



Lake Burley Griffin, Sauna Project

Heritage Impact Assessment

Prepared for National Capital Authority
June 2023



Acknowledgement of Country

We respect and acknowledge the First Nations Peoples of the lands and waterways on which we live and work, their rich cultural heritage, and their deep connection to Country, and we acknowledge their Elders past and present. We are committed to truth-telling and to engaging with First Nations Peoples to support the protection of their culture and heritage. We strongly advocate social, cultural and political justice and support the Uluru Statement from the Heart.

Cultural warning

Aboriginal and Torres Strait Islander readers are advised that this report may contain images or names of First Nations people who have passed away.

Report register

The following report register documents the development of this report, in accordance with GML’s Quality Management System.

Project	Issue No.	Notes/Description	Issue Date
23-0137	1	Draft Report	18 May 2023
23-0137	2	Final Report	14 June 2023

Quality management

The report has been reviewed and approved for issue in accordance with the GML quality management policy and procedures.

It aligns with best-practice heritage conservation and management, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance, 2013* and heritage and environmental legislation and guidelines relevant to the subject place.

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Lake Burley Griffin. (Source: GML 2023)

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1 Introduction

1.1 Project background

The National Capital Authority (NCA) has engaged GML Heritage Pty Ltd (GML) to provide a Heritage Impact Assessment (HIA) on the proposed operation of a floating sauna on Lake Burley Griffin. The project explores three possible locations on Lake Burley Griffin—one at Acacia Inlet (Yarramundi Reach) and two at Yarralumla Beach.

This HIA provides a high-level impact analysis based on the proposed works outlined in the documentation provided by the NCA in April 2023 on the identified Commonwealth Heritage values of 'Lake Burley Griffin and Adjacent Lands', to help the NCA determine whether to provide approval to proceed.

The HIA assesses the potential impacts of the floating structure on the proposed locations, with proposed operations between six to nine months a year.

1.2 Statutory context

1.2.1 Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) is the Australian Government's central piece of environmental legislation. The definition of 'environment' in the EPBC Act includes the heritage values of places, i.e. 'the place's natural and cultural environment having aesthetic, historic, scientific, or social significance, or other significance, for current and future generations of Australians'.¹

The EPBC Act provides the legal framework to manage nationally and internationally important heritage places (termed 'matters of national environmental significance'). The objectives of the EPBC Act include providing for the protection of the environment, especially matters of national environmental significance; providing a streamlined environmental assessment and approvals process; and providing for the protection and management of important natural and cultural places.² It also provides for the protection of the environment on Commonwealth land and for actions by Commonwealth agencies. The Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) is responsible for administering the EPBC Act.

The EPBC Act establishes the Commonwealth Heritage List (CHL) and the National Heritage List (NHL). The CHL comprises places owned or controlled by the Commonwealth that have been assessed as having heritage values against the criteria established under the

EPBC Act. Places identified with **outstanding** heritage values for the nation are eligible for inclusion in the NHL.

Lake Burley Griffin and Adjacent Lands (Place ID 105230) is included in the CHL and is therefore subject to the provisions of the EPBC Act.

1.2.2 National Capital Plan

The National Capital Plan (NCP) forms the strategic planning framework for Canberra and the Australian Capital Territory. In accordance with Section 10 of the Australian Capital Territory (Planning and Land Management) Act 1988 (Cwlth), the NCP sets out detailed conditions for planning design and development relating to Designated Areas for which the NCA is responsible for planning and development approval.

The NCP aims to ensure that 'Canberra and the Territory are planned and developed in accordance with their national significance'³. The key matters of national significance include:

1. The pre-eminence of the role of Canberra and the Territory as the centre of National Capital functions, and as the symbol of Australian national life and values.
2. Conservation and enhancement of the landscape features which give the National Capital its character and setting, and which contribute to the integration of natural and urban environments.
3. Respect for the key elements of the Griffins' formally adopted plan for Canberra.
4. Creation, conservation and enhancement of fitting sites, approaches and backdrops for national institutions and ceremonies as well as National Capital uses.
5. The development of a city which both respects environmental values and reflects national concerns with the sustainability of Australia's urban area.⁴

The NCP recognises the value of the unique purpose, setting, character and symbolism of Australia's national capital.

The NCA's aim, through the NCP, is to achieve a high quality of planning and development within a design context appropriate to its location. In addition, the NCP recommends development that enhances the Central National Area, which incorporates the National Triangle and its setting, Lake Burley Griffin and its foreshores, diplomatic sites and cultural institutions, and be guided by principles for planning and urban design that respect the geometry and intent of the Griffin Plan for Canberra.⁵

1.2.3 National Capital Authority

Commonwealth Heritage Obligations

The NCA has heritage obligations under the EPBC Act for the places it manages in Canberra. This includes managing places included in the CHL through heritage management plans (HMPs) and identifying, assessing and managing other heritage values and places not already in the CHL.

The NCA recognises:

the quality of the landscape and central urban spaces are attributes unique to the National Capital. The national public places at the centre of the capital provide the setting for the Parliament and national institutions. Such places are also the setting for the ceremonial and community events that reflect our nation's history, spirit and aspirations.

The NCA must ensure that it does not take any action that has, will have or is likely to have an adverse impact on the identified heritage values of listed places, unless there is no feasible or prudent alternative to taking that action, and that all measures that can be reasonably taken to mitigate the impact of the action to those values are taken.

Works approval process

Works within a Designated Area require written approval from the NCA and must meet detailed conditions set out in the NCP for planning, design and development. These works include new buildings or structures, relocation or installation of new sculptures, landscaping, excavation, tree-felling and demolition.

An NCA works approval application would usually be lodged after an EPBC Act referral decision has been made for a proposed action. If an EPBC Act referral is not required, then a HIA should accompany the NCA works approval application for a proposed action.

1.2.4 Limitations

This HIA has been prepared based on an assessment of potential impacts on the heritage values of Lake Burley Griffin and Adjacent Lands. Impacts on other heritage places in the vicinity have not been assessed.

The heritage management plan (HMP) for Lake Burley Griffin and Adjacent Lands (the Lake) is in the process of being updated, so the 2010 version of the report has been referenced when preparing this report.

This report provides an assessment of the potential impacts from the proposed structure at the three possible locations. An assessment has been undertaken using the general conceptual design provided by the NCA, noting that the operator has not been confirmed, and the design of the floating sauna has not yet been finalised.

GML contacted Canberra’s Representative Aboriginal Organisations (RAOs) to consult on potential impacts to Indigenous heritage values of the project. The assessment of impacts on Indigenous heritage values undertaken in this HIA draws on background information and cultural views provided by discussions with the RAOs who attended the site inspection and provided their input.

1.3 Site identification

This HIA explores three proposed sites on Lake Burley Griffin (refer to Figure 1.1). The proposed sites include a location at Acacia Inlet to the north of Yarramundi Reach, and two possible locations at Yarralumla Beach (adjacent to Yarralumla Bay) on the southern shore of the lake (refer to Figure 1.2).

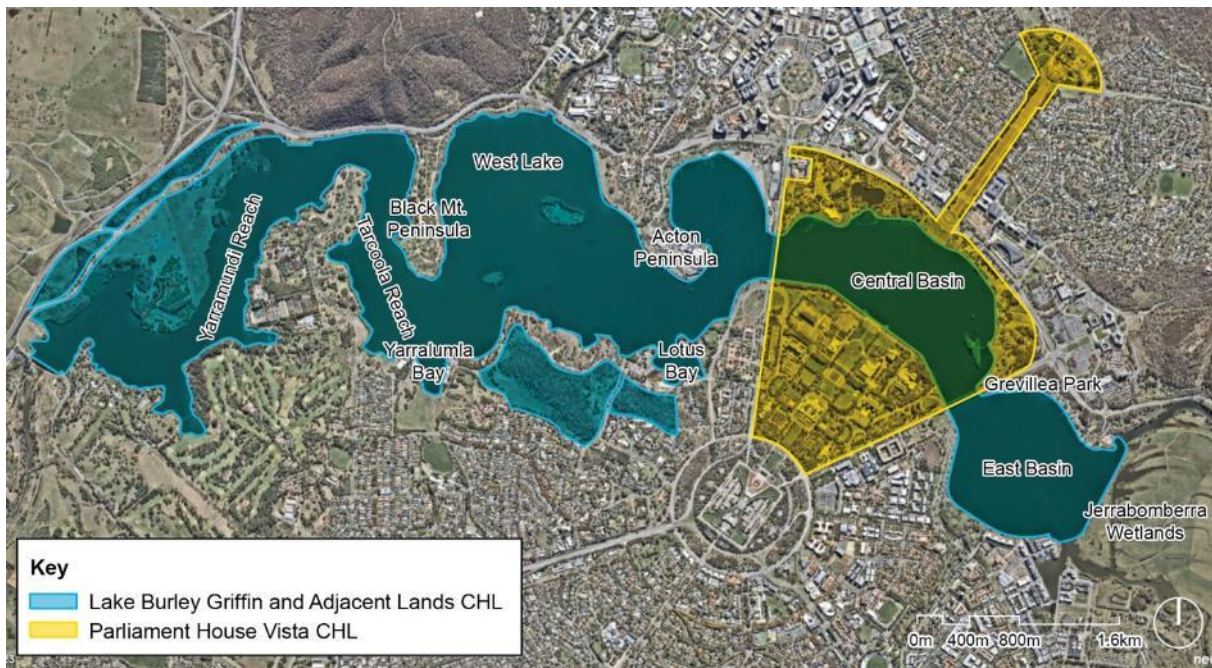


Figure 1.1 Broad site plan showing the Lake Burley Griffin CHL listed area (shown in blue) and the Parliament House Vista CHL listed area (shown in yellow). (Source: Google Earth base plan with GML overlay 2023)



Figure 1.2 The western end of Lake Burley Griffin identifying the proposed sauna locations at Acacia Inlet and Yarralumla Beach. (Source: Nearmap base plan with GML overlay 2023)

1.4 Documentation and references

In providing this advice, GML has examined the proposal in the documentation provided by the NCA (April 2023).

Key reference documents also include:

- Lake Burley Griffin and Adjacent Lands Heritage Assessment (HA), GML, Final Draft, 2010;
- Lake Burley Griffin and Adjacent Lands Heritage Management Plan (HMP), GML, 2010;
- Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance*, 2013;
- Department of Sustainability, Environment, Water, Population and Communities 2013, *Significant Impact Guidelines 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth agencies*, Commonwealth of Australia (Significant Impact Guidelines 1.2); and
- Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) (EPBC Act).

1.5 Endnotes

- ¹ Australian Government, *Working Together—Managing Commonwealth Heritage Places: A Guide for Commonwealth Agencies*, 2008.
- ² Australian Government Department of the Environment, 'About the EPBC Act', Canberra, viewed 28 July 2022 <<http://www.environment.gov.au/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999/about-epbc>>.
- ³ National Capital Authority, *National Capital Plan*, Rev April 2021, p8.
- ⁴ National Capital Authority, *National Capital Plan*, Rev April 2021, p8.
- ⁵ National Capital Authority, *National Capital Plan*, Rev April 2021, p9.

2 Heritage context

2.1 Introduction

Lake Burley Griffin and Adjacent Lands is recognised as having heritage significance through its inclusion on the CHL. Under the EPBC Act, actions taken on Commonwealth land must consider impacts to the 'whole of environment', which includes all heritage values of the place. The proposal is located on Lake Burley Griffin, which is classified as Commonwealth land under the EPBC Act. According to the EPBC Act Significant Impact Guidelines 1.2, it is necessary to identify the environmental context of an action and the general features or components of the environment in the area where the action will take place.

This section provides an overview of the heritage values of the place and key extracts from the history, description and policy sections of the HMP that are relevant to the proposed works.

2.2 Setting

2.2.1 Description and character areas

Lake Burley Griffin

Lake Burley Griffin is central to the designed landscape first conceived by Walter Burley Griffin and Marion Mahony Griffin in their 1911 design competition entry for Australia's federal capital. It was created by damming the waters of the Molonglo River in 1964, supported by both artificial and natural lake edges, and the construction of Scrivener Dam.

The shallow lake, which covers 664 hectares, is approximately nine kilometres long and varies in width. The distance around the shoreline is 40.5 kilometres, with the foreshores providing access to 314 hectares of parkland and 142 hectares of the Jerrabomberra Wetlands.

The lake is a key component of the nation's designed, symbolic landscape within the national capital and central Canberra. It comprises several separate bodies of water, including East Basin, Central Basin, West Basin, West Lake, Taroola Reach and Yarramundi Reach, each distinct in its shape and form, lake edge treatments and uses.

