



## SECTION 63 CITY: PRELIMINARY DOCUMENTATION

Reference: EPBC 2019/8449

FINAL  
MAY 2021

Prepared for  
City Renewal Authority

Independent  
insight.



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# EXECUTIVE SUMMARY

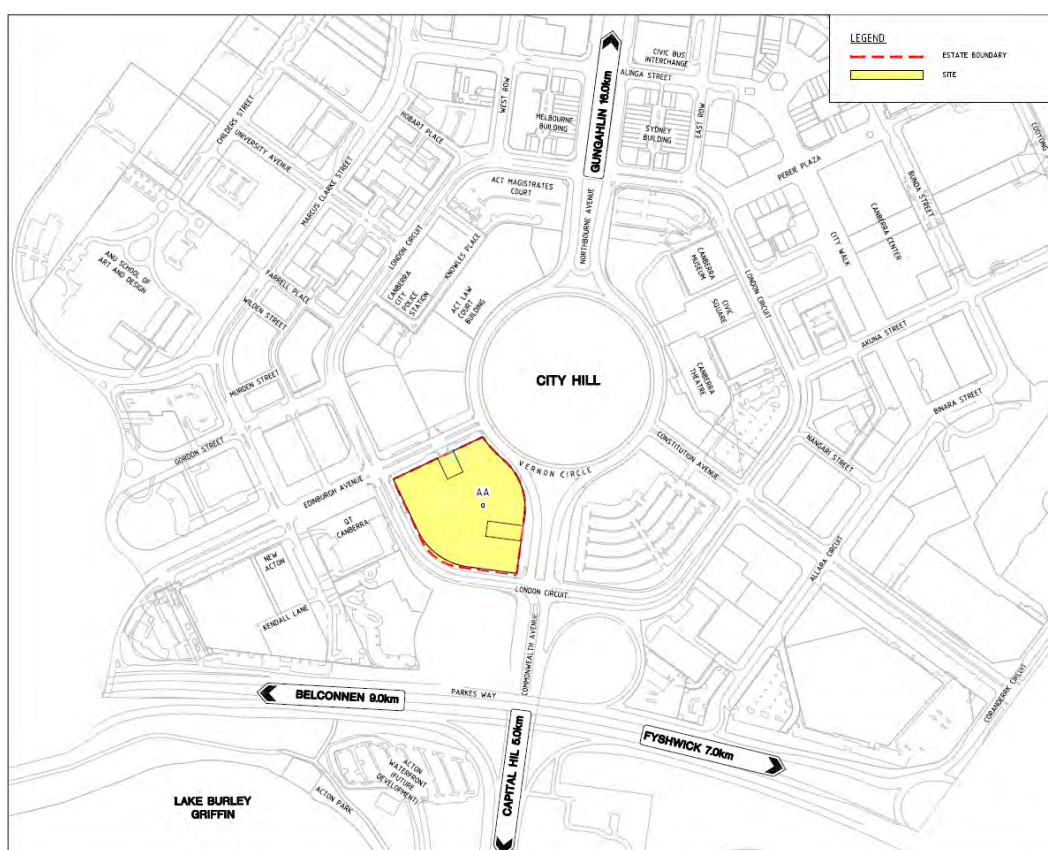
## Background and context

On 2 August 2019, the Department of Environment and Energy (now the Department of Agriculture, Water and the Environment (DAWE)) determined that the referral of proposed works (referral 2019/8449) at Block 20, Section 63 City and surrounding areas of road surfaces and verges by the City Renewal Authority was a controlled action for the purposes of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and subject to the following controlling provisions:

- Listed threatened species and communities
- Commonwealth land (Section 26 and Section 27).

Since the project was originally referred to the DAWE, the project area has been revised and no longer includes any works on Commonwealth land, such as within the Commonwealth Avenue road corridor, as previously indicated.

### SECTION 63 SITE BOUNDARY



Source: Indesco, 2020.

## Proposed action

The ACT Government, as part of its due diligence to prepare land for sale, is proposing an action relating to the future development of Block 20 Section 63 City and adjacent road surface and verge area within the north west cloverleaf. Future development on the site is expected to include residential and commercial development, however, the eventual form of

this is not part of the proposed action and will be subject to the future sale of the site and development application processes.

Design and development plans for the site, adjacent sites and interrelated projects are now further progressed and it is apparent that the initial impact on the site will be due to light rail preparatory works as described below. These works will not reinstate the site or mitigate the impact of disturbance to the subject site within the site boundaries, however off-site mitigation responses are proposed through offsets to remediate the impact of these actions.

No other areas are proposed to be used for laydown or utilities during future construction phases for the Section 63 site.

## Relationship to Light Rail

A separate EPBC referral and assessment process is being undertaken for the ACT Government's Light Rail project from City to Commonwealth Park (also known as Stage 2A – referral number 2019/8582), with the project being managed by Major Projects Canberra (MPC). The light rail project received approval with conditions from the DAWE on the 2<sup>nd</sup> February 2021. Early works to facilitate light rail are expected to commence in late 2021.

Due to the timing and staging of the light rail project light rail Stage 2A from the City to Commonwealth Park and its encroachment on the subject site to which this documentation pertains, it is anticipated that initial impact on the site and on habitat for the endangered species the Golden Sun Moth, as a Matter of National Environmental Significance (MNES) will first occur with preparatory works for the light rail project. Laydown areas required for the construction of light rail are being managed by MPC.

With the overlap in terms of impact on MNES between light rail and Section 63, a coordinated approach to offsets is required for both projects. Offset arrangements developed for City to Commonwealth Park will also be used for Section 63.

## Likely impacts

### Heritage

An assessment of heritage impact has been undertaken for the proposed action and consolidated in a Heritage Impact Statement (HIS). The HIS has identified four listed and nominated heritage places of relevance to the proposal, as shown in the table below. No heritage items have been identified on the site itself.

LISTED AND NOMINATED HERITAGE PLACES RELEVANT TO THE PROPOSAL

Place Name	Heritage Register/List	Status/ID
Canberra the Planned National Capital	National Heritage List	Nominated
National Land Roads	Commonwealth Heritage List	Nominated
Parliament House Vista	Commonwealth Heritage List	Listed
City Hill	ACT Heritage Register	Listed

Source: GML Heritage, 2020.

This document considers listed heritage items only, and any likely impact on these items of the proposed development. There is no requirement to consider nominated heritage items as part of this assessment.

In summary, and assuming that any future development on the site is consistent with the National Capital Plan's City Hill Precinct Code, the HIS has identified the potential level of heritage impact on the above listed places as follows:

- The degree of impact on City Hill would be **significant** as the proposed action would be permanent and large scale.
- The degree of impact on the Parliament House Vista would be **moderate** as the proposed action would be long term but small scale (localised).

In line with the relevant Precinct Code and controls which apply to the site, future development is likely to be of a similar scale and in keeping with existing developments in this part of the city. The figure below illustrates a perspective view of the site with indicative concept development which has taken into account the relevant planning controls and interfaces with the future light rail Stage 2A.

VIEW OF SITE IN WEST BASIN CONTEXT FROM CITY HILL, TO THE SOUTH-WEST



Source: JWA, 2020.

### Visual Impacts

It should be noted that the proposed action is not located within the boundary of the Parliament House Vista, however, as it is directly adjacent, there is potential for indirect impacts from the proposal on Commonwealth heritage values. A visual impact assessment for the site based on the indicative design was completed in April 2021, which considered the potential impact of the proposed development on views from:

- City Hill towards Parliament House (including views of the Brindabellas)
- Parliament House across the Parliamentary Triangle, and
- Parliament House towards City Hill (along Commonwealth Avenue).

As well as the indicative design illustrated above, the assessment also considered the potential visual impact if all buildings across the site were limited to 25 metres in height (rather than landmark buildings being permitted to the RL617 height controls as they currently are under the Precinct Code).

The figure below illustrates the visual impact of the indicative design from the three viewpoints.



The assessment identified that there would be a **minor to moderate impact** on views resulting from the proposal. There are likely to be very minimal impacts on the views from Parliament House across the Parliamentary Triangle and down Commonwealth Avenue respectively, as the indicative design for the site blends into the surrounding built form and is also masked somewhat by the existing dense vegetation around State Circle. There is potentially a moderate impact in the view from City Hill to the Brindabellas.

IMPACT OF INDICATIVE DEVELOPMENT ON SITE, VIEWS FROM CITY HILL, ACROSS PARLIAMENTARY TRIANGLE, AND TOWARDS COMMONWEALTH AVENUE



Proposed  
Section 63

Compliant  
with City Hill Precinct Code



Compliant  
with City Hill Precinct Code



Compliant  
with City Hill Precinct Code

Source: Hatch Roberts Day, 2021.

Reducing the landmark building height was also found to have a negligible impact on the overall visual impact.

### **Aboriginal heritage**

To date there are no known indigenous heritage items, or places within or adjacent to the works footprint, nor important landscape features. However, there is the potential to encounter unrecorded or undiscovered heritage items or archaeology during construction. This can be effectively planned for and managed through further investigation and consultation and an unexpected finds procedure.

### **Matters of national environmental significance (MNES)**

The Golden Sun Moth is critically endangered under the EPBC Act, and this is the primary reason for the referral of the Project. Any loss, disturbance or fragmentation of a 'small and fragmented' population (as recorded at the intersection) is considered a potentially significant impact in accordance with the Australian Government's significant impact assessment guidelines for the critically endangered golden sun moth *Synemon plana*.<sup>1</sup>

The Project's key ecological impact will be the removal of around 1.46 hectares of Golden Sun Moth habitat, including known breeding and feeding habitat, though this has been classified as low quality.

These impacts are likely to occur during the construction of the City to Commonwealth Park Light Rail. It is expected that the cloverleaf on Section 63 would be entirely cleared during the initial phases of the civil earthwork associated with the raising of the Commonwealth Avenue and London Circuit intersection. This area would be subject to direct permanent impacts from the new intersection, in addition to temporary impacts associated with the use of the area as a construction compound and construction materials storage area for the duration of the project.

The Project is likely to contribute to a long-term decrease in the size of the affected local population, with the loss of habitat. The development of the sites in future will also present a physical barrier to the dispersal of the species on the site.

### **Commonwealth Heritage**

As noted above, the only Commonwealth heritage listed item relevant to the proposal is the Parliament House Vista, however, the proposed site is not within its actual boundaries.

The original referral for the proposal encompassed Commonwealth land, however, the proposed building development footprint is not expected to encroach on Commonwealth land (see map below).

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<sup>1</sup> Department of the Environment, Water, Heritage and the Arts, 2009, 'Significant impact guidelines for the critically endangered golden sun moth (*Synemon plana*)', <https://www.environment.gov.au/system/files/resources/b945f32e-3f75-4739-a793-9f672893f3bb/files/golden-sun-moth.pdf>

## REFERRAL BOUNDARY AND CONTEXT IN RELATION TO MNES



Source: SGS, 2021. Other impacts

It is unlikely the proposed action will have a significant impact on native plants due to the site's surrounding urban context, and the small-scale of native vegetation likely to be impacted in this area (excepting the Golden Sun Moth habitat as described above).

As with any form of construction, there are potential risks in the form of spills and accidents that could impact on the ecology of an area. These can be mitigated and managed through effective standards and practices on site.

Other potential impacts of the proposed action may include noise and vibration during construction, and social and economic benefits and costs in the short and long term.

As noted above, it is not expected that other sites will be required for use during future construction on the subject site.

## Proposed mitigation

### Golden Sun Moth habitat offsets policy

The CRA proposes to compensate for the loss of this habitat in a manner consistent with the EPBC Act Environmental Offsets Policy. The interconnectedness of the Section 63 site to the City to Commonwealth Park Light Rail project means that the initial impact on the site will occur as part of the initial construction and preparatory works for light rail and will have the effect of extinguishing the habitat value of the Golden Sun Moth on the site.

As such, the offset for Section 63 is included as part of the approved offset policy developed for the Light Rail project to mitigate the impacts of construction. The preferred option for this is that prior to the commencement of construction, 82 species credit biodiversity credits will be purchased by the ACT Government and retired in accordance with the NSW Biodiversity Offsets Scheme (BOS). This would occur prior to the commencement of construction. A search of the BioBanking public register was carried out to confirm sufficient biodiversity credits for Golden Sun Moth are available for offset delivery. The ACT Government has commenced engagement with a number of BioBanking offset credit holders in relation to



offset delivery and are satisfied that sufficient credits are available and can be retired to address the significant impacts associated with the project.

This agreement will allow for the protection and ongoing management of Golden Sun Moth habitat at the site into perpetuity. Support from the DAWE for the proposed approach and calculation methods was obtained on the 8<sup>th</sup> April 2020.

### **Indirect impacts**

Potential indirect impacts or edge effects on adjacent retained Golden Sun Moth species habitat could include: habitat degradation activities such as trampling and weed invasion, potentially in the course of construction activities associated with the City to Commonwealth Park Light Rail and the eventual development of Section 63.

Mitigation measures will be put in place more broadly as part of the Light Rail project and are likely to contribute to minimising the risks posed from indirect impacts.

### **Cumulative impacts**

The restoration of the Golden Sun Moth habitat on the Section 63 site is not considered to be practicable, with the habitat values of the site extinguished in the Light Rail construction process. To minimise impacts on and the loss of habitat in the broader area resulting from the construction of Light Rail, it is proposed for Section 63 to be used as a construction compound, and for the CRA and MPC to continue to coordinate approaches to delivering the habitat offset described above.

### **Heritage impacts**

There is the opportunity to mitigate the potential heritage impacts described above, through detailed design development by a future owner or developer of the site, which should include heritage design principles including:

- New development must be of an appropriate height, scale and density. Further consideration of the massing outcomes prescribed by the Precinct Code and reflected in the EDP in relation to the proposed height, scale and density of built development proposed for Section 63 is needed in future detailed design, particularly to appropriately manage the scale and bulk of buildings fronting Vernon Circle.
- The design of the building facades fronting Vernon Circle and Commonwealth Avenue should prioritise articulation of form in order to minimise visual dominance over the roadway and City Hill.
- Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).
- Interpretation of the heritage significance of the City Hill precinct should be incorporated into new development on Section 63.

These could be included as part of the EDP for the site and deed of sale documents. Additional recommendations for management also include to:

- Involve strategic heritage advice in the design development process.
- Explore design options and alternatives throughout the design process.
- Document the options and alternatives as a record of design development to ensure potential heritage impacts are avoided or mitigated as far as possible.
- Undertake a heritage impact assessment for detailed design in a future development proposal for Section 63.

# 1. INTRODUCTION

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This section sets out the context and purpose of this Preliminary Assessment Report.

## 1.1 Purpose

This preliminary environmental assessment outlines the key environmental, social and economic impacts from the Project, including those related to Matters of National Environmental Significance (MNES) and Commonwealth Land values as described under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project refers to the proposed action for the release and redevelopment of land within Block 20, Section 63 City and the adjoining site. The key aspects of the Project are described below:

- Earthworks and site establishment to enable future construction. This is expected to include excavation to allow for basement car parking, together with retaining walls to the south of the site.
- Utility adjustments and relocations.
- Temporary construction compounds.

These elements form part of the preliminary design and will be further developed during detailed design phases of the site's development.

## Referral and preliminary documentation assessment

Upon referral to the Department of Environment and Energy (now the Department of Agriculture, Water and the Environment (DAWE), (referral 2019/8449)), it was determined that the Project is a controlled action and is to be assessed by preliminary documentation. This assessment process requires the provision of further information on the relevant impacts of the Project.

