land degradation processes such as erosion, native vegetation decline, pollution of ground or surface water, groundwater accession, salination and soil acidity, and adverse effects on the quality of terrestrial and aquatic habitats?	N/A

Matters related to relevant planning principles	Response
Landscape	
6. What measures will be taken to protect and enhance the riverine landscape (e.g. by maintaining native vegetation along the riverbank and adjacent land, rehabilitating degraded sites and stabilising and revegetating riverbanks with appropriate species)?	N/A
Water quality	
7. Will the activity seek to reduce pollution caused by salts and nutrients entering the River Murray or otherwise improve the quality of water in the River Murray?	N/A
Wetlands	
8. Where the activity may affect wetlands:	N/A
a. Will the activity provide for a hydrological regime appropriate for the maintenance or restoration of the productive capacity of the wetland?	N/A
b. Are measures such as a vegetated buffer incorporated into the activity to mitigate adverse effects on wetland values?	N/A

11. Summary of impacts and conclusions

Category of impact	Significance of impacts		
	Extent of impact	Nature of impact	Environmentally sensitive features
Physical and chemical	Short-term low adverse	<p>In the short-term, the Proposal will cause some risk of soil disturbance from compaction, clearing and soil movement. It will also cause an increase in waste and local emissions, and dust, noise and odours during construction. In the long-term, the Proposal may increase stormwater runoff due to additional paved areas constructed as part of the Proposal.</p> <p>Due to the staging of the works, and closure of sections of KBBNP during construction, impacts to the natural environment and KBBNP visitors are expected to be minimal.</p>	<p>Sensitive features include soils</p> <p>A Construction Environment Management Plan (CEMP), Spill Management Plan, Soil and Water Management Plan and ASS management measures in accordance with Managing Urban Stormwater, Soils and Construction (Landcom, Vol 1, 4th ed. March 2004) will be implemented to manage possible physical and chemical impacts. Additional safeguards include the use of small earthmoving equipment and the safe storage of equipment and materials in a stockpile area. Collectively, these measures will manage any possible impacts to local topography, flora and fauna and surrounding waterways.</p>
Biological	Short-term low adverse	<p>The Proposal will result in the removal of small areas of endangered ecological communities including Kurnell Dune Forest in the Sutherland Shire and the City of Rockdale (KDF) and Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (SSF). These communities have already been heavily modified and assessed as not being significantly impacted by the Proposal (Appendix E). During construction, the Proposal has the potential to increase the presence of Priority Weeds but this can be managed with weed controls.</p> <p>The Proposal occurs within the habitat of three endangered fauna species including the White-bellied Sea Eagle (<i>Haliaeetus leucogaster</i>), the Green and</p>	<p>The Proposal area has been strategically placed to minimise impacts. Additional tree protection measures will also be implemented, including exclusion fencing and the replacement of any removed species with native species.</p> <p>Sections of lawn area will be revegetated with native species and so impacts are expected to be short term.</p> <p>Ecologists will be commissioned prior to the survey being undertaken to supervise pre-clearing surveys and manage impacts. Noise monitoring, and pollution control and protection will also be</p>

Golden Bell Frogs (*Litoria aurea*) and the Wallum Froglet (*Crinia tinnula*). However, assessments of significance undertaken as part of the Flora and Fauna Assessment (Appendix E) showed that the Proposal is unlikely to significantly negatively impact species habitats. Additionally, noise impacts are expected to be negligible and are unlikely to significantly impact the White-bellied Sea Eagle (Appendix E).

implemented to protect threatened species.

The presence of weeds will be managed in accordance with the *Biosecurity Act 2015* (Cth).

Additionally, the restoration of waterways in the Proposal area is likely to enhance local habitat for species.