Acacia Inlet / Yarramundi Reach

Yarramundi Reach is located on the western end of Lake Burley Griffin, with Acacia Inlet located to the north of Yarramundi Reach.

Yarramundi Reach and Tarcoola Reach have the appearance of a natural river system due to the meandering shape of the water course and the natural shoreline without any concrete walls or stone pitching. The foreshore of these areas is mostly parkland, with no dominant architectural features.¹

Yarramundi Reach is characterised by its quiet, natural environment and important ecological communities. Its natural shoreline is identified as a key wetland waterbird and aquatic mammal breeding habitat. The habitats within the Acacia, Yarramundi and Warrina Inlets are places to conserve and protect, with good quality water to be maintained as the areas are important fish and waterbird habitats. Yarramundi Reach also accommodates a rowing course and other boating use.



Figure 2.1 View northeast across Acacia Inlet.



Figure 2.2 View to north along public pathway.



Figure 2.3 View from proposed sauna location.



Figure 2.4 View across Acacia Inlet from public path.

Yarralumla Beach/Yarralumla Bay

Yarralumla Beach is located on the southern shores of Lake Burley Griffin, to the northeast of Yarralumla Bay. The area is recognised as an urban recreation park, offering a sandy beach and designated swimming enclosure with swimming platforms, parking, toilets and BBQ facilities. This area is an important recreational space with easy public access, and is used to launch small boats used for purposes such as kayaking, sail boarding and stand up paddle boarding.

The beach sits alongside a landscape setting, shaded by large established trees. The lake foreshore is characterised by both the sandy beach and natural vegetation, which attracts a diversity of aquatic and birdlife.



Figure 2.5 View eastwards across Yarralumla Beach and swimming area.



Figure 2.6 View towards proposed sauna sites along lake foreshore and sandy beach non-motorised boat launch area.



Figure 2.7 Distant view to Black Mountain and 'soft' lake edge, where location 3 is proposed.



Figure 2.8 View of public recreational space and picnic facilities at Yarralumla Beach.

2.2.2 Environmental context

Components of environment

The Heritage Assessment for Lake Burley Griffin², which supported the 2010 HMP, described the shoreline environment in the following terms.

A large proportion of the lake shoreline is 'soft' edged³ and a proportion supports extensive reed beds. Seasonal drawdown of the lake is minimal, and these areas consequently show little zonation. Rather, the characteristic form is a terrestrial bank abutting an aquatic reed bed. Just over 7,000 linear metres of shoreline adjoin substantial (wider than 4m) reed beds. The dominant plant species comprising these beds are cumbungi (*Typha orientalis* and *Typha domingensis*) and common reed (*Phragmites australis*). Significant individual reed bed sites mainly comprise three wetlands along Yarramundi Reach: Warrina Inlet, Acacia Inlet and Yarramundi Inlet. All support habitat for a diverse population of waterfowl, including some protected under international migratory agreements, and land birds.

Altogether, 17,600 linear metres of the lake shoreline (just over 50% of the total perimeter) has unbuilt edges. The unbuilt edges comprise 3,300 linear metres of rocky shoreline and 14,300 linear metres of soft edges where forest, grass or plantation trees come down to the water's edge. Where the shoreline has reed beds, the terrestrial vegetation becomes part of the reed habitat, providing shelter and elevated roosting sites. Where an abrupt land/water interface exists (about 7,300 linear metres), roots of trees or thickets usually bound and stabilise the loamy, indurated substrate of the shoreline.

Two freshwater mammals naturally occur in south-eastern Australia—the platypus and the eastern water rat. The eastern water rat has adapted well to the lake foreshores and inlets, and is frequently sighted. The most recent platypus sightings were in August 2018.

Sensitive or vulnerable elements

The HMP and CHL have listed the areas of natural heritage value in the defined Lake Burley Griffin and Adjacent Lands CHL listing, and include several shoreline areas (also refer to Section 2.4).

Several sensitive or vulnerable natural elements may be particularly at risk to impacts from the proposed activity. The table below outlines these elements.

Table 2.1 Sensitive or vulnerable elements of the subject area.

Element	Description
Significant reed bed and aquatic habitats	<p>Warrina Inlet: A macrophyte-fringed inlet in Yarramundi Reach that provides notable waterbird habitat. Ornithological surveys in this area have shown that Warrina Inlet is one of the more valuable waterbird habitats on the lake.</p>
	<p>Acacia Inlet: This is an extensive waterbird habitat. Among the waterbirds recorded in this inlet are several that are absent from other parts of the lake, including the greater crested grebe, little bittern and little grassbird. It also provides a prime habitat for the Latham’s snipe (<i>Gallinago hardwickii</i>), a JAMBA⁴ listed species.</p>
	<p>Yarramundi Inlet: An inlet in Yarramundi Reach with a broad fringe of cumbungi. It is secluded, with a shoreline vegetated by eucalypts, wattles, pines, poplars and cork oaks. This site supports a similar array of species to Warrina Inlet and is a breeding site of the musk duck (<i>Biziura lobata</i>).</p>
'Soft' areas of shoreline habitat	<p>Reed beds and terrestrial vegetation combine to provide shoreline habitat. Dominant plant species comprising these beds are cumbungi (<i>Typha orientalis</i> and <i>Typha domingensis</i>) and common reed (<i>Phragmites australis</i>).</p> <p>An extension of this value is potential platypus habitat. The main habitat is creeks and streams rather than open water. Areas around the mouth of Molonglo River, Dairy Creek and Sullivans Creek are therefore highlighted.</p>

2.3 Heritage significance

Lake Burley Griffin and Adjacent Lands was entered on the CHL on 8 April 2022 (Place ID 105230). The place has significant historic, natural and Indigenous heritage value of importance to Australia and the local community.

2.3.1 Lake Burley Griffin and Adjacent Lands

Relevant heritage values and attributes, drawn from the official CHL citation, have been identified in Table 2.2.

Table 2.2 Table of listed Commonwealth Heritage Values for Lake Burley Griffin and Adjacent Lands, Lady Denman Dr, Yarralumla, ACT.

Heritage Values	Attributes
<p>(A) Processes</p> <ul style="list-style-type: none"> The Lake Burley Griffin and Adjacent Lands place has significant historic heritage value. Characteristics of the place with significant historic value include the following. From the early days of Canberra's establishment as the national capital, the gradual formation of Lake Burley Griffin marked major milestones in the capital city's creation. As a substantial national project, the construction and completion of Lake Burley Griffin demonstrates the push for national development during the years immediately after Federation and before the First World War, and again after the Second World War, under the Menzies government. Lake Burley Griffin is associated with the original city competition brief for the design of Canberra. Its final form at completion is consistent with the original guiding intentions set out in the competition brief. This link with the original brief connects us to the aspirations and vision Australians had for Federation and its capital city at the beginning of the twentieth century. The Lake's design and form reflect the story of its development including the tensions between designers, administrators and politicians in the development of the capital. 	<ul style="list-style-type: none"> Features which express the significant historic values of the place include, but are not limited to: the lake as a whole including its edge treatments, the Captain Cook Water Jet, the Commonwealth and Kings Avenue bridges, Scrivener Dam, lake islands, the Lake's contribution to the geometry of Griffin's plan for Canberra; the remnant historic plantings of Cupressus sempervirens trees located on part of the hill known as Roman Cypress Hill; the remnant historic plantings within the Lindsay Pryor Arboretum; the site and remnant structures of the former Westlake settlement; the No 1 sewer vent in

Heritage Values	Attributes
<ul style="list-style-type: none"> The Lake's design reflects the influence of three major urban design movements including the City Beautiful movement, the Garden City movement and International Modernism. The use of City Beautiful and Garden City theories and ideas is reflected in the use and design of the lake to fulfill aesthetic, open space and outdoor recreation functions. The lake also forms part of the water axis and has been designed in parts to include symbolic, ceremonial, formal and informal and active and passive recreation space. The design influences of International Modernism can be seen in the engineering works within the place including the fish belly flap gates of Scrivener Dam, Commonwealth Avenue Bridge and Kings Avenue Bridge. The central area of Lake Burley Griffin provides an aesthetic and symbolic backdrop for many military and civil memorials along its foreshore. National events and ceremonies have and continue to be staged around, near and over the lake because of its beauty and function within the central national area. Stirling Park has a layered collection of Indigenous, pastoral and early capital city features including Aboriginal stone artefacts and arrangements, a scarred tree, old routes and tracks, exotic plantings, remnant mining sites, campsite and homestead sites and the remaining remnant structures of the former Westlake workers settlement. Westlake provided accommodation for early Canberra builders and tradesmen working on the construction of buildings like Old Parliament House, East Block, West Block and Hotel Canberra. The remnant layout of the Westlake settlement is still legible in the landscape demonstrating the living conditions of those early workers and their families who came to Canberra as builders and tradesmen. Over time this settlement became a strong community remembered today by former residents and their families. Roman Cypress Hill is a significant historic planting area. The remnant historic planting of Cupressus sempervirens was planted in 1919--1921 when the first planning and layout for Griffin's Canberra was being undertaken. Charles Weston's work to establish the landscape of the city is also partly demonstrated here. Today it is a remnant of Griffin's plan for the treatment of the western horizon. Only part of the hill planting remains in its original setting, the remaining planting area is located across the highway to the west. The Lindsay Pryor Arboretum is associated with the history of urban landscaping and city horticulture in Canberra. The historic planting in the arboretum area demonstrates some of Pryor's experimental work on the growth of a variety of tree species for potential use in the 	<p>Stirling Park and the layered historic landscape of Stirling Park representing the Indigenous, pastoral and early capital city periods of Canberra.</p>

Heritage Values	Attributes
<p>city's parks and streets. The planting and surrounding water areas also form part of the attractive parkland and water views from Government House.</p>	
<p>(B) Rarity</p> <ul style="list-style-type: none"> The Lake Burley Griffin and Adjacent Lands place has significant rarity value because of the place's possession of uncommon, rare and endangered aspects of Australia's natural and cultural history. These rare aspects of the place are described below. <i>City Beautiful and Garden City exemplar</i> Lake Burley Griffin is an important exemplar design site which can demonstrate design and planning devices characteristic of the two most important town planning movements of the twentieth century; the City Beautiful and Garden City movements. Canberra is one of the few planned twentieth century cities in Australia and in the world. The city's national capital function provided planners and designers, like Griffin, with an opportunity to use their best and most innovative planning ideas drawing from the town planning practices of their time. In particular, the lake forms part of the water axis which Griffin used to arrange city elements and connect surrounding natural features. The grand scale of lake vistas along the water axis and in other areas gifts the National Triangle and city a sense of grandeur and beauty. The lake overall, also provides long water vistas which feature the surrounding, sometimes snow covered, Brindabella Mountains. Viewed from high vantage points like Black Mountain, Mt Ainslie and Red Hill, the lake is a distinctive character element providing a lake setting for its urban, residential and national capital activities and spaces. The lake also integrates the northern and southern sides of the central city. The formal areas of the lake also provide a water setting for national institutions which are showcased on its foreshore. The use of visual follies like the lake's islands, the National Carillon and the Captain Cook Memorial [water] Jet are examples of visual devices informed by the City Beautiful movement. From a Garden City perspective, the lake provides a variety of recreation spaces and is itself a huge open space in the middle of the central city area of Canberra. The lake area is almost twice the size of Central Park in New York. Stirling Park and Yarramundi Reach are part of an extensive and generous system of parks and open space along the lake's foreshore. The treatment of Roman Cypress Hill also demonstrates the careful 	<ul style="list-style-type: none"> The features which express these rarity values include but are not limited to the lake as a whole including its edge treatments, the Captain Cook Memorial Jet, the lake's two bridges, Scrivener Dam, lake islands, the lake's contribution to the realisation of the water axis, the Roman Cypress Hill planting, the use allocation of Stirling Park and Yarramundi reach as parkland, the long uninterrupted lake vistas and views (from the Lake) of the Brindabella Mountains and the many long water vistas afforded from the foreshore and for those using the lake for boating. The features which express the natural rarity values include but are not limited to the whole area of designated grassland on Yarramundi Reach; the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland community on the slopes of Stirling Ridge; the lake habitat of the Murray Cod comprising the waterbody, aquatic vegetation and lake bed; the grassland habitat of the Striped