## 1.2 Report structure

The remainder of this Report is set out as follows:

- **Section 2** outlines the planning approvals process that will apply to the Project, including ACT Government and National Capital Authority (NCA) pathways.
- **Section 3** describes the Project and proposed works.
- **Section 4** sets out the environmental context surrounding the project, including information on relevant threatened species and communities.
- **Section 5** outlines the potential, environmental, social and economic impacts of the Project.
- **Section 6** details the proposed impact avoidance and mitigation measures to address potential impacts.
- **Section 7** summarises this Report.
- **Section 8** provides a list of references used in the Report.

### 1.3 Updates and clarifications

The following outlines how the proposed action's design and footprint has changed since the referral was first issued.

#### Vernon Circle and Commonwealth Avenue Intersection

The works footprint as previously submitted in the referral documentation included a portion of Commonwealth land along Commonwealth Avenue and the intersection with Vernon Circle.

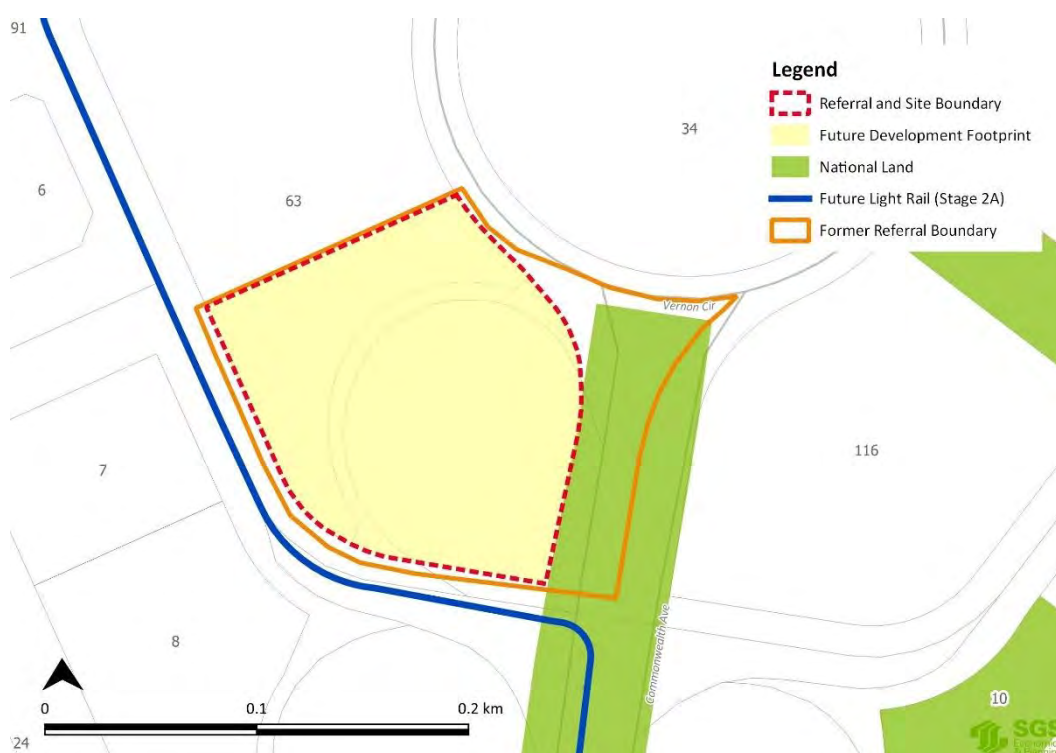
The works footprint for the Section 63 site has since been reduced and does not include this portion of land. Potential impacts and associated referral and approval processes on that portion of land will be addressed as part of the planning of the City to Commonwealth Park Light Rail being undertaken by Major Projects Canberra (MPC).

#### Change to site boundary and land area

In line with the above changes to the overall site boundary being considered, the works footprint area which was the subject of the previous referral has reduced, from the previous figure of 2.91 hectares, down to 1.46 hectares.

Figure 1 below illustrates the difference between the two boundaries. The footprint referred to in the previous referral is outlined in blue in comparison to the current referral and site boundary.

FIGURE 1: CURRENT AND PREVIOUS REFERRAL BOUNDARY FOR SECTION 63



Source: SGS, 2021

#### Arrangements for offsets

A separate EPBC referral and assessment process is being undertaken for the City to Commonwealth Park Light Rail project (referral no. 2019/8582), being managed by MPC. The proximity of this project to Section 63 means that the two projects will have significant overlap in terms of impact on MNES. Construction of Light Rail and associated works is expected to involve preparatory civil works in areas within the Section 63 boundary. The



potential impacts from the City to Commonwealth Park Light Rail project and associated mitigations and offsets would have the effect of extinguishing GSM habitat values within the Section 63 development site. Early works to facilitate light rail are expected to begin in late 2021.

FIGURE 2: LIGHT RAIL CONSTRUCTION FOOTPRINT IN RELATION TO S63 SITE



Source: ARUP, 2020.

It is expected that the north west cloverleaf area within the Section 63 site boundary would be entirely cleared during the initial phases of the civil earthwork associated with the raising of London Circuit intersection to provide an at-grade signalised intersection to support Light Rail (shown above). This area would be subject to direct permanent impacts from the new intersection, in addition to temporary impacts associated with the use of the area as a construction compound and construction materials storage area for the duration of the project.

As such, offset arrangements developed for City to Commonwealth Park Light Rail will also be used for Section 63. These are detailed further in Section 6.

### Timing

Since the initial EPBC referral for the Section 63 site, the proposed timing for the release of the site for development has changed, due to planning delays associated with interfacing infrastructure projects. The site is now planned for release in the 2022-23 financial year.

## 2. PLANNING APPROVAL PATHWAY

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This section outlines the planning approvals process that will apply to the Project.

### 2.1 Land administration context

Land use ownership, management, and development control in the ACT is complex. Before 1989, all land in the ACT was managed by the Commonwealth Government. The ACT Government now manages most land in the Territory except those areas gazetted as National Land / Commonwealth Land, which the Commonwealth retained for its own use. These National land areas are mainly administered by the National Capital Authority (NCA) or the Department of Finance on behalf of the Commonwealth.

For the purposes of the Project and its referral under the EPBC Act, all National Land is considered Commonwealth Land and subject to the provisions of the significant impact guidelines 1.2.

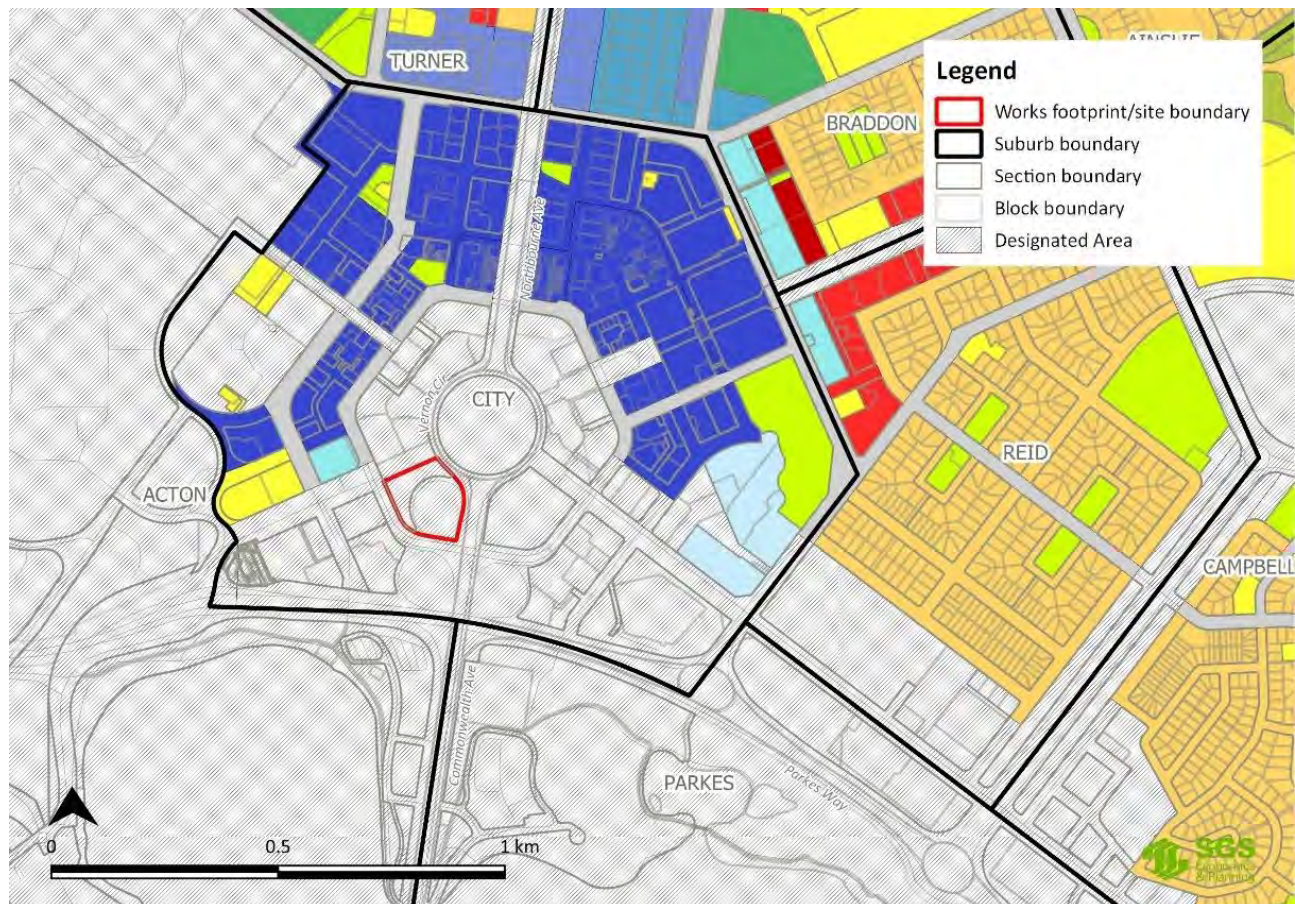
#### Site context

The subject site for the Project is located within a Designated Area. As such, NCA is the planning approvals authority, and the site is subject to the National Capital Plan (NCP).

The site is comprised of Part Block 20, Section 63 City and the north west cloverleaf (off-ramp to London Circuit) from Commonwealth Avenue in central Canberra. The site is situated south west of City Hill.



FIGURE 3: SITE CONTEXT



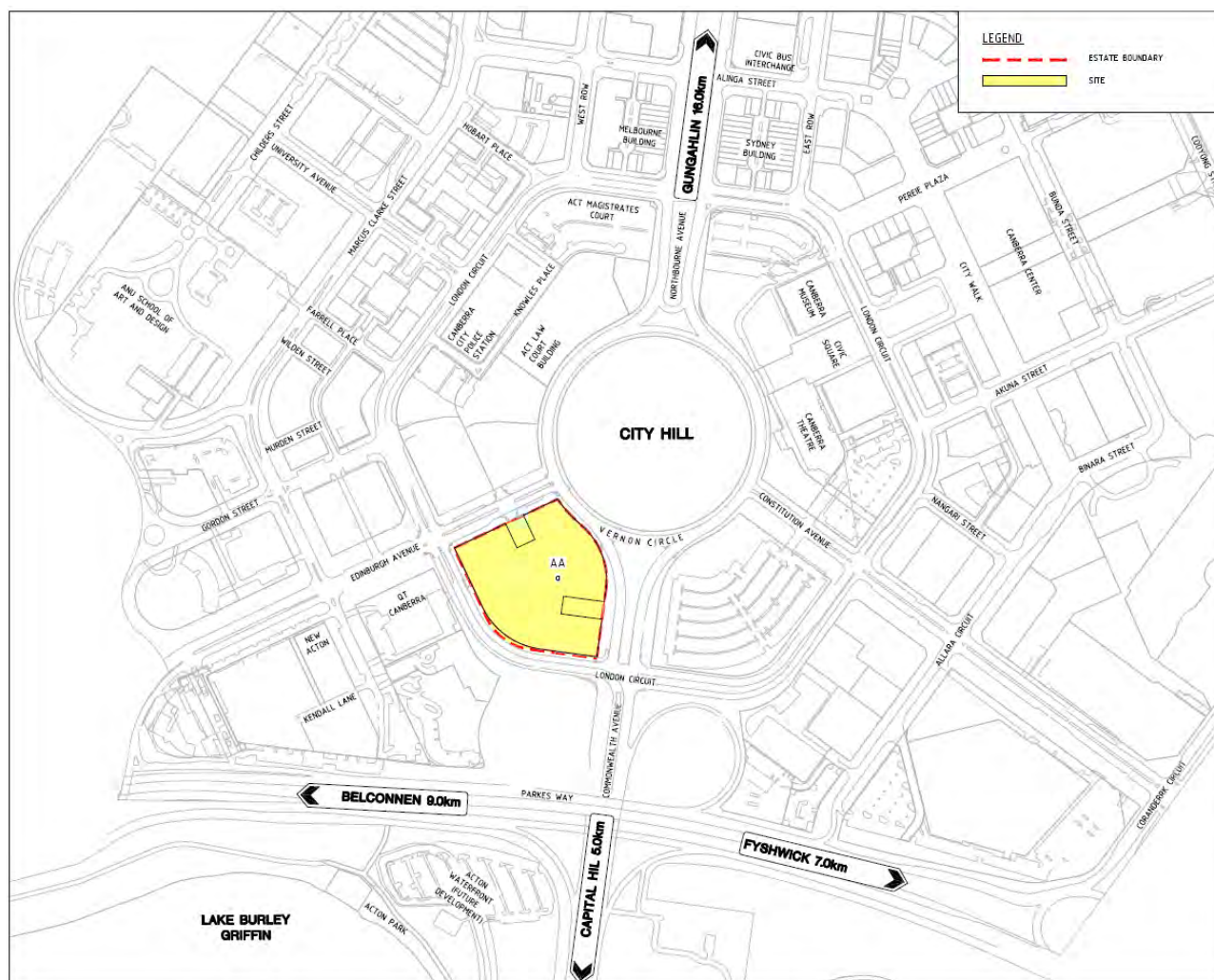
Source: SGS, 2020, based on ACT Government geospatial data.

The site and extent of the works footprint currently comprises road surfaces, road verges, road medians, an open car park and open space containing exotic grassland communities and scattered exotic trees.

The total works footprint is approximately 2.2 hectares in size, bounded by City Hill to the north (Section 31, Block 1), City Blocks 21, Section 63 to the north-west, Blocks 1 and 9, Section 7 to the south-west, and Block 9 Section 8 to the west, London Circuit to the south, and Commonwealth Avenue and City Block 1, Section 116 to the east. This is shown in Figure 4 below.

Most of the area is currently open space surrounded by road corridor. The works footprint does not include any Commonwealth land, however, the site is directly adjacent to Commonwealth Avenue which is managed by the NCA on behalf of the Commonwealth. Around 8,000 square metres of the site is unleased and currently forms public road reserve and open space. The Urban Approved land is administered by the ACT Government's Environment, Planning and Sustainable Development Directorate (EPSDD) via the City Renewal Authority (CRA), and the remaining area is administered by Transport Canberra and City Services (TCCS).

FIGURE 4: BOUNDARY OF SITE AND WORKS FOOTPRINT



Source: Indesco, 2020.

### Indicative Land Release Program

The ACT Government's Indicative Land Release Program (ILRP) aims to make sure that enough land is available in the Canberra market to accommodate population growth and the changing needs of households. The CRA has responsibility for releasing land within the City Renewal Precinct, which includes Civic and the Northbourne Avenue corridor.

The area that is the subject of this EPBC referral, part Section 63 City, has been identified for a future land release, now planned for the 2022-23 financial year. The site for the future land release is identified in the boundary defined in red in Figure 4 above.

