**Title of Proposal** - Commonwealth Park to Woden Light Rail Project, ACT

# Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

### 1.1 Project Industry Type

Transport - Land

### 1.2 Provide a detailed description of the proposed action, including all proposed activities.

The proposed action (the Project) comprises the development of light rail between Commonwealth Park and Woden. The Project would require the construction of a new light rail bridge over Lake Burley Griffin, in between the existing road bridges. This would provide a light rail service across the lake and through the Parliamentary Zone.
The Project is located on both Territory and National Land and crosses Designated Areas and the Parliamentary Zone as shown in Appendix A.
The Project is being progressed as a separate and independent action from the City to Commonwealth Park light rail project as further discussed in section 1.16.1.
KEY PROJECT FEATURES
The key Project features are:
•A nine kilometre light rail track from Commonwealth Park to Woden via State Circle (east) that would be mainly built within the existing road reserve.
•Nine new light rail stops (Appendix A), which will be subject to further design development. They would form a combination of side and island platforms depending on the final design and existing constraints at each proposed stop location. Each stop would include a north and southbound platform that would be 33 metres long however it would include space to extend the platforms to 45 metres in the future depending on the expected patronage.
•Light rail vehicle (LRV) driver amenities would be provided at the Woden terminus, integrated unobtrusively into the stop's design (as is the case with the existing Alinga St stop).
•New bridge structures and modifications as listed below.
•Some mature landscape tree and bushland planting removal and its replacement with new plantings and extensive landscape treatments, the detail of which will be confirmed as part of the detailed design.
•Road and intersection changes to accommodate the light rail.
ROUTE
Commonwealth Park to Woden Light Rail would start at the proposed Commonwealth Park light rail stop located north of Lake Burley Griffin. It would terminate next to the existing Woden bus interchange on Callam Street, Phillip. The route would follow the road reserve along Commonwealth Avenue, State Circle (east), Adelaide Avenue, Yarra Glen and Callam Street (Appendix A). The route would pass through the Parliamentary Zone and areas of national significance such as the main avenues approaching Parliament House.
TRACK APPEARANCE
A standard gauge double-embedded track would be built at the same level (grade) as the existing road. The materials and finishes would be informed by urban design requirements developed by an independent panel of heritage and design specialists and selected through the

detailed design process.
Consistent with the City to Gungahlin light rail, the track would be installed on a concrete slab and it would be fully-separated from other transport modes, except at each intersection and mid-block crossing.
Major Projects Canberra (the ACT Government agency with responsibility for delivering the Project) is considering alternative track slab surface treatments (e.g. grassed) around sensitive areas such as the main avenues approaching Parliament House to improve integration of the design into the surrounding characteristics of the local environment.
In certain locations batters (slopes) would need building to create the light rail track. Around State Circle (east) this would result in the need to permanently remove around seven car parking spaces.
STOPS
The Project would mainly use the light rail stop-design developed and built as part of the City to Gungahlin light rail. Additional design considerations are expected to be included in the detailed design, especially for the stops in and around the Parliamentary Zone.
LANDSCAPE AND URBAN DESIGN
The Project passes through a complex urban environment along Commonwealth Avenue, around State Circle and through the Parliamentary Zone; all of which are represented by a character dominated by street and avenue tree plantings that have been established over many years since founding the city. This makes the integration of the Project into its urban and landscape setting critical. The stops and required infrastructure need to be sensitively designed to respect their surrounding value, context and setting. Hence, the Project's urban design is being split into distinct precincts to reflect the specific and distinct characteristics of planning precinct. This presents an opportunity to enhance the urban realm and landscaping in each precinct. One key proposed feature is designing sections of the Project to operate without any overhead wires (called wire-free running) with all LRVs using on-board power supplies that would charge at each stop.
TRACTION POWER SUBSTATION
Four new traction power substation (TPS) would be needed to service the Project. Whilst Appendix A shows the potential locations, these would be confirmed and finalised during the detailed design along with their specifications. Each TPS would about 30 metres long by about 10 metres wide and they would be located to avoid tree loss or impacts on canopies or roots. The TPS' are connected to each other via a Combined Service Route that follows the track slab alignment. To the south, there would be a further trenched connection to the Evo Energy Woden Bulk Supply point sub-station.
LIGHT RAIL VEHICLES
At least 12 LRVs would be needed to supplement the existing rolling stock to cater for the new Project and associated patronage increase. These would be stabled at the Mitchell Depot.
STRUCTURES
The following structures would need building or expanding to support the Project:
•A new bridge which will be built in between the existing Commonwealth Avenue road bridge over Lake Burley Griffin.
•New Commonwealth Avenue bridge over Flynn Drive.
•New Adelaide Avenue bridge over State Circle.
•New Adelaide Avenue bridge over Hopetoun Circuit.
•New pedestrian bridge over Adelaide Avenue to the Kent Street light rail stop.
•New pedestrian bridge over Yarra Glen to the Carruthers Street light rail stop.
•New light rail bridge over Yarralumla Creek.
•Decommissioning and removing the road vehicle bridge from Yamba Drive to Melrose Drive.

•Decommissioning and removing the pedestrian bridge across Yarralumla Creek within Section 79 at Phillip.
•New pedestrian and cycle bridge across Yarraluma Creek within Section 79 at Phillip.
FEATURES DURING CONSTRUCTION
Temporary construction compounds would be needed to: store materials, plant and equipment; carry out certain maintenance work; and house site offices and worker amenities. Temporary traffic management controls would be introduced to allow for construction.
Potential compound locations are identified in Appendix A. There is also the possibility to create a platform midway across the lake under the existing bridges to support construction. This is not shown in Appendix A as the area under the bridge is not visible. A compound under the bridge would involve sheet piling and the installation of a temporary working platform. Additional land will also be temporarily needed on State Circle (east) next to the northbound lane to help build the Project, which would involve the temporary loss of car parking provisions (CAPITAL HILL: Block 2, Section 3). Additional laydown areas would be established in the Project footprint (e.g. the road median) to support construction.
Final compound locations and temporary traffic arrangements will be finalised by the appointed contractor.

**1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.**

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| Area | Point | Latitude | Longitude |
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| Project construction footprint | 340 | -35.289269207861 | 149.12768699782 |

**1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).**

The Project footprint would occupy a relatively narrow corridor along the road reserve in most locations.

A wider footprint is required to accommodate temporary traffic management controls, plant, and

equipment during construction. The study area considers a broader footprint that is appropriate for understanding potential direct and indirect impacts. Table 2 shows these footprints.

**Table 2: Project footprint descriptions**

See Appendix G.

The Project footprint mostly forms existing Territory and National road reserve as summarised below in Table 3.

**Table 3: Project alignment characteristics**

See Appendix G.

Where the Project impacts on land outside of the road reserve it is predominantly due to the need for temporary works (e.g. the construction footprint) on unleased land that would be returned to the appropriate custodian once work is complete.

Table 4 lists the detail of the land outside of the existing road reserve needed to service the Project.

**Table 4: Land required outside of the road reserve**

See Appendix G.

**1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?**

65 hectares

**1.7 Is the proposed action a street address or lot?**

Lot

**1.7.2 Describe the lot number and title.**Road reserves of Commonwealth Avenue, State Circle, Adelaide Avenue, Yarra Glen and Callam Street

**1.8 Primary Jurisdiction.**

Australian Capital Territory

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?**

No

**1.10 Is the proposed action subject to local government planning approval?**

Yes

**1.10.1 Is there a local government area and council contact for the proposal?**

Yes

**1.10.1.0 Council contact officer details**

**1.10.1.1 Name of relevant council contact officer.**

Dominic Riches

**1.10.1.2 E-mail**

Dominic.riches@act.gov.au

**1.10.1.3 Telephone Number**

02 6205 1834

**1.11 Provide an estimated start and estimated end date for the proposed action.**

Start date 01/2023

End date 12/2025

**1.12 Provide details of the context, planning framework and State and/or Local government requirements.**

**National Context**

Australia has one of the fastest population growth rates in the developed world at nearly 1.5 percent each year. Looking ahead, the national population is expected to reach 41.5 million by 2061. Canberra will play an important role in facilitating Australia's growth.

Canberra is Australia's eighth largest city and the nation's capital. It is strategically located between the nation's two largest cities; Sydney and Melbourne. The city's economy is continuing to strengthen and diversify, with the highest 'real' product growth rate of any state or territory at four percent in the 2017-2018 financial year.

Major Projects Canberra and the ACT Government's investment in the Project would support achieving the national objectives of continued economic growth and improved productivity, while helping the city remain a liveable destination of choice. While other major Australian cities are now making expensive transportation investments with traffic congestion already at critical levels, Canberra has a unique opportunity to appropriately invest in such infrastructure ahead of time.

**City Context**

The Territory's population grew by about two percent in 2018, which was only surpassed by Victoria. This trend is expected to continue with the population reaching 500,000 by 2030.

Canberra is highly car dependent with low public transport patronage. With the city's growing population, this would mean more cars on the city's roads and increased congestion. Without additional investment, Infrastructure Australia has estimated that the cost of road congestion in the Territory would increase from $208 million in 2011 to about $700 million by 2031. Collectively, this would impact on the city's livability and accessibility.

ACT Government is committed to making strategic policy choices today to avoid the economic and social cost caused by severe congestion in the future. This would ensure that the city remains competitive and continues the high-quality lifestyle Canberrans enjoy. The plan to extend the light rail network is consistent with the Australian Government's national cities objectives; including the concept of a '30-minute city', where, no matter where people live, they can readily access the places they need to visit every day.

**Parliamentary Zone and planning context**

The Parliamentary Zone is of national significance and a growing employment and visitor hub in Canberra. It hosts several national institutions, such as Parliament House, and is home to businesses, organisations and government departments. Employment growth will intensify the transport demand to, from and through the Parliamentary Zone; impacting on its amenity. The Indicative Development Plan as contained in the National Capital Plan (NCP) Parliamentary Zone Precinct Code (developed under the *Australian Capital Territory (Planning and Land Management) Act 1988,* PALM Act) identifies significant future development in the Zone with adjacent areas also experiencing substantial growth.

The Precinct Code recognises the transport challenges in the Zone, including that "a disproportionate amount of through traffic uses King Edward Terrace, and as a consequence, there are a number of traffic and pedestrian safety matters". To address existing issues, and support the Commonwealth's development and employment objectives, the Parliamentary Zone would need to be a better-connected precinct with improved accessibility and more appropriate traffic flows. The Project would provide this through an attractive, reliable mass transit option to the area.