Heritage Values	Attributes
<p>management of visual experiences which were planned deliberately in a dynamic way to enhance the visual experience of the city and National Triangle.</p> <p><i>Engineering techniques</i></p> <ul style="list-style-type: none"> The 'fish-belly' flap gates of Scrivener Dam enable the lake's water levels to be controlled to a precise degree. The technology identified and built at Scrivener Dam (fish-belly-flap gates) is rare in Australia and represents the development of standards in hydrology and dam engineering in its time. <p><i>Natural areas</i></p> <ul style="list-style-type: none"> The large surviving grassy woodland area, now modified to grassland, at Yarramundi Reach displays important characteristics of the remnant Natural Temperate Grassland ecological community. This ecological community is recognised at a territory and national level as a threatened ecological community. The grassland at Yarramundi Reach provides habitat for the Striped Legless Lizard which is recognised at a territory and national level as a threatened species and the Perunga Grasshopper, also recognised as a threatened species. The White Box-Yellow Box-Blakely's Red Gum Grassy Woodland ecological community of Stirling Park is a recognised threatened ecological community. This community provides habitat for another threatened species, the Button Wrinklewort, and may provide suitable habitat for the vulnerable Gang-gang Cockatoo and Superb Parrot. Both the remnant Natural Temperate Grassland of Yarramundi Reach and the derived native grassland in the western section of Stirling Park may also provide important habitat for the critically endangered Golden Sun Moth. Wetland environments at Yarramundi Inlet, Acacia Inlet and Warrina Inlet, comprising reed beds, fringing terrestrial vegetation and open water, provide habitat for a diverse population of waterfowl and land birds. Latham's Snipe, the Common Greenshank, the Red-necked Stint and the Sharp-tailed Sandpiper, listed migratory wetland species, are recorded from these wetlands. Other locally rare species recorded here include the Greater Crested Grebe, the Little Bittern, the Little Grassbird and the Musk Duck. The wider aquatic ecosystem of the lake provides habitat for the threatened Murray Cod. 	<p>Legless Lizard, Perunga Grasshopper and Golden Sun Moth, which includes the whole area of designated grassland on Yarramundi Reach and the western section of Stirling Park; the habitat of the Button Wrinklewort which includes the upper slopes of the central and western parts of Stirling Park; the wetland bird habitats along the foreshores and shallows of the two inlets along Yarramundi Reach and the one inlet to the east of Government House; the Acacia Inlet wetland at the northern end of Yarramundi Reach, extending south along the reach and including the majority of reed beds along the Reach foreshores, and the limestone formations occurring both above and below the surface of the lake.</p>

Heritage Values	Attributes
<ul style="list-style-type: none"> Below the waters and along the shoreline of the lake are occurrences of limestone, including a limestone cave; rare examples of a feature from which the original post-contact settlement name for the Canberra locality, the 'Limestone Plains,' is derived. Early descriptions of the area often refer to limestone, but most examples have since been either built on or submerged under the lake. <p>(C) Research</p> <ul style="list-style-type: none"> The Lake Burley Griffin and Adjacent Lands place has significant research value because of the place's potential to yield information that will contribute to an understanding of Australia's history and practice of urban planning, architecture and landscape architecture. Indigenous sites and natural sites are also able to yield important information. Specific areas or characteristics able to yield information are described below. <p><i>Design and planning studies</i></p> <ul style="list-style-type: none"> Lake Burley Griffin and its many 'design layers' is a source of information about key theories, practices and histories associated with urban planning, architecture and landscape architecture. Evidence of the work of key practitioners including Walter Burley Griffin, Marion Mahoney, John Sulman, Charles Weston, Lindsay Pryor, Sir William Holford, Dame Sylvia Crowe, Richard Clough, Peter Harrison, Trevor Gibson, and John Overall are also evident and are a valuable historic resource for further study and examination. The fish belly flap gates of Scrivener Dam and the two major bridges also provide the opportunity for further research and teaching potential associated with engineering practice and design technologies. <p><i>Natural Science</i></p> <ul style="list-style-type: none"> The occurrence of threatened species in the Yarramundi grasslands (particularly the Striped Legless Lizard and Perunga Grasshopper) and at Stirling Park (Button Wrinklewort), and the ecological communities themselves (Natural Temperate Grassland and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland) provide opportunities for ecological research on habitat and population relationships. The lake's wetlands offer similar opportunities for the study of resident and migratory birds. The freshwater ecosystems of the wider lake also provide research opportunities for the study of aquatic ecosystems. This 	<ul style="list-style-type: none"> The features which express these significant natural heritage research values include the whole area of designated grassland on Yarramundi Reach, the upper slopes of the central and western parts of Stirling Park and the lake waters, including the small wetland pockets near and around Yarramundi Reach. The features which express these significant historic research values include but are not limited to Lake Burley Griffin and its designed and planned features associated with the design practitioners mentioned above.

Heritage Values	Attributes
<p>research would be particularly focused within the context of artificially impounded water bodies in urban environments.</p> <p>Indigenous history</p> <ul style="list-style-type: none"> • Indigenous sites within the place have the potential to reveal evidence of traditional lifeways and the economy of Indigenous people in the Canberra region prior to European settlement. The features which express these significant Indigenous research values include the Indigenous sites (12) at Yarramundi Reach and Stirling Park. <p>(D) Characteristic</p> <ul style="list-style-type: none"> • The Lake Burley Griffin and Adjacent Lands place has important representative values. The aspects or characteristics of the place which have representative value are as follows. <p><i>City Beautiful Design exemplar</i></p> <ul style="list-style-type: none"> • The design and final form of Lake Burley Griffin demonstrate key aspects of important design philosophies and styles from the early twentieth century, including the City Beautiful Movement and the Garden City Movement. The influence of International Modernism from the mid- twentieth century is also evident. Lake Burley Griffin is representative of a small group of designed urban environments in Australia containing areas of water used primarily for ornamental purposes and is one of the largest and best-known examples. <p><i>Natural areas</i></p> <ul style="list-style-type: none"> • Some areas within the place possess remnant vegetation. Collectively these areas represent the characteristics of the pre-1820s natural environment. These areas include: <ul style="list-style-type: none"> – adjacent to Yarramundi Inlet there is a surviving individual Eucalyptus viminalis representing the original Molonglo River riparian forest. This tree is the sole indicator of the past riparian forest in the study area; – small remnants of the Natural Temperate Grassland community which exist in patches between Alexandria Drive and the lake foreshore from Blue Gum Point to Attunga Point. These areas represent remnant examples of the pre-1820s vegetation; 	<ul style="list-style-type: none"> • The features which express these significant representative values include but are not limited to Lake Burley Griffin surrounds and the natural features described above.

Heritage Values	Attributes
<ul style="list-style-type: none"> - a large grassy woodland area, now modified to grassland, located at Yarramundi Reach. This area displays the significant characteristics of the Natural Temperate Grassland community; - a large remnant of the original White Box-Yellow Box-Blakely's Red Gum Grassy Woodland on the slopes of Stirling Ridge in Stirling Park; - a remnant eucalypt dry open forest, characteristic of north and west facing slopes in the ACT, located on the eastern ridge of Stirling Park; and - a re-growth Snow Gum stand at the northern end of Yarramundi Reach. This stand is characteristic of the natural woodland/forest transition in the southern tablelands. 	
<p>(E) Aesthetic</p> <ul style="list-style-type: none"> • Lake Burley Griffin and Adjacent Lands place has important aesthetic characteristics valued by: <i>For Australians</i> • Lake Burley Griffin is recognised as a beautiful feature of Canberra. In particular the Lake provides an attractive water setting for national institutions, lakeside parklands and lakeside memorials. Lake Burley Griffin is also featured in many promotions of Canberra to the extent that it has become a landmark and signature element of the city and its presentation as the capital of Australia. <i>For the Canberra Community</i> • Lake Burley Griffin is appreciated by Canberrans as a beautiful part of their city. Its visual appeal during the day and night is appreciated as an essential part of their city and as a 'signature' element of Canberra as a place. Some particular characteristics appreciated by Canberrans include the presence of large areas of water, the reflections and seasonal variations on the water surface, the formal water basins near the national institutions and Parliament buildings and the more natural, quieter areas of the lake like Yarramundi Reach. Views to the water are also valued because of the 'calm presence' it provides in an individual's experience of the nearby city area. 	<ul style="list-style-type: none"> • The features which express these aesthetic values include but are not limited to the large size and varied shape of the lake; the lake's quiet and peaceful areas (particularly the secluded areas in the lower reaches); the water body and surface of the lake (including the maintenance of its water level); and the reflective qualities of the water.

Heritage Values	Attributes
<p>(F) Technical achievement</p> <ul style="list-style-type: none"> The lake's design, development and final completion is considered by experts to be an achievement of creative genius and demonstrates a high level of technical engineering and urban design achievement. This high level of achievement is demonstrated by the following aspects or characteristics of the place. Lake Burley Griffin is an essential element of the Griffin plan for the capital city of Canberra. Its design has been purposefully developed to reflect Canberra's function and status as the nation's capital. The lake is used as a unifying design element and incorporates key aesthetic and functional roles within the overall plan for the city. The design of Lake Burley Griffin strongly reflects two key periods of creative and technical accomplishment. In the early period of the lake's development the lake's design is associated with the City Beautiful and Garden City town planning movements. Work undertaken from the 1950s is associated with International Modernism. The overall form of the lake is most strongly associated with its original conception set out in the city design competition brief. The lake's edge treatments and details, such as islands, are more reflective of later periods of construction. The lake's form also reflects the way the designers made use of the city site and the Molonglo River's features. West Lake, in particular, is evidence of the original 'river' form of the city site. The basins are evidence of the former river flood plain as well as evidence of the ancient Molonglo Lake. The final form of the lake closely resembles Griffin's 1918 plan with the exception of the deletion of East Lake. This similarity provides evidence of the essential integrity of the plan for the lake as conceptually developed by Griffin while he was in Canberra. The design of the lake includes formal and informal parts and reflects some of Griffin's geometric devices. The lake's integration of government and civic functions (on its opposite banks) has also been retained, although the intensity of the planned relationship has been weakened in implementation. The design of Lake Burley Griffin and Associated Lands provides evidence of tensions over time between Griffin's primarily City Beautiful plan and the interplay of Garden City ideas and the influence of Holford and the National Capital Development Commission. 	<ul style="list-style-type: none"> The features which express these values include but are not limited to the lake as a whole, Scrivener Dam, Commonwealth and Kings Avenue bridges, the islands within the lake and the lake's function as part of the water axis.

Heritage Values	Attributes
<ul style="list-style-type: none"> Lake Burley Griffin demonstrates a number of urban design approaches and styles. These occur within a designed and richly symbolic environment which is absent in many other more contemporary urban places. This richness demonstrates a sophisticated design approach to the urban design of the lake and its surroundings. Some key features of this include: the link between the axes and landscape features; the inclusion of formal and informal lake areas; the purposeful links with both close and distant topography; the relationship between vertical and horizontal elements (like the National Carillon and the Captain Cook Memorial Jet); the mirroring of foreshore and surrounding natural features, the lake's provision of water frontage for national institutions; the relationship between areas of distinctive character planting (around the lake) which makes use of seasonal colour and texture and the lake's contribution to the presentation of the city area as a city in a natural landscape. Lake Burley Griffin also demonstrates a high degree of technical achievement in engineering. The construction of the two bridges and Scrivener Dam were projects which demonstrated high levels of achievement in their time. 	
<p>(G) Social value</p> <ul style="list-style-type: none"> Lake Burley Griffin and Adjacent Lands place is important to various communities as a landmark and as a signature element of Canberra. It also acts as an important reference point in the construction of Canberra's place identity. The use of the lake has also created strong associations with recreation users like rowers, small watercraft users and walkers. Special associations with the Australian community are also present. <i>For Australians</i> Lake Burley Griffin plays an important role in representing the image of Canberra to the nation and potentially internationally. Its landmark value as part of the national capital's landscape is well recognised and widely valued. For Australians, especially those who have visited Canberra, Lake Burley Griffin is a well-recognised symbol of Canberra, forming the central focus of the national capital designed landscape. The lake is also valued as a place which provides an attractive setting for visitors walking or driving through the city and around key national institutions. <i>For the Canberra Community</i> 	<ul style="list-style-type: none"> The features which express these social values include but are not limited to, the whole of Lake Burley Griffin.