## 2.2 NCA processes

### National Capital Plan

As noted above, the works footprint occurs within Designated Areas under the NCP. Therefore, works approval from the NCA is required within this area.

The *Australian Capital Territory (Planning and Land Management) Act 1988* (PLM Act) is the key legislation relevant to management of, and works approval, within Designated Land in the ACT. Under the P&LM Act, the NCP is the overarching strategic plan for the ACT providing 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 includes detailed conditions for planning, design and development within these areas, including through Precinct Codes for particular areas. The proposed works are within the area subject to the City Hill Precinct Code, shown below in Figure 5.

FIGURE 5: AREA SUBJECT TO CITY HILL PRECINCT CODE



Source: National Capital Authority, 2019.<sup>2</sup>

The objectives for the City Hill Precinct include:

- Maintain and promote the City Centre as the main commercial centre of Canberra and the region – with the City Hill Precinct as the pre-eminent heart of City.
- The design of buildings and the amenity and environmental quality of the main public spaces should result in an accessible, attractive, high quality and distinctive centre, consistent with the City's role as the major metropolitan centre and its location at one point of the National Triangle, the major organising element of the Central National Area.
- That the City Hill Precinct provides a vibrant, interesting and lively centre with high levels of human activity.
- Development must command the highest standards of urban design, sustainability, exemplary architecture and social inclusion, reflecting the character of the National Capital.
- The City Hill Precinct must complement and actively relate to, and integrate with, the existing and future structure of the rest of City.
- Encourage a mix of land uses, including residential uses, which contribute to a diverse and active character.

<sup>2</sup> NCA, 2019, <https://www.nca.gov.au/consolidated-national-capital-plan/precinct-codes>

- Major buildings of municipal or cultural significance should be located adjacent to City Hill Park, with their main address to Vernon Circle.

The proposed Project is consistent with the objectives and other conditions outlined in the City Hill Precinct Code. The future design of buildings on the site will also be required to be consistent with those objectives and conditions.

### NCA works approval

No approvals for development work have been sought from the NCA for the proposed action to date. The CRA and ACT Government are in the process of preparing an Estate Development Plan for Works Approval with the NCA, which has included consultation with NCA officers. Works Approval from the NCA will be required before any construction or other works are commenced on the site.

Following the lodgement of the application for Works Approval, the NCA will consider the application in relation to:

- The NCP
- Guidelines and policies (e.g. design guidelines)
- External consultation and clearances, including with relevant government agencies, and
- Public consultation.

### National Capital Design Review Panel

The National Capital Design Review Panel (NCDRP) is a joint initiative between the NCA and the ACT Government, to provide independent advice on design quality for major development proposals in the ACT. The NCDRP is selected from a pool of experts in the fields of architecture, landscape architecture, urban design and civil engineering, with additional members called on for specific skill sets as required, including heritage.

At this stage of the Project, referral to the panel will not be required, as the proposed works are only related to preparing the site for land release (see below). However, the future development of the site would be referred to the NCDRP during the works approval application process, as the site is of significance and in a Designated Area.

Compliance with the City Hill Precinct Code of any future development on the site will be assessed by the NCA as part of the development application process. The NCDRP would provide additional design advice above the minimum development and performance standard requirements of the City Hill Precinct Code. The Panel is overseen by the NCA's Chief Planner and the ACT Government Architect.<sup>3</sup>

## 2.3 ACT Government processes

As noted above, the subject site is Territory land within a Designated Area under the NCP. This means that the main planning approval authority for works on the site is the NCA.

However, aspects of the civil infrastructure and subdivision (estate) design will need to be referred to ACT Government agencies based on regulatory requirements. The NCA will also refer the Project and future development proposals on the subject site to relevant ACT Government agencies for feedback as required during the approval process.

### Previous consultation and City to the Lake

No public consultation for the proposed works has been undertaken to date.

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<sup>3</sup> The Terms of Reference for the NCDRP can be found here:  
[https://www.planning.act.gov.au/\\_data/assets/pdf\\_file/0007/1409605/NCDRP-Terms-of-Reference-August-2019-03.09.19.pdf](https://www.planning.act.gov.au/_data/assets/pdf_file/0007/1409605/NCDRP-Terms-of-Reference-August-2019-03.09.19.pdf)



In 2013, the ACT Government undertook extensive consultation with the community in developing the City to the Lake Masterplan, part of the broader City Plan for the Civic area. These plans include the subject site.

City to the Lake provides a development framework for the expansion and better integration of the city centre with Lake Burley Griffin, with the intention of creating a vibrant urban waterfront and greater accessibility to major institutions. The Project and the future development of the subject site is consistent with these aims and the wider objectives of the ACT Government's planning strategies.

The intention of the works, and the future development of the site, will also facilitate the vision for the City to the Lake and the development aims of the ACT Government, including:

- **A revised approach to arterial roads and through traffic** – London Circuit and its adjoining merge lanes/ramps alienate and dislocate large areas of urban land between partially realised urban precincts, preventing the safe and easy movement of pedestrians, cyclists and local traffic. Further, a number of movements on the crossing of Canberra's major arterials are becoming congested at peak periods. The re-working of arterial roads can ease these congestion points, and re-set Canberra's traffic movements to face the next 50 years.
- **Removal of low grade surface carparks** – The use of urban capable land as surface carparking prevents uses that adequately value this land and diminishes the physical environment. Surface carparks increase urban heat island effects and greatly increase localised stormwater runoff.
- **Increased housing and people living within the City precinct of Canberra** – Benefitting from the city centre location, there are great opportunities for new urban housing that can become the downtown neighbourhood for Canberra. A range of housing types can be accommodated, which can work hand in hand with the commercial and retail opportunities to make a diverse vibrant city centre. The new housing can benefit from the expansive lake and park front setting.

# 3. PROJECT DESCRIPTION

This section describes the Project and proposed works.

## 3.1 Proposed development

The intention is for the site to be developed as a mixed use development, including residential and commercial uses. It is planned to include the development of associated underground parking, road alignments, access vehicular points and landscaping, and to be designed to a high standard.

The location of the proposed action for this EPBC referral is identified in Figure 4 above, and Figure 6 below. It will only include Territory land. The works footprint does not include any Commonwealth land and will not encroach on Commonwealth Avenue, Vernon Circle or City Hill.

FIGURE 6: SITE LOCATION AND CONTEXT



Source: SGS, 2021.

### Preliminary design

As noted above, the site has been identified as a future land release. The CRA will facilitate the sale of the land to a developer, who will in turn develop the site. As such, the detailed design for development of the site will be determined at a later date, and will be subject to NCA works approval processes.

Development of the site will be in accordance with the City Hill Precinct Code. A potential indicative concept plan for the site has been provided in Figure 7 below – noting that the design of future development may be subject to further change with its sale. The development of this concept plan has taken into consideration:

- Applicable NCA and ACT Government planning and design controls
- Road and traffic reconfiguration
- The alignment of Light Rail Stage 2, and
- Topographic constraints and site boundaries.

FIGURE 7: ILLUSTRATIVE PLAN FOR SUBJECT SITE



Source: RedBox Design Group/City Renewal Authority July 2020.

It is intended that additional design principles will be included as part of the sale of the site to facilitate a high-quality design outcome in the final design and built form. The overall vision for the site is to:

- Create a stimulating, fine-grained and welcoming place for people.
- Integrate the site harmoniously within its historical, cultural, physical and environmental context.
- Provide a network of open spaces that are connected, active and accessible.
- Promote a next practice urban model and catalyst that sets the standard for its surrounds.

### 3.2 Scope of works

#### City to Commonwealth Park Light Rail works

It is expected that construction works associated with the City to Commonwealth Park Light Rail will impact on the Section 63 site. This is expected to include works associated with the realignment of Commonwealth Avenue with London Circuit, including the raising of London Circuit, associated utility relocations, and reconfiguration of the intersection between Commonwealth Avenue and Vernon Circle. These works will be managed by MPC and are not the subject of this referral. Subject to ACT Government budget approval and NCA works approval, it is estimated that works associated with the Light Rail project will be delivered over several stages. Depending upon approval these works could commence in the financial year 2021-22. These works will precede construction activities associated with the release, sale, and eventual development of the Section 63 site.



As is detailed later in this report (see Section 6), construction activities associated with the Light Rail project are likely to impact on the MNES values of Section 63, particularly Golden Sun Moth habitat. As such, a coordinated approach between the two projects to deliver appropriate offsets and mitigation measures is proposed. Figure 8 below illustrates the construction footprint for the light rail project, which encompasses much of Section 63.

FIGURE 8: CONSTRUCTION FOOTPRINT FOR CITY TO COMMONWEALTH PARK LIGHT RAIL



Source: Arup, 2020.



### City Renewal Authority

In the process of releasing the site for sale following the completion of construction works associated with Light Rail, the scope of works that the CRA expects to be undertaken includes:

- Earthworks and site establishment to enable future construction.
- Temporary construction compounds.

The entire works footprint area will be subject to development works, with no avoidance area within the footprint. It is expected that the initial impact on the site will be due to preparatory works for the development of light rail from Civic to Commonwealth Park and the road works to raise London Circuit to an at-grade intersection with Commonwealth Avenue.

### Future developer of the site

As the eventual design of the site is not known at this time, the exact scope of works to be undertaken by the future developer cannot be identified.

However, the future development of the site will be subject to separate works and development approval processes.

## 3.3 Environmental history of proponent – CRA

The City Renewal Authority (CRA) has not had any legal proceedings under a Commonwealth or Territory law for the protection of the environment, or the conservation and sustainable use of natural resources.

## 4. ENVIRONMENTAL CONTEXT

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This section sets out the environmental context surrounding the Project.

### 4.1 Ecological context

The Project site is comprised of road surfaces, road verges, road medians and open space containing grassland and scattered exotic trees.

#### Vegetation and ecological communities

Several ecological assessments have been carried out on the site.<sup>4</sup> These assessments have identified that Chilean needle grass is the dominant species of grassland, with one patch of low-diversity native vegetation in the northern part of the site's open space. Disturbance tolerant grasses are also sparsely distributed in small patches, including wallaby grasses (*Rytidosperma* sp.) and tall spear grass (*Austrostipa bigeniculata*). Scattered planted trees are located on the site, including Argyle Apple (*Eucalyptus cinerea*) and ornamental plum trees.

The Commonwealth Protected Matters Search Tool (PMST) suggests that two threatened ecological communities exist within 10 kilometres of the Project site, with these being:

- Natural Temperate Grassland of the South Eastern Highlands, and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The ecological surveys have identified no vegetation within the works area footprint, that meets the criteria for classification as natural temperate grassland. Similarly, no White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland have been identified on the site.

#### Golden Sun Moth

The PMST also indicated that 36 EPBC listed threatened species have been recorded, or are likely to occur, within 10 kilometres of the proposed development. For 35 of these, no suitable breeding or foraging habitat has been identified on the site. For these species, the Project is not expected to displace or substantially limit movement or dispersal of native animal populations, or substantially reduce or fragment the habitat of native animal species. There are also no migratory species, communities or wetlands of international importance present, or likely to be affected by the Project.

However, the site is known to support an isolated population of the **Golden Sun Moth** (*Synemon plana*) and is likely to significantly impact on its habitat. The Golden Sun Moth is critically endangered under the EPBC Act, and endangered under the ACT's Nature Conservation Act 2014.<sup>5</sup> Approximately 1.46 hectares of the site is Golden Sun Moth habitat.

The Golden Sun Moth can occur in grassland and grassy woodland with a sparse canopy and have been recorded in native grasslands such as the species noted above as being present on the site. The moth larvae typically feed on native tussock grasses (such as wallaby grasses) as well as introduced grasses including Chilean Needle Grass and Serrated Tussock (*Nassella trichotoma*), which are considered invasive weeds in Australia.

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<sup>4</sup> See Biosis, 2016, 'Golden Sun Moth Report, Commonwealth Avenue, ACT,' prepared for Land Development Agency, January 2016; SMEC, 2017, 'Commonwealth Avenue Golden Sun Moth Survey,' prepared for Land Development Agency, March 2017; SMEC, 2018, 'City Hill Gold Sun Moth Survey and Habitat Assessment,' prepared for City Renewal Authority, March 2018.

<sup>5</sup> Though classified as endangered in the ACT, there is no recorded Golden Sun Moth habitat within the area that would require Territory approvals.

## Results of GSM surveys

Surveys undertaken on the site have identified that the areas classified as Golden Sun Moth habitat are of low quality.<sup>6</sup> These surveys were undertaken in line with the Commonwealth Government's Significant Impact Guidelines for the Critically Endangered Golden Sun Moth.

Figure 9 below shows the results of the Biosis survey of the site and the adjacent cloverleaf site to the south undertaken in 2015. A 2016 survey undertaken by SMEC identified a total of 15 individual moths on the site, a lower number than that present in the 2015 survey.<sup>7</sup>

FIGURE 9: GOLDEN SUN MOTH SURVEY RESULTS, 2015



Source: Biosis, 2016.

<sup>6</sup> See SMEC, 2017.

<sup>7</sup> See SMEC, 2017.

These surveys identified that the Project site's green space was found to support the Golden Sun Moth's egg laying sites, and both male and female moths were observed in the surveyed areas. The population present on the site was found to be part of a population found in median strips, roadside verges and green spaces around Commonwealth Avenue, London Circuit, Parkes Way and Vernon Circle. Previous genetic analysis has identified at least five distinct regional populations within the ACT, with the meta-population of Golden Sun Moths unlikely to be impacted by the Project.

Additional investigations of Golden Sun Moth habitat were undertaken between October 2019 and January 2020 as part of the planning for the City to Commonwealth Park Light Rail project.<sup>8</sup> The survey undertaken covered the broader area expected to be impacted by that project, but included the area within the cloverleaf on Section 63.

The survey confirmed the presence of Golden Sun Moth habitat on Section 63, and it was noted that the numbers recorded were lower than had been observed in previous surveys. A total of five were identified on the site in the 2019-2020 survey, compared to the 15 identified in 2016, illustrated in Figure 10 below. A number of potential influences for the lower number have been suggested, including seasonal variations, the impact of declining average annual rainfall on larval food, and soil disturbances from European Rabbits.

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<sup>8</sup> Arup, 2020.



FIGURE 10: GOLDEN SUN MOTH HABITAT AND COUNTS IN 2019-2020 SURVEY



Source: Arup, 2020.

## 4.2 Heritage context

### Heritage listings

The site itself (Section 63) is not listed as a heritage place, however it sits within a broader heritage context that needs to be considered. Table 1 summarises the listed and nominated places which are relevant to the proposed action.

TABLE 1: LISTED AND NOMINATED HERITAGE PLACES RELEVANT TO THE PROPOSAL

Place Name	Heritage Register/List	Status/ID
Canberra the Planned National Capital	National Heritage List	Nominated
National Land Roads	Commonwealth Heritage List	Nominated
Parliament House Vista	Commonwealth Heritage List	Listed
City Hill	ACT Heritage Register	Listed

Source: GML Heritage, 2020.<sup>9</sup>

### Aboriginal heritage

There are no known indigenous heritage items, or places within or adjacent to the works footprint, nor important landscape features, according to ACT Government records.<sup>10</sup> Though no targeted Aboriginal heritage value surveys have been conducted in the works footprint to date, the works footprint and surrounding area has been subject to substantial modification and surface disturbance since central Canberra was developed in the 1920s-1930s.

## 4.3 Landscape and urban character

The existing landscape and urban character of the area can be characterised in two zones:

- Commercial and civic high-rise, dense built form and urban character around London Circuit, which frames City Hill, and
- Wide boulevard open character of Commonwealth Avenue, providing a distinct north-south connection across Lake Burley Griffin.

These are key elements of Canberra's character and the Griffin plan for the city.