**Joint Standing Committee on the National Capital and External Territories**

In 2018, the ACT Government's intention to extend Canberra's light rail network to Woden was the subject of an inquiry by the Commonwealth Joint Standing Committee on the National Capital and External Territories (JSCNCET) into the relevant Commonwealth and Parliamentary planning approvals process.

The ACT Government presented the potential development of light rail between the City to Woden that crossed the Parliamentary Zone along King George Terrace, Windsor Walk, Canberra Avenue, Capital Circle, and then to Woden (Barton Alignment) to the JSCNCET.

The JSCNCET prepared a report, *Commonwealth Approvals for ACT Light Rail: Commonwealth and Parliamentary Approvals for the Proposed Stage 2 of the Australian Capital Territory Light Rail Project* (JSCNCET Inquiry Report) that outlined the Commonwealth and Parliamentary

planning approvals pathway and process.

The Inquiry Report suggested that the Barton Alignment would only be partially consistent with the NCP and that the NCP would need to be amended to facilitate this alignment.

The Inquiry Report noted that an alignment on State Circle, from Commonwealth Avenue to Adelaide Avenue (State Circle East alignment) would be consistent with the NCP, and as such, has “in principle” Commonwealth planning approval, removing the need for an amendment to the NCP. JSCNCET noted that this alignment may therefore offer a more straightforward and lower-risk approvals process.

The ACT Government, through its Major Projects Canberra agency, now intends to progress the State Circle East Alignment as the Project, as noted by the JSCNCET (refer to Section 8.1).

The Australian Government’s response to the JSCNCET Inquiry Report also provided agreement-in-principle to each of the six recommendations, though with some indication of potential flexibility. The Government’s response specifically noted that:

- Design requirements for any light rail bridge on either Commonwealth Avenue or Kings Avenue would potentially be subject to a heritage impact assessment by the Commonwealth Department of Environment and Energy (DoEE). Major Projects Canberra therefore intends to carry out this study as part of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) process.

- The extent of wire free running would be subject to further information on its viability. Major Projects Canberra intends to determine its viability as part of the detailed design.

- Changes to the landscape setting of the Central National Area must be agreed by the National Capital Authority (NCA), and it would be subject to a heritage impact assessment. This will be considered as part of the above commitment to carry out a heritage impact assessment.

The ACT Government has, and will, continue to further engage with the JSCNCET and Australian Government through the development of the Project and the environment and planning approvals process.

The Project will be progressed in a manner that is responsive to the JSCNCET Inquiry Report.

The ACT Government, through Major Projects Canberra, is also continuing to develop the concept of delivering Canberra's light rail network to Woden as an independent program of work; involving a rigorous and collaborative process with the NCA and other stakeholders to address those areas for further development identified by the JSCNCET. This includes the infrastructure needed extend the light rail network over and south of Lake Burley Griffin. A key focus of the work program is the proposed light rail crossing Lake Burley Griffin and its integration with the existing Commonwealth Avenue road bridges.

The JSCNCET Inquiry Report also noted, amongst other things, that a light rail route that reflects the Inter-Town Public Transport System defined in the NCP essentially has ‘in principle’ Commonwealth planning approval without the need to amend the NCP. The Project alignment is consistent with the routes for public transport contemplated in the NCP, as per

the Inter-Town Public Transport System.

**Environmental Planning and Assessment Framework**

The Project would be subject to Territory, National and Commonwealth environmental planning policy and instruments. Specifically, development would be controlled and approved by the:

- ACT Government Planning & Land Authority (ACTPLA) under *Planning and Development Act 2007* (P&D Act) for the areas of the footprint impacting on Territory land that is not Designated.

- Australian Government National Capital Authority (NCA) under the *Australian Capital Territory (Planning and Land Management) Act 1988* (PALM Act) for the areas of the footprint impacting on Designated Areas.

- Australian Government Department of Environment and Energy (DoEE) under the *Environment Protection Biodiversity Act 1999* (EPBC Act) for the areas of the footprint that would impact on protected matters of national environmental significance (NES matters) and Commonwealth land values.

- Both Houses of Parliament under the *Commonwealth Parliament Act 1974* for the areas of the footprint impacting on the Parliamentary Zone.

Section 3 in Appendix B describes the land boundaries covered by each of the above planning instruments, with more detail on each described below.

**Territory Planning Approval**

Those parts of the Project footprint located outside Designated Areas will need Development Approval from ACTPLA under the P&D Act.

The development approval process will involve an assessment of the Project against the provisions of The Territory Plan 2008 (Territory Plan), which is administered by the ACTPLA under provisions of the P&D Act. The object of the Territory Plan is *"to ensure, in a manner not inconsistent with the national capital plan, the planning and development of the Territory, to provide … people … with an attractive, safe and efficient environment in which to live and work and have their recreation"*.

The Territory Plan is the statutory instrument used to implement the strategic land use, environmental, transport, built form and social policies established by the ACT PLA for the ACT. Development tables within the Territory Plan are used to determine whether development is 'exempt', 'prohibited' or 'assessable'. Assessable development is assessed via a specific process termed 'a track'. The 'assessment track' that is adopted for a Project depends on its consistency with the Territory Plan development codes and land use zoning objectives, the suitability of the land for development, and the scale of the environmental and social impact. Responsibility for the assessment and determination of a Development Application lies with ACT PLA or with the Minister if called in under Section 158 of the P&D Act. In relation to the Project, the proposal is to prepare an environmental impact statement (EIS) to support an 'impact track' Development Application.

*Major Projects Canberra has started discussions with ACTPLA regarding the Project and identified areas that potentially require a Territory Plan Variation (TPV). These relate to the Project alignment in Woden, where the Inter-Town Public Transport overlay is located on land that is zoned to prohibit public transport. This is understood to be an administrative inconsistency that would not be a substantial variation.*

The current Inter-Town Public Transport Route, as shown in the Territory Plan follows the proposed alignment. The TPV process is likely to involve further detailed assessments, community consultation and exhibition of proposed variations ahead of formal statutory determination.

In relation to the Project, a Development Application would be required for some portions of the southern end of the Project that are not Designated Areas. The Development Application is also likely to be subject to public exhibition; during which time members of the public and relevant ACT Government entities can submit questions and queries about the Project (termed a representation).

All commitments made as part of an EIS, and any relevant conditions placed on the Project through an EIS approval process, would be implemented during the detailed design, construction and operation phases for those areas subject to the P&D Act.

**Works Approval**

Those parts of the Project footprint located within Designated Areas will need Works Approval from the NCA in accordance with the PALM Act.

The NCP is the overarching strategic plan for the ACT that provides a framework for land use and development throughout the Territory. The object of the NCP is “to ensure that Canberra and the Territory are planned and developed in accordance with their national significance”. The NCP, approved by the Australian Parliament, represents the guiding principle for the planning, design and development of Designated Areas; defined as areas with the “special characteristic areas of the National Capital including that they are recognised for their cultural landscape, realm and amenity values in representing the Griffin Plan”.

Designated Areas are divided into a series of precincts. Codes provide objectives and planning and design controls for aspects of development or types of development in each precinct, as discussed in the Parliamentary Zone context.

Works Approval is needed for all works in a Designated Area. The NCA will make its assessment against the NCP including relevant precinct codes and other policies such as those relating to outdoor lighting.

The ACT Government and the NCA have been successful in establishing a solid working relationship throughout the design and delivery of the City to Gungahlin light rail. This included, for example, effective coordination between ACTPLA and the NCA in agreeing consistent conditions of approval, as far as possible having regard to the different regulatory regimes that applied. This relationship would be beneficial in seeking Works Approval for the Commonwealth Park to Woden light rila Project. The ACT Government started engagement with the NCA on the proposal to extend the Canberra light rail network from the City to Woden in December 2016.

This included discussing design concepts, route alignments and approvals processes, and it has fundamentally shaped the Project as described in this referral.

In general, if EPBC Act approval is required for a project, the NCA would grant a Works Approval for that Project after the EPBC Act approval (if any) had been granted. Accordingly, design work for the Project will be progressed earlier than usual in an EPBC Act process so that the NCA has enough information when considering the Project to give it confidence in the Project and to ensure that any design adjustments are incorporated into the Works Approval process.

Under this approach, an environmental assessment undertaken for the EPBC Act would provide the context of the Project and address its implications in detail. The Works Approval application would seek to confirm key aspects of the Project as detailed in the EIS; including the detailed alignment, the location of stops; landscaping; materials and finishes; and key roadworks activities during construction.

*EPBC Act Approval*

Commonwealth Approval is needed under the EPBC Act where an ‘action’ (which includes a development project) has, will have or is likely to have a significant impact on one of nine NES matters or Commonwealth land values.

In this case, consideration has been given as to whether the Project is likely to have a significant impact on the NES matters and Commonwealth Land values under the EPBC Act.

This referral focusses on identifying if the Project’s impacts are predicted to be significant. Guidelines have been developed to help assess if the Project is likely to have a significant impact. Upon carrying out an assessment under these guidelines, Major Projects Canberra has decided to refer the Project to Commonwealth Minister for the Environment for her opinion whether it is a ‘controlled action’.

*Parliamentary approval*

Works and development that take place in the Parliamentary Zone needs approval from both the lower and upper Houses. The proposal is ‘laid before’ each House and it must be approved by resolution of each House in accordance with Section 5 of the *Parliamentary Act 1974*.

*Integrated process*

As noted above, all levels of government have collaborated to streamline the approvals process to ensure consistency in assessment requirements, the approvals process and the conditions of approval given the different governance covering the Project footprint. Section 3 of Appendix B illustrates the agreed process and the governance relationship. This referral will trigger a Scoping Request from ACTPLA; the first step in the Territory Development Application process. The proposal is to prepare a single EIS to respond to both Commonwealth and Territory requirements. The Parliamentary and Works Approvals would be sought and grated after Controlled Action and Development Approval is secured, as each requires more specific detailed information.

**1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.**

This section describes the consultation carried out in relation to the Project to date.

**Preliminary Consultation**

Consultation has been an important part of the development of the underpinning strategies for the extension of the light rail network. Previous reports, such as Transport for Canberra (2012), the ACT Planning Strategy (2018) and Moving Canberra 2019-2045 (Integrated Transport Strategy) have informed the development of consultation planning for the route of the Project. MPC has undertaken formal and informal consultation which will continue appropriate to the expansion of the light rail network.