Heritage Values	Attributes
<ul style="list-style-type: none"> Lake Burley Griffin is highly valued by the Canberra community as an important and essential part of Canberra. The lake contributes significantly to Canberra's place identity and provides a range of recreation opportunities for all Canberrans. The lake also connects Canberrans to Canberra's function and purpose as the nation's capital as the lake is a central design element in the construction of the national capital. Canberrans are proud of the lake as a significant construction achievement. The unification of two parts of the city at completion of the lake is remembered. Lake Burley Griffin is highly valued by the Canberra community as an important community gathering place which is also used as a setting for large public events. The lake remains a place which has been experienced and enjoyed by Canberrans for over 35 years for leisure and as a visual delight. Lake Burley Griffin is highly valued by the Canberra community as a place that represents the realisation of the Griffin design for Canberra. The lake also creates a setting for community celebration and engagement. Lake Burley Griffin is also highly valued by the Canberra community as a place of personal memory and experience. The Canberra community has a strong attachment to the lake as a whole, as well as to a range of individual places on and around the lake. These values are shared across the community, irrespective of the nature, length and frequency of association. 	
<p>(H) Significant people</p> <ul style="list-style-type: none"> Lake Burley Griffin and Adjacent Lands place has significant associations with people of importance in Canberra's history of development. These associations include the following. Important people involved with the creative and technical aspects of the design and construction of Lake Burley Griffin include Walter Burley Griffin, Marion Mahony Griffin, Charles Scrivener, Sir William Holford, Dame Sylvia Crowe, Richard Clough and the National Capital Development Commission (NCDC). Lake Burley Griffin also has strong associations with Sir Robert Menzies who played pivotal role in the implementation of the lake's construction. His support is associated with the final push towards the lake's completion. Walter Burley Griffin is an important figure in Australia's cultural history because of his contribution to the design of Canberra as Australia's capital city. In recognition of his contribution Lake Burley Griffin has been named in appreciation of his work. 	<ul style="list-style-type: none"> The features which express these values include but are not limited to: the lake as a whole, including all its designed and engineered elements; the Roman Cypress Hill stand of Cupressus sempervirens and Pryor's surviving trial plantings covering the southern portions of Yarramundi Reach.

Heritage Values	Attributes
<ul style="list-style-type: none"> • Marion Mahony Griffin worked with Walter Burley Griffin on the design for Canberra. Her perspective drawings were a brilliant representation of the ideas presented in the competition drawings for Canberra. In recognition of her contribution the Marion Mahony Griffin view at Mt Ainslie has been named in appreciation of her work. • Charles Scrivener surveyed and recommended the Canberra site for Australia's capital city. He also made recommendations regarding the suitability of this site for ornamental waters which pointed to the eventual creation of Lake Burley Griffin. • British planner, William Holford, was engaged by the Menzies Government to recommend a way forward for the construction of Lake Burley Griffin. Holford did extensive work on the design of Lake Burley Griffin and its two bridges. • Sylvia Crowe and Richard Clough were prominent landscape architects involved with the landscape development and planting works around the lake, and, in particular, of Commonwealth Park. • The experimental planting plots within the Lindsay Pryor Arboretum are strongly associated with the pioneering and extensive work planned and carried out by Lindsay Pryor and his team in the landscaping of the city scape of Canberra. • Many professions have been involved in planning, design and construction of Lake Burley Griffin including town planners, architects, landscape architects, engineers and surveyors. In the case of landscape architects and town planners in Australia, the growth of these professions in Australia has a strong association with Lake Burley Griffin and some of the adjacent lands within the place. 	

2.4 Natural heritage values

Natural heritage values of Lake Burley Griffin and Adjacent Lands are identified in the 2020 CHL listing and the 2009 HMP. The CHL listing is mainly based on the findings and recommendations of the HMP, with some additional attributes from submissions to the Commonwealth Heritage assessment.

The CHL listing’s Statement of Significance includes the following summary of natural heritage values:

Rare natural heritage values include remnant ecological communities and associated threatened species at Yarramundi Reach and Stirling Park, wetland areas that also provide habitat for a number of threatened species, and limestone formations occurring both above and below the surface of the lake. The natural features of the place, including the grasslands at Yarramundi Reach, the upper slopes of the central and western parts of Stirling Park and the lake waters, including the small wetland pockets near and around Yarramundi Reach, have the potential to yield information on threatened species and ecological communities of the local area.

The shoreline natural heritage values of Lake Burley Griffin and Adjacent Lands that contribute to the overall heritage significance of the listed place are listed in Table 2.3 and mapped in Figure 2.1 under the categories Warrina Inlet Wetland, Yarramundi Inlet Wetland, Acacia Inlet Wetland, and Soft edge: terrestrial vegetation and reed beds.

Table 2.3 Heritage importance of relevant natural heritage elements of Lake Burley Griffin and Adjacent Lands, from the CHL Listing.

Element	Natural heritage values	Commonwealth Heritage criteria
Wetland environments at Yarramundi Inlet and Yarramundi Reach foreshores, Acacia Inlet and Warrina Inlet.	<p>Comprise reed beds, fringing terrestrial vegetation and open water. Provide habitat for a diverse population of waterfowl, including some protected under international migratory agreements, and land birds.</p> <p><i>Attributes:</i></p> <p>Latham's Snipe, the Common Greenshank, the Red-necked Stint and the Sharp-tailed Sandpiper, and listed migratory wetland species (JAMBA and CAMBA) are recorded from these areas.</p> <p>Other locally uncommon species recorded here include the Great Crested Grebe, the Little Bittern, the Little Grassbird and the Musk Duck.</p>	The natural values contribute to CHL under criteria (b) and (c).
'Soft' areas of shoreline habitat	<p>Reed beds and terrestrial vegetation combine to provide shoreline habitat. Dominant plant species comprising these beds are cumbungi (<i>Typha orientalis</i> and <i>Typha domingensis</i>) and common reed (<i>Phragmites australis</i>).</p>	The natural values contribute to CHL under criteria (b) and (f).

Element	Natural heritage values	Commonwealth Heritage criteria
	<p><i>Attributes:</i></p> <p>Contribute to the same habitat values listed for the named wetlands.</p>	
<p>Wider lake ecosystem</p>	<p>Habitat for a range of aquatic populations, including the nationally threatened Murray Cod. The freshwater ecosystems provide research opportunities for the study of aquatic ecosystems.</p> <p><i>Attributes:</i></p> <p>This research would be particularly focused within the context of artificially impounded water bodies in urban environments.</p>	<p>The natural values contribute to CHL under criterion (b) and (c).</p>

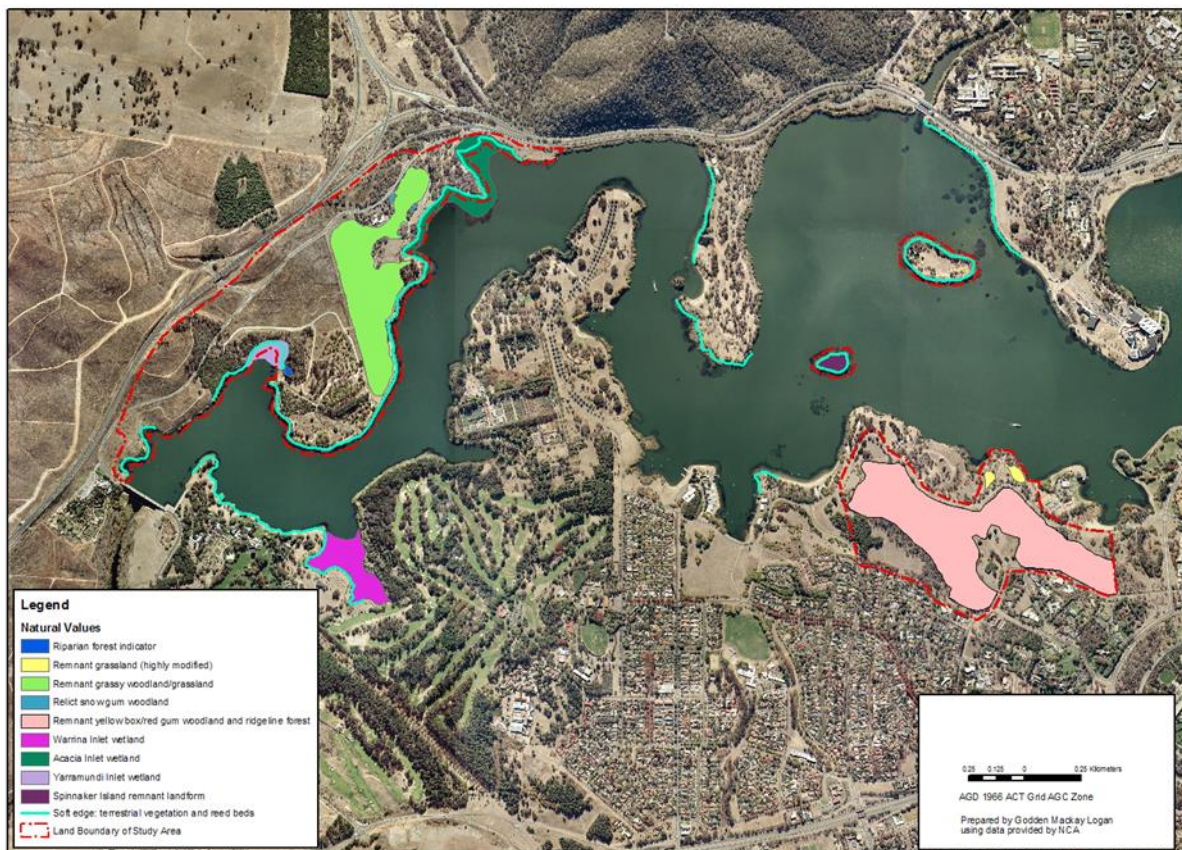


Figure 2.9 Natural heritage values identified in the CHL for Lake Burley Griffin and Adjacent Lands.

2.5 Indigenous heritage values

Indigenous people have occupied Canberra and the surrounding region for more than 20,000 years, and the landscape of the central Canberra area and its natural and cultural environment continue to have cultural heritage significance to the Traditional Owners.

The Canberra area has numerous areas of Indigenous heritage significance, including modern-day Capital Hill (known to be a traditional campsite), Black Mountain and Mount Ainslie.

The ACT Heritage Aboriginal sites database includes several sites in the near vicinity of the project areas.

Most notably, seven registered Aboriginal sites are within 950 metres of Acacia Inlet. They comprise two small artefact sites and five isolated artefacts. The largest of the sites, YR2 (Yarramundi Reach 2), is situated on the small peninsula on the south side of Acacia Inlet. Two further isolated artefact sites (YR1 and YR3) are within 120 metres to the northwest of YR2, on the same landform. The peninsula is a narrow, gently sloping ridge oriented toward the east, approximately 300 metres from the original Molonglo River course. Each of the remaining nearby sites, YR5, YR6 and YR8 and CLB1, are all also on gently sloping ground between 150 and 250 metres from the original river course. The general landforms in the area on both sides of the river course would have been conducive locations for Aboriginal occupation, comprising well-drained and elevated landforms in close proximity to a reliable water source.

Yarralumla Beach is located approximately 500 metres from the original Molonglo River course and would have been the lower slope of a rise leading up to Stirling Park. Stirling Park is identified in the Lake Burley Griffin and Adjacent Lands CHL citation as one of the places embodying the Indigenous heritage values for the lake due to the presence of a scarred tree and artefact scatters. In Stirling Park, current recordings include: CC-YAR-001, CC-YAR-002, CC-YAR-003, 'Cultural Tree (Women's Business)' and another Women's Cultural Tree.

Other artefact sites in the near area include another five sites to the south of Acacia Inlet within 800 metres of Scrivener dam, those further to the northeast of the study area recorded on the southern side of Black Mountain, and also around Sullivans Creek.

Where undeveloped, the fringes and surrounds of Lake Burley Griffin in the vicinity of the project area have the potential to contain some archaeological evidence of the prior use of the area by Aboriginal people.

The following statement of broad archaeological patterning was made in the HMP and is relevant to the assessment of the current study area in Yarralumla:⁵

It may be assumed that the Molonglo River corridor was an important prehistoric Aboriginal resource zone that attracted a considerable level of hunter-gatherer occupation. This importance may have paralleled that of the Murrumbidgee River corridor, where over 200 Aboriginal sites, including open camp sites, stone quarries, scarred trees and ceremonial sites, had been recorded by the early 1990s.

Archaeological surveys carried out along sections of the lower Molonglo suggests that gentle slopes, spurs and alluvial flats along the river will exhibit the highest archaeological potential. These areas are sheltered climatically and located close to resources. The Molonglo River valley was the prime source of water and food resources, and provided access to the Limestone Plains for local and visiting Aboriginal groups.

This is also broadly reflected in the Lake Burley Griffin and Adjacent Lands CHL citation, with specific reference to Stirling Park and Yarramundi Reach, and a more general reference to the values of general landscape.

The citation notes:

- Stirling Park has a layered collection of Indigenous, pastoral and early capital city features including Aboriginal stone artefacts and arrangements, a scarred tree, old routes and tracks, exotic plantings, remnant mining sites, campsite and homestead sites and the remaining remnant structures of the former Westlake workers settlement.
- Indigenous sites within the place have the potential to reveal evidence of traditional lifeways and the economy of Indigenous people in the Canberra region prior to European settlement. The features which express these significant Indigenous research values include the Indigenous sites (12) at Yarramundi Reach and Stirling Park.