<sup>9</sup> GML Heritage, 2020, 'Section 63 Redevelopment Heritage Impact Statement,' prepared for Roberts Day on behalf of City Renewal Authority, June 2020, p.2.

<sup>10</sup> See ACT Government, ACTmapi, <http://www.actmapi.act.gov.au/>

## 5. POTENTIAL IMPACTS

This section outlines the potential environmental, social and economic impacts of the Project.

### 5.1 Heritage

#### Heritage impact assessment

A Heritage Impact Statement (HIS) was prepared for Section 63 by GML Heritage in June 2020 and is provided as an attachment to this report. The HIS provides a high-level preliminary analysis of the heritage impacts of the proposed action, based on the indicative concept plan and EDP for the site, and considers:

- An overview of the statutory heritage context relevant to the project
- Identification of known and recorded historic heritage values located adjacent to or within the vicinity of the project study area
- Identification and assessment of heritage impacts of the proposal on historic heritage values
- An assessment of the project against the significant impact criteria for Matters of National Environmental Significance and Commonwealth Heritage Places (as set out under the EPBC Act guidelines), and
- Recommendations for mitigating any potential heritage impacts.

In summary, future development on the site which is consistent with the National Capital Plan's City Hill Precinct Code is likely to have impacts on the following listed heritage items to varying degrees and intensities, as summarised in Table 2 below. It should be noted that the proposed action is not located within the Parliament House Vista.

TABLE 2: ASSESSMENT OF HERITAGE IMPACTS ON LISTED HERITAGE ITEMS

Heritage value	Heritage impact	Degree and intensity of impact
Parliament House Vista	The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact of the setting of Parliament House Vista.	The degree of heritage impact would be <b>moderate</b> , due to the proposal being long term but small scale (localised).
City Hill	The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact on the significance of City Hill.	The degree of heritage impact would be <b>significant</b> , due to the proposal being permanent and large scale.

Source: GML Heritage, 2020.<sup>11</sup>

There is the opportunity to mitigate these potential impacts during the course of development, which is further described in Section 6 below.

#### Heritage Listed Values

As noted above, the eventual design of development on the site will be proposed by future developers. Through the development application and assessment process, any proposals will be required to comply with building heights and other controls as defined in the City Hill

<sup>11</sup> GML Heritage, 2020, 'Section 63 Redevelopment Heritage Impact Statement,' prepared for Roberts Day on behalf of City Renewal Authority, June 2020, Table 5.2.



Precinct Code under the National Capital Plan. Heritage assessment will also be required during this process, which will in addition require due consideration of the potential impacts of any future proposed design on the specific Heritage Values of the Parliament House Vista as a Commonwealth Listed Place, including Criterion E Aesthetic Characteristics. Mitigation measures concerning the potential future design of the site to reduce potential impacts on heritage are detailed in Section 6.

### Design controls

The potential impact of future development on the site will be limited by the extensive design controls set out in the City Hill Precinct Code under the National Capital Plan.<sup>12</sup> These controls relate to a range of elements of the design and location within the precinct, including:

- General controls
- City Hill Park as a central open space
- Building heights
- Active frontages
- Heritage
- Traffic
- Parking
- Laneways, and
- Pedestrian and bicycle links.

Specific conditions also apply for Vernon Circle and London Circuit.

The indicative location of landmark buildings under the Precinct Code is shown below in Figure 11, focused on the corners or main avenues intersecting with London Circuit.

FIGURE 11: CITY HILL PRECINCT CODE INDICATIVE BUILDING FORM, HEIGHT AND LANDMARK BUILDINGS



Source: National Capital Plan.<sup>13</sup>

<sup>12</sup> See NCA, Precinct Codes, Section 4.6, <https://www.nca.gov.au/consolidated-national-capital-plan/precinct-codes>

<sup>13</sup> Figure 42, NCA Precinct Codes.



For the Section 63 site, there are landmark buildings identified for the south-east and western corners. Landmark buildings are subject to the RL617 height controls (generally limiting development to 14-18 storeys), while the rest of the precinct is limited to 25 metres in height (around 6-8 storeys). These controls will apply to any future development at Section 63.

Figure 12 below illustrates potential massing of the site from the indicative concept plan developed, which has been designed to be in compliance with the Precinct Code (though future development on the site may not take this specific form). It should be noted that the identification of the landmark sites identified in the Precinct Code map are indicative only, and that actual shape and alignment of future development on the site is not required to be of the exact shape and alignment indicated in Figure 11.

FIGURE 12: INDICATIVE MASSING OF POTENTIAL FUTURE DEVELOPMENT ON THE SITE



Source: RobertsDay, 2020.

Figure 13 below provides an indicative view of the site from the south-west showing the context of the rest of the City Hill precinct.

FIGURE 13: VIEW OF INDICATIVE SITE IN CITY HILL AND BROADER CONTEXT, FROM THE SOUTH-WEST



Source: JWA, 2020.

### Visual impacts

A visual impact assessment for the site based on the indicative design was completed in April 2021, and is provided as an appendix to this report. The assessment has used a qualitative methodology, taking into account relevant technical guides to consider the potential impacts from future development on the physical landscape and day to day visual effects on views.

The assessment considered the visual impact of the indicative development design on views from:

- City Hill towards Parliament House (including views of the Brindabellas)
- Parliament House across the Parliamentary Triangle, and
- Parliament House towards City Hill (along Commonwealth Avenue).

As well as the indicative design illustrated above in Figure 12, the assessment also considered the potential visual impact if all buildings across the site were limited to 25 metres in height (rather than landmark buildings being permitted to the RL617 height controls as they currently are under the Precinct Code).<sup>14</sup>

Figure 14 below illustrates the existing view from City Hill towards Parliament House, compared with the indicative design and if heights were capped at 25 metres. The visual impact assessment identified the impact for this view from the potential future development as being **moderate**, mainly due to its impact on the view to the Brindabellas, with this impact being the same for the current indicative design and under a scenario where heights are limited to 25 metres.

<sup>14</sup> If building heights were to be limited to the 25 metres across the site as part of approval conditions, this would affect the potential dwelling and floorspace yield able to be generated from the development, with consequent impacts for the CRA in terms of the land release program and the potential revenue returned to the ACT Government.

FIGURE 14: VISUAL IMPACT ASSESSMENT VIEW 1 – CITY HILL

## View 01 City Hill



Existing



Proposed  
Section 63

Compliant  
with City Hill Precinct Code



Proposed  
Section 63

Alternative  
(25m Max Height)

Source: Hatch Roberts Day, 2021.

Figure 15 below shows the current and potential views from Parliament House across the Parliamentary Triangle. The assessment identified that there is a **minor** visual impact for this view, with the proposed development matching and largely blending into the existing built form in the area. There is also very little difference visually from a view at this distance between the current proposed heights and 25 metre buildings.



FIGURE 15: VISUAL IMPACT ASSESSMENT VIEW 2 – PARLIAMENTARY TRIANGLE

## View 02 Parliamentary Triangle



Existing



Compliant  
with City Hill Precinct Code



Alternative  
(25m Height)

Source: Hatch Roberts Day, 2021.

Figure 16 shows the view from Parliament House down Commonwealth Avenue. Similar to the view across the Parliamentary Triangle, the assessment identified a **minor** visual impact from this view, as the indicative design is consistent with the built form of the surrounding area, and has a minimal impact on the view from this distance. The difference between the



design including the landmark buildings and a design where buildings are capped at 25 metres is also negligible.

FIGURE 16: VISUAL IMPACT ASSESSMENT VIEW 3 – PARLIAMENT HOUSE



Source: Hatch Roberts Day, 2021.

In summary, the visual impact assessment has identified that the indicative design for future development on the site is likely to have **a minor to moderate visual impact**, due to the ability for the design to blend in with the surrounding environment, and masking from the existing

dense vegetation around State Circle. A number of mitigation measures have also been incorporated into the design to reduce potential visual impacts, including landscaping (particularly along Commonwealth Avenue), façade treatments, the use of setbacks, and compliance with the design controls as set out in the City Hill Precinct Code.

### Aboriginal heritage

To date there are no known indigenous heritage items, or places within or adjacent to the works footprint, nor important landscape features.

There is the potential to encounter unrecorded or undiscovered heritage items or archaeology during construction, however this can be effectively planned for and managed through further investigation and consultation and an unexpected finds procedure.

## 5.2 Ecology

### Golden Sun Moth

The Project's key ecological impact will be the removal of around 1.46 hectares of Golden Sun Moth habitat, including known breeding and feeding habitat, though this has been classified as low quality. As noted above, these impacts are likely to occur during construction of the City to Commonwealth Park Light Rail. It is expected that the north west cloverleaf on Section 63 would be entirely cleared during the initial phases of the civil works associated with the raising of London Circuit to provide an at-grade signalised intersection at the junction of London Circuit and Commonwealth Avenue. This area would be subject to direct permanent impacts from the new intersection, in addition to temporary impacts associated with the use of the area as a construction compound and construction materials storage area for the duration of the project.

The Golden Sun Moth is critically endangered under the EPBC Act, and this is the primary reason for the referral of the Project. Any loss, disturbance or fragmentation of a 'small and fragmented' population (as recorded at the intersection) is considered a potentially significant impact in accordance with the Australian Government's significant impact assessment guidelines for the critically endangered golden sun moth *Synemon plana*.<sup>15</sup>

The population on the site that will be impacted is isolated from nearby populations in Campbell, Reid, Yarralumla, Ainslie, and Barton. As such the proposal will not impact the connectivity of the species at a regional scale.

The Project is likely to contribute to a long-term decrease in the size of the affected local population, with the loss of habitat. The development of the sites in future will also present a physical barrier to the dispersal of the species on the site.

There are some portions of available habitat located within the areas surrounding the works footprint, including the introduced species present on the site, such as Chilean needle grass. The Project is unlikely to disrupt the breeding cycle of the broader population in the area and is unlikely to have the effect of causing the species to decline. The envisioned eventual development of the site as a mixed use project is also unlikely to introduce invasive species or diseases that are harmful to the Golden Sun Moth to the area.

Given its isolation from other populations in the ACT, the population of the Golden Sun Moth that is present on the site is not likely to be critical to the survival and recovery of the species.

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<sup>15</sup> Department of the Environment, Water, Heritage and the Arts, 2009, 'Significant impact guidelines for the critically endangered golden sun moth (*Synemon plana*)', <https://www.environment.gov.au/system/files/resources/b945f32e-3f75-4739-a793-9f672893f3bb/files/golden-sun-moth.pdf>

### Other ecological impacts

It is unlikely the proposed action will have a significant impact on native plants due to the site's surrounding urban context, and the small-scale of native vegetation likely to be impacted in this area (excepting the Golden Sun Moth habitat as described above).

As with any form of construction, there are potential risks in the form of spills and accidents that could impact on the ecology of an area. These can be mitigated and managed through effective standards and practices on site.

## 5.3 Other impacts

### Noise and vibration

Increased noise and vibration levels may be experienced within the vicinity of the site during construction. This may directly affect neighbouring properties.

Where possible, work would be carried out during standard working hours. Noise and vibration impacts in urban environments are common to most construction works and can be effectively managed under controls implemented as part of a construction noise and vibration management plan.

### Social and economic

Social and economic benefits over the long term have been considered by the CRA in assessing the Business Case for the Project.<sup>16</sup>

There are likely to be benefits from the eventual realisation of the Project in the form of:

- Direct impact – Land value uplift – putting the existing vacant land to a more productive use, with additional revenue generated for the ACT Government
- Direct impact – Additional affordable housing – the Project is expected to include a proportion of both social and affordable housing units
- Direct impact – Urban amenity benefits – the Project will generate an improved urban environment for both residents and non-residents
- Indirect impact – Infrastructure cost savings and environmental benefits – urban infill development on a site such as this is more efficient in terms of the provision of public infrastructure compared to delivering housing in greenfield and less centralised location. It also reduces the need for greenfield development to be undertaken in existing natural areas
- Indirect impact – Transport and health benefits – residents living in infill locations are more likely to use public transport and take more active trips, with associated health benefits and reduced car usage
- Indirect impact – Wider economic benefits – such as the productivity benefits from businesses and people being located close together.

Potential costs associated with the Project include:

- Construction costs associated with works – to the ACT Government in preparing the sites for sale, e.g. earthworks
- Transport costs – potentially slightly longer travel times for drivers resulting from the removal of the cloverleaf on the site.

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<sup>16</sup> ACT Government, 2019, City Hill – Section 63 Business Plan. City Renewal Authority.

## 6. IMPACT AVOIDANCE AND MITIGATION

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This section details the proposed impact avoidance and mitigation measures to address potential impacts.

### 6.1 Golden Sun Moth habitat

As described above, the removal of around 1.46 hectares of Golden Sun Moth habitat is likely to be a significant impact. The CRA proposes to compensate for the loss of this habitat in a manner consistent with the EPBC Act Environmental Offsets Policy.

#### Offset approach

As noted above, the interconnectedness of the Section 63 site area to the City to Commonwealth Park Light Rail project and proposed action means that initial impact on the site will occur as part of the initial construction and preparatory works for light rail and will have the effect of extinguishing the habitat value of the Golden Sun Moth on the site.

As such, the offset for the development and proposed action on the site area of Section 63 is included as part of the offset policy that has been developed for the City to Commonwealth Park Light Rail project (approved by DAWE on the 2<sup>nd</sup> February 2021) to mitigate the impacts of construction, as described in the Preliminary Documentation for that project (EPBC 2019/8582).<sup>17</sup> It should be noted that the offset for Light Rail is for a larger area of 5.4 hectares in total, including direct and indirect (fragmentation) impacts.

As described in that documentation, the preferred option is that prior to the commencement of construction, 82 species credit biodiversity credits will be purchased by the ACT Government and retired in accordance with the NSW Biodiversity Offsets Scheme (BOS). This would occur prior to the commencement of construction.

#### Offset package

The offset package for the light rail project overall, inclusive of the Section 63 site, is described as follows in the relevant documentation for the Light Rail project referral to DAWE.<sup>18</sup>

“A search of the BioBanking public register was carried out to confirm sufficient biodiversity credits for Golden Sun Moth are available. The ACT Government has commenced engagement with a number of BioBanking offset credit holders in relation to offset delivery and are satisfied that sufficient credits are available and can be retired to address the significant impacts associated with the project. This consultation has factored in the necessary conversion of offset credits from the BioBanking scheme to the NSW Biodiversity Offsets Scheme.<sup>19</sup>

As a contingency measure where offsets cannot be directly retired from a BioBanking offset site, the offset package will instead be delivered through payment into the Biodiversity Conservation Trust (BCT).

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<sup>17</sup> ARUP, 2020.

<sup>18</sup> Arup, 2020.

<sup>19</sup> Support obtained from DAWE on 8 April 2020 in meeting with MPC.



Retired biodiversity offset credits will be secured for conservation under Part 7A Division 2 of the Threatened Species Conservation Act 1995 (NSW) through a BioBanking agreement. This agreement will allow for the protection and ongoing management of Golden Sun Moth habitat within the offset site into perpetuity.

Offsets were calculated by a NSW-accredited biodiversity assessor using the Biodiversity Assessment Method (BAM) Calculator. As the BAM Calculator does not support the calculation of offsets for impacts to exotic vegetation, a suitable approach was determined in consultation with the NSW Department of Planning, Industry and Environment (DPIE). Manipulated floristic data was imported into the BAM Calculator to generate a vegetation integrity score that corresponded with the observed quality of all impacted Golden Sun Moth habitat as determined by the habitat assessment (4.3.2). Vegetation integrity scores were assigned to habitat quality classes based on DPIE advice regarding observed BAM calculator trends.

...