In addition to circulation of regular information updates to the public, the following organisations and special interest groups have been identified as parties requiring targeted consultation concerning the expansion of the light rail network:

- Community Councils, including Gungahlin, North Canberra, South Canberra, Woden, Tuggeranong and West Creek.

- Government bodies including the Climate Change Council, Heritage Council and the NCA (which has planning approval role in the Project).

- Landowners and businesses along the route that would be directly affected by construction and the new Project infrastructure.

- Business, industry groups that have a keen interest in how the Project is delivered and associated development opportunities.

- Special interest groups that have a keen interest in how the light rail network is built and the social, environmental and economic opportunities created by the Project.

Expert advice, community and stakeholder feedback, insights, assistance with planning work and the experience of construction and operations on the City to Gungahlin light rai project, are helping to shape the delivery of the expansion of the light rail network and the Project.

Stakeholders have thus far had the opportunity to comment on aspects of the Project through either formal consultations or informally via publicly available Project information updates over the past 24 months.

In 2017, stakeholder and community views were sought on the potential routes for the light rail to travel from the City to Woden Town Centre, with four key themes explored:

1. Options for the route between the City and Woden

2. Alignment of the tracks

3. Proposed locations for the stops

4. Identification of items of community or environmental interest.

The consultation was extensive and high-profile, attracting media interest and significant stakeholder commentary.

**Consultation undertaken**

Principles contained in the ACT Government's *Engaging Canberrans: a guide to community engagement* were used to guide the engagement and consultation process used by Major Projects Canberra. A full communications and engagement strategy was developed for the Project and approved by the ACT Government. All engagement activity is guided by the approach set out in the overarching strategy. For each underpinning activity a communications plan has been developed.

Engagement activities are part of an ongoing conversation as the Canberra light rail network is delivered over the next 20 years.  While the Canberra light rail network has been discussed for decades, the ACT Government has been engaging directly on the Canberra light rail network with the community and stakeholders' conversations.

??**Ongoing Engagement and Consultation**

The route of the Project will pass through some of Canberra's established suburban areas and a town centre in the process of revitalisation. Major Projects Canberra also notes the presence of a significant part of the diplomatic community within close proximity to the route of the Project, and the importance of this community within a national context.

Major Projects Canberra is committed to an ongoing consultation process with the community, local businesses, educational institutions and other key stakeholders throughout the expansion of the light rail network. These stakeholder consultations are planned via various engagements including community pop-ups and workshops, website and social media channels and formal meetings and working groups.

Major Projects Canberra intends to engage with employers, interest groups, peak advocacy groups, community councils, residents, commuters, businesses, educational institutions (early learning, schools, universities), major cultural institutions, event spaces, hotels, places of worship and embassies. Engagement will also include indigenous groups such as the ACT Aboriginal and Torres Strait Islander Elected Body, Registered Aboriginal Organisations, United Ngunnawal Elders Council and representatives from the Aboriginal Tent Embassy.

Finally, as described elsewhere in this Referral, a number of the Commonwealth and Territory environmental approval and planning approval processes involve public consultation and further provide interested stakeholders with an opportunity to comment on the Project.

**1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.**

**Current Environmental Assessment**

Major Projects Canberra has carried out a preliminary environmental assessment (refer to Appendix B), a biodiversity assessment (refer to Appendix C) and two heritage assessments (refer to Appendix D and Appendix E) to help develop the Project, define and assess options, help with community consultation and engagement, and understand the potential significance of the Project's environmental impact. This has helped avoid and minimise impacts through making effective design decisions, while confirming the approvals that are needed to build and operate the Project. Importantly, the preliminary assessment provides chance to assess and refine the design to further minimise its impacts consistent with the objectives of the EPBC Act.

The work outlined above has identified that the Project is predicted to have a significant impact under the EPBC Act relating to the values of the critically endangered golden sun moth, heritage listed matters, National heritage listed places, Commonwealth heritage listed and nominated places, and on Commonwealth land values (refer to Section 2). It is on this basis that Major Projects Canberra has referred the Project to the Minister for the Environment believing it to be a 'controlled action' that can be assessed by preparing an EIS.

**Further Environmental Assessment**

Noting the complex legislative interactions between Commonwealth and Territory environmental assessment processes, the Territory is seeking to prepare a single draft EIS which meets the legislative requirements of both processes and enables open stakeholder input. The proposed informal coordinated process is outlined in Section 3 of Appendix B.

**The proposed EIS process**

The proposed draft EIS would investigate the detail of the Project's impacts outlined in this referral, including, for example, the urban renewal and development implications, adjustments to traffic arrangements, and heritage and visual considerations. A fundamental part of the EIS process is engagement with regulatory stakeholders, the community and others with administrative responsibilities relating to the Project (refer to Section 1.13). This engagement would assist Major Projects Canberra in adjusting the Project's design and developing strategies to reduce its impacts.

The draft EIS would be supported by a suite of specialist studies considering matters such as heritage, landscape and urban character, visual amenity, traffic and access, noise and vibration, and biodiversity. As discussed above, the intention is that a single draft EIS would be prepared to address the requirements of the EPBC Act.

Once prepared by Major Projects Canberra, the draft EIS would be placed on public exhibition during which time the government would receive representations. A final EIS would then be prepared accounting for any representations, clearly outlining any revisions in the Project scope and design and, importantly, committing to a comprehensive suite of environmental management measures to guide the Project throughout further design, construction and operation.

**1.15 Is this action part of a staged development (or a component of a larger project)?**

No

**1.16 Is the proposed action related to other actions or proposals in the region?**

Yes

**1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation).**

Major Projects Canberra does not believe that the Project is part of a staged development or split referral, accounting for the *EPBC Act Policy Statement - Staged Developments - Split referrals: Section 74A of the EPBC Act*.

Although the Project will provide opportunity for the expansion of the light rail network, the Project is independent and separate from other parts of the Canberra light rail network, including the proposed City to Commonwealth Park project, which will facilitate access to (and use of the area between) the City, employment and education hubs in City West, emerging developments in West Bason, and the north shore of Lake Burley Griffin.

The Project relates to the extension of Canberra's light rail network south of Lake Burley Griffin, past the Parliamentary Zone and to Woden. Unique features of the Project's urban and environmental context and setting that distinguish it from other stages of the light rail network include:

- Crossing of Lake Burley Griffin via a new bridge built between the existing Commonwealth Avenue road bridges.

- A route on or near part of the Parliamentary Zone.

- Proximity to National heritage places.

Engaging with these features results in various additional design, construction and planning requirements that do not arise for other parts of Canberra's light rail network. For example, given the proximity of the Project to the Parliamentary Zone, Major Projects Canberra will have to engage in a specific planning approval process when developing the Project (refer to section 1.13).

The Project's environmental impacts can also be considered as 'stand-alone' given the areas affected by the other projects across the broader Canberra light rail network would be geographically discrete from this Project.

The Project is part of the ACT Government's long-term intention to develop a light rail network in Canberra. The following design and programming factors mean the Project is a stand-alone action under the EPBC Act:

**Timing**

Major Projects Canberra acknowledges that the area south of Lake Burley Griffin is important culturally. In this respect, extending the light rail network from the Commonwealth Park to Woden enables public transport infrastructure to be embedded within the area's unique urban design principles at an early stage. This compares to the City to Commonwealth Park light rail

where the area is currently subject to increasing public and private development meaning that there is a need to prioritise delivering a light rail as part of developing the urban environmental.

**Independent destinations**

The Project will provide Canberrans with enhanced public transport access to the Parliamentary Zone and south to Woden. This will benefit people who wish to travel to and from Canberra's core cultural and government precincts including the likes of Old Parliament House, Parliamentary House, the Royal Australian Mint, Questacon, the National Science and Technology Centre, and the National Library of Australia.

**Integration**

Ensuring the Project is integrated into the urban design of the Parliamentary Zone and consistent with the NCP precinct codes is the priority as it will help form a cohesive response to integrating Canberra's future public transport network within the cultural legacy set by the Griffins'.

**Route**

The Project footprint is in a culturally sensitive area where the heritage impacts are expected to be notable. Also, there is still some uncertainty over the design solution for the new bridge to be built between the existing Commonwealth Avenue road bridges over the lake. This will require complex and ongoing consultation with key stakeholders. This compares to the City to Commonwealth Park light rail where the route is well-understood and unlikely to be subject to change.

**Planning**

The Project uniquely requires approval under the *Parliamentary Act 1974* due to it being the only part of the envisioned network to pass through the Parliamentary Zone. The route and design require further detailed work before a final option is identified.

**Impacts**

The Project is likely to have several significant environmental impacts on Commonwealth and Territory matters and values. The result is to carry out a detailed environmental assessment to understand and manage the Project's environmental impacts appropriately. This compares to other sections of the network, including the City to Commonwealth Park light rail, where the impacts are relatively discrete, well known and they can be effectively avoided or mitigated through proven effective measures.

Consequently, although a separate EPBC Act referral for light rail from the City to Commonwealth Park light rail is being lodged at the same time, it is being progressed and delivered as an independent action to this Project for the above reasons.

# Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

### 2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

### 2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

Yes

#### 2.2.1 Impact table

| Place | Impact |
|---|---|
| Parliament House Vista CHL 105466 Within the project footprint extending north of State Circle (east) and east of Commonwealth Avenue, refer to Figure 6.2 in Appendix B. | • Potential impacts to the Griffin's original design and Weston Afforestation locations. • Potential indirect/visual impacts may be significant. Parliament House's design and siting on the land axis creates a strong visual relationship with other listed items and its pre-eminent location on Capital Hill is the focus of the Griffin's plan for Canberra and the Parliamentary Triangle. • The Parliament House Vista is the central designed landscape of Canberra that expresses the core of the Griffin's design vision. It is highly significant for its symbolic representation of the democratic |

| Place | Impact |
| --- | --- |
| | interchange between the people and their elected representatives and its use of the natural landforms to generate a strong planning geometry. • Potential impacts to the curtilage and significant elements of Parliament House and Surrounds. • Potential impacts to the curtilage and significant elements of Parliament House Vista given the proximity of the Project and relative scale of the development local to its core values. Key would be the introduction of light rail within the immediacy of the base of the Vista next to Parliament House/Old Parliament House. • The Central National Area comprises significant spaces, structures, memorials, plantings, roads and parks. There is a strong focus on symmetry based on the land axis. |
| Parliament House and Surrounds CHL 105737 and NHL 105740 Next to the State Circle (east), refer to Figure 6.2 in Appendix B. | • Potential impacts to the Griffin's original design and Weston Afforestation locations. • Potential indirect/visual impacts may be significant. Parliament House's design and siting on the land axis creates a strong visual relationship with other listed items and its pre-eminent location on Capital Hill is the focus of the Griffin's plan for Canberra and the Parliamentary Triangle. • The Parliament House Vista is the central designed landscape of Canberra that expresses the core of the Griffin's design vision. It is highly significant for its symbolic representation of the democratic interchange between the people and their elected representatives and its use of the natural landforms to generate a strong planning geometry. • Potential impacts to the curtilage and significant elements of Parliament House and Surrounds. • Potential impacts to the curtilage and significant elements of Parliament House Vista given the proximity of the Project and relative scale of the development local to its core values. Key would be the introduction of light rail within the immediacy of the base of the Vista next to Parliament House/Old Parliament House. • The Central National Area comprises significant spaces, structures, memorials, plantings, roads and parks. There is a strong focus on symmetry based on the land axis. |
| West Block and the Dugout CHL 105428 Within the Project footprint along Commonwealth Avenue, refer to Figure 6.2 in Appendix B. | • Potential impacts to the curtilage of this heritage item. It is assumed that the light rail alignment would be designed to avoid impacts |

| Place | Impact |
| --- | --- |
| | to the fabric of the West Block and the Dugout. • The West Block and the Dugout are a significant component of the Parliament House Secretariat group, located at the southern end of Parliamentary Triangle. The group is an essential and important axial planning element within the Parliamentary Triangle. The planning principles of the group are as established by the Griffins, and the architectural resolution of the group is as established within the office of John Smith Murdoch, Director of Works. |
| State Circle Cutting CHL 105733 Next to/within the Project footprint along State Circle (east), refer to Figure 6.2 in Appendix B. | • Potential impacts to the curtilage of this heritage item. • It is assumed that the light rail alignment would be designed to avoid impacts to the fabric of the State Circle Cutting. • The State Circle Cutting is a significant geological feature, along with the nearby Capital Hill, which provides keys to the interpretation of the ancient geological landscape in the Canberra Region. It is only one of two sites in the ACT listed by the Geological Society of Australia as being of international significance. |
| York Tree Plantation CHL 105242 Next to the Project footprint along State Circle (east), refer to Figure 6.2 in Appendix B. | • Potential direct impacts to a Charles Weston Afforestation site. • Potential impacts to features intrinsic to the heritage significance of the place (e.g. the English Oak plantation containing 75 live trees and the English oak at the north west corner of the plantation). • Potential impacts to elements of the Griffins' original design. |
| The Lodge CHL 105452 Next to/within the Project footprint along Adelaide Avenue, refer to Figure 6.2 in Appendix B. | • Potential impacts to the curtilage of this heritage item. • It is assumed that the light rail alignment would be designed to avoid impacts to the grounds and fabric of The Lodge. • The Lodge was constructed in 1925 -1927 to house the Prime Minister of Australia and family. It is significant for its architecture, location off one of Griffins' radiating arteries centred on Capital Hill, close association with the lives of each of Australia's Prime Ministers and their families, and historical research value. |
| Old Parliament House and Curtilage CHL 105318 NHL 105774 Next to the Project footprint east of Commonwealth Avenue and north of State Circle (east), refer to Figure 6.2 in Appendix B | • Potential impacts to Griffin's original design and Weston Afforestation locations. • Potential indirect/visual impacts may be significant, particularly with regard impacts to the Griffin's design values. Old Parliament House and its curtilage are a crucial element in the Griffins' landscape/land axis between Mount Ainslie and |

| Place | Impact |
| --- | --- |
| | Capital Hill and are central to Canberra's Parliamentary Zone, which is designated for parliamentary and national capital uses. |

**2.2.2 Do you consider this impact to be significant?**

Yes

**2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?**

No

**2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?**

Yes

**2.4.1 Impact table**

| Species | Impact |
| --- | --- |
| Natural temperate grassland | • No endangered ecological communities occur within the study area; although 0.88 hectares of natural temperate grassland (an threatened ecological community) is located about 50 metres away on Guilfoyle Street in the north and Adelaide Avenue in the south (refer to Figure 3.2 in Appendix C). • Where possible, the boundary of this community would be marked clearly as a no-go zone to avoid any impacts during construction. Further details on approach to avoiding and mitigating potential impacts are discussed in Section 4.1 of this referral with additional information provided in Appendix C. • The conclusion is that the community is sufficiently removed from the Project or construction footprints to be directly impacted. Providing the measures described in Section 4.1 are implemented, then this is expected to manage and avoid any indirect impacts. |
| Golden sun moth | • The golden sun moth is critically endangered. Five populations were recorded in the study area: Brisbane Avenue, between National Circuit and John McEwin Crescent. Sydney |

| Species | Impact |
| --- | --- |
| | Avenue, between the National Circuit and State Circle. Canberra Avenue, including its intersection with State Circle. Yarra Glen, between Dudley Road and Cotter Road. Potentially within State Circle. • The total footprint of confirmed habitat that could be lost to the Project is 3.02 hectares, with the potential loss of a further 1.19 hectares of potential habitat. • In preparing this referral, it has been necessary to assess a worst-case scenario based on the current design, which assumes a loss of 4.21 hectares of habitat. This is consistent with the ecologically sustainable development principle of taking precaution where there is uncertainty. It therefore allows the opportunity for the design to be refined and its impacts minimised as the Project progresses. • There are also inherent risks associated with any construction work relating to spills, accidents, edge effects and other key threatening processes indirectly impacting on the values of the adjacent golden sun moth habitat. These risks can be effectively managed through the adoption of standard management measures that are proven effective in avoiding and/or minimising risks, as discussed in the Section 4 of this referral. • The Project's operation has the potential to disrupt the golden sun moth habitat continuity in the medium-to-long term to the extent that each of the existing populations would be reduced; noting however that the existing populations are already heavily fragmented. There are no additional or ongoing operational ecological impacts expected. • Despite this, in accordance with Australian Government significant impact assessment guidelines for the critically endangered golden sun moth Synemon plana (DEWHA, 2009) consider any "loss, disturbance or fragmentation of small or fragmented areas of habitat as being potentially significant". • This forms the basis of concluding that the Project would likely have a significant impact on this matter of national environmental significance in accordance with the assessment of the Project impact's against significant criteria in the above guidelines and those defined under Significant impact guidelines 1.1: Matters of National |

| Species | Impact |
| --- | --- |
| | Environmental Significance (MNES, DEWHA, 2009) presented in Table 8 of Appendix C. |

**2.4.2 Do you consider this impact to be significant?**

Yes

**2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?**

No

**2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?**

No

**2.7 Is the proposed action to be taken on or near Commonwealth land?**

Yes

**2.7.1 Is the proposed action likely to have ANY direct or indirect impact on the Commonwealth land?**

Yes

**2.7.2 Describe the nature and extent of the likely impact on the whole of the environment.**

The Project would involve works that would impact on Commonwealth land identified in Appendix A. This commences (from north to south) at the Commonwealth Avenue stop, to where the alignment merges onto Adelaide Avenue.

Potential impacts on Commonwealth land include the following:

- Construction and operation of the traction power substation.Connection of a combined services route to the traction power substations, noting that these would be most likely under-bored and/or trenched and reinstated (e.g. it would have no permanent surface impact other than at the entry and exit points).

- Construction and operation of the light rail on or near Commonwealth land.

- Adjustments to the intersection and mid-block arrangements.

- Utility relocations and traffic management control.

- Landscaping changes.

- The operation of the light rail in terms of amenity and noise generated from passing LRVs.

**Impacts on landscapes and soils**

The Project is not likely to substantially: alter natural landscape features; cause subsidence, instability or substantial erosion; or involve large scale soil or mineral excavations on Commonwealth Land as described in Section 3.3. The Project would involve locally excavating the modified landscape (including the removal of mature and significant tress along the Commonwealth Avenue and State Circle), however this would be restored through landscaping, tree-planting, and public realm enhancements as further developed through the Works Approval processes and Development Application. Where the Project footprint crosses turfed areas, a grass track slab treatment is mainly proposed. Also, the traction power substations could be located to avoid tree removal, trimming and pruning where feasible.

The context, potential impacts and mitigation measures on landscapes and soils are captured in Sections 6.6, 7.3 and 7.6 of Appendix B. Specific impacts would be determined through the Project EIS.

**Impacts on coastal landscapes and processes**

No Impacts on coastal landscapes and processes

**Impacts on ocean forms, ocean processes and ocean life**

No impacts to ocean forms, ocean processes and ocean life.

**Impacts on water resources**

The Project is unlikely to have significant impacts on water resources. The proposed alignment is located within the Lake Burley Griffin/Molongolo River catchment on Commonwealth Land. The Project would include the construction of a new bridge over Lake Burley Griffin at Commonwealth Avenue. This can be controlled and managed during construction through proven and effective measures to prevent sediment or pollutant discharge. Temporary impacts on the local stormwater and drainage regime would be negligible in the context of the size of the overall catchment.

Operationally, the works would see a minor increase in runoff volumes and rates, while stormwater infrastructure would be designed to accommodate any increase. The Project would also be designed to minimise its susceptibility to flooding without any material change to the flood risk or potential to surrounding land and property.

Based on the ability to effectively manage construction works under industry-standard controls and the design including provisions to manage the increase in stormwater discharge and minimise any increased flood risk, it is concluded that there would be no material or significant impact on the availability or quality of surface waters in the area, including Lake Burley Griffin.

**Pollutants, chemicals, and toxic substances**

The Project's construction and operation is unlikely to generate large quantities of smoke, fumes, chemicals, nutrients, or other pollutants that would substantially reduce local air or water quality.

The Project's construction may have short-term impacts on the local air quality from clearing activities, stockpiling, managing topsoil, and other construction-related activities leading to the creation of dust, which can be effectively managed using industry-standard controls. Conversely, extension of the light rail network would increase public transport use, helping reduce car dependency. This would have the potential to improve local air quality through an overall reduction in vehicle emissions.

Potential contamination, soil and geology impacts associated with the Project include:

- Potential (re)mobilisation of existing contaminants.