2.6 Heritage management and policies

The following extracts from the HMP for Lake Burley Griffin and Adjacent Lands are relevant to the proposal, and provide guidance and direction for the NCA. Additional relevant planning documents held by the NCA, such as the National Capital Plan (NCP) and policies for the management of the lake, are discussed in brief.

2.6.1 Lake Burley Griffin Heritage Management Plan

General and specific heritage conservation policies and actions are provided in the HMP for Lake Burley Griffin. The conservation policies recognise the diversity of character of Lake Burley Griffin and its components, and promote a holistic approach to the future management of the lake as a cultural landscape.

The following general policies from the HMP that apply to Lake Burley Griffin are summarised in Table 2.4 and are underlined where relevant for emphasis.

Table 2.4 General policies for Lake Burley Griffin from the HMP that are relevant to the proposal.

Policies (numbering from the HMP)	Actions
1 Heritage Conservation	
1.1 Conserve the identified heritage values of the Lake Burley Griffin Study Area in compliance with the requirements of the EPBC Act, the Australian Capital Territory (Planning and Land Management) Act 1988 and the Nature Conservation Act 1980 (ACT) (in accordance with the 1998 MOU).	1.1.3 Any proposal or action that will or is likely to have a significant impact on the environment including the identified Commonwealth and National heritage values of the Study Area will require a referral to the Minister for Environment.
1.4 All planning or strategic documents or proposals with the potential to affect the Study Area should refer to this HMP for primary guidance on the management of its heritage values.	1.4.1 Promote a holistic management approach to the Study Area by ensuring that proposals are assessed in terms of their potential to impact on the heritage values of the Study Area as a whole. The aim of this policy is to promote a co-ordinated rather than a piecemeal approach to management.
	1.4.2 Ensure all proposals for development or activities around the foreshore of the lake are assessed in terms of their potential to impact upon (positively or negatively) the identified heritage values of the Study Area.
	1.4.3 Ensure new developments contribute to the qualities and heritage values of the Study Area as a designed, symbolic landscape of national significance.
1.6 Conserve and manage the integrity of the formal design elements of the study area that derive from the Griffin plan and the later design and construction of the lake and its foreshores, influenced by Holford and the NCDC.	1.6.1 Conserve the integrity of the axes, vistas and visual links with the surrounding landscape (including Black Mountain, Mount Ainslie and Red Hill) and conserve the visibility of the lake from public open spaces and public institutions. This will support the continued appreciation of the lake as a unifying and linking element for the close and distant topography in the landscape and as the setting of the surrounding buildings and open space areas.
	1.6.2 Conserve the visibility of the waters of the lake in views from within Canberra, including the retention of open views to the water from roads and other public use areas (Commonwealth Avenue, Parkes Way, the cycle paths) as well as local secluded vistas from near the lake shore.
1.8 Conserve and manage the aesthetic values of the Study Area which are particularly valued by the community.	1.8.1 Conserve and manage the 'quiet and still' qualities of the Study Area, particularly in areas such as Central Basin, Tarcoola Reach and Yarramundi Reach.
	1.8.3 Conserve and manage the high quality parkland setting of the lake to a high standard.

Policies (numbering from the HMP)	Actions
1.9 Conserve and manage the creative and technical heritage values of the Study Area.	1.9.3 Conserve the geometry of Griffin’s plan, which has been emphasised by the distinctive plantings and parklands designed by Holford and the NCDC, including the contrast of naturalistic and formal designs around the foreshore.
1.10 Conserve and manage the Indigenous heritage values of the Study Area.	1.10.1 Recognise Indigenous heritage values which arise from sites, places and the interrelation between sites, places and landscapes.
1.11 Conserve and manage the natural heritage values of the Study Area.	1.11.2 Conserve the natural heritage values of the Yarramundi Peninsula: the natural temperate grassland and grassland habitat for the Striped legless lizard (declared threatened species under the Nature Conservation Act 1980 (ACT) and threatened species under the EPBC Act) and the Perunga grasshopper (declared threatened species under the Nature Conservation Act 1980).
	1.11.3 Conserve and manage the lake as an aquatic habitat comprising the waterbody, aquatic fauna, vegetation and lake bed.
	1.11.4 Conserve and manage the wetland habitat for threatened and migratory bird species provided by Warrina Inlet, Acacia Inlet and Yarramundi Inlet wetlands.
	1.11.5 Conserve and manage the habitat values provided by the lake waterbody draw-down zone (foreshore areas).
	3 Use and Access
3.1 Provide the public with free and open access to the lake and foreshores.	3.1.1 Encourage public access to the lake for a variety of non-motorised, water-based recreational uses which do not impact on other heritage values.
	3.1.2 Continue to use the lake as a stage or setting for large public events (which are temporary and do not impact on other heritage values).
	3.1.3 Provide opportunities for organised and informal community and family gatherings around the lake.
	3.1.4 Control recreational activities on the lake to minimise noise and disruption to the water surface, avoid impacts on the shore and shore users, and minimise conflicts with other lake users.

Policies (numbering from the HMP)	Actions
3.2 Ensure the lake is available and accessible for a range of uses.	3.2.1 Manage water quality to enable recreational uses including swimming and boating. <hr/> 3.2.2 Retain current existing points of access to the lake for recreation (boat ramps and swimming areas). <hr/> 3.2.3 Avoid the introduction of new uses that require closure of the lake and foreshores (or parts thereof) to public access, that is, for private or corporate events.

6 Stakeholder Consultation and Involvement

6.2 Continue to convene the Lake Burley Griffin Users Group.	6.2.1 Continue to consult regularly with lake users to promote equitable and appropriate recreation opportunities for the community.
6.5 Maintain regular liaison with the Department of the Environment, Water, Heritage and the Arts [the current DCCEEW] regarding the management of Commonwealth and National Heritage values of the Study Area	6.5.1 Seek informal comment from the Department of Environment, Water, Heritage and the Arts [the current DCCEEW] on any proposals which have the potential to impact on the heritage values of the Study Area as part of the decision-making process to assess the significance of impacts. Consultation should occur at an early stage, prior to design development.

Specific policies to Yarramundi Reach or Yarralumla Beach are summarised below in Table 2.5.

Table 2.5 Specific policies from the HMP that are relevant to the proposal.

Policies (numbering from the HMP)	Actions
Component 1	The lake as a designed landscape
Heritage Conservation	
C1–1 Conserve and manage the integrity of the formal design elements of the Study area deriving from the Griffin plan and the later design and construction of the lake and its foreshores.	C1–1.1 Conserve the integrity of the axes, views and vistas of the surrounding landscape (including Black Mountain, Mount Ainslie and Red Hill). Conserve the visibility of the lake from public open spaces and public institutions. This will support the continued appreciation of the lake as a unifying and linking element for the close and distant topography in the landscape and as the setting of the surrounding buildings and open spaces. <hr/> C1–1.4 Conserve the informal, river like form of Westlake as a contrast to the more formal basins.

Policies (numbering from the HMP)	Actions
C1—2 Recognise Lake Burley Griffin as a layered cultural landscape, the heritage values of which reflect the Griffin plan; subsequent phases of design and construction; and the remnant natural environment.	C1—2.1 Conserve the diverse landscape character of the lake, including the contrasts between the formal and informal landscapes, and native and exotic vegetation.
C1—3 Conserve and manage the aesthetic values of the lake which are particularly valued by the community.	C1—3.1 Conserve and manage the quiet and still qualities of the lake, particularly in areas such as Central Basin, Taroola Reach and Yarramundi Reach.
Use and Access	
C1—7 Provide the public with free and open access to the lake’s waters.	C1—7.1 Encourage public access to the lake for a variety of non-motorised, water-based recreational uses which do not impact on other heritage values.
	C1—7.3 Provide opportunities for organised and informal community and family gatherings around the lake.
	C1—7.4 Control recreational activities on the lake to minimise noise and disruption to the water surface, avoid impacts on the shore and shore users and minimise conflicts with other lake users.
C1—8 Ensure the lake is available and accessible for a range of uses at all times.	C1—8.1 Manage water quality to enable recreational uses including swimming and boating.
	C1—8.2 Retain current existing points of access to lake for recreation (boat ramps and swimming area).
	C1—8.3 Prepare a policy plan for temporary venue hire on and around the lake, to facilitate access by a range of user groups.

Policies (numbering from the HMP)	Actions
Component 2	Waterbody of the lake as an ecosystem and aquatic habitat

Heritage Conservation

C2—1 Manage the lake as an aquatic habitat for a range of native species including the Murray Cod.	C2—1.2 Monitor and manage water quality in line with the benchmark for 'Protection of freshwater aquatic systems' in the LBG Water Quality Management Plan, 2006.
C2—2 Manage the water quality of the lake in order to maintain recreational uses (yachting, boating, swimming etc)	C1—2.3 Monitor and manage water quality in recreational zones in line with the benchmark for 'Recreational water' in the LBG Water Quality Management Plan, 2006.

Policies (numbering from the HMP)	Actions
Component 7	Westlake

Heritage Conservation

C7—1 Conserve and manage the aesthetic and other heritage values of Westlake.	C7—1.1 Conserve the naturalistic, river-like form of Westlake, including its characteristic 'intimate' views of water and foreshore precincts (compared to the broad vistas available in other parts of the lake).
	C7—1.2 Control use of motorised water craft in this area to retain the quiet qualities of the water and avoid negative impacts on the natural values and habitat areas.
	C7—1.3 Conserve and maintain the combination of natural and introduced vegetation on the foreshores of Westlake and retain its densely vegetated, ' naturalistic setting ' in open space areas.
	C7—1.4 Control the introduction of further permanent infrastructure on the lake such as buoys, booms, pontoons or jetties.
	C7—1.5 Conserve and maintain existing infrastructure in recreation areas for boating and swimming.
	C7—1.6 Ensure new development at Yarralumla Bay is designed in sympathy with the heritage values of Westlake. In particular, ensure the character and scale of development reflects the surrounding residential area and provides an appropriate contrast to foreshore development in other parts of the lake such as that in Central, West, or East Basin.

Policies (numbering from the HMP)	Actions
C7—2 Conserve and manage the lakeside vegetation on 'soft' foreshore edges for shoreline stability, aesthetic values and visual amenity.	C7—2.1 Manage the lakeside vegetation to retain the current high density and foliage colour and form mixtures.
C7—3 Manage the lakeside vegetation on 'soft' foreshore edges to protect and enhance habitat values.	C7—3.1 Manage to optimise the habitat values of shallows and fringing aquatic vegetation and reeds by removing weeds backing the fringing reed beds, removing rubbish and encouraging native regrowth.
Interpretation	
C7—4 Interpret the heritage values of Westlake – Indigenous, historic and natural themes could all be explored in the context of Westlake.	C7—4.1 In the context of developing an Interpretation Plan for the Study Area as a whole, key nodes for interpretation in Westlake should be identified.

Policies (numbering from the HMP)	Actions
Component 11 Acacia Inlet Wetland	
Heritage Conservation	
C11—1 Conserve, manage and enhance the threatened and migratory bird habitat and the ecology of the lake draw-down zone (foreshore).	C11—1.1 Continue to manage the area in line with the habitat management principles and guidelines for wetlands in the Landscape Character Zones of the Lake Burley Griffin Management Plan, 1995. In particular, continue reservation status and low intensity recreation use of terrestrial lands adjoining the wetland; and continue water activity restrictions in the inlet.
Interpretation	
C11—3 Interpret the natural heritage values of the Acacia Inlet.	C11—3.1 Develop a themed heritage trail around Lake Burley Griffin utilising brochures, online or downloadable information, as well as signage, focusing on the natural values of the Study Area.

Policies (numbering from the HMP)	Actions
Component 1 (Vol 3)	Indigenous Sites
Heritage Conservation	
C1—1 Actively conserve and manage the known and potential Indigenous archaeological sites and Indigenous cultural values of the Yarramundi Peninsula.	C1—1.1 Information regarding the description and specific location of the Yarramundi Peninsula Indigenous sites should be recorded on the NCA’s register of places of Commonwealth Heritage value, in accordance with s341ZB (1) of the EPBC Act, and the ACT Heritage Register.
	C1—1.2 Indigenous artefacts are not to be removed, damaged, altered or disturbed without the prior agreement of the relevant Aboriginal stakeholder groups and in accordance with an assessment of the significance of the impact, in accordance with the EPBC Act.
	C1—1.3 The potential impact of any future development or works proposals within the Yarramundi Peninsula area should be the subject of an archaeological heritage assessment. This should include the conduct of archaeological ground survey of the potential impact areas with the aim of locating any unrecorded sites that may be exposed on the surface at that time.
	C1—1.5 The location of each site should be noted on any fire management plans as areas where ground surface disturbance should be avoided or minimised where feasible.