Where offsets cannot be directly retired from the preferred offset site, the offset package would instead be delivered through payment into the Biodiversity Conservation Trust (BCT) for the required number of generated offset credits. The amount will be calculated using the version of the NSW Biodiversity Offsets Payment Calculator current at the time of delivering the offset. This would be a contingency measure. Where this occurs, the BCT would have a statutory obligation to identify and secure suitable like-for-like land-based offsets for the project."

This agreement will allow for the protection and ongoing management of Golden Sun Moth habitat at the site into perpetuity. Support from the DAWE for the proposed approach and calculation methods was obtained on the 8<sup>th</sup> April 2020. Table 3 below shows the detail of the proposed offset for the light rail project (of which part would be for Section 63).

TABLE 3: RESIDUAL IMPACTS TO GOLDEN SUN MOTH HABITAT FROM CITY TO COMMONWEALTH PARK

Residual impacts	Habitat quality	Extent of impact (ha)	Vegetation integrity score	BAM Offset credits	Cost for payment into BCT
Impacts to Golden Sun Moth habitat	Low	5.4	20	88	\$677,578.39

Source: ARUP, 2020.

## 6.2 Indirect impacts

Potential indirect impacts or edge effects on adjacent retained Golden Sun Moth species habitat could include: habitat degradation activities such as trampling and weed invasion, potentially in the course of construction activities associated with the City to Commonwealth Park Light Rail and the eventual development of Section 63.

Mitigation measures will be put in place more broadly as part of the Light Rail project and are likely to contribute to minimising the risks posed from indirect impacts. This includes:

- Development of a Golden Sun Moth Management Plan to address measures for the protection/restoration of habitat during and post construction.
- Exploration of options in detailed design phases for minimisation of construction footprints and relocating works to outside of habitat areas.
- Training for site workers to ensure awareness of the Management Plan and areas of biodiversity value to be protected.
- Minimisation of construction impacts where removal of vegetation is unavoidable.
- Development of a Weed Management Plan and appropriate weed control and disposal protocols.

- Implementation of a monitoring program to assess the effectiveness of mitigation and monitoring measures through the construction phase.

## 6.3 Cumulative impacts

The construction of the City to Commonwealth Park Light Rail project is expected to extinguish the habitat values of the Section 63 site. Any remnant habitat which could be retained or restored on the site will in turn likely be directly impacted by the future development of Section 63. Consistent with the Preliminary Documentation for Light Rail, restoration of the Golden Sun Moth habitat on the Section 63 site is not considered to be practicable.

To minimise impacts and the loss of habitat across the broader area as a result of the construction of Light Rail, it is proposed that the Section 63 site be used as a construction compound and for material storage throughout construction. It is also proposed that the CRA and MPC will continue to coordinate their approaches to delivery of the offset (as described above) to compensate for the cumulative loss of the Golden Sun Moth habitat on the site, including through data sharing, project design and approvals processes.

## 6.4 Heritage impacts

As noted above, the proposed action has the potential to impact on existing heritage values surrounding the site. There is the opportunity to mitigate these impacts through detailed design development by a future owner or developer of the site, which should include adherence to the heritage design principles for each heritage value outlined below in Table 4.

TABLE 4: MITIGATION AND HERITAGE DESIGN PRINCIPLES

Heritage value	Mitigation measures
<b>Parliament House Vista</b>	<p>The following design responses should be implemented through detailed design to mitigate risk:</p> <ul style="list-style-type: none"> <li>▪ Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).</li> </ul>
<b>National Land Roads</b>	<p>The following design responses should be implemented through detailed design to mitigate risk:</p> <ul style="list-style-type: none"> <li>▪ Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).</li> <li>▪ The design of the building facades, particularly along Commonwealth Avenue, should prioritise articulation of form to minimise visual dominance.</li> </ul>
<b>City Hill</b>	<p>The following heritage design principles should be considered in future detailed design of any development proposal:</p> <ul style="list-style-type: none"> <li>▪ New development must be of an appropriate height, scale and density. Further consideration of the massing outcomes, prescribed by the Precinct Code and reflected in the EDP, in relation to the proposed height, scale and density of built development proposed for Section 63 is needed in future detailed design particularly to appropriately manage the scale and bulk of buildings fronting Vernon Circle.</li> <li>▪ Any building fronting Vernon Circle should be designed to minimise visual dominance over Vernon Circle and City Hill. The design of the building facades fronting Vernon Circle should prioritise articulation of form in order to minimise visual dominance over the roadway and City Hill.</li> <li>▪ Interpretation of the heritage significance of the City Hill precinct should be incorporated into any new development within Section 63.</li> </ul>

Source: GML Heritage, 2020.

These principles could be included in the EDP and the deed of sale documentation for the site. Compliance with terms set out in deeds of sale documents will be enforced in the future development and use of the site through leasing processes by EPSDD.

In addition to these specific principles, management recommendations for the site as it is developed include to:

- Involve strategic heritage advice in the design development process.
- Explore design options and alternative throughout the design process.
- Document the options and alternatives as a record of design development to ensure potential heritage impacts are avoided or mitigated as far as possible.
- Undertake a heritage impact assessment for detailed design in a future development proposal for Section 63.

## 7. SUMMARY

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This section provides a summary of this report.

### 7.1 Proposed action

The ACT Government is proposing an action relating to the future development of Block 20 Section 63 City and adjacent road surface and verge area within the north west cloverleaf. Future development on the site is expected to include residential and commercial development, however, the eventual building form is not part of the proposed action and will be subject to the future sale of the site and development application (works approval) processes.

Indicative design and development plans for potential future development of the site, adjacent sites and interrelated projects are now further progressed since the initial referral of the project. It is apparent that the initial impact on the site will be due to light rail preparatory works. These works will not reinstate the site, or mitigate the impact of disturbance to the subject site within the site boundaries, however off-site mitigation responses are proposed through offsets to remediate the impact of these actions.

No other areas are proposed to be used for laydown or utilities during future construction phases for the Section 63 site. Laydown areas required for the construction of Light Rail Stage 2A are being managed by MPC.

### 7.2 Impacts on MNES

The proposed action does not include any action on Commonwealth Land. The only Commonwealth heritage listed item relevant to the proposal is the Parliament House Vista, and the proposed site is not within its actual boundaries. The original referral for the proposal encompassed Commonwealth land, however, the proposed building development footprint is not expected to encroach on Commonwealth land.

As the site is directly adjacent the Parliament House Vista, there is the potential for indirect impacts to Commonwealth land and heritage values. The visual impact assessment undertaken suggests that impacts of the potential future development on views are likely to be minor to moderate.

There is expected impact on the critically endangered species *Synemon plana* (Golden Sun Moth).

Residual impacts to Golden Sun Moth resulting from the proposed action include a loss of approximately 1.46 hectares of habitat resulting from direct and indirect impacts associated with initial civil works for the City to Commonwealth Light Rail Project (Referral no.2019/8582).

An assessment of residual impacts against conservation advice for the species indicates the proposed activities will not interfere with any regional or local recovery conservation priorities for the species.

### 7.3 Proposed mitigation and offset arrangements

To compensate for residual impacts resulting from this proposal and the associated proposal for the City to Commonwealth Light Rail Project, 82 species credit biodiversity credits will be purchased by the ACT Government and retired in accordance with the NSW Biodiversity Offsets Scheme (BOS). This would occur prior to the commencement of the proposed works.



This agreement will allow for the protection and ongoing management of Golden Sun Moth habitat at the site into perpetuity. Support from the DAWE for the proposed approach and calculation methods was obtained on the 8<sup>th</sup> April 2020.

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# APPENDIX 1 – HERITAGE IMPACT STATEMENT

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# APPENDIX 2 – SURVEY DATA AND TECHNICAL REPORTS

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# APPENDIX 3 – ORIGINAL REFERRAL DOCUMENTATION

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# APPENDIX 4 – VISUAL IMPACT ASSESSMENT

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# Section 63 Redevelopment

## Heritage Impact Statement

Report prepared for Roberts Day on behalf of City Renewal Authority

June 2020



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## Report Register

The following report register documents the development and issue of the report entitled Section 63 Redevelopment—Heritage Impact Assessment undertaken by GML Heritage Pty Ltd in accordance with its quality management system.

Job No.	Issue No.	Notes/Description	Issue Date
19-0365	1	Draft Report	11 March 2020
19-0365	2	Amended Draft Report with Track Changes	28 May 2020
19-0365	3	Final Report	4 June 2020

## Quality Assurance

GML Heritage Pty Ltd operates under a quality management system which has been certified as complying with the Australian/New Zealand Standard for quality management systems AS/NZS ISO 9001:2016.

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

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**Cover Image:** Detail of the Griffins' 1918 Plan for Canberra. (Source: Commonwealth of Australia 2004, *The Griffin Legacy*, National Capital Authority, pg. 67)

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## 1.0 Introduction

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### 1.1 Project Background

RobertsDay, on behalf of the City Renewal Authority (CRA), has engaged GML Heritage Pty Ltd (GML) to prepare a Heritage Impact Assessment (HIA) for the land release and future redevelopment of Block 20, Section 63, ACT ('proposed action').

This HIA provides a high-level or 'preliminary' heritage impact analysis of the proposed action based on an indicative concept plan for future redevelopment that is consistent with the massing and scale intent detailed by the National Capital Plan (NCP) for the City Hill Precinct Code. This indicative concept plan, which will be subject to further detailed design investigations and approvals prior to construction, is referred to as the Estate Development Proposal (EDP). Future detailed design investigations and construction will be undertaken by a future owner/developer following the sale of the land by the Territory.

This report provides a high-level indication of the potential direct and indirect impacts that the proposed action may have on relevant heritage places, including Commonwealth Heritage Listed places, the Parliament House Vista and National Land Roads (nominated place).

This report has been prepared to support a referral (EPBC 2019/8449) under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act).

### 1.2 Study Area

The study area for this HIA comprises Part Block 20, Section 63 (referred to within this report as Section 63 or the study area), which is located on the southwestern side of City Hill and is bordered by Vernon Circle to the north, London Circuit to the south, Commonwealth Avenue to the east and Section 100 to the west (refer to Figure 1.1).

The topography of Section 63 slopes south towards London Circuit and is currently occupied by a carpark and the northwest cloverleaf offramp from Commonwealth Avenue.

It is noted that as part of future works to Section 100, Edinburgh Avenue is to be extended north to Vernon Circle and will form the western boundary of Section 63. Additional potential future works that may occur within the vicinity of Section 63 includes the construction of a raised intersection between London Circuit and Commonwealth Avenue to accommodate new Light Rail infrastructure.

Section 63 is located within a Designated Area (refer to Section 2.0).



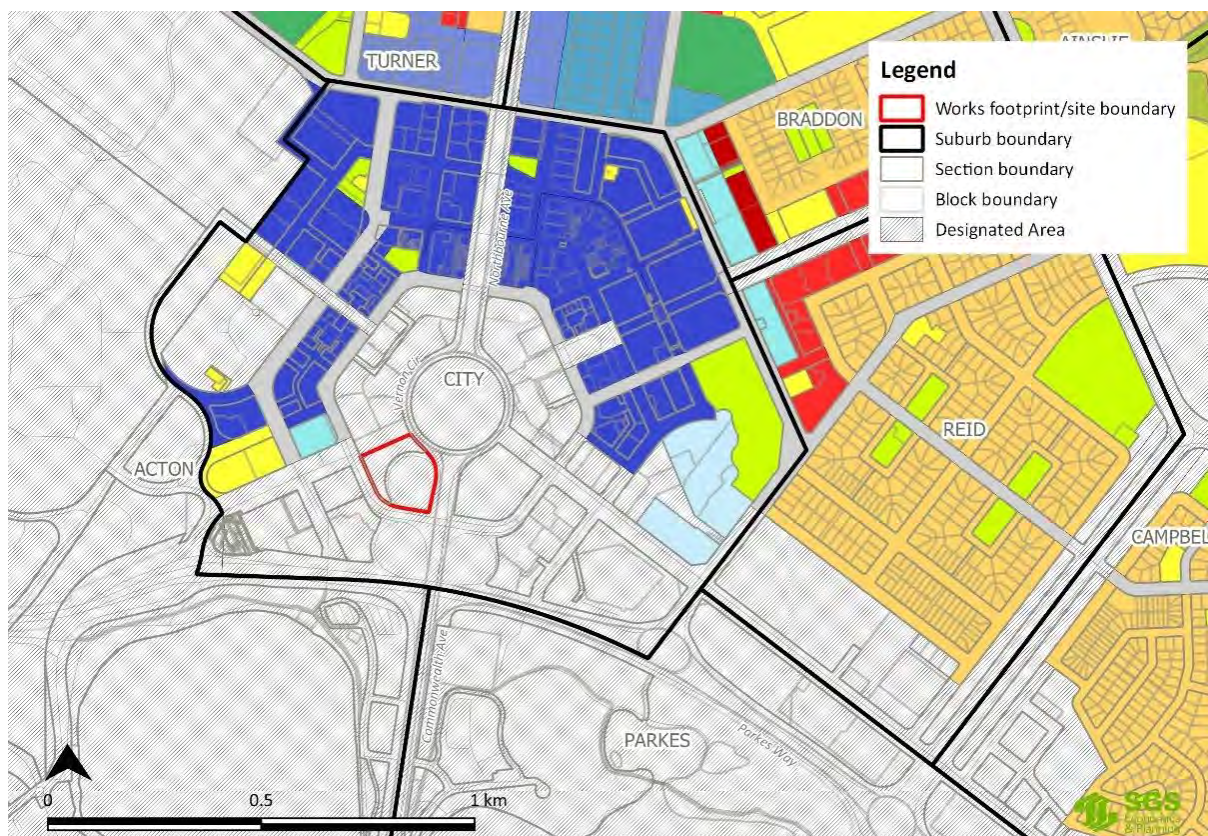


Figure 1.1 Site plan showing the location of Section 63, outlined in red, and Designated Area, shaded grey. (Source: SGS Economics and Planning, April 2020)

### 1.3 Heritage Listings

Section 63 is not listed as a heritage place in any statutory lists; however, it is located within a broader heritage context that needs to be considered when undertaking development. Table 1.1 sets out the listed and nominated historic heritage places relevant to the proposed action.

Table 1.1 Listed and Nominated Heritage Places Relevant to the Proposal.

Place Name	Heritage Register/List	Status/ID
Canberra the Planned National Capital	National Heritage List	Nominated
National Land Roads	Commonwealth Heritage List	Nominated
Parliament House Vista	Commonwealth Heritage List	Listed
City Hill	ACT Heritage Register	Listed

### 1.4 Methodology

This HIA provides:

- an overview of the statutory heritage context relevant to the project;
- identification of known and recorded historic heritage values located adjacent to or within the vicinity of the project study area;
- identification and assessment of heritage impacts of the proposal on historic heritage values;

- an assessment of the project against the significant impact criteria for Matters of National Environmental Significance and Commonwealth Heritage places as set out in:
  - *Matters of National Environmental Significance—Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*; and
  - *Actions on, or impacting Commonwealth land, and actions by Commonwealth Agencies—Significant impact guidelines 1.2 Environment Protection Biodiversity Conservation Act 1999*.
- recommendations for mitigating any potential heritage impacts.

## 1.5 Limitations

This HIA relies on known and recorded historic heritage values and does not contain specific assessments of heritage values against the Commonwealth Heritage criteria for places on Commonwealth land.

An assessment of potential impacts on natural or Aboriginal heritage values is outside the scope of this report.

Relevant Heritage Management Plans (HMPs) and Conservation Management Plans (CMPs) have been reviewed in the preparation of this HIA. It is noted that only those which are publicly accessible have been referenced. No heritage management documents/guidelines have been prepared for Canberra the Planned National Capital or the National Land Roads.