Natural resources	Short-term low adverse	Low chance of degradation of KBBNP or any other areas reserved for conservation purposes.	Any possible impacts to vegetation and culturally sensitive sites will be managed via the CEMP.
Community	Short-term low adverse	Low impacts expected to the community during construction of the Proposal but parts of KBBNP will be closed preventing the use of some of its facilities and services. There will also be short-term visual amenity impact along Prince Charles Parade and Captain Cook Drive that are close to the Monument Track and Cape Solander Drive entrances, and from two cafes and one restaurant with views towards the East.	Impacts to community will be managed via staged construction and the establishment of temporary amenities to enable continued access to parts of KBBNP. Additionally, traffic, parking, signage and emergency access measures have been proposed to reduce the impacts of traffic and ensure visitor safety during construction of the Proposal.
Cultural heritage	Short-term low adverse	There is a low risk of impact to possibly significant Aboriginal cultural heritage relics and objects within the Proposal area, including in relation to the new pathways, Whale Boardwalk and Dancing Circles. KBBNP will also be temporary unavailable for use by the Gweagal people.	Excavation works will use minimally invasive techniques and workers will be subject to an Aboriginal Cultural Heritage Induction. Archaeological monitoring will enable culturally significant objects to be identified prior to construction of the Proposal managed under an Aboriginal Heritage Impact Permit. Additionally, the use of heavy machinery and vehicles in sensitive areas will be managed to avoid impacts. The Aboriginal Cultural Heritage Assessment Report (Appendix B) will be followed for guidance around uncovering possible human remains.

In conclusion:

- There is likely to be a significant effect on the environment and an environmental impact statement is required

- No
 Yes

Reason(s):

Section 9 indicates that the impacts during construction and operation are not significant and can be managed with the mitigation measures detailed in Section 9.

- There is likely to be a significant effect on threatened species, populations, ecological communities or their habitats and a species impact statement is required

- No
 Yes

Reason(s):

The Biodiversity Assessment provided in Appendix E concluded that the Proposal will not have a significant impact on the threatened species, populations, ecological communities or habitats.

- The activity is likely to have a significant impact on matters of national environmental significance listed under the Cwth Environment Protection and Biodiversity Conservation Act

- No
 Yes

Reason(s):

Biodiversity Assessment provided in Appendix E concluded that the Proposal will not have a significant impact on matters of national environmental significance.

- The activity will require certification to the Building Code of Australia, Disability (Access to Premises – Buildings) Standards 2010 or Australian Standards in accordance with the NPWS Construction Assessment Procedures

- No
 Yes

12. Supporting documentation

Please provide details of documentation included with this application.

Document title	Author	Date
1. Threatened species tests of significance	Eco Logical Australia	2022
2. Aboriginal Cultural Heritage Assessment Report	Coast History and Heritage	2023
3. Historical Archaeological Assessment and Future Works Impact Mitigation and Management Strategy	Dominic Steele Consulting Archaeology	2023
4. Heritage Impact Statement	John Oultram Heritage and Design	2023
5. Flora and Fauna Assessment Report	Narla Environmental	2023
6. Botany Bay National Park – Kurnell Conservation Management Plan	Context Pty Ltd	2008
7. Bushfire Protection Assessment	Eco Logical Australia	2023
8. Kamay Botany Bay National Park Plan of Management	NPWS	2020
9. Kamay Botany Bay National Park, Kurnell Master Plan	Neeson Murcutt Architects Pty Ltd	2019

13. Fees for external proponents

Proponents external to NPWS are required to pay an initial fee of \$220 (a final fee is also required before determination of the REF).

- \$220 payment/cheque for initial fee is enclosed
- A waiver of fees is requested for the following reasons:

14. Signature of proponent

By signing the REF, the proponent confirms that the information in the REF is accurate and adequate to ensure that all potential impacts of the activity can be identified.

Signature



Signature



Name (printed) Greg Abbott

Name (printed) Ben Khan

Position Senior Project Officer,
Greater Sydney Branch NPWS

Position Manager, Sydney South Area,
Greater Sydney Branch NPWS

Date 30 January 2024

Date 16 February 2024

Seal (if signing under seal):

Next steps

- Submit the signed REF to the relevant NPWS Area Office, requesting determination of the REF and advice on when approval for the works may be forthcoming.

Appendix A: Threatened species tests of significance

The 'Test of Significance' (ToS) or 5-part test is applied to species, populations and ecological communities listed on Schedules 1 and 2 of the BC Act and Schedules 4, 4A and 5 of the Fisheries Management Act (FM Act). The assessment sets out 5 factors, which when considered, allow proponents to undertake a qualitative analysis of the likely impacts of an action and to determine whether a significant impact is likely. All factors must be considered, and an overall conclusion made based on all factors in combination.