2.7 Planning Framework

2.7.1 National Capital Plan

The NCP has specific policies and principles relevant to Lake Burley Griffin and Foreshores. The Lake Burley Griffin Foreshores Precinct comprises the parkland and open spaces surrounding the lake, and includes both Yarramundi Reach and Yarralumla Beach. The NCA supports the development of recreational, tourist and national capital uses of the lake and foreshores, and provides the following relevant objectives in the Lake Burley Griffin and Foreshores Precinct Code:

- 1) To conserve and develop Lake Burley Griffin and Foreshores as the major landscape feature unifying the National Capital’s central precincts and the surrounding inner hills and to provide for National Capital uses and a diversity of recreational opportunities.
- 2) Lake Burley Griffin and Foreshores should remain predominantly as open space parklands while providing for existing and additional National Capital and

community uses in a manner consistent with the area's national symbolism and role as the city's key visual and landscape element.

- 3) Lake Burley Griffin and Foreshores are intended to provide a range of recreational, educational and symbolic experiences of the National Capital in both formal and informal parkland settings with particular landscape characters or themes. These should be maintained and further developed to create a diversity of landscape and use zones which are integrated into the landscape form of the city and reflect the urban design principles for the National Capital.
- 4) The water quality and hydraulic operation of the lake should be maintained in a manner designed to protect Lake Burley Griffin and Foreshore's visual and symbolic role.

The NCP outlines the range of uses permitted in Lake Burley Griffin and Foreshores, which includes use as an aquatic recreation facility or tourist facility, which would meet the definition of the proposed action. The NCP further outlines a list of the Parkland recreation areas that are to be generally available for public recreation and free public access, and includes Yarralumla Beach as one of these identified areas.⁶ Specifically, it states:

Yarralumla Beach...will continue to be predominantly urban recreation park with beachside swimming, special playgrounds, and barbecue areas. Beachside recreation areas are to be extended in suitable places. Development is to be limited to small scale items that help recreation and tourism. They may include commercial concessions for kiosks, refreshment rooms, restaurants, other entertainment, and hire facilities as appropriate to the area.⁷

2.8 Endnotes

¹ Godden Mackay Logan Pty Ltd, Lake Burley Griffin Heritage Assessment, prepared for the NCA, 2010, p 17.

² Godden Mackay Logan 2009, *Lake Burley Griffin Heritage Assessment Final Report*, report prepared for the National Capital Authority October 2009.

³ A shore treatment classification in the HMP. Hard shorelines are marked by built walls or structures; soft shorelines are non-built and variously vegetated.

⁴ Japan Australia Migratory Birds Agreement.

⁵ Godden Mackay Logan 2009, Lake Burley Griffin Heritage Assessment, p 44.

⁶ National Capital Authority, National Capital Plan, April 2021, p 167.

⁷ National Capital Authority, National Capital Plan, April 2021, p 169.

3 Project description

3.1 Introduction

This summarised description of the proposed works has been based on communication with the NCA and design documentation provided to GML in April 2023. This section describes the temporary structure, its proposed location and the associated infrastructure.

Noting that the design has not yet been formalised, the impact analysis will be based on the following description. Any significant departure from the design as outlined below would require a revised assessment.

3.1.1 Temporary structure

The proposed works involve a temporary architecturally designed floating sauna. The sauna building will sit on a floating pontoon and be connected to the shore via a walkway. The sauna design will incorporate a large glass window facing out towards to lake to maximise views of the landscape. Ideally, the sauna will be oriented to maximise northern solar exposure during the winter period. The building's exterior will be designed to sit sympathetically within its surrounding environment. External walls will be clad in a natural material such as timber to assist in the building blending into the surrounding landscape. The design will also incorporate locally sourced recycled materials. Internally, the building will provide space to accommodate up to six guests and include a stove, check-in desk, storage, change rooms and external shower.



Figure 3.1 Concept image of proposed floating sauna with large glazing and external timber cladding. (Source: NCA)



Figure 3.2 Concept image of interior of proposed floating sauna and wood burning stove. (Source: NCA)



Figure 3.3 Example of pontoon to access floating sauna building. (Source: NCA)

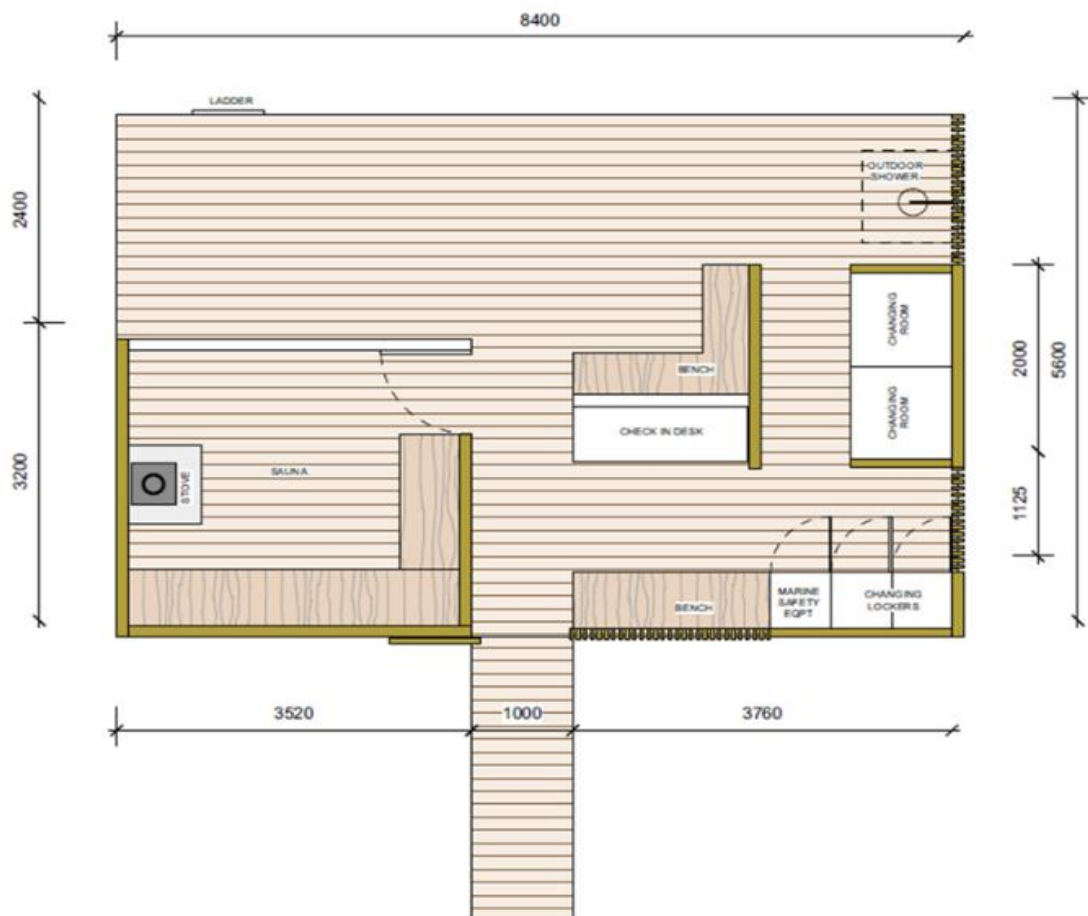


Figure 3.4 Example 1 of proposed floor plan for floating sauna building. (Source: NCA)

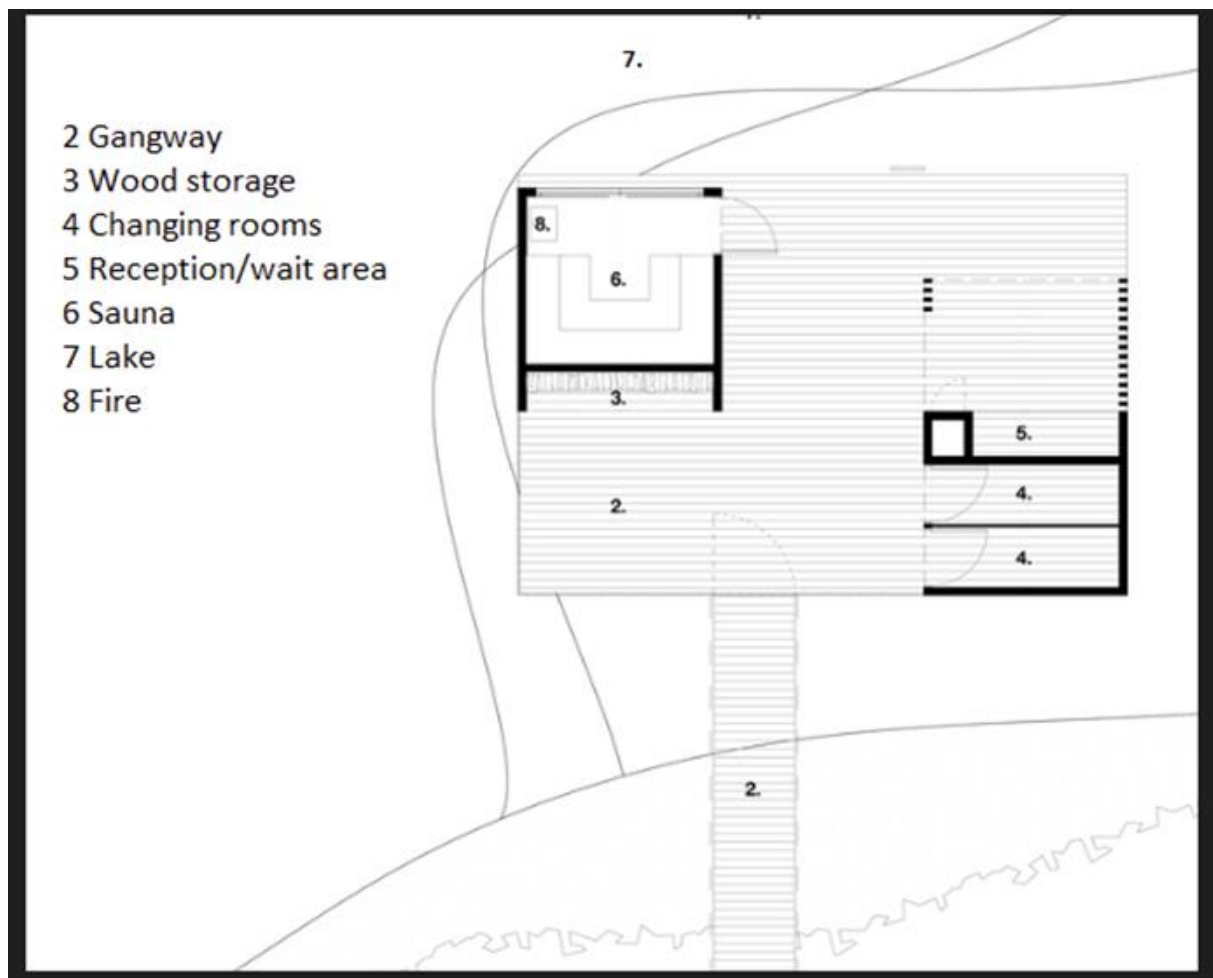


Figure 3.5 Example 2 of proposed floor plan for floating sauna building. (Source: NCA)

3.1.2 Locations

Three locations are proposed for the floating sauna.

Acacia Inlet

The first proposed location is at Acacia Inlet, which is located on the western end of Lake Burley Griffin and to the north of Yarramundi Reach. The floating sauna would be positioned to face southwards to the distant views of Yarramundi Reach and would be accessed from Lady Denman Drive via a pedestrian pathway. Figure 3.6 shows the proposed location of the floating sauna.



Figure 3.6 The first proposed location (1) for the floating sauna at Acacia Inlet (orange arrow). (Source: Nearmap base plan with GML overlay)

Yarralumla Beach

The second and third locations are both proposed for Yarralumla Beach. Yarralumla Beach is located along the southern foreshore of Lake Burley Griffin, bounded by Alexandrina Drive to the south and belongs to the suburb of Yarralumla.

The second proposed location would connect via ramp to the sandy beach and boat launch area, adjacent to the public carpark and east of the designated swimming area.

The third proposed location sits further north along the foreshore, positioned towards Blue Gum Point, and adjacent to the natural landscape and soft lake edging. Figure 3.7 shows the two proposed locations of the temporary structure.