## 1.6 Documentation and References

In providing this advice, GML has examined the EDP outlined in the 'Section 63: DPPR Development' (prepared by RobertsDay, February 2020) and 'Section 63: Package for GML Heritage' (prepared by RobertsDay, February 2020).

Key reference documents also include:

- Australian Government/Department of the Environment, *Draft Canberra the Planned National Capital: National Heritage Place: EPBC Act Referral Guidelines*, 2012;
- Australian Heritage Database, Commonwealth Heritage List: Parliament House Vista (Place ID 105466);
- Duncan Marshall et al, *Parliament House Vista Area Heritage Management Plan*, prepared for the National Capital Authority, 2010;
- Australian Heritage Database, Commonwealth Heritage List (nominated): National Land Roads (Place ID 106324);
- Duncan Marshall et al, *Commonwealth Heritage Assessment for Certain Roads of National Land in Central Canberra*, prepared for the National Capital Authority, 2014;
- ACT Heritage Council, Entry to ACT Heritage Register: City Hill;
- Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance*, 2013;

## GML Heritage

- Department of Sustainability, Environment, Water, Population and Communities 2013, Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies, Significant Impact Guidelines 1.2, Commonwealth of Australia (Significant Impact Guidelines 1.2);
- Department of the Environment 2013, Significant Impact Guidelines 1.1 for Matters of National Environmental Significance, Commonwealth of Australia (Significant Impact Guidelines 1.1);
- *Heritage Act 2004* (ACT); and
- *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act).

## 2.0 Statutory Heritage Context

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### 2.1 Introduction

Section 63 is located within a Designated Area and is therefore subject to the requirements of the National Capital Plan (NCP). Relevant provisions of the EPBC Act apply as the study area is located within the boundaries of 'Canberra the Planned National Capital', an area nominated to the National Heritage List, and it is adjacent to Commonwealth Land. 'City Hill', a place listed on the ACT Heritage Register, is located adjacent to Section 63; therefore, relevant provisions of the ACT Heritage Act also apply. It is noted that under Section 2.4 of the NCP, the National Capital Authority (NCA) will consider heritage places in Designated Areas, such as City Hill, as Commonwealth Areas for the purposes of protecting the environment in the manner currently afforded under the EPBC Act.<sup>1</sup>

### 2.2 National Capital Plan (Cwlth)

The *Australian Capital Territory (Planning and Land Management) Act 1988* (Cwlth) (PALM Act) establishes the requirements for the NCP and its administration by the NCA.

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

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

From a heritage management perspective, these 'key matters of national significance' should be considered as part of any planning and development project. In Section 5.0, these are referred to as the most relevant principles for a heritage impact assessment in the Central National Area context.

Key objectives of the NCP that expand on its primary aim and the key matters of national significance are as follows:

1. *Recognise the pre-eminence of the role of Canberra and the Territory as Australia's National Capital.*
2. *Further develop and enhance a Central National Area which includes the National Triangle and its setting, Lake Burley Griffin and its foreshores and the diplomatic sites and national institutions, as the heart of the National Capital.*
3. *Emphasise the national significance of the main approach routes and avenues.*
4. *Respect the geometry and intent of the Griffins' formally adopted plan for Canberra.*
5. *Maintain and enhance the landscape character of Canberra and the Territory as the setting of the National Capital.*



6. *Protect the undeveloped hill tops and the open spaces which divide and give form to Canberra's urban areas.*
7. *Provide a plan offering flexibility and choice to enable the Territory Government properly to [sic] fulfil its functions.*
8. *Support and promote environmentally responsible urban development practices.*

### **2.2.1 Designated Areas**

The NCP specifies areas of land that have 'special characteristics of the National Capital' to be Designated Areas. These areas can be located on Commonwealth/National Land or Territory Land. The NCA has responsibility for determining detailed planning policy and the provision of Works Approval to ensure development is consistent with the NCP.<sup>2</sup> An application for Works Approval must be sought from the NCA for development within Designated Areas.

Designated Areas are divided into a series of precincts with detailed conditions of planning, design and development—Precinct Codes and General Codes—outlined for each precinct.<sup>3</sup>

The study area is located within the **City Hill Precinct Code** and is subject to the following objectives:

#### *Section 4.6—City Hill Precinct Code*

1. *Maintain and promote the City Centre as the main commercial centre of Canberra and the region – with the City Hill Precinct as the preeminent heart of City.*
2. *The design of buildings and the amenity and environmental quality of the main public spaces should result in an accessible, attractive, high quality and distinctive centre, consistent with the City's role as the major metropolitan centre and its location at one point of the National Triangle, the major organising element of the Central National Area.*
3. *That the City Hill Precinct provides a vibrant, interesting and lively centre with high levels of human activity.*
4. *Development must command the highest standards of urban design, sustainability, exemplary architecture and social inclusion, reflecting the character of the National Capital.*
5. *The City Hill Precinct must complement and actively relate to, and integrate with, the existing and future structure of the rest of City.*
6. *Encourage a mix of land uses, including residential uses, which contribute to a diverse and active character.*
7. *Major buildings of municipal or cultural significance should be located adjacent to City Hill Park, with their main address to Vernon Circle.*

## **2.3 Environment Protection and Biodiversity and Conservation Act 1999 (Cwlth)**

The EPBC Act is the Australian Government's central piece of environmental legislation. The definition of 'environment' in the EPBC Act includes the heritage values of places, ie 'the place's natural and cultural environment having aesthetic, historic, scientific or social significance, or other significance, for current and future generations of Australians'.<sup>4</sup> The objectives of the EPBC Act include providing for the protection of the environment, especially Matters of National Environmental Significance (MNES), providing a streamlined environmental assessment and approvals process and providing for the protection and management of important natural and cultural places.<sup>5</sup> It also provides for the protection of the environment for actions on, or impacting upon Commonwealth land and actions by Commonwealth agencies.<sup>6</sup> It is administered by the Department of Agriculture, Water and the Environment (DAWE).

As the study area is within land nominated to the NHL and adjacent to Commonwealth Land, relevant provisions of the EPBC Act apply to the project.

### 2.3.1 National Heritage Places

The EPBC Act establishes the National Heritage List (NHL). The NHL comprises those places identified with ‘outstanding’ heritage values for the nation against the criteria established under the EPBC Act. National Heritage places may be owned or controlled under any jurisdiction. National Heritage places are one of the nine MNES under the EPBC Act, which are subject to particular provisions of the EPBC Act.

Section 63 is located within the nominated NHL area, ‘Canberra the Planned National Capital’. A place which is nominated to the NHL is not formally identified as a National Heritage place and, therefore, is not a MNES. However, recognising the precautionary principle of the EPBC Act (Section 391), whereby a lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage, identified heritage values should be managed as if they are listed and need to be considered when undertaking an action. As such the nominated heritage place identified (‘Canberra the Planned National Capital’) has been considered within this report as if it was listed and classified as MNES.

### 2.3.2 Approvals and ‘Controlled Actions’

The EPBC Act requires proponents to undertake a self-assessment to determine whether an action is likely to have a significant impact on the environment (for heritage, this means the heritage values of a place listed on or nominated to the NHL or CHL). If the proponent believes the action is likely to have a significant impact, it must be referred to the Minister via DAWE.

The Minister makes the decision as to whether the referred action requires approval under the EPBC Act and on the process of assessment, or whether the action is unacceptable and should not proceed. A ‘controlled action’ is subject to assessment and approval under the EPBC Act; a ‘not controlled action “particular matter”’ means that approval is not required if undertaken in the manner specified; and an action that is not controlled means that approval is not required if the action is taken in accordance with the referral.<sup>7</sup>

An EPBC referral (EPBC 2019/8449) has been submitted and according to the Notification of Referral Decision, dated 8 August 2019, the (then) Department of Environment and Energy (now DAWE) determined that the project was to be a ‘controlled action’ and would be assessed through preliminary documentation.

## 2.4 Territory Heritage Legislation (ACT)

Aboriginal and non-Aboriginal heritage places and objects in the ACT are protected under the ACT *Heritage Act 2004* (Heritage Act) and the Heritage Legislation Amendment Bill 2013. The legislation establishes a system for recognising, registering and conserving natural and cultural heritage places and objects, including Aboriginal places and objects, in the ACT—the Heritage Council and the Heritage Register. Amendments made to the Heritage Act, passed on 25 September 2014, formally adopted the HERCON (Heritage Convention) criteria for assessing heritage significance.

The ACT Heritage Register means that a place or object:

- is of heritage significance to the people of the ACT and enriches understanding of the ACT’s history and identity;

- is legally protected under the Heritage Act, including the application of heritage guidelines; and
- requires advice by the ACT Heritage Council on development issues to improve conservation outcomes.

Places listed on the ACT Heritage Register may have directions about their conservation outlined in a heritage guideline which will determine how development is governed. Heritage guidelines directly affect the advice given by the ACT Heritage Council for development approval. They are a statutory instrument and made subject to a public consultation process under the Act. Pursuant to Section 27 of the Heritage Act, a function under the Act that relates, directly or indirectly, to the conservation of a place or object must be exercised in accordance with any applicable heritage guidelines.

A Statement of Heritage Effect (SHE) is required under the Heritage Act for any proposed activity that is likely to diminish the heritage significance of the place. It is required by the ACT Heritage Council in its consideration of relevant information when assessing a development application. Potential impacts from future development are assessed and mitigation measures are addressed through the preparation of a SHE. Measures are identified to mitigate any adverse impacts and ensure protection of heritage significance.

As the study area is located directly adjacent to a place that is listed on the ACT Heritage Register—City Hill—relevant provisions of the Heritage Act apply.

## 2.5 Endnotes

- <sup>1</sup> Australian Government/National Capital Authority, *The National Capital Plan*, rev Dec 2019.
- <sup>2</sup> Australian Government/National Capital Authority, 'Designated Areas', Canberra <<https://www.nca.gov.au/planning-heritage/about-planning-act/designated-areas>>.
- <sup>3</sup> National Capital Authority 2019, *National Capital Plan*, Australian Government p39.
- <sup>4</sup> Australian Government, *Working Together—Managing Commonwealth Heritage Places: A Guide for Commonwealth Agencies*.
- <sup>5</sup> Australian Government Department of Agriculture, Water and the Environment, 'About the APBC Act', Canberra, <<http://www.environment.gov.au/epbc/about>>.
- <sup>6</sup> Australian Government Department of Agriculture, Water and the Environment, 'Glossary', Canberra, <<http://www.environment.gov.au/epbc/about/glossary#significant>>.
- <sup>7</sup> Australian Government Department of the Environment and Energy, 'Environmental Assessment Process: Referral, assessment/decision whether to approve flowchart', Canberra <<http://www.environment.gov.au/resource/environment-assessment-process-0>>.

## 3.0 Heritage Values

### 3.1 Introduction

According to the EPBC Act Significant Impact Guidelines 1.2, it is necessary to identify the environmental context of an action and the general features or components of the environment in the area where the action will take place.

As stated in Section 1.3 of this report, the study area is not listed as a heritage place in any statutory lists; however, it is located within a broader heritage context that needs to be considered when undertaking development. This section provides an overview of the historic heritage values relevant to Section 63.

Key extracts from heritage management documents/guidelines that are available and relevant to the proposal are also presented within this section.

### 3.2 National and Commonwealth Heritage Places

The following table sets out the listed and nominated National and Commonwealth Heritage places relevant to the proposed action, highlighting their heritage values and key attributes.

**Table 3.1** Listed and Nominated National and Commonwealth Heritage Places Relevant to the Proposed Action, including their Heritage Values and Relevant Key Attributes. (Note that the information has been excerpted from citations listed in the Australian Heritage Database unless otherwise noted.)

Heritage Place	Status	Heritage Values	Key Attributes
Canberra the Planned National Capital	Nominated place (NHL)	<p>The heritage values and associated attributes have been summarised from the 'National Heritage values statement' provided as an appendix within the <i>Draft Canberra the Planned National Capital: National Heritage Place, EPBC Act Referral Guidelines</i> prepared by the Department of the Environment in 2012.</p> <p>a) Historic</p> <ul style="list-style-type: none"> <li>Canberra has outstanding heritage value to the nation because of the place's importance in the history of Australia's urban planning and Australia's evolving democracy.</li> </ul> <p>e) Aesthetic</p> <ul style="list-style-type: none"> <li>Canberra has outstanding values to the nation because of the place's importance in exhibiting an ensemble of designed urban landscapes and settings that project its status, function and significance as the national</li> </ul>	<p>a) Historic</p> <ul style="list-style-type: none"> <li>Associative values with place as a whole.</li> </ul> <p>e) Aesthetic</p> <ul style="list-style-type: none"> <li>The high proportion of parkland in the natural area: these <b>public parklands with their broader setting elements</b> that form the basis for the popular presentation of the city as a garden-like city and as a city in the landscape.</li> <li>View from the top lookout on Mount Ainslie, particularly south along the Land Axis.</li> <li>View from the top lookouts on Black Mountain, particularly east along the Water Axis.</li> </ul>

Heritage Place	Status	Heritage Values	Key Attributes
		<p>capital. These features are values highly by the Canberra and Australian communities for their aesthetic appeal.</p> <p>f) Creative or Technical Achievement</p> <ul style="list-style-type: none"> <li>Canberra demonstrates a high degree of creative and technical achievement in town planning, urban design and urban horticulture. Its ensemble of planned city features demonstrating <b>successive twentieth-century urban design</b> and planning approaches adds up to a showcase of outstanding value to the nation.</li> </ul> <p>g) Social Values</p> <ul style="list-style-type: none"> <li>Canberra the Planned National Capital has outstanding heritage values to the nation because of its special association with Australians as the nation's capital and seat of the federal democracy. Canberra also has a special association for Indigenous Australians as the place where significant progress has been made towards Indigenous rights and reconciliation.</li> </ul> <p>h) Significant People</p> <ul style="list-style-type: none"> <li>Canberra has outstanding heritage values to the nation because of the place's special association with the lives and works of Prime Ministers and Governors-General of Australia as a group, and individual town planners Walter Burley Griffin and Marion Mahony Griffin.</li> </ul>	<ul style="list-style-type: none"> <li>View from the top lookout on Red Hill <b>across the Central National Area</b> to Black Mountain on one side and Mt Pleasant on the other.</li> <li><b>Open, expansive views</b> across Lake Burley Griffin <b>from the parklands</b> and lake edge.</li> <li>Views of Lake Burley Griffin from Commonwealth and Kings Avenues and Parkes Way: partial, <b>passing views of Lake Burley Griffin</b> important for their value in establishing the lake as the principal 'ornament' of the city's national area and a key design feature visually linking the north and south sides of the city.</li> <li>Views of national buildings in a parkland setting within the Parliamentary Triangle.</li> <li><b>View of the Australian Parliament House</b> as the focal point at the end of a tree-lined boulevard, as seen travelling towards Parliament House along Commonwealth Avenue and Kings Avenue.</li> </ul> <p>f) Creative or Technical Achievement</p> <ul style="list-style-type: none"> <li>The Griffins' use of <b>topography</b> in the arrangement of the early city and its layout in accordance with its two principal axes—the Land and Water axes.</li> <li>The symbolic placement of the Parliamentary Triangle to signify ideas about Australia.</li> <li>The <b>use of geometry</b> in the layout and organisation of the early city. The physical expression of the Griffins' geometry is legible in the 1925 gazetted road layout including the use of the semicircles, circles, the hexagonal shape of London Circuit, the use of radial road patterns, the use of topography to establish principal road alignments and the formation of the Parliamentary Triangle (by Commonwealth, Kings and Constitution Avenues).</li> <li>The <b>tree-lined boulevards</b> of King Edward and King George Terraces, and Commonwealth, Kings and Constitution Avenues with their associated <b>visible terminal axis features</b> including Parliament House and City Hill (including its landscaped park).</li> <li>Inclusion of Lake Burley Griffin as a design element linking the dispersed elements of the city.</li> <li>The deliberate location of showcase buildings addressing the Land or Water axes.</li> </ul>