The ToS is included in the table below and can also be found in the flora and fauna report in Appendix E.

LITORIA AUREA (GREEN AND GOLDEN BELL FROG): Endangered under the BC Act

BC Act	Question	Response
7.3.1 a)	In the case of a threatened species: whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	Green and Golden Bell Frogs have been historically recorded within Kamay Botany Bay National Park. Applying a cautionary principal and assuming anywhere within the GGBF range they could occur it is assumed there could be a population of GGBF within the study area. Targeted survey for the GGBF consistent with the NSW Survey Guide for Threatened Frogs were undertaken between 16- 30 March 2022. GGBF were not detected during the survey period.
7.3.1 b) i	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	Not applicable. GGBF is an endangered species.
7.3.1 b) ii	In the case of an endangered ecological community or critically endangered ecological community: Whether the proposed development or activity is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	Not applicable. GGBF is an endangered species.

7.3.1 c) i	In relation to the habitat of a threatened species or ecological community: The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity	The proposed works will directly impact on potential GGBF habitat. The proposed works cover an area totalling 5.28 ha. The proposed works will not result in the substantial modification of the composition of the GGBF potential habitat.
7.3.1 c) ii	In relation to the habitat of a threatened species or ecological community: Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity	The area of disturbance is located around the current Kurnell Visitor Centre. Post construction, further isolation or fragmentation is not expected.
7.3.1 c) iii	In relation to the habitat of a threatened species or ecological community: The importance of the habitat to be removed, modified, fragmented or isolated to the long- term survival of the species, population or ecological community in the locality.	The proposed activity will require a works area of 5.28 ha. As such, there will be no significant reduction of structure of species complexity will occur.
7.3.1 d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).	The proposed activity would not affect any declared areas of outstanding biodiversity value.
7.3.1 e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	Key Threatening Processes (KTP) relevant to this proposal with respect to GGBF include: <ul style="list-style-type: none"> Invasion of chytrid. <p>The proposal will not increase KTP operating on GGBF. Construction techniques should adopt pathogen management techniques and specific amphibian hygiene protocols. Any weed invasion should be controlled by NPWS.</p>
Conclusion	Is there likely to be a significant impact?	No.

The proposed activity will require a works area of 5.28 ha of potential GGBF habitat. In conclusion, it is unlikely to constitute a significant impact given:

- The proposed works are unlikely to result in fragmentation or isolation of fauna habitat beyond that already occurring, and the water bodies available for breeding will remain connected and untouched.
- Revegetation of sections of lawn to increase the area of native vegetation and fauna habitat forms part of the proposal. Additionally, pipes within which creeks currently flow will be removed in sections, further increasing potential habitat for the GGBF within the site.

Consequently, a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR) is not recommended for the proposal with respect to GGBF endangered species listed under the BC Act.

The results of the tests in this Appendix are summarised in Sections 9.2 and 9.7 of the REF and discussed in Appendix A of the Fauna and Flora Assessment (Eco Logical Australia 2023).

LITORIA AUREA (GREEN AND GOLDEN BELL FROG): Vulnerable under the EPBC Act

Criterion	Question	Response
	An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
1)	lead to a long-term decrease in the size of an important population of a species	Green and Golden Bell Frogs have been historically recorded within Kamay Botany Bay National Park. Applying a cautionary principal and assuming anywhere within the GGBF range they could occur it is assumed there could be a population of GGBF within the study area. Targeted survey for the GGBF consistent with the NSW Survey Guide for Threatened Frogs were undertaken between 16- 30 March 2022. GGBF were not detected during the survey period. It is unlikely the proposed works would result in a further decrease in GGBF population.
2)	reduce the area of occupancy of an important population	The proposed works area is unlikely to have long term impact on the potential population due to it being an upgrade to existing infrastructure and also formalises informal pathways and reduce trampling.
3)	fragment an existing important population into two or more populations	Fragmentation is unlikely as there is no further impact to the study area due to the works being an upgrade of existing infrastructure around the Visitor Centre and formalising existing informal carparks.
4)	adversely affect habitat critical to the survival of a species	Limited clearing of vegetation or creek lines is anticipated in association with the proposed works. The replacement of one creek line and removal of a pipe will reinstate more creek line and improve habitat quality. Habitat critical to the survival of GGBF is unlikely to be adversely impacted.
5)	disrupt the breeding cycle of an important population	The proposed works are unlikely to disrupt the breeding cycle of GGBF due to the works upgrading existing infrastructure and reinstating one section of creek line. This will not impact on the potential GGBF population as breeding habitat will not be reduced or modified.
6)	modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The quality of habitat long term will not be destroyed, removed or isolated. The habitat will be modified and aimed to be improved.
7)	result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Mitigation measures are recommended and if followed a low likelihood of invasive species causing decline of a potential population or its habitat.
8)	introduce disease that may cause the species to decline, or	Potential for Chytrid to be introduced during the construction process. Mitigation measures are recommended and, if followed, a low likelihood of a disease-causing decline of a potential population.
Conclusion	Is there likely to be a significant impact?	No.