Figure 3.7 Two proposed locations (2 and 3) of the floating sauna at Yarralumla Beach (orange arrows). (Source: Nearmap base plan with GML overlay)

3.1.3 Associated infrastructure

No amenities are anticipated to be required. All three locations plan to use existing public toilets located within walking distance of the sauna. The floating sauna pontoon will be connected to the lake edge via a ramp.

3.1.4 Ongoing operation

The sauna will initially operate six to nine months of the year (during the colder months), with the possibility to run all year round depending on its popularity. The sauna is expected to operate daily from 6:00am (for sunrise) through to 9:00pm, depending on the number of daylight hours and demand.

Guests will be offered one-hour sessions, and encouraged to alternate between hot and cold, spending time in the sauna before jumping into and swimming in the lake. The sauna will be staffed during operating hours.

3.2 Alternatives considered

3.2.1 Locations

The NCA considered alternative locations before selecting the three proposed sites for the floating sauna. Consultation was also sought from Transport Canberra and City Services (TCCS) for the proposed locations that fell within land managed by TCCS. To select the best suited locations, the NCA assessed the strengths and weaknesses for each proposed site, such as surrounding infrastructure, utilities, nearby parking, and HMP policies and objectives. A total of ten proposed locations were considered. Below is a brief summary of the seven locations that were part of the assessment, but were concluded unsuitable for the proposed works.

Orana Bay—Opposite Yarralumla/Weston Park Dog Park

The strengths of this location included its secluded and sheltered setting, with nearby coffee carts and pop-up wine bars on the weekends. However, the location was deemed unsuitable due to a lack of toilets, absence of lighting, difficult access to lake edge and trip and fall hazards, existing mooring of boats hindering lake views, and being close to the nearby and popular off-leash dog area.

Weston Park Swimming Beach

This location provided existing facilities such as nearby car park and toilets, and is infrequently used as a swimming node during the winter months. However, it was deemed unsuitable as the location is not private, has no lighting or existing jetty, and the water depth is too shallow for a floating platform to be installed. Furthermore, the greater Weston Park, where the swimming beach is located, is locked by gate after hours.

Nursery Bay Weston Park

This location is also within Weston Park, so public access would be locked by gate after hours. The location has no existing jetty or mooring, and has no lighting or toilets nearby. The location currently has a Dragon boat launching pontoon in the vicinity, which would need to be relocated. The location adjoins the Yarralumla Nursery yards, which would need to be consulted if proposal proceeded in this location. Macrophyte beds are in the water at Nursery Bay and, in accordance with the HMP, these would have to be replanted if they are disturbed. This location was still considered a possibility, but was not selected as one of the final three proposed locations.

Yarramundi Reach Lindsay Pryor Arboretum

The strengths of this location include the secluded and sheltered setting, the views to Government House and its isolated location, which would mean minimal interference with recreational lake users. However, the negatives of the site included the traffic noise from Tuggeranong Parkway, the lack of lighting, toilets, pathway access and locked access gate after hours. This location also has significant ecological, Indigenous and heritage value, as identified in the HMP such as Temperate Grassland (Cth protected), *Delma impar* (striped legless lizard) (Cth protected), YR1-11 Indigenous sites (ACT Heritage Register) and wetland habitat for threatened bird species.

Black Mountain Peninsula (East)

The strengths of this location were the views to Spinnaker Island and National Museum of Australia; and nearby parking, toilets and pathways. However, the identified weaknesses included no passive surveillance at night (e.g., Aquapark has been vandalized); lack of lighting; presence of a highly utilised playground (which draws large crowds during the day); no existing jetty or mooring, so additional infrastructure would be required, such as a staircase; and access to lake edge had potential for trip and fall hazards.

Acton Peninsula West Jetty

This location was considered a possibility due to its existing infrastructure, such as a new jetty, nearby carpark and lighting. It also enjoys views of Parliament House to the south, views of Black Mountain to the north and the Arboretum to the west. However, it has no toilet facilities, and is impacted by prevailing westerly winds and turbulent water.

Springbank Island

The strength of this site is its secluded nature as an island. It provides an existing jetty, toilet facilities (drop toilet) and enjoys westerly views of the lake. The weaknesses of this location include that it is accessible only by boat, it lacks lighting, and it would require the adoption of an Emergency Management Plan with input from emergency services. The HMP identifies that no construction is permitted unless it is unobtrusive, small in scale and related to aquatic activity.

4 Heritage impact analysis

This section analyses and assesses the potential impacts of the proposed works on the Commonwealth Heritage values of Lake Burley Griffin and Adjacent Lands.

4.1 Method for assessing heritage impacts

4.1.1 Grading the scale of impact

The method for assessing impact follows a graded scale that has been adopted from the EPBC Act Significant Impact Guidelines and applied for this impact assessment. The following terms help distinguish between different relative levels of potential heritage impacts:

- **Severe/significant**—Severe impacts generally have two or more of the following characteristics:
 - a) permanent/irreversible.
 - b) medium–large scale; and
 - c) moderate–high intensity.
- **Moderate**—Moderate impacts generally have two or more of the following characteristics:
 - a) medium–long term.
 - b) small–medium scale; and
 - c) moderate intensity.
- **Minor**—Minor impacts generally have two or more of the following characteristics:
 - a) short-term/reversible.
 - b) small-scale/localised; and
 - c) low intensity.

The severity or degree of impact alone does not necessarily indicate a significant impact on the overall heritage values of a place. The potential impacts of the action must be considered in the context of the environment or the place in which the action will take place.

The scale of an action and its impacts requires consideration when predicting the degree of impacts; generally, a larger-scale action with widespread impacts is more likely to have a significant impact on the heritage values than a smaller-scale action with localised

impacts. Considering the scale in conjunction with the intensity and duration/frequency of the impacts is important. Intensity refers to the strength and concentration of potential impacts.

The Significant Impact Guidelines provide further guidance for assessing impacts on heritage values. They also provide guidance on the thresholds of significance for impacts on heritage values under the EPBC Act.

The guidelines state that an action will likely have a significant impact on relevant heritage values if there is a real chance or possibility it will cause one or more heritage values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished.

Relevant policies in related HMPs have also been used to assess the impacts on heritage values.

4.2 Historic heritage impacts

4.2.1 Analysis of potential impacts

The presence of the proposed sauna structure would **diminish** the significant **aesthetic heritage values** of Lake Burley Griffin as a place that is valued for its 'calm presence'; its natural, quieter areas; and the reflective qualities of the water (Lake Burley Griffin and Adjacent Lands, CHL Criterion E).

The proposal would introduce a built structure to the lake's quiet and peaceful areas (particularly the secluded areas in the lower reaches such as Acacia Inlet), which would impact the naturalistic qualities of the proposed lake-edge locations. The proposed structure would be the first built structure in the naturalistic landscape setting of Acacia Inlet, unlike Yarralumla Beach, which has jetties with rowing sheds and boat clubs of a similar and larger scale in nearby Yarralumla Bay.

The proposal will have a **visual impact** in all three proposed locations.

The structure at location 1 is in a conspicuous site, as viewed from the public pathway along the foreshore. Its presence in the landscape would interfere with the naturalistic setting, and the quiet and peaceful areas of the lake. It would also visually impact the intimate views of the water and its reflective qualities.

The proposed structure in locations 2 and 3 would be highly visible to lake users from the public foreshore area, such as the park, picnic, barbeque and beachside swimming areas. Location 2 would be slightly more prominent than location 3, due to its proximity to the recreational areas.

The visual impact will be **small scale and localised** in the context of the lake as a whole. However, the sauna will appear more prominent within the smaller inlet and beach area. The impact would be **low intensity**, due to the anticipated low-level noise from its users, and the design considerations including use of natural materials, its small footprint (and floating construction), and use of glazing to reduce bulk and allow views through the structure.

The proposal would **diminish** the **social heritage values** of Lake Burley Griffin by affecting the ability of Canberrans to use and enjoy the lake for public recreational purposes, and dedicating part of the lake's use to a private, commercial enterprise. The visual presence of the floating structure may deter opportunities for organised and informal community and family gatherings around the lake.

Lake Burley Griffin is valued by all Australians as a landmark of Canberra and an attractive setting for visitors walking or driving around Canberra (Lake Burley Griffin and Adjacent Lands, CHL Criteria G). Canberrans value the lake as a gathering place for leisure and recreation, and for its calming properties. It is associated with rowers, watercraft users and walkers (among others).

The proposed action could impede the public's ability to have free and open access to the lake and its foreshores in all three locations, **diminishing** its social heritage values as a place of recreation and relaxation for Canberrans.

Location 1 is not entirely secluded, with the sauna highly visible from the public foreshore area. This could deter lake users enjoying the foreshore for walking, family gatherings or water-based recreational activities. Similar issues could occur for lake users accessing the boat launch area at proposed location 2. This is a frequently used location for boat launches of kayaks, windsurfers and stand-up paddleboards. Location 3 is further from the public area, so would likely interfere less with public usage.

This impact would be **small scale and localised** to the proposed areas, and of a **moderate intensity** due to the long proposed operating hours.

The proposed sauna will have **little to no physical impacts**, as the structure will sit on a floating pontoon, with the only required infrastructure being the access ramp from the lake edge.

All the impacts identified above will be **medium-term** (as long as the sauna operates) but **reversible**, as they can cease operations and remove the associated structure from the lake. The impacts will be during the six- to nine-month period in which the sauna will be operating, and during the periods of construction prior and afterwards. If the proposed structure and operations were to run all year around, this would have a **potential semi-permanent/ongoing (yet reversible)** impact on Lake Burley Griffin.

Cumulative impacts

Cumulative impacts result from 'incremental changes caused by other past, present or reasonably foreseeable actions together with the project', which in combination may have an overall high impact on a single heritage place or item.¹² These impacts may be individually less significant, but their effect grows progressively over time through accumulation.

Cumulative impacts should be considered as part of the impact assessment process. Understanding cumulative impacts of concurrent actions at a heritage place is essential to effectively manage heritage values over the long term. This helps avoid unexpected or unplanned impacts that together could severely degrade the heritage values of a place over time.

Structures of this kind have the potential to proliferate on the shores of Lake Burley Griffin and further reduce direct public access to parts of the lake foreshore and adjacent lands.

Consistency with Heritage Management Plan and Policies

Heritage Management Plan

The Lake Burley Griffin and Adjacent Lands HMP (2009) requires the heritage values of the lake to be conserved and protected (Policy 1.1, 1.4, 1.8).

The proposed action is partially inconsistent with several policies in the HMP. In particular, the recommended actions:

- to conserve and manage the 'quiet and still' qualities of the lake, in particularly Yarramundi Reach (Action 1.8.1);
- to encourage public access to the lake for a variety of non-motorised, water-based recreational uses that do not impact on other heritage values (Action 3.1.1);
- to control activities on the lake to minimise noise and disruption to the water surface, avoid impacts on the shore and shore users, and minimise conflicts with other lake users (Action 3.1.4);
- to conserve and manage the natural heritage values, and conserve and manage the wetland habitat for threatened and migratory bird species provided by Acacia Inlet (Action 1.11.14)
- to retain current existing points of access to the lake for recreation (boat ramps and swimming areas) (Action 3.2.2);
- to avoid introducing new uses that require closure of the lake and foreshores (or parts thereof) to public access (Action 3.2.3);
- to conserve the naturalistic, river-like form of Westlake, including its characteristic 'intimate' views of water and foreshore precincts (Action C7—1.1);

- to control use of motorised watercraft in West Lake, Yarramundi Reach and Tarcoola Reach to avoid negative impacts on the natural values and habitat areas (Action C7-1.2); and
- to control the introduction of further permanent infrastructure on the lake such as buoys, booms, pontoons or jetties (Action C7-1.4).

The proposed sauna is not fully aligned with the above policies. However, the level of inconsistency with the HMP policies can be reduced by management and mitigation measures (see section 5 for recommendations).

4.2.2 Heritage impact statement

The severity of the proposed action is graded against the scale of impact explained in Section 4.1. The scale considers the duration, scale and intensity of works to determine the degree of potential impacts to the heritage values.

Based on this method of grading, these are the potential impacts of a floating sauna at the proposed locations:

- The proposed sauna at Location 1—Acacia Inlet would be likely to have a **minor** impact on the heritage values of Lake Burley Griffin and Adjacent Lands. The proposed action is considered to be **medium-term (but reversible), small in scale**, and of a **low-moderate intensity**.
- The proposed sauna at Location 2—Yarralumla Beach would be likely to have a **minor** impact on the heritage values of Lake Burley Griffin and Adjacent Lands. The proposed action is considered to be **medium-term (but reversible), small in scale**, and of a **low-moderate intensity**.
- The proposed sauna at Location 3—Yarralumla Beach would be likely to have a **minor** impact on the heritage values of Lake Burley Griffin and Adjacent Lands. The proposed action is considered to be **medium-term (but reversible), small in scale**, and of a **low-moderate intensity**.