Heritage Place	Status	Heritage Values	Key Attributes
			<ul style="list-style-type: none"> <li>City 'ornaments' including the Captain Cook Jet, the Carillon and night lighting display in the Parliamentary Triangle and along the water edge of Lake Burley Griffin.</li> <li>The <b>planned nature of the city</b>—its design and plantings.</li> <li>The compact layout of the early city reflecting public transport considerations. The 1925 gazetted road layout indicates the size and layout of the early city.</li> <li>The high proportion of <b>tree planting in the public domain</b> within the Central National Area of Canberra.</li> <li>The application of high standards of urban design in the Parliamentary Triangle and along Anzac Parade.</li> </ul> <p>g) Social Values</p> <ul style="list-style-type: none"> <li><b>Central National Area.</b></li> </ul> <p>h) Significant People</p> <ul style="list-style-type: none"> <li>Associative value with the place as a whole, both Parliament Houses, Governor-General's residence and grounds and Prime Minister's Lodge and grounds.</li> </ul>
Parliament House Vista	Listed place (CHL)	<p>a) Historic</p> <ul style="list-style-type: none"> <li>The central national area of Canberra is strongly associated with the history of politics and government in Australia and the development of Canberra as the Australian National Capital.</li> </ul> <p>e) Aesthetic</p> <ul style="list-style-type: none"> <li>The Parliament House Vista has high aesthetic significance due to the visual impact of the <b>extensive open sweeping vista</b> along the land axis that can be experienced in two directions, the designed axes set within natural features of forested hills, patterns and textures of architectural massing accentuated by planned open spaces, water planes and tree plantings that are arranged across the area.</li> <li>The vista is significant for its visual drama with its ability to engage viewers in the visual perspective of the sweeping vista to the terminal features.</li> </ul> <p>f) Creative or Technical Achievement</p> <ul style="list-style-type: none"> <li>The Parliament House Vista is highly significant for its symbolic representation of the democratic interchange between the people and their</li> </ul>	<p>a) Historic</p> <ul style="list-style-type: none"> <li>The concentration of buildings, parklands and gardens that support Commonwealth parliamentary and governmental activity as well as, to some extent, national cultural life, such as Old Parliament House and curtilage, East Block Government Offices, the National Library of Australia, the High Court of Australia and the Aboriginal Embassy site.</li> </ul> <p>e) Aesthetic</p> <ul style="list-style-type: none"> <li>The <b>extensive vista</b> along the land axis, the forested hills, patterns and textures of architectural massing accentuated by planned open spaces, water features and tree plantings, artworks, the terminal features plus the interplay of scale and texture in the designed landscape.</li> </ul> <p>f) Creative or Technical Achievement</p> <ul style="list-style-type: none"> <li>The <b>whole of the vista</b>, including all elements and features contained within it, as well as the natural wooded hills beyond.</li> </ul> <p>g) Social values</p>

Heritage Place	Status	Heritage Values	Key Attributes
		<p>elected representatives and its use of natural landforms to generate a strong planning geometry.</p> <ul style="list-style-type: none"> <li>The Parliament House Vista, incorporating the central national area, is the core of the most ambitious and successful example of twentieth-century urban planning in Australia.</li> </ul> <p>g) Social values</p> <ul style="list-style-type: none"> <li>The area has strong and special associations with the broad Australian community because of its social values as a symbol of Australia and the Federal Government.</li> </ul> <p>h) Significant People</p> <ul style="list-style-type: none"> <li>The central national area has a special association with its designers, Walter Burley Griffin and Marion Mahony Griffin; chief architect of the Commonwealth Government, John Smith Murdoch; Superintendent of Parks, Gardens and Afforestation, Thomas Charles Weston; and notable National Capital Development Commission (NCDC) planners, Sir John Overall, Peter Harrison and Paul Reid.</li> </ul>	<ul style="list-style-type: none"> <li>Memorial features including sculptures, plaques, commemorative trees, water features and gardens. Also, recreational landscape spaces and gathering spaces in which the community may demonstrate.</li> </ul> <p>h) Significant People</p> <ul style="list-style-type: none"> <li>The whole of the vista, its planned layout, and the view from the top of Mount Ainslie which illustrates the realisation of Marion Mahony Griffin's perspective drawing.</li> </ul>
National Land Roads	Nominated place (CHL)	<p>The official values are not publicly available via the Australian Heritage Database. The following draft values for Commonwealth Avenue and Kings Avenue have been excerpted from the 'Certain Roads on National Land in Central Canberra Commonwealth Heritage Assessments' report prepared for the National Capital Authority in 2014.</p> <p>a) Historic</p> <ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues are significant as an integral and major part of Walter Burley Griffin's 1911 plan for the national capital, and their realisation is associated with the evolution of the cultural landscape of the nation's capital.</li> <li>Commonwealth and Kings Avenues are two of the three major avenues <b>defining the edges of the National Triangle</b> and the initial design of the national capital is a highly significant part of Australia's and Canberra's history.</li> </ul> <p>b) Rarity</p> <ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues are significant, being relatively rare as original and major parts of Griffin's design representing two sides of his planned National Triangle.</li> </ul>	<p>Attributes that embody the heritage values of Commonwealth and Kings Avenues have not been formally specified in the heritage assessment; however, the following relevant attributes have been distilled from the draft values provided:</p> <ul style="list-style-type: none"> <li>The siting, alignment and width of Commonwealth and Kings Avenues.</li> <li><b>Plantings</b>—layout and mix of native and exotic species.</li> <li>Use of Commonwealth Avenue as a major thoroughfare linking the Barton Highway/Federal Highway/Northbourne Avenue in the north with the roads to Woden (Adelaide Avenue) and Canberra Avenue and south to Cooma and the Monaro region.</li> <li><b>Views north and south</b> along Commonwealth Avenue.</li> <li>The <b>visual and spatial relationship</b> of Commonwealth Avenue with Kings and Constitution Avenues.</li> </ul>

Heritage Place	Status	Heritage Values	Key Attributes
		<ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues help to demonstrate the planning of a national capital which is an uncommon aspect of Australia's cultural history.</li> </ul> <p>c) Research Potential</p> <ul style="list-style-type: none"> <li>The cultural landscape of the national capital, including Commonwealth and Kings Avenues, is significant from a research aspect in providing, through an examination of records and landscape elements, information and an understanding of the landscaping of the capital's cultural landscape.</li> </ul> <p>d) Characteristic</p> <ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues are significant as good examples in Canberra of an important type of landscape—<b>wide tree-lined avenues</b>—which are an important feature in Canberra's planning and landscape.</li> </ul> <p>f) Creative or Technical Achievement</p> <ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues are significant as major parts of a landscape/urban design that represented a paradigm shift in urban planning in Australia.</li> <li>Commonwealth and Kings Avenues are an integral part of the designed national capital, acclaimed for its design excellence, which is of importance in the history of Australia and its capital city.</li> </ul> <p>h) Significant People</p> <ul style="list-style-type: none"> <li>Commonwealth and Kings Avenues have special associations with Walter Burley Griffin and Charles Weston, both persons of importance in Australia's cultural history.</li> </ul>	

### 3.3 ACT Heritage Places

The following table sets out the listed ACT Heritage place relevant to the proposed action, highlighting its heritage significance and ‘features intrinsic to heritage significance’.

Table 3.2 ACT Heritage Place Relevant to the Proposed Action. (Note that the information has been excerpted from the ACT Heritage Register.)

Heritage Place	Status	Heritage Significance	Features Intrinsic to Heritage Significance
City Hill	Registered (20002)	<ul style="list-style-type: none"> <li>City Hill represents an important element of urban design and is an integral component of the Griffin plan. It is a <b>generating point</b> for the major avenues of Civic and its plantings provide <b>visual corridors</b> for those avenues.</li> <li>Aesthetically, City Hill provides an important <b>landscaped open space</b> within the Central Business District and <b>enables views of the key topographical elements</b> of the city to be seen from the hill.</li> <li>The <b>verticality</b> created by the trees and flagpole forms a landmark for the city.</li> <li>Plantings have historical significance due to their association with Thomas Charles Weston, Superintendent of Parks and Gardens.</li> <li>City Hill is also of local historical significance because of its association with the first visit of a reigning British monarch to Canberra.</li> </ul>	<ul style="list-style-type: none"> <li>All grassed areas.</li> <li>Six axial plantings of Italian cypress (<i>Cupressus sempervirens</i> ‘<i>Stricta</i>’).</li> <li>Eleven oval shaped groups of Italian cypress (<i>Cupressus sempervirens</i> ‘<i>Stricta</i>’).</li> <li>All groups of Monterey pine (<i>Pinus radiata</i>) between the axial plantings.</li> <li>Plantings of black locust (<i>Robinia pseudoacacia</i>).</li> <li>The metal flagpole in its existing location.</li> </ul>

## 3.4 Heritage Management and Policies

### 3.4.1 Parliament House Vista

The Parliament House Vista Area HMP 2010 provides the following conservation policies relevant to the project:

*Policy 42 Protection of Setting*

- *The NCA will protect the setting of the Parliament House Vista to the extent possible within its powers. Beyond this, the NCA will encourage such protection for those areas which fall outside its responsibilities.*
- *The NCA will protect the forested character of the surrounding hills, and will protect or encourage protection of views to the hills from within the Parliament House Vista.*

*Policy 43 Protection of views to and from the Area*

*The significant views to and from the Vista will be protected. The significant views include:*

- *To the surrounding hills, especially Mount Ainslie, Black Mountain and Mount Pleasant;*
- *To the current Parliament House*
- *From Commonwealth and Kings Avenues, especially the bridges.*

### 3.4.2 City Hill

A Conservation Management Plan (CMP) has **not** been prepared for City Hill. However, the ACT Heritage Register citation includes the following heritage guidelines for retention of heritage significance:

- *The landscape qualities of City Hill are to be retained as an important element of Canberra's planning.*
- *The integrity of the plantings is to be retained by replacing all dead and damaged trees with the same species after thorough research of the original design.*
- *Access to City Hill by pedestrians is encouraged.*
- *Any proposals to alter any aspect of City Hill shall be referred to the Heritage Council of the ACT for comment prior to detailed planning and commencement works.*



## 4.0 Proposed Action

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### 4.1 Introduction

This section provides an outline of the proposed action—the land release and potential future redevelopment of Section 63—as well as the design objectives applied and a discussion of alternatives that were considered and why they were discounted.

As noted in Section 1.1, the EDP is an indicative concept plan outlining potential future development that is consistent with the massing and scale intent of the NCA's City Hill Precinct Code and not fully detailed. It will be subject to further detailed design investigations and approvals prior to construction which will be undertaken by a future owner/developer following the sale of the land by the Territory.

### 4.2 Proposal Description

#### 4.2.1 Overview

The proposed action assessed in this HIA is the **land release** of Section 63 and potential **future redevelopment** of Section 63 into a mixed use precinct as per the EDP.

Section 63 forms part of the ACT Government's draft Indicative Land Release Program (ILRP) and has been identified for land release for 502 dwellings in the 2021–2022 financial year. To support this potential land release, an EDP has been prepared as an ongoing reference guide for future development of Section 63. The EDP will act as:

*...a control mechanism within the future lease, setting the performance parameters against which the developer's actions will be tested.<sup>1</sup>*

#### 4.2.2 Design Intent

The EDP is based on a series of objectives that have been developed by the CRA in response to the conditions of planning, design and development for the City Hill Precinct outlined within the NCP (refer to Section 2.2.1 for City Hill Precinct Code objectives). These objectives include:<sup>2</sup>

- *Promotes the value of place making and the role it plays in stimulating the public realm, including:*
  - *an appropriate pedestrian connectivity;*
  - *proactive control of vehicle access, egress to the site and interface with the broader road network;*
  - *high quality publicly accessible and usable spaces; and*
  - *creation of economically sustainable active street frontages;*
- *Responds to the proposed broader urban design framework, considering the Site in its context as an entry-point to the parliamentary zone and the broader West Basin Master Plan (i.e. the resulting development must fit within the expectations of community for this site);*
- *Determines an appropriate land-use mix that is cognisant of Canberra's economic and demographic desires for the CBD, plus allowing a reasonable response to meet market conditions /drivers;*
- *Integrates the development of the Site with surrounding planned and existing developments, particularly the neighbouring Section 100 which is currently underway;*

- *Includes art and local cultural influences into the design and place making attributes of the Site — creating a uniquely Canberra look and feel;*
- *Meets or exceeds Environmentally Sustainable Design as determined by the CRA's Sustainability Strategy.*

### 4.2.3 Key Elements of EDP

The EDP presents an overall indicative concept plan for Section 63 which is consistent with the intent of the NCP's City Hill Precinct Code. The following description of key elements has been drawn from the 'Section 63: DPPR Development' and 'Section 63: Package for GML Heritage' (both prepared by RobertsDay, February 2020). It is noted that the EDP is not intended for construction, nor is the CRA delivering the design within the EDP. The EDP establishes 'Section 63' for future redevelopment and sets performance parameters for a future owner to enable development on the site.

The proposed concept plan for the EDP comprises the development of a series of multistorey building masses of varying heights (6–16 storeys). These buildings would be spread over Section 63 with the Knowles Place extension road and landscaping located between.

Two landmark buildings of 11 and 16 storeys are proposed on the corner of London Circuit/Commonwealth Avenue and London Circuit/Edinburgh Avenue respectively. All buildings would be residential with commercial/retail on the lower levels, with the exception of the landmark building on the London Circuit/Commonwealth Avenue corner which is proposed for hotel/commercial use.

A continuous six-storey elevation will present to Vernon Circle with two lobbies providing access points for residents. These lobbies will be highly transparent to facilitate visual links through to City Hill at ground level. Basement level carparking will be provided throughout, with rooftop amenity provided for some buildings.

The Knowles Place 'extension road' would continue into Section 63 from the adjacent northwestern site and extend to Commonwealth Avenue. This road area would be a shared pedestrian/car zone integrated with landscaping. The landscaping scheme extends from the public shared zone into upper ground floor podium spaces. A secondary open space addressing London Circuit and New Acton will provide visual connection with the New Acton precinct.

Refer to Figure 4.1 and Figure 4.2 for the proposed indicative building envelopes and landscape strategy.