In conclusion, the impacts on potential GGBF population listed under the EPBC Act will not be significant, and the work will not be a controlled action and therefore no Commonwealth referral is required under the EPBC Act.

The results of the tests in this Appendix are summarised in Sections 9.2 and 9.7 of the REF and discussed in Appendix A of the Fauna and Flora Assessment (Eco Logical Australia 2023).

Species and communities listed under the BC Act

For species and communities listed under the BC Act, the factors outlined in s 7.3 of the BC Act are to be taken into account for the purposes of determining whether a proposed activity is likely to significantly affect terrestrial threatened species or ecological communities, or their habitats.

Table 8: Full list of threatened species and communities protected under the BC Act and their conservation status.

Threatened flora and fauna species	BC Act Status
<i>Acacia terminalis</i> subsp. Eastern Sydney (Sunshine Wattle)	Endangered
<i>Callistemon linearifolius</i> (Netted Bottle Brush)	Vulnerable
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	Vulnerable
<i>Genoplesium baueri</i> (Bauer's Midge Orchid)	Endangered
<i>Pterostylis</i> sp. Botany Bay (Botany Bay Bearded Orchid)	Endangered
<i>Senecio spathulatus</i> (Coast Groundsel)	Endangered
<i>Syzygium paniculatum</i> (Magenta Lilly Pilly)	Endangered
<i>Thelymitra atronitida</i> (Black-hooded Sun Orchid)	Endangered
<i>Anthochaera Phrygia</i> (Regent Honeyeater)	Endangered
<i>Ardenna carneipes</i> (Flesh-footed Shearwater)	Vulnerable
<i>Artamus cyanopterus cyanopterus</i> (Dusky Woodswallow)	Vulnerable
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	Endangered
<i>Calidris alba</i> (Sanderling)	Vulnerable
<i>Calidris canutus</i> (Red Knot)	Vulnerable
<i>Calidris ferruginea</i> (Curlew Sandpiper)	Endangered
<i>Calidris tenuirostris</i> (Great Knot)	Vulnerable
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	Vulnerable
<i>Calyptorhynchus lathami</i> (Glossy Black- Cockatoo)	Vulnerable
<i>Charadrius leschenaultia</i> (Greater Sandplover)	Vulnerable
<i>Charadrius mongolus</i> (Less Sand-plover)	Vulnerable
<i>Crinia tinnula</i> (Wallum Froglet)	Vulnerable
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	Vulnerable
<i>Dasyornis brachypterus</i> (Eastern Bristlebird)	Endangered