- Physical and chemical changes to the soil and geological characteristics.

- Erosion and sedimentation caused by excavation and vegetation removal leading to a secondary and indirect reduction in surface and groundwater quality.

- Introduction of new pollutants and contaminants into the receiving environment and their potential to impact on sensitive receivers.

The potential for the above impacts to occur can be managed and minimised through effective and proven management controls. This will be further considered as part of the EIS process.

A search of the Australian Soil Resource Information System indicates that the acid sulfate soil potential along the proposed alignment is extremely to very-low (Class C4). As such, this is not considered a risk to the building or operating the Project.

**Impacts on plants**

The Project would occur predominantly within the existing road reserve on Commonwealth Land but would involve some impacts on planted vegetation, including within the median of Commonwealth Avenue and around State Circle (east). Potential impacts to plants in the context of landscape values are discussed separately in relation to heritage impacts (refer to the section above).

No threatened plant species were recorded within the study area on Commonwealth Land during any of the completed field surveys.

Given the results of the completed desktop assessment and field surveys, it is considered highly unlikely that any threatened flora species occur in the study area on Commonwealth Land. Appendix C details the investigation that informed this position. This will be further considered as part of the EIS process.

**Impact on animals**

The Project has the potential to significantly impact a threatened fauna species, the critically

endangered golden sun moth on Commonwealth land. No listed migratory species were recorded or are considered to occur in the study area. The biodiversity site survey provides detail on the investigation that informed this position (refer to Appendix C). This will be further considered as part of the EIS process. Any potential impacts to animals would result from any vegetation and tree clearance along the route. Impacts can be effectively minimised through an ecological management plan.

**Impacts on people and communities**

During construction, temporary changes to traffic arrangements, and localised short term impacts to amenity maybe experienced by people and communities that live, work within or travel through the Project impact area on Commonwealth Land. Notwithstanding, once complete, the Project would provide a dedicated Inter-Town Public Transport System that would connect key employment, residential and cultural centres on the south of Lake Burley Griffin.

The Project responds to the growth projected for Canberra without diminishing livability that communities enjoy. The Project would enhance the cultural identity of the Parliamentary Zone, including the national and cultural attractions, and improve connectivity of individuals and communities. This will be further considered as part of the EIS process.

**Impacts on heritage**

Places within or adjacent to the study area that are listed on the National heritage list or Commonwealth heritage list are described in Section 6 of Appendix B, Section 2 of Appendix D and Appendix E. The Project will likely have indirect impacts on multiple heritage listed places as described in Table 5. The likely indirect impacts relate to the 'large scale' and extent of the Project and the community perception about future 'changes' to the heritage environment; especially in the context of values and attributes described Section 4.2.3 of Appendix E. The impacts on the heritage values relate to the physical construction including:

- Civil works associated with existing roads, primarily on Commonwealth Avenue and State Circle (east).

- Civil and landscape works associated with the creation of new rail corridors through green space/undeveloped areas; such as across the landscape to join the route from State Circle (east) to Adelaide Avenue.

- The construction of a new bridge at Adelaide Avenue (over State Circle).

- Potential physical impacts to the heritage-listed State Circle Cutting and West Block Dugout during construction (refer to Table 5).

- Removal of established mature and historically/culturally significant trees, individual trees or avenues of trees (planted following the Griffins’ plan).

*Cumulative/Temporary/Permanent*

The Project would introduce new infrastructure within an important area of cultural and social value in the Parliamentary Zone. While the Project is being built within an existing transport

corridor, it would still change the amenity and character of the Parliamentary Zone. Additional temporary impacts may also be introduced during construction mainly from vegetation clearance and potential tree removal.

The cumulative impacts of the Project are not fully understood at this stage; however, it is expected that the Project would impact on multiple heritage values in the Parliamentary Zone resulting in an additive cumulative impact overall. The detail of additive cumulative impacts would be confirmed in the Project EIS.

The degree and scale of potential heritage impacts would be variable depending upon the location and proximity to the heritage places. Some impacts will be permanent while others would be temporary, only lasting for the construction period.

*Reversible/Irreversible*

The light rail infrastructure would irreversibly alter the setting and relationship of the road network through the areas of Commonwealth Land impacted by the Project. The vegetation and tree removal would cause an irreversible impact on the Commonwealth Land values created under the Griffin's design, however this could be partially mitigated through effective urban treatments and landscape planting. The construction works would result in short-term reversible impacts on the area's values. The construction footprint could be largely reinstated once the Project is built.

*Cultural/Social/Symbolic*

Cultural, social and symbolic impacts are associated with all heritage values in the Central National Area and therefore the areas of Commonwealth Land. Further consultation undertaken during the EIS would assist in establishing the community held values, and support in understanding and mitigating the extent and nature of any impacts.

*Visual/Physical*

As noted above, physical impacts will arise from civil works associated with the introduction of the Project and removal of the existing established/historic avenue trees and significant tree species (for their cultural and natural heritage values). These impacts would be partially mitigated through effective urban treatments and landscape planting.

*Other issues to be considered through the EIS*

- Analysis of the 'positive impacts' (benefits) that introducing light rail would bring to the heritage values, including environmentally sustainable tree species, increased public transport, reduction of cars.

- Holistic understanding of the heritage values, species and condition of historic trees in the study area, including consistently mapped and collated data on trees.

- Further investigation and examination of the multiple Conservation Management Plans and Heritage Management Plans for each of the listed and nominated places to better understand the detail and management policies.

- Improving knowledge as not all heritage places have management plans in place, therefore specific management policies would need to be based on best heritage practice (following the Burra Charter).

- Improving knowledge as not all places or areas within the study area have been assessed for their potential heritage value (including the landscape and cultural plantings).

- Definition and public communication, which explains the duration and extent of the temporary construction period.

- Detailed documentation for the construction of the Project.

- The 'Central National Area' is not a formally listed item, however, it is a significant heritage place within the study area and would be assessed as though it is listed.

- Further developing the Project’s design features to fully comprehend the nature and extent of physical changes to the area.

The Project passes through the Central National Area of Canberra, an extensive cultural landscape comprising buildings, roads, parks, tree plantings and a lake. This area encompasses Commonwealth Heritage Places such as the Parliament House Vista; the significance of which is in part the aesthetic value, the sweeping views along each direction of the designated axis, and the symmetries and scale arising from features within these views; including the symmetrical characteristics of the road network.

In this sense, the replacement of trees and repurposing of road space within this vista may alter the setting of a heritage place, however this is not believed to be in a manner which is inconsistent with the heritage values of the place. The Project would not substantially diminish the value of a heritage place for a community or group.

The Project is not believed to:

- Involve extension, renovation, or substantial alteration of a heritage place in a manner which is inconsistent with the heritage values of the place.

- Involve the erection of buildings or other structures adjacent to, or within important sight lines of, a heritage place which are inconsistent with the heritage values of the place.

- Substantially restrict or inhibit the existing use of a heritage place as a cultural or ceremonial site.

**2.7.3 Do you consider this impact to be significant?**

Yes

**2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?**

No

**2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?**

No

**2.10 Is the proposed action a nuclear action?**

No

**2.11 Is the proposed action to be taken by the Commonwealth agency?**

No

**2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?**

No

**2.13 Is the proposed action likely to have ANY direct or indirect impact on any part of the environment in the Commonwealth marine area?**

No

# Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

**3.1 Describe the flora and fauna relevant to the project area.**

The city of Canberra is in the Southern Tablelands. The area host flora and fauna including remnant eucalyptus forest on the hills surrounding Canberra consistent with the ecology of the Southern Tableland. The lower lying areas and lake shores contain remnant grasslands and riparian river frontages that provide habitat for native trees and grasses, birds, insects, reptiles and mammals.

Several potential threatened fauna and fauna species were identified in the preliminary environmental assessment. Biodiversity field surveys were completed across the study area to identify potential impacts to threatened species, populations and ecological communities. These included vegetation and threatened flora and fauna surveys completed between 7 December 2017 and 16 January 2018 (refer to Appendix C).

No endangered ecological communities found in the study area. The nearest was 0.88-hectares of natural temperate grassland (a threatened ecological community), located about 50 metres from the study area on Guilfoyle Street in the north and Adelaide Avenue in the south (refer to Figure 3.2 in Appendix C). No threatened plant species found to occur within the study area.

The only threatened fauna species found in the study area, which is also likely to be significantly impacted by the Project, is the critically endangered golden sun moth.

Appendix C details the method and outcomes of the ecological assessment prepared to support the referral. Flora and fauna impacts will be further confirmed through an EIS for the Project.

**3.2 Describe the hydrology relevant to the project area (including water flows).**

The Project falls into two sub-catchments:

- Lake Burley Griffin/Molonglo River catchment, which covers the Kent Street overpass on Yarra Glen/Adelaide Avenue. This area drains directly to Lake Burley Griffin.

- Yarralumla Creek catchment, which covers the remaining section of the alignment west of the Kent Street overpass to the end of the alignment at Woden. This area discharges into Yarralumla Creek, which eventually enters Molonglo River downstream of Scrivener Dam.

A review of existing flood mapping data on ACTMapi has indicated that the Lake Burley Griffin/Molonglo River 1-in-100-year flood level is not located within the study area. Previous studies including the City Area Infrastructure Capacity and Catchment Study, Coranderrk Street

GPT Short-term Upgrade Options Assessment and Urban Strategy, Linking City Centre to the Lake identified the potential for flooding issues at the low point on the northern side of the Coranderrk Pond. These reports also identified deficiencies in the local drainage network draining to and from the Coranderrk Pond.

The main flooding constraint identified for the Project is around Woden. Findings from the Yarralumla Creek and Long Gully Flood Study indicated that in the 500-year ARI flood event, there would be nuisance flooding along Callam Street, Launceston Street and the car parks near the Woden Town Centre.

**3.3 Describe the soil and vegetation characteristics relevant to the project area.**

The ACT is located within the Southern Central Highlands Fold Belt geological province. This province has a complex geological history with many periods of folding, faulting and volcanic activity. The rock types present in this sequence indicate the area was previously dominated by a marine environment, with periodic volcanism. A review of the existing geological maps indicates that the ground conditions underlying the alignment comprise:

- Quaternary and Tertiary Alluvium.

- Early Late Silurian Deakin Volcanics and Yarralumla Formation.

- Late Middle Silurian Canberra Formation.

- Late Early Silurian Black Mountain Sandstone and State Circle Shale.