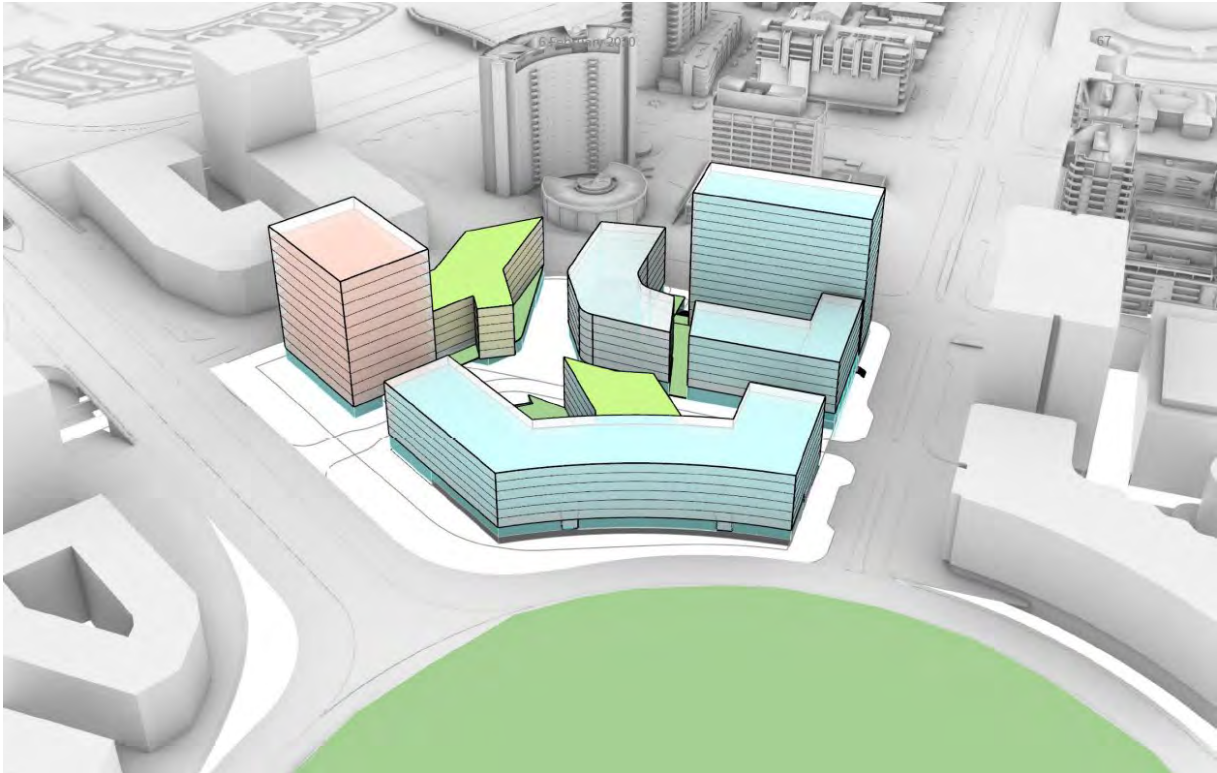


Figure 4.1 3D view showing indicative building envelopes. (Source: RobertsDay, February 2020)



Figure 4.2 Plan showing overview of the indicative landscape concept for Section 63. (Source: RobertsDay/Redbox Design Group, February 2020)

### 4.3 Alternatives Considered

A series of alternative design strategies that prioritised different aspects of the site, connections, contexts, and location of open spaces for Section 63 were also explored. Table 4.1 provides quoted text from RobertsDay detailing the alternatives considered, what prompted the design and why it was discounted.

**Table 4.1** Exploration of Alternative Design Strategies for Section 63. (Text in *italics* has been provided by RobertsDay on behalf of CRA [February 2020].)

Alternative Option	Design Prompt	Reason Discounted
<p><b><i>Jewel in the Crown</i></b></p> <p><i>At the convergence of all desire lines, a low scale civic/cultural building is the 'jewel in the crown' creating internal amenity, public asset whilst also extending activation to the periphery and pulling people into and through the site.</i></p> <p><i>Civic/cultural building is open underneath and attached to plaza/pedestrian path/built form either to the west or south depending on private street connection.</i></p>	<p><i>How can we optimise place connectivity and leverage the Knowles Place string of pearls?</i></p>	<p><i>Knowles Place is realigned to terminate vista on the 'Jewel' building. This would disrupt Knowles Place as a continuous parallel lane to London Circuit in Griffins Plan.</i></p> <p><i>The pocket park provided on London Circuit would limit the built to edge condition vision for the streets.</i></p>
<p><b><i>Central Heart Park</i></b></p> <p><i>A strong urban park plaza with activated frontage interfaces attached to pedestrian path/built form either to the west or south depending on private street connection.</i></p>	<p><i>A system of links/block and building permeability supplemented by friendly facade frontages will engage with the streetscape and context whilst the primary energy/investment is focused on the central park which can be controlled and curated as the heart.</i></p>	<p><i>Knowles Place is realigned to terminate the vista on the Central Heart Park. This would disrupt Knowles Place as a continuous parallel lane to London Circuit in Griffins Plan.</i></p>
<p><b><i>The Funnels</i></b></p> <p><i>South-eastern green pocket park and cantilevered built form create visual connection and interest from the light rail and London Circuit, encouraging movement towards the Central Heart Park.</i></p> <p><i>Optimised GFA along London Circuit enables the additional central open space to be retained as a sunny, green lunch spot.</i></p>	<p><i>We understand that there is a low likelihood of getting physical connectivity across the light rail (at West Road and/or New Acton link). Should this be a visual connection and focus more on pulling people from the Light Rail stop into the centre of the site (and reinforce Knowles Place) as well as facilitating southern connections beyond to encourage future change/connectivity but not rely on it?</i></p>	<p><i>Knowles Place is realigned to terminate the vista on the 'Jewel' building. This would disrupt Knowles Place as a continuous parallel lane to London Circuit in Griffins Plan.</i></p> <p><i>The pocket park provided on London Circuit would limit the built to edge condition vision for the streets.</i></p>
<p><b><i>The Green Carpet</i></b></p> <p><i>Generous, usable space concentrated at the north-facing corner of the Light Rail and Edinburgh Avenue junction. The space narrows to a visual cue as the ability to maintain public amenity diminishes based on orientation. However, the green wedge optimises sunlight along this frontage and pulls in deeper along the frontage.</i></p> <p><i>Minimise traditional internal "spaces" and focus on a system of linear activation opportunities.</i></p>	<p><i>A south-facing space at London Circuit will generally be cold/dark. We will have little control over the light rail public domain design (significant hardscape/little green outlook?). Should we focus our open space investment elsewhere to encourage activation, use and value?</i></p>	<p><i>The linear park provided on London Circuit would limit the built to edge condition vision for the streets.</i></p>

Alternative Option	Design Prompt	Reason Discounted
<i>The Disruption Model</i>	<i>Are we trying too hard to focus open space where solar access will be challenging? To create a NEW connection to City Hill Park when one already exists? To narrow and green an already prescribed Knowles Place? We can catalyse City Hill Park access/ transformation by connecting to the Edinburgh Avenue crossing and celebrating this interface with a proper, usable, northfacing park. Knowles Place can be a grand, green street attracting active tenants and lingering.</i>	<i>The park provided on Vernon Circle / Edinburgh Avenue would limit the built to edge condition vision for the streets.</i>

## 4.4 Endnotes

<sup>1</sup> RobertsDay, Section 63: Package for GML Heritage, February 2020, p 3.

<sup>2</sup> RobertsDay, Section 63: Package for GML Heritage, February 2020, p 2.



## 5.0 Heritage Impact Assessment

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### 5.1 Introduction

This section outlines the high-level or ‘preliminary’ assessment of potential heritage impacts from the proposed action (refer to Section 4.0) on the nominated and listed National, Commonwealth and ACT Heritage places. A relative level of heritage impact is provided along with potential impact analysis and suggested heritage design principles to further mitigate heritage impacts.

As noted, the EDP is an indicative concept plan and not fully detailed. As such, the impact assessment on the heritage values provided is equally high-level. Further analysis of heritage impacts should be undertaken following the development of detailed design documentation after the sale of the site.

When a future detailed design is prepared by a future owner/developer of the site, a comprehensive impact assessment of the proposed development against the National Heritage values and ACT heritage significance of City Hill, could consider the following indicative/high-level mitigation measures (as excerpted from Table 10, page 67 of the Canberra the Planned National Capital: National Heritage Place: EPBC Act Referral Guidelines), as follows:

- *proposals for built development near to or adjacent to City Hill should avoid obstructing or blocking views of City Hill park;*
- *impacts could be mitigated by building setbacks (from road) or by strategic design;*
- *design proposals should be shaped carefully in response to a detailed understanding of the dynamics of the view as seen by car or bus towards City Hill along Commonwealth Avenue;*
- *proposals for built development within City Hill park should avoid obstructing or blocking views of City Hill from Commonwealth Avenue; and*
- *design proposals should be shaped carefully to maintain or enhance City Hill's function as a terminal focal point for boulevards including Constitution Avenue and Commonwealth Avenue.*

### 5.2 Assessing Heritage Impacts

#### 5.2.1 Method for Assessing Potential Heritage Impacts

The methodology used for assessing potential heritage impacts of the proposed action is outlined in Table 5.1. Table 5.1 includes the questions applied to determine the degree of impact, a discussion of the potential impacts, a statement of heritage impact including degree and intensity, and recommendations to further mitigate potential impacts (high-level heritage design principles).

To respond to the EPBC Act conditions, the questions asked in the analysis of the impacts is whether ‘there a real chance or possibility that the action will’:

- *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; ...*
- *substantially alter the setting of a heritage place in a manner which is inconsistent with the heritage values of the place.*

Key matters of national significance, identified by the NCP (refer to Section 2.2), are also important to consider when assessing potential impact, as they are consistent with and integral to the

values/significance of Canberra the Planned National Capital, Parliament House Vista, National Land Roads and City Hill.

Table 5.1 Methodology for Assessing Potential Heritage Impacts.

Heritage Values/Significance	Potential Impact Analysis—Discussion	Heritage Impact Statement	Heritage Design Principles
<p><b>Identified heritage values and attributes/features intrinsic:</b></p> <p>Summary of heritage values and attributes or features intrinsic/ specific to the space or area of the proposal to be described.</p>	<p><b>Discussion:</b></p> <p>Discussion of potential impacts on the heritage values.</p> <p>Questions to be asked include if 'there a real chance or possibility that the action will':</p> <ul style="list-style-type: none"> <li>• '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';</li> <li>• 'substantially alter the setting of a heritage place in a manner which is inconsistent with the heritage values of the place'; and</li> <li>• what are the direct/indirect, cumulative, temporary/permanent, reversible/irreversible, visual, physical, social, and cultural impacts that may occur as a result of the proposed action?</li> </ul>	<p><b>Heritage impact:</b></p> <p>Heritage impact statement.</p> <p><b>Degree and intensity of impacts:</b></p> <p>What is the relative level of severity of the potential impacts in terms of scale, intensity, timing, duration and frequency?</p>	<p><b>Heritage Design Principles:</b></p> <p>Principles to guide future design of Section 63 to mitigate potential impact to heritage values/significance and consider the indicative/high-level mitigation measures as listed in Section 5.1 above.</p>

### 5.2.2 Relative Levels of Heritage Impact

A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. The factors to be taken into account to determine whether or not an action is likely to have a significant impact depend upon the sensitivity, value, and quality of the environment that is impacted, and upon the intensity, duration and magnitude of the impacts.<sup>1</sup>

The following graded scale of impact has been adopted and applied for this impact assessment. To assist in distinguishing between different relative levels of severity of potential heritage impacts, the Significant Impact Guidelines 1.2 provide a scale to refer to, which is as follows:

- **Severe/Significant:** Severe (or 'significant') impacts generally have two or more of the following characteristics: permanent/irreversible; medium–large scale; moderate–high intensity. Note: A severe impact would be considered 'significant' as defined by the EPBC Act Significant Impact Guidelines and would require an EPBC Act referral to the Minister for the Environment.
- **Moderate:** Moderate impacts generally have two or more of the following characteristics: medium–long term; small–medium scale; moderate intensity.
- **Minor:** Minor impacts generally have two or more of the following characteristics: short term/reversible; small–scale/localised; low intensity.

General note: The severity of impacts alone does not necessarily indicate an adverse (or significant) impact on the overall heritage values of a place. The potential impacts of the action must be considered in the context of the environment or the place in which the action will take place.

The scale of an action and its impacts requires consideration when predicting the severity of impacts; generally, a larger-scale action with widespread impacts is more likely to have a significant impact on the heritage values than a smaller-scale action with localised impacts. Considering the scale in conjunction with the intensity and duration/frequency of the impacts is important. Intensity refers to the strength and concentration of potential impacts.

## 5.3 Analysis of Heritage Impacts

### 5.3.1 National and Commonwealth Heritage Places

Table 5.2 provides an assessment of the potential impacts of the proposed action against the nominated National Heritage values of Canberra the Planned National Capital, the Commonwealth Heritage values of the Parliament House Vista and the nominated Commonwealth Heritage Values of National Land Roads.

**Table 5.2** Assessment of Heritage Impacts on National and Commonwealth Heritage Places (and reference to the NCP's key matters of national significance in *italics*).

Heritage Values	Potential Impact Analysis—Discussion	Heritage Impact Statement	Heritage Design Principles
<p><b>Canberra the Planned National Capital</b></p> <p>Summary of relevant attributes:</p> <ul style="list-style-type: none"> <li>Public parklands with their broader setting elements that form the basis for the popular presentation of the city as a garden-like city and as a city in the landscape.</li> <li>Views from Mount Ainslie, Black Mountain, Red Hill and Mount Pleasant along axes and across the Central National Area.</li> <li>View of the Australian Parliament House as the focal point at the end of a tree-lined boulevard, as seen travelling towards Parliament House along Commonwealth Avenue and Kings Avenue.</li> <li>Partial, passing views of Lake Burley Griffin are important for their value in establishing the lake as the principal 'ornament' of the city's national area and a key design feature visually linking the north and south sides of the city.</li> <li>The Griffins' use of topography in the arrangement of the early city and its layout in accordance with its two principal axes—the Land and Water axes.</li> <li>The use of geometry in the layout and organisation of the early city.</li> </ul>	<p>Positives:</p> <p>The proposed incorporation of landscaped spaces around the boundaries and throughout Section 63 is in keeping with the general 'green' character of Canberra. The division of buildings and use of varying heights across Section 63 is positive.</p> <p>The proposal would retain views towards Australian Parliament House along Commonwealth Avenue.</p> <p>The proposed Knowles Place 'extension road' is consistent with the use of geometry in the layout of Canberra.</p> <p>Negatives:</p> <p>The proposal is likely to have a direct and permanent impact on the heritage values of the Planned National Capital and its attributes. In particular, it would have an impact on City Hill and Commonwealth Park, which are important public parklands that contribute to the presentation of the city as a garden-like city and as a city in the landscape.</p> <p>City Hill, or Mount Vernon as it was originally known, forms one of three nodes of the National Triangle, together with Capital Hill and Mount Pleasant, which demonstrates the Griffins' use of topography in the design of Canberra. The topography of City Hill has been gradually eroded during the development of Canberra; however, it is still legible to the public. While building development was part of the Griffin Plan (referred to in the NCP as the 1925 gazetted plan), other heritage values have accrued over time, and relate to the development of Canberra during the NCDC period, which built on the Griffin Plan, albeit not an exact replication of the 1925 plan. Implementation of the road infrastructure (including the cloverleaf</p>	<p><b>Heritage impact:</b></p> <p>The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact on the heritage values of Canberra the Planned National Capital.</p> <p><b>Degree and intensity of impact:</b></p> <p>The degree of heritage impact would be <b>significant</b>, due to the proposal being permanent and large scale.</p>	<p>Acknowledging that the current proposal is an EDP consistent with the Precinct Code, the following heritage design principles should be considered in future detailed design of any development proposal:</p> <ul style="list-style-type: none"> <li>New development must be of an appropriate height, scale and density. Further consideration of the massing outcomes prescribed by the Precinct Code and reflected in the EDP in relation to the proposed height, scale and density of built development proposed for Section 63 is needed in future detailed design, particularly to appropriately manage the scale and bulk of buildings fronting Vernon Circle.</li> <li>Any building fronting Vernon Circle should be designed to minimise visual dominance over Vernon Circle and City Hill. The design of the building façades fronting</li> </ul>

Heritage Values	Potential Impact Analysis—Discussion	Heritage Impact Statement	Heritage Design Principles
<ul style="list-style-type: none"> <li>Inclusion of Lake Burley Griffin as a design element linking the dispersed elements of the city.</li> <li>The tree-lined boulevard of Commonwealth Avenue with associated visible terminal axis features (City Hill—landscaped park).</li> <li>The deliberate location of showcase buildings addressing the Land or Water axes.</li> <li>City ‘ornaments