Threatened flora and fauna species	BC Act Status
<i>Epthianura albifrons</i> (White-fronted Chat)	Vulnerable
<i>Epthianura albifrons</i> (White-fronted Chat) Sydney Population	Endangered Population
<i>Gygis alba</i> (White Tern)	Vulnerable
<i>Haematopus fuliginosus</i> (Sooty Oyster Catcher)	Vulnerable
<i>Haematopus longirostris</i> (Pied Oyster Catcher)	Endangered
<i>Haliaeetus leucogaster</i> (White-bellied Sea-eagle)	Vulnerable
<i>Halobaena caerulea</i> (Blue Petrel)	-
<i>Lathamus discolor</i> (Swift Parrot)	Endangered
<i>Limicola falcinellus</i> (Broad-billed Sandpiper)	Vulnerable
<i>Limosa limosa</i> (Black-tailed Godwit)	Vulnerable
<i>Litoria aurea</i> (Green and Golden Bell Frog)	Endangered
<i>Lophoictinia isura</i> (Square-tailed Kite)	Vulnerable
<i>Macronectes giganteus</i> (Southern Giant Petrel)	Endangered
<i>Macronectes halli</i> (Northern Giant Petrel)	Vulnerable
<i>Miniopterus australis</i> (Little Bentwinged Bat)	Vulnerable
<i>Miniopterus orianae oceanensis</i> (Large Bentwinged Bat)	Vulnerable
<i>Myotis Macropus</i> (Southern Myotis)	Vulnerable
<i>Neochmia ruficauda</i> (Star Finch)	Endangered
<i>Neophema chrysogaster</i> (Orange-bellied Parrot)	Critically Endangered
<i>Ninox strenua</i> (Powerful Owl)	Vulnerable
<i>Numenius madagascariensis</i> (Eastern Curlew)	-
<i>Onychoprion Fuscata</i> (Sooty Tern)	Vulnerable
<i>Oxyura australis</i> (Blue-billed Dick)	Vulnerable
<i>Pandion cristatus</i> (Eastern Osprey)	Vulnerable
<i>Petroica boodang</i> (Scarlet Robin)	Vulnerable
<i>Pezoporus wallicus wallicus</i> (Eastern Ground Parrot)	Vulnerable
<i>Polytelis swainsonii</i> (Superb Parrot)	Vulnerable
<i>Procelsterna cerulea</i> (Grey Ternlet)	Vulnerable

Threatened flora and fauna species	BC Act Status
<i>Pterodroma nigripennis</i> (Black-winged Petrel)	Vulnerable
<i>Pterodroma solandri</i> (Providence Petrel)	Vulnerable
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)	Vulnerable
<i>Ptilinopus Superbus</i> (Superb Fruit Dove)	Vulnerable
<i>Puffinus assimilis</i> (Little Shearwater)	Vulnerable
<i>Saccolaimus Flaviventris</i> (Yellow-bellied Sheath-tail-bat)	Vulnerable
<i>Stagonopleura Guttata</i> (Diamond Firetail)	Vulnerable
<i>Sternula albifrons</i> (Little Tern)	Endangered
<i>Thinornis cucullatus</i> (Eastern Hooded Dotterel)	Critically Endangered
<i>Tyto Longimembris</i> (Eastern GrassOwl)	Vulnerable
<i>Xenus cinereus</i> (Terek Sandpiper)	Vulnerable
North Coast Wet Sclerophyll Forests	Endangered Ecological Community
Coastal Swamp Forests	Endangered Ecological Community

Species and communities listed under the EPBC Act

Table 9: Full list of threatened species and communities protected under the EPBC Act and their conservation status.

Threatened flora and fauna species	EPBC Act Status
<i>Acacia terminalis</i> subsp. Eastern Sydney (Sunshine Wattle)	Endangered
<i>Callistemon linearifolius</i> (Netted Bottle Brush)	-
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	-
<i>Genoplesium baueri</i> (Bauer's Midge Orchid)	Endangered
<i>Pterostylis</i> sp. Botany Bay (Botany Bay Bearded Orchid)	Endangered
<i>Senecio spathulatus</i> (Coast Groundsel)	-
<i>Syzygium paniculatum</i> (Magenta Lilly Pilly)	Vulnerable
<i>Thelymitra atronitida</i> (Black-hooded Sun Orchid)	-
<i>Anthochaera Phrygia</i> (Regent Honeyeater)	Critically Endangered
<i>Ardenna carneipes</i> (Flesh-footed Shearwater)	Migratory