- Late and Middle Ordovician Pittman Formation.

The area from Commonwealth Park to Hobart Avenue is predominantly underlain by the Canberra Formation; a conglomerate (mix) of mudstone, siltstone, minor sandstone, limestone, hornfels (a type of metamorphic rock), dacitic ignimbrite (a type of igneous rock made of hardened volcanic ash called tuff) and volcaniclastic sediments. Within the remainder of the alignment the subsurface geology is dominated by mudstone and siltstone with minor limestone, hornfels and sandstone of the Yarralumla Formation.

**Soils**

The overlaying soils are characteristic of the underlying geology of the study area and are mainly dominated by soils of the Williamsdale Group, the Alluvial Landscape Pialligo Group, the Residual Anembo Group, the Alluvial Ginninderra Creek Group and the Transferral Landscape Burra Group. The characteristics of these groups are outlined below:

The Williamsdale group are transferal soils that occur on gently undulating rises and valley flats.They are generally deep deposits and consist mostly of transported products of erosional processes.The Pialligo group occurs as alluvial soils along rivers, streams and bodies of water. Pialligo soils occur on floodplains of current water and historical rivers and streams.The Anembo group are residual soils that occur on undulating rises and flats on granitic material and are generally shallow to moderately deep depositsThe Ginninderra Creek group are alluvial

soils that occur on gently undulating floodplains in the Canberra Lowlands and are generally deep deposits.The Burra Group are transferal soils that occur on undulating to rolling low hills and alluvial fans. They are generally shallow to moderately deep deposits and have a complex soil distribution.

**Acid Sulfate Soils**

There is an extremely low to low probability for acid sulfate soils (Class 4) across the study area identified in the Australian Soil Resource Information System.

**Vegetation**

There is a mix of introduced formal tree plantings located either within median or road verges, and more informal native bushland plantings; particularly around Parliament House. Common tree species planted throughout the study area included:

Yellow Box *Eucalyptus melliodora*Blakely's Red Gum *Eucalyptus blakelyi*Argyle Apple *Eucalyptus cinerea*Brittle Gum *E.manniferra*Siilvertop Ash *Eucalyptus sieberi*Ribbon Gum *E.viminalis*Apple Box *E.brigesiana* Red Ironbark *E.sideroxylon*.

**Appendix B** and **Appendix C** provide additional information regarding the soil and vegetation characteristics and planted trees in and local to the study area.

**3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.**

The Project would pass through the Central National Area, which is a combination of the NCP precincts crossed by the Project footprint. The Central National Area is a location of national significance as identified in the NCP. Most of the Project is also in a Designated Area, which are those locations in the Australian Capital Territory provisioned under the NCP that have the special characteristics that are recognised for their cultural landscape, realm and amenity values in representing the Griffin Plan.

The geometric design of the Parliamentary Triangle creates views across the lake to the city, war memorial and to the hills north of the lake.  Extensive landscaping and planting frames the views and enhances the vistas. Significant heritage and cultural values are woven into the landscape and not just the buildings in this zone.  Extensive consultation with the NCA has resulted in careful design considerations for the treatment of the Project to ensure that these values are maintained and enhanced.

The Parliamentary Zone is also an important employment centre for Canberra and includes major Australian Government offices, Parliament House and accommodation. It also includes major tourist attractions such as the National Library, Questacon, Museum of Australian Democracy, National Gallery and the National Portrait Gallery.

**3.5 Describe the status of native vegetation relevant to the project area.**

The Project is mainly within an existing road corridor within central Canberra. While most of the study areas consists of cleared areas and introduced vegetation, there are small and isolated patches of native vegetation close to the study and Project footprint (refer to Figure 3.1 to Figure 3.5 in Appendix C).

There is no remnant native vegetation in the study area. The nearest native vegetation is a patch of natural temperate grassland 50 metres from the study area, which is unlikely to be impacted by the Project (refer to Table 6).

Planted native vegetation communities are not considered ‘native vegetation communities’ as defined under the EPBC Act.

Appendix C provides further details on vegetation within the study area.

**3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.**

Appendix F shows the gradient of the study area as being generally level to gently undulating. The topography would need to be modified locally as the light rail can only operate on a shallow gradient. Other minor changes would be needed for the light rail to navigate existing bridges and traffic ramps within existing road reserves.

**3.7 Describe the current condition of the environment relevant to the project area.**

The Project footprint crosses various landscape and urban character precincts. The existing visual environment of the Project corridor is generally characterised by:

- open public areas of Commonwealth Park;

- campus-style government and commercial developments within Commonwealth Avenue;

- the Parliamentary Zone and State Circle;

- low-density residential areas and embassies within Deakin, Curtin and Hughes; and

- multistory commercial, residential and retail developments in the Woden Town Centre.

Each precinct represents a different character zone that would require differing treatments and strategies for integrating the Project within its context. There are also mature trees and other landscaping elements along the Project that have substantial value within the streetscape; specifically, along Commonwealth Avenue.

**3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.**

Places in, or next to the Project footprint and study area that are on the Commonwealth heritage list and other places recognised as having heritage values to the project area are identified in Section 6 of Appendix B, Section 2 of Appendix D and Appendix E. and Table 5.

The Project is located in and next to several National and Commonwealth significant vistas and conservation areas. It is partly located within the Parliamentary Triangle, Lake Burley Griffin, and Main Avenues. The areas are important in terms of the Griffin's original design for Canberra and their visual relationships between nationally significant landmarks.

Consideration will be given for those heritage items located outside of the study area that may have unobstructed views towards the proposed alignment. This will include items nominated but currently not listed.

The non-Aboriginal archaeological potential of the Project study area is largely unknown. There is potential for archaeological remnants associated with former pastoral land uses; for example, homesteads that used to be located within the study area. However, detailed historical research, including the analysis of archival information, plans and maps, would be needed to assess the archaeological potential of the study area. This detailed assessment would consider the archaeological potential associated with listed items such as Woden Cemetery (refer to Appendix D). The potential impacts to non-Aboriginal archaeological would be assessed in detail as part of an EIS. Ancillary impacts associated with construction impacts and noise and vibration have not yet been considered in detail and will be assessed during the EIS.

**3.9 Describe any Indigenous heritage values relevant to the project area.**

Section 6.1 of Appendix B and Section 3 of Appendix D details of any Aboriginal and indigenous heritage values relevant to the project area. Based on the consideration of available literature and environmental data the following is noted:

- There are four known Aboriginal heritage sites located near the Project submerged on the bed of Lake Burley Griffin. This includes two Aboriginal artefact sites and two Aboriginal ceremonial sites that were recorded in association with the Molongo River prior to the construction of Lake Burley Griffin. The exact location of these items is unknown. - Submerged cultural landscapes in Lake Burley Griffin that may be impacted from installing a temporary construction platform midway across the lake under the existing bridges to support construction (refer to section 1.2). This will be further assessed as part of the EIS. - Scar trees have been identified outside of the study area. Due to extensive clearing of native vegetation, these site types would only occur within the study area if remnant old growth trees suitable for cultural modification exist. No such remnant old growth trees have been identified.

The ACT Government also notes the location of the Aboriginal Tent Embassy.

**3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.**

Most of the Project would be contained within the existing road reserves. It consists of either unleased Territory land or unleased National land. Details of land potentially impacted, outside

of the road reserve are identified in Table 4.

### 3.11 Describe any existing or any proposed uses relevant to the project area.

The Project footprint is existing Territory or National road reserve and it is currently used to provide access into and out of the city. The land uses next to the road reserve in the study area include mixed uses. Key adjacent land uses include high-density commercial development within Woden and to low-to-medium residential development either side of the Adelaide Avenue/Yarra Glen corridor. Recreation, tourism and education-related land uses are located in the Parliamentary Zone.

Sensitive land uses located next to the Project footprint include residential dwellings, commercial premises (e.g. cafes, restaurants and commercial buildings), educational facilities, places of worship, and recreational facilities. Various parts of the Project alignment also present a sensitive land use from a ceremonial perspective associated with Canberra’s status as the Nation’s Capital. Future land uses around the Project will be guided by the ACT Government’s Planning Strategy, and in Designated Areas through the NCP managed by the NCA.

# Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

**4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.**

This Project follows the general principles of ‘avoid, minimise and mitigate’ to manage impacts to the environment, and endeavors to, in order of consideration:

- Avoid impacts on environment, through the planning process.

- Minimise impacts on environment, through the planning process.

- Mitigate impacts on environment, though the use of a range of mitigation measures during the Project’s planning, construction and operation.

On the basis that the Project is expected to result in potentially significant impacts, further assessment is expected to finalise the impacts and define specific mitigation measures. The main measure to be used would be refining the construction footprint to minimise habitat loss.

To date, avoidance of impacts has been mainly achieved through the planning and design process. This involved examining several possible route options and their potential impacts on the environment and other factors such as, operational performance, constructability, economic and social considerations. Those potential route that best fitted these considerations was taken forward through the proposal to develop the Project via State Circle (east), refer to Section 8 of this Referral.

While the preferred option avoids key impacts, the Project footprint passes near high value heritage places (including Parliament House and its surrounds) and is likely to impact on threatened ecological values. The Project has reduced the loss of habitat or significant species as far as practicable and is attempting to avoid direct heritage impacts. Through detailed surveys and visual inspections, it should be possible to refine the Project and construction footprints to reduce vegetation and habitat loss and heritage, cultural and amenity-related impacts.

While the referral is based on a broad study area to provide design flexibility at this early stage, it also provides the opportunity to reduce impacts through design iteration and refinement. To further address the Project’s potential impacts, various concept mitigation measures have been developed for implementation. These are outlined in the following sections and would be further

defined and refined during the Project EIS.

**Biodiversity**

For the Commonwealth Park to Woden light rail, impacts were reduced through options development and selection of a preferred option (refer to Section 8 of this Referral) and informed through detailed survey. While the reported impacts in this referral are based on a worst case precautious approach, the assumption is that their scale and extent can be reduced. That said, for the Project to be feasible given its linear nature, it would be impossible to fully avoid impacts. For that reason, the following mitigation measure would be introduced as the Project progresses through its design and delivery phases.

- Undertake detailed design and route optimisation considering the golden sun moth habitat within the study area.

- Limit the construction footprint within and local to the golden sun moth habitat and other vegetated areas to reduce direct and indirect impacts.