4.3 Natural heritage impacts

4.3.1 Analysis of potential impacts

The identified natural heritage values along the foreshores vary in significance according to the habitat niches provided. This in turn is influenced by the extent of reed beds and the 'naturalness' of the shallows and shoreline, and the bordering terrestrial vegetation.

The natural heritage impact assessment therefore focuses on the potential for the proposed activity to: (i) reduce the area of the habitat (by physical destruction or disturbance); and (ii) reduce the value of that habitat (by noise, frequency of visitation, effluent or emissions).

Because of their larger area and secluded locations, the three listed wetlands provide most habitat niches for migratory and resident birds, and other aquatic wildlife, and are the major concern here. Other soft shoreline areas with reeds and vegetated landward areas supplement the wetland habitats.

The main concerns for potential impacts are therefore:

- the locations of the sauna developments, and their shore and bridging facilities;
- the capacity and levels of usage of the sauna developments; and
- the potential levels of noise, effluent and air emissions.

The listed natural heritage values of Lake Burley Griffin and Adjacent Lands are all located in the western portion of the lake (west of Acton Peninsula). Only the proposed locations of floating saunas in this area have potential to impact natural heritage areas.

The candidate locations for floating saunas and their spatial relationships with listed natural heritage areas are shown in Figure 4.1.

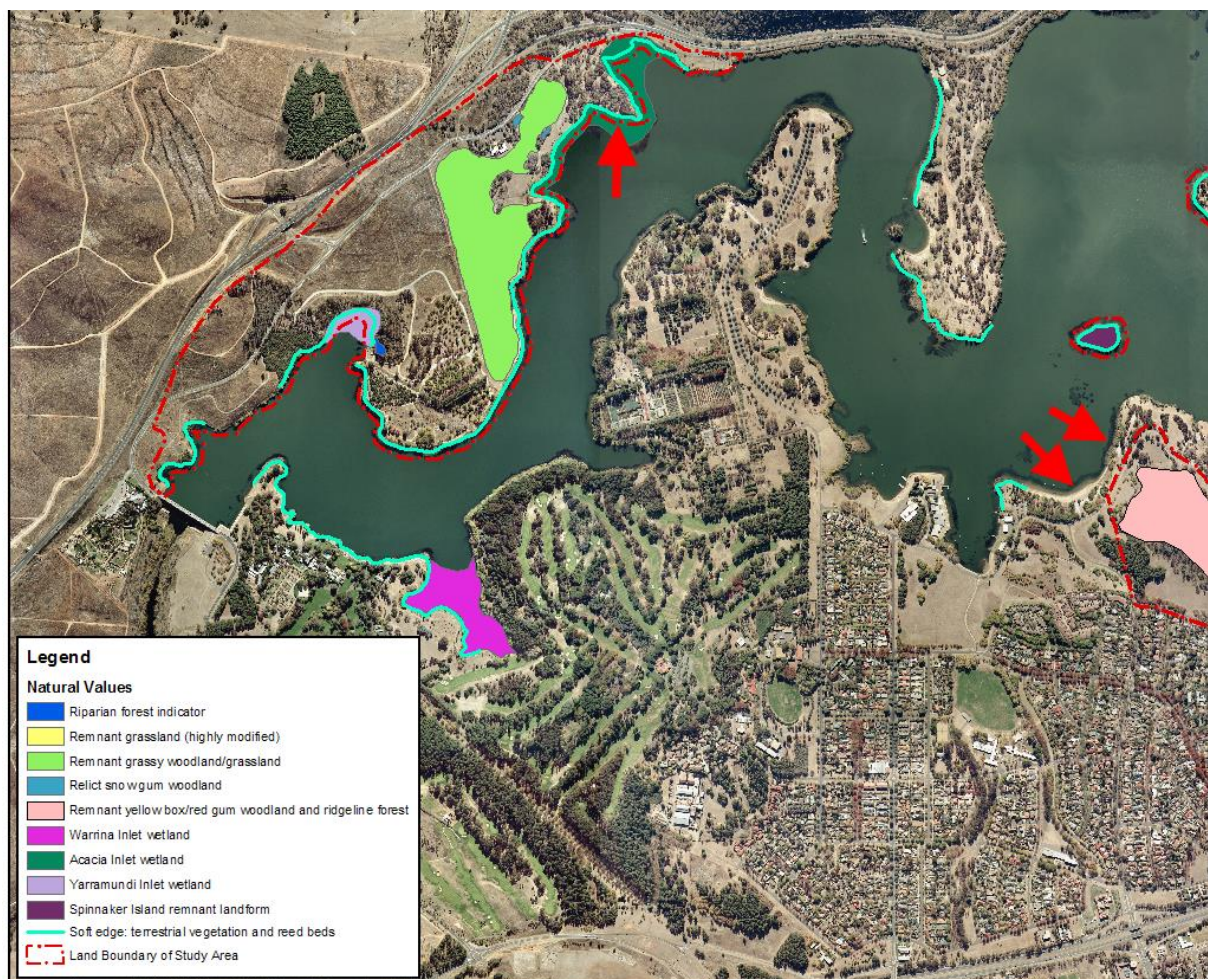


Figure 4.1 Natural heritage values and candidate sauna locations. (Source: Google maps, with GML overlay 2023)

Potential natural impacts relate to:

- damage or destruction of reeds and shallow offshore areas due to positioning of the floating sauna component;
- damage or destruction of shoreline habitat niches and vegetation from necessary shore infrastructure; and
- disturbance to surrounding habitat from usage of the facility and any air and water waste streams

Sauna developments in or adjacent to the three listed wetlands will have the highest likelihood of these impacts occurring. Development in other soft shoreline locations will have lower potential for impacts.

4.3.2 Heritage impact statement

The severity of the proposed action is graded against the scale of impact explained in Section 4.1. The scale considers the duration, scale and intensity of works to determine the degree of potential impacts to the heritage values.

- Duration—The development may be considered **medium term (but reversible)**.
- Scale—The development is **small scale and localised**, with an on-lake footprint of about 50m², plus a small hard point onshore to support a walkway/bridge.
- Intensity—The intensity of impact will depend on the location. If the development is located wholly or partly within a listed wetland, it **will directly impact natural heritage values**. Outside these areas, the **intensity of impact will be variable, potentially moderate** in soft shoreline areas with reeds, and **low to minimal** in other areas.

Based on this method of grading, the potential impacts on listed natural heritage values from a floating sauna at the proposed locations are:

- Location 1—Acacia Inlet on Yarramundi Reach: the impact will be potentially **significant** because the proposal is sited within a listed and mapped natural heritage area comprising wetland habitats used by protected migratory bird populations. The impact would not be reversible while the sauna development remained in situ.
- Location 2—Yarralumla Beach: the impact will be potentially **minor** because the proposal is not sited within or adjacent to a listed and mapped natural heritage area, nor is the foreshore area a supplementary habitat to the wetlands. However, a site-specific survey would be required to ensure that no important contributory elements of the lake’s aquatic ecosystem (a listed natural heritage value) are present in the area.
- Location 3—Yarralumla Beach: the impact will be potentially **minor** because the proposal is not sited within or adjacent to a listed and mapped natural heritage area, nor is the foreshore area a supplementary habitat to the wetlands. However, a site-specific survey would be required to ensure that no important contributory elements

of the lake's aquatic ecosystem (a listed natural heritage value) are present in the area.

4.4 Indigenous heritage impacts

The Indigenous heritage values of the lake and its surrounds relate mainly to the archaeological sites on the higher landforms around the edges of the lake and are not specifically embodied by the lake itself. The project, where constrained to the parameters set out in the project description, will not impact those archaeological sites and therefore **will not have a significant impact** on Indigenous heritage values.

Any change to the project plan that would require infrastructure built on the lake foreshores may require further assessment.

5 Conclusion and recommendations

5.1 Heritage Impact Statement

Based on the analysis of impacts undertaken in Section 4 it is determined that:

- the proposed installation of a floating sauna structure at Location 1—Acacia Inlet would likely have a **significant** impact on the heritage values of Lake Burley Griffin. The proposal is considered to be **medium-term (but reversible), small scale/localised**, and of a **moderate-high intensity**. The proposal is likely to have a **direct** impact on the natural heritage values of the listed wetland at Acacia Inlet.
- the proposed installation of a floating sauna structure at Location 2—Yarralumla Beach and Location 3—Yarralumla Beach would likely have a **minor** impact on the heritage values of Lake Burley Griffin. The proposal is considered to be **medium-term (but reversible), small scale/localised**, and of a **low-moderate intensity**. However a site-specific survey would be required to check for the presence of any elements contributing to the lake's aquatic ecosystem which might be vulnerable to disturbance.

None of the proposed locations have any anticipated impacts on Indigenous heritage values.

The degree and intensity of the impacts are reduced by the reversible nature of the proposal, and through existing design considerations integrated into the structure (i.e., natural materials, small scale). However, the annual installation period of up to nine months of the year, for several years, will result in impacts to the heritage values of the lake, including the quiet and peaceful areas, and from reduced public and community access to the lake and its foreshores. The proposed action would impact the ability to use and enjoy the lake for public recreational purposes and dedicate part of the lake's use to a private, commercial enterprise.

The proposed Location 1 is sited within a listed and mapped natural heritage area comprising wetland habitats used by protected migratory bird populations.

5.2 Recommendations

GML provides the following recommendations to further refine the proposal, including to mitigate heritage impacts of the proposed action.

5.2.1 Mitigation measures

The conclusions and recommendations of this HIA are based on the assessment of the potential impacts on the listed heritage values (including historic, natural and Indigenous values) of the place, and how they can be mitigated and managed. The recommendation does not consider other requirements, i.e., environmental impact assessment.

The degree of impact of the proposed activity on listed natural heritage values primarily depends on the location. If an appropriate location is selected and with the necessary pollution controls, the proposed activity could avoid impacts on natural heritage values.

It is therefore recommended that the proposed activity may be undertaken without significant impact on the natural heritage values by incorporating the following mitigation measures.

- **Select a location that minimises impacts on the lake’s heritage values by:**
 - avoiding the wetlands listed as having natural heritage value (Acacia Inlet, Yarramundi Inlet, and Warrina Inlet);
 - avoiding areas of fringing reed beds combined with soft vegetated shorelines;
 - not interfering with the naturalistic setting, and the quiet and peaceful areas of the lake, or disrupting the intimate views of the water and its reflective qualities; and
 - not restricting or impeding the public’s ability to have free and open access to the lake and its foreshores for relaxation and recreation purposes (including the picnic, barbeque and beachside swimming areas) or interrupting lake users’ enjoyment of the foreshore for walking, family gatherings or water-based recreational activities.
- **Conduct additional assessments for natural heritage considerations by:**
 - avoiding or minimising air emissions (in particular, smoke) in proximity to habitat areas, and wastewater (including used sauna water and grey water) entering lake waters (an environmental management plan (EMP) with measurable/observable performance standards should be required to formalise these safeguards; and
 - conducting an additional site-specific survey of proposed locations to ensure that no contributory elements of the lake’s aquatic ecosystem (a listed natural heritage value) are present in the area.
- **Incorporate design elements into the structure to further reduce visual impacts by:**
 - ensuring careful design considerations are incorporated to reduce visibility of the structure (i.e., avoid highly reflective, brightly coloured materials, maintain the small-scale of the structure).

- **Remove the structure at the end of each season by:**
 - ensuring the temporary floating structure is not in place for more than nine months each year to ensure it is clearly presented as a temporary feature of the lake.

5.2.2 Other recommendations

- **Prepare a revised HIA when detailed design is ready.**
 - A revised HIA should be prepared based on a final, detailed design and scope of works, when available. The HIA would provide certainty for the NCA and the sauna operator on the potential impacts from the proposed action.
- **Seek expert heritage advice in the case of any variations to the scope of proposed action.**
 - This HIA assesses the impacts of the proposed action based on the high-level information provided and the three locations identified. Changes to the proposed scope may have a different level of heritage impact, which would need to be reassessed (which would include Indigenous, natural and historic values).
 - If the structure is proposed to remain on an ongoing/permanent basis for a period beyond that which is recommended above, it will likely result in a greater degree of impact and a referral under the EPBC Act may be required.
- **Provide this HIA to the potential sauna operator.**
 - As the party undertaking the proposed action, the sauna operator is required to undertake a self-assessment in accordance with the EPBC Act to determine whether their activities will likely have a significant impact on protected heritage values. If a significant impact is likely, they must refer the action to the Minister for approval. This HIA could form the basis for further refinement of the scope of the proposed action before a final report is prepared.