Threatened flora and fauna species	EPBC Act Status
<i>Artamus cyanopterus cyanopterus</i> (Dusky Woodswallow)	-
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	Endangered
<i>Calidris alba</i> (Sanderling)	Migratory
<i>Calidris canutus</i> (Red Knot)	Endangered: Migratory
<i>Calidris ferruginea</i> (Curlew Sandpiper)	Critically Endangered: Migratory
<i>Calidris tenuirostris</i> (Great Knot)	Critically Endangered: Migratory
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	-
<i>Calyptorhynchus lathami</i> (Glossy Black- Cockatoo)	-
<i>Charadrius leschenaultia</i> (Greater Sandplover)	Vulnerable: Migratory
<i>Charadrius mongolus</i> (Less Sand-plover)	Endangered: Migratory
<i>Crinia tinnula</i> (Wallum Froglet)	-
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	-
<i>Dasyornis brachypterus</i> (Eastern Bristlebird)	Endangered
<i>Epthianura albifrons</i> (White-fronted Chat)	-
<i>Epthianura albifrons</i> (White-fronted Chat) Sydney Population	-
<i>Gygis alba</i> (White Tern)	-
<i>Haematopus fuliginosus</i> (Sooty Oyster Catcher)	-
<i>Haematopus longirostris</i> (Pied Oyster Catcher)	-
<i>Haliaeetus leucogaster</i> (White-bellied Sea-eagle)	-
<i>Halobaena caerulea</i> (Blue Petrel)	Endangered
<i>Lathamus discolor</i> (Swift Parrot)	Critically Endangered
<i>Limicola falcinellus</i> (Broad-billed Sandpiper)	Migratory
<i>Limosa limosa</i> (Black-tailed Godwit)	Migratory
<i>Litoria aurea</i> (Green and Golden Bell Frog)	Vulnerable
<i>Lophoictinia isura</i> (Square-tailed Kite)	-
<i>Macronectes giganteus</i> (Southern Giant Petrel)	Endangered
<i>Macronectes halli</i> (Northern Giant Petrel)	Vulnerable
<i>Miniopterus australis</i> (Little Bentwinged Bat)	-

Threatened flora and fauna species	EPBC Act Status
Miniopterus orianae oceanensis (Large Bentwinged Bat)	-
Myotis Macropus (Southern Myotis)	-
Neochmia ruficauda (Star Finch)	Endangered
Neophema chrysogaster (Orange-bellied Parrot)	Critically Endangered
Ninox strenua (Powerful Owl)	-
Numenius madagascariensis (Eastern Curlew)	Critically Endangered: Migratory
Onychoprion Fuscata (Sooty Tern)	-
Oxyura australis (Blue-billed Dick)	-
Pandion cristatus (Eastern Osprey)	-
Petroica boodang (Scarlet Robin)	-
Pezoporus wallicus wallicus (Eastern Ground Parrot)	-
Polytelis swainsonii (Superb Parrot)	Vulnerable
Procelsterna cerulea (Grey Ternlet)	-
Pterodroma nigripennis (Black-winged Petrel)	-
Pterodroma solandri (Providence Petrel)	-
Pteropus poliocephalus (Grey-headed Flying-fox)	Vulnerable
Ptilinopus Superbus (Superb Fruit Dove)	-
Puffinus assimilis (Little Shearwater)	-
Saccolaimus Flaviventris (Yellow-bellied Sheath-tail-bat)	-
Stagonopleura Guttata (Diamond Firetail)	-
Sternula albifrons (Little Tern)	Migratory
Thinornis cucullatus (Eastern Hooded Dotterel)	Vulnerable
Tyto Longimembris (Eastern GrassOwl)	-
Xenus cinereus (Terek Sandpiper)	Migratory
North Coast Wet Sclerophyll Forests	-
Coastal Swamp Forests	Endangered Ecological Community

**Appendix B – Aboriginal Cultural Heritage
Assessment Report (Coast History and Heritage,
2023)**

**Appendix C – Historical Archaeological
Assessment and Future Works Impact Mitigation
and Management Strategy (Dominic Steele
Consulting Archaeology, 2023)**

Appendix D – Heritage Impact Statement (John Oultram Heritage and Design, 2023)

Appendix E – Flora and Fauna Assessment Report (Narla Environmental, 2023)

**Appendix F – Botany Bay National Park – Kurnell
Conservation Management Plan (Context Pty Ltd
2008)**

Appendix G – Bushfire Protection Assessment (Eco Logical Australia, 2023)

**Appendix H – Kamay Botany Bay National Park
Plan of Management (NSW National Parks &
Wildlife Service 2020)**