- Supplement this by creating, maintaining and monitoring no-go zones for the construction footprint next to the golden sun moth habitat and native temperate grassland community to ensure vehicles, machinery and heavy foot traffic does not impact on these areas where possible.

- Define specific requirements under a construction environmental management plan to restrict or limit certain activities from taking place in or near the golden sun moth habitat and native temperate grassland community and other vegetated areas.

- Develop a tree replacement, reuse and planting strategies throughout the study area in collaboration with experienced arborists, the NCA, and appropriate Commonwealth and Territory Government stakeholders.

- Have an appropriately trained and qualified arborist carry out the required tree felling.

- Avoid branch trimming where feasible and reasonable. Otherwise any trimming, lopping or pruning would be carried out by accredited and experienced arborists using cleaned and sterilised equipment to prevent the transmission of plant pathogens.

- Mulch and appropriately dispose of all green waste created from vegetation removal.

- Establish tree protection zones, root protection zones and canopy protection zones around all retained trees in accordance with Australian Standard (AS4970-2009) *Protection of Trees on Development Sites*. Fence off and sign these protection zones as being part of the environmental exclusion zones.

- Offset the removal of trees and shrubs by replanting appropriate replacement species.

- Induct construction staff to an appropriate level and make them aware of the location and extent of key ecologically sensitive areas and exclusion zones.

- Locate all construction compounds and laydown areas to avoid or otherwise minimise vegetation removal. Note: the removal of native or mature canopy species for compound purposes would be avoided.

- Prevent the dispersal of weed seed or soil-borne pathogens through the implementation of vegetation hygiene protocols for footwear, vehicles, heavy plant and machinery as multiple plants are declared pest species in the ACT under the *Pest Plants and Animals (Pest Plants) Declaration 2005* (No 1).

- Design, install and maintain appropriate sediment and erosion controls during excavation works to prevent any potential sediment runoff entering nearby stormwater drains.

- Engage an independent environmental auditor to assess the environmental management procedures and delivery of the project. The environmental auditor would ensure procedures are in place, managed, maintained and monitored. They would also provide a point of contact for stakeholder and community feedback on environmental performance.

**Heritage**

Strategies to avoid and minimise impacts on heritage listed items would likely include measures to:

- Avoid impacts on the attributes that give a place or item its heritage significance.

- Ensure sympathetic urban design through the development of urban design requirements with an independent panel of heritage and design specialists.

- Develop and implement a dedicated tree replacement and landscape strategy for the medium-term enhancement of the existing landscape character; noting that many of the significant trees on Commonwealth Avenue south of Lake Burley Griffin, are reported as being in “fair” to “poor” health.

- Propagate a series of next-generation Himalayan cedars from the original trees on Commonwealth Avenue.

- Minimise the extent of overhead poles and wires by using wire-free running through the most sensitive Central National Areas, including Commonwealth Avenue, and the Parliamentary Zone, as far as practicable.

Many of the measures would be introduced under the construction environmental management plan. This plan would define the measures to be outcome-focused; specific, measurable, achievable, relevant and time-bound, consistent with the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015*.

**4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.**

The Project would be sensitively and carefully designed to ensure the landscape character of

the surrounding area would be enhanced and the associated listed, nominated and wider heritage, cultural and amenity values properties are conserved.

The Project's final design would seek to minimise impacts to the cultural landscape elements within the broader setting of the Central National Area. The Project also provides an opportunity to sensitively undertake renewal of some landscape areas identified as being in poor health. It would also seek to reduce its impact on known golden sun moth habitat through design development. Where impacts are unavoidable, Major Projects Canberra would work with key stakeholders to establish an appropriate treatment that may involve direct or indirect offsets.

The Project would address existing issues and support the Commonwealth's development and employment objectives for the Parliamentary Zone, enabling a better-connected precinct with improved accessibility and more appropriate traffic flows. Light rail would provide an attractive, reliable mass transit option to the area, improving connectivity and reliability for workers and visitors.

# Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

### 5.1.1 World Heritage Properties

No

### 5.1.2 National Heritage Places

National Heritage Places - Yes

### 5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

### 5.1.4 Listed threatened species or any threatened ecological community

Listed threatened species and communities - Yes

### 5.1.5 Listed migratory species

No

### 5.1.6 Commonwealth marine environment

No

### 5.1.7 Protection of the environment from actions involving Commonwealth land

Protection of the environment from actions involving Commonwealth land - Yes

### 5.1.8 Great Barrier Reef Marine Park

No

### 5.1.9 A water resource, in relation to coal/gas/mining

No

### 5.1.10 Protection of the environment from nuclear actions

No

### 5.1.11 Protection of the environment from Commonwealth actions

No

### 5.1.12 Commonwealth Heritage places overseas

No

**5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.**

Not Applicable

# Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

**6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.**

Yes. Major Projects Canberra on behalf of the ACT Government is the proponent of the proposed action. The ACT Government takes a proactive and responsible approach to environmental management.

**6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.**

Not Applicable

**6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?**

Yes

**6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.**

While Major Projects Canberra is undertaking the action, the Project would be undertaken in accordance with relevant Major Projects Canberra and ACT Government policies and guidelines, including the *ACT Planning Strategy 2018*, the *Moving Canberra 2019 – 2045 Integrated Transport Strategy* and the *ACT Climate Change Strategy 2019*.

**6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**

Yes

**6.4.1 EPBC Act No and/or Name of Proposal.**

The ACT Government has referred numerous proposed actions under the EPBC Act. Since

2014, these include the following:

- 2014/7327 ACT Economic Development Directorate/Residential development/Division of Symonston, ACT/ACT/Symonston Residential Estate Stage 2, Symonston, ACT.

- 2015/7483 ACT Shared Services Procurement/Transport - Land/Pialligo/Australian Capital Territory/Construction of a link road on Marjura Parkway, Pialligo, ACT.

- 2016/7742 ACT Procurement/Transport - Land/Mustang Avenue roundabout, Majura Road, Pialligo, ACT/Australian Capital Territory/Construction of the IKEA Canberra Northern Access Road, ACT.

- 2016/7781 Land Development Agency/Residential Development/north of Isabella Pond Weir, between Drakeford Dr and Lake Tuggeranong, ACT/Australian Capital Territory/Urban Development of part Block 5 Section 10 Greenway, ACT.

- 2017/8013 ENVIRONMENT, PLANNING AND SUSTAINABLE DEVELOPMENT DIRECTORATE - DEPARTMENTAL/Residential Development/Block 29, Section 36, Mawson/Australian Capital Territory/Construction of public housing units within Block 29, Section 36, Mawson, ACT.

- 2017/8061 Chief Minister, Treasury and Economic Development Directorate ACT Procurement/Transport - Water/Canberra, ACT/Australian Capital Territory/Molonglo 3 Water Supply Pipeline, ACT

# Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

**7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).**

| Reference Source | Reliability | Uncertainties |
|---|---|---|
| The Canberra Times, National Capital Authority concerned over light rail stage two route, Canberra Times, 20 April 2018 | Current and reliable - Quotation from media interview | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| ACT Government, Engaging Canberrans: a guide to community engagement, 2011. | Reliable - Formal ACT Government Guidelines document | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| ACT Government, Planning & Development Act 2007 (P&D Act). | Current and reliable - Sourced form relevant statutory document | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral |
| AECOM, Coranderrk Street GPT Short-term Upgrade Options Assessment, 2012. | Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. | Data is greater than five years old. |
| ARUP/Hassell, Appendix A - Project Drawings for Commonwealth Park to Woden light rail project, July 2019 | Current and reliable: prepared to support this referral. | 2019 and specifically collected for this Project. |
| Australian Bureau of Statistics - Australian Demographic Statistics, Sep 2018 | Current and reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. Data is Less than five years old. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Australian Bureau of Statistics, Australian National Accounts: State Accounts, 2016-17 | Reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, | Currency of data |

| Reference Source | Reliability | Uncertainties |
|---|---|---|
| | Specific to ACT, Update form previous release of information form same source. | |
| Australian Bureau of Statistics, Australian National Accounts: State Accounts, 2017-18 | Current and reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is most current, Specific to ACT, Update form previous release of information form same source. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Australian Bureau of Statistics, Regional Population Growth, Australia 2016-2017, Released 24 April 2018. | Reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is most current, Specific to ACT, Update form previous release of information form same source. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Biosis, Commonwealth Park to Woden - Preliminary Environmental Assessment: Biodiversity | Current and reliable – quoted from a reliable consultancy specialising in Biodiversity assessments in the ACT | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Cardno 2006, City Area Infrastructure Capacity and Catchment Study, 2006. | Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. | Data is greater than ten years old. |
| Commonwealth Department of the Environment and Energy, EPBC Act Policy Statement - Staged Developments - Split referrals: Section 74A of the EPBC Act BIO277.0613. | Current and reliable - Formal Australian Government Guidelines document. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Commonwealth Department of the Environment and Energy, Outcomes-based Conditions Guidance 2015 | Current and reliable - Reference Guidelines published by Commonwealth Department of Environment and Energy | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Commonwealth of Australia, Smart Cities Plan. Commonwealth of Australia, The Department of Prime Minister and Cabinet, Canberra, ACT, 2016. | Reliable - Formal Australian Government published document. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |

| Reference Source | Reliability | Uncertainties |
|---|---|---|
| CPR [Conservation Planning and Research] Survey guidelines for determining lowland vegetation classification and condition in the ACT. Land Management and Planning Division, ACT Government, 2012. | Reliable - Formal ACT Government Guidelines document. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| Fitzpatrick, R., Powell, B. and Marvanek, S. Atlas of Australian Acid Sulphate Soils v.2. Australia: CSIRO, 2011. | Reliable - Reference Guidelines published by Commonwealth Department of Environment and Energy. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| GML, Preliminary Heritage Advice, 2019. | Current and reliable: prepared to support this referral including a desk review of published records and field surveys by qualified specialists. | 2019 and specifically collected for this Project . |
| Hill Thalis, JILA and SMEC, Urban Strategy, Linking City Centre to the Lake, 2013. | Mostly reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. | Data is greater than five years old. |
| Infrastructure Australia, Australian Infrastructure Audit Report, May 2015. | Mostly reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, Specific to ACT, Update form previous release of information form same source. | Currency of data. |
| Infrastructure Australia, Population Estimated and Projections, April 2015. | Mostly reliable - prepared by trusted Australian Government institution with experience in their specific areas of expertise. Data is less than five years old, Specific to ACT, Update form previous release of information form same source. | Currency of data. |
| Jacobs, Yarralumla Creek and Long Gully Flood Study, 2015. | Reliable - prepared by a reputable consultant with appropriate expertise and is relevant to project. Data is Less than five years old. | No known uncertainties. The information utilised is considered to be suitable for use to support the preparation of this referral. |
| National Capital Authority, National Capital Plan (NCP), 2016. | Reliable - Quoted form relevant statutory document. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral |

| Reference Source | Reliability | Uncertainties |
|---|---|---|
| | | and suitable for use to support the preparation of this referral. |
| National Capital Authority, National Capital Plan Parliamentary Zone Precinct Code, 2016. | Reliable - Sourced form relevant statutory document. | No known uncertainties. The information utilised is considered to be current as of the preparation of this referral and suitable for use to support the preparation of this referral. |
| National Capital Authority, Kings & Commonwealth avenues draft design strategy, August 2017. | Mostly reliable - Formal Australian Government Guidelines document. | Document is in Draft stage and has not been finalised by NCA Board. |
| RPS, Appendix D - Heritage Summary Report, July 2019. | Current and reliable: prepared to support this referral including a desk review of published records and field surveys by qualified specialists. | 2019 and specifically collected for this Project. |
| RPS, Preliminary Environmental Assessment for Commonwealth Park to Woden light rail project, July 2019. | Current and reliable: prepared to support this referral including a desk review of published records and field surveys by qualified specialists. | 2019 and specifically collected for this Project. |
| Taylor 1989: 16-17, Read et al 1994:14. | Reliable - Quotation from research that is current relent, reliable and consistent. | No known uncertainties. The information utilised is considered to be suitable for use to support the preparation of this referral. |

# Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

**8.0 Provide a description of the feasible alternative?**

The ACT Government has considered and assessed several alternatives during the development of the Project thus far. It is the ACT Government's position that the Commonwealth Park to Woden light rail corridor and the State Circle East Alignment represents the best alternative for the Project.

The Commonwealth Park to Woden light rail corridor was selected by the ACT Government to form part of a north-south Canberra light rail network ‘spine’. It made this decision after consideration of its overarching vision for Canberra and its planned light rail network.

Once the ACT Government's preferred corridor had been determined, details of the preferred route were more fully developed. The development of the Project considered the following key areas to establish the most appropriate route:

- Deakin to Woden

- Termination of in Woden Town Centre

- Central National Area

Alternative route options were considered in these parts of the alignment and discounted during the feasibility studies for the project. The reasons for discounting the alternatives are outlined in thie section of the Referral.

**Deakin to Woden**

Three options were considered for travelling to Woden: the more direct route via Adelaide Avenue/Yarra Glen, and two other routes through local centres via Denison Street and Kent Street.

The ACT Government has selected the more direct route via Adelaide Avenue/Yarra Glen for the Project. This route has the following advantages:

- It helps to improve travel times and ensure that Woden is within a 30-minute journey time to the City.

- The Project can be accommodated within the central median to retain traffic capacity on Adelaide Avenue.

- It is consistent with the inter-town public transport provisions of the NCP and Territory Plan.

- The catchment area for the route is similar to that for the Denison and Kent Street options.

- It has the potential to support urban renewal, including potential residential development.

- There is an opportunity to soften and enhance Adelaide Avenue's current landscape treatment and bring it into line with published NCA guidance for Canberra's Main Avenues.

- It provides an opportunity to improve the road layout at the Yamba Drive/Melrose Drive intersection at Phillip.

**Terminating in Woden Town Centre**

Early Project planning in 2017 contemplated the route potentially ending at Canberra Hospital in Woden. This is not being pursued as a feature of the Project, as further technical analysis revealed challenges in providing appropriate access to a stop and operational difficulties in extending the system further southwards from a Canberra Hospital terminus.

Woden is a major activity centre for southern Canberra, acting as a community and commercial hub for the Woden Valley and the broader region. The Project would improve access to the Woden retail district and employment hubs, supporting investment and economic diversification. It would make Woden a more attractive place to live, work and visit, and support the realisation of the Woden Town Centre Master Plan.

**Central National Area**

Major Projects Canberra worked closely with the NCA to develop appropriate alignment options through the Central National Area. In May and June 2017, the Territory sought feedback from the community on two different route alignments:

- Commonwealth Avenue to Adelaide Avenue, via Capital Circle

- Commonwealth Avenue to Adelaide Avenue, via Parkes and Barton

As outlined at Section 1.12, the JSCNCET Inquiry Report highlighted several heritage issues with the Barton Alignment and reached the conclusion that the NCP would need to be amended to facilitate this alignment. The JSCNCET Inquiry Report noted that the State Circle East Alignment (from Commonwealth Avenue to Adelaide Avenue) would be consistent with the NCP, and already has “in principle” Commonwealth planning approval without the need for an amendment to the NCP.

Major Projects Canberra jointly developed with the NCA a scope of works for an ‘Initial Heritage Assessment’ of the options to traverse National Land near or through the Parliamentary Zone (i.e. traversing from Commonwealth Avenue to Adelaide Avenue). The outcome of this indicates that there are no unacceptable or prohibitive heritage impacts that would require any of the alignment options being definitively rejected at this stage.

Having regard to the JSCNCET Inquiry Report and the additional analysis, the State Circle East Alignment was identified as the preferred alignment for the Project. The route would be located on the inside of the road alignment (i.e. Parliament House side of State Circle) to avoid direct

impacts to listed heritage items (State Circle cutting, York Park and St Andrews Church), while still providing good connectivity and journey time with limited impacts on the environment.

The alignment on the inside of State Circle would have comparatively less impacts to traffic than an alignment on the outside or median that would directly impact key intersections of State Circle with Kings Avenue/Brisbane Avenue/Sydney Avenue.

A Barton Alignment would be considered the backup alternative should an insurmountable issue be encountered on the State Circle East Alignment.

**Not taking the action**

Not building the Project would effectively result in the continued development of the existing road network and bus system to Woden. This option was dismissed as it would not deliver the contemplated segregated Inter-Town Public Transport system as described in the NCP or the objectives that are set out in Section 1.1 of Appendix B. Section 3.1.4 of the NCP describes the Inter-Town Public Transport system that should link activity centres.

**8.1 Select the relevant alternatives related to your proposed action.**

**8.27 Do you have another alternative?**

No

# Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

**9.0 Is the person proposing to take the action an Organisation or an Individual?**

Organisation

**9.2 Organisation**

**9.2.1 Job Title**

Project Director (Acting)

**9.2.2 First Name**

Ashley

**9.2.3 Last Name**

Cahif

**9.2.4 E-mail**

Ashley.Cahif@act.gov.au

**9.2.5 Postal Address**

496 Northbourne Avenue
Dickson ACT 2602
Australia

**9.2.6 ABN/ACN**

ABN

66676633401 - CMTEDD ACT PROCUREMENT

**9.2.7 Organisation Telephone**

(02) 6207 7396

**9.2.8 Organisation E-mail**

Ashley.Cahif@act.gov.au

**9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:**

Not applicable

**Small Business Declaration**

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

**9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations**

No

**9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made**

**Person proposing the action - Declaration**

I, Ashley Cahif, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: Ashley Cahif Date: 5/7/19

I, Ashley Cahif, the person proposing the action, consent to the designation of Major Projects Canberra as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature: Ashley Cahif Date: 5/7/19

**9.3 Is the Proposed Designated Proponent an Organisation or Individual?**

Organisation

**9.5 Organisation**

**9.5.1 Job Title**

Project Director (Acting)

**9.5.2 First Name**

Ashley

**9.5.3 Last Name**

Cahif

**9.5.4 E-mail**

Ashley.Cahif@act.gov.au

**9.5.5 Postal Address**

496 Northbourne Avenue
Dickson ACT 2602
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**9.5.6 ABN/ACN**

ABN

66676633401 - CMTEDD ACT PROCUREMENT

**9.5.7 Organisation Telephone**

(02) 6207 7396

**9.5.8 Organisation E-mail**

Ashley.Cahif@act.gov.au

**Proposed designated proponent - Declaration**

I, Ashley Cahif, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature: Ashley Cahif Date: 5/7/19

**9.6 Is the Referring Party an Organisation or Individual?**

Organisation

**9.8 Organisation**

**9.8.1 Job Title**

Project Director (Acting)

**9.8.2 First Name**

Ashley

**9.8.3 Last Name**

Cahif

**9.8.4 E-mail**

Ashley.Cahif@act.gov.au

**9.8.5 Postal Address**

496 Northbourne Avenue
Dickson ACT 2602
Australia

**9.8.6 ABN/ACN**

ABN

66676633401 - CMTEDD ACT PROCUREMENT

**9.8.7 Organisation Telephone**

(02) 6207 7396

**9.8.8 Organisation E-mail**

Ashley.Cahif@act.gov.au

**Referring Party - Declaration**

I, Ashley Cahif, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature: Ashley Cahif Date: 5/7/19

## Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. Appendix A - Project Drawings (Part 1 of 8).pdf
2. Appendix A - Project Drawings (Part 2 of 8).pdf
3. Appendix A - Project Drawings (Part 3 of 8).pdf
4. Appendix A - Project Drawings (Part 4 of 8).pdf
5. Appendix A - Project Drawings (Part 5 of 8).pdf
6. Appendix A - Project Drawings (Part 6 of 8).jpg
7. Appendix A - Project Drawings (Part 7 of 8).jpg
8. Appendix A - Project Drawings (Part 8 of 8).jpg
9. Appendix B - Preliminary Environmental Assessment (Part 1 of 2).pdf
10. Appendix B - Preliminary Environmental Assessment (Part 2 of 2).pdf
11. Appendix C - Preliminary Environmental Assessment - Biodiversity.pdf
12. Appendix D - Heritage Summary Report.pdf
13. Appendix E - Preliminary Heritage Advice (Part 1 of 3).pdf
14. Appendix E - Preliminary Heritage Advice (Part 2 of 3).pdf
15. Appendix E - Preliminary Heritage Advice (Part 3 of 3).pdf
16. Appendix F - Long Section Drawings (Part 1 of 4).PDF
17. Appendix F - Long Section Drawings (Part 2 of 4).pdf
18. Appendix F - Long Section Drawings (Part 3 of 4).pdf
19. Appendix F - Long Section Drawings (Part 4 of 4).pdf
20. Appendix G - Tables within EPBC Referral.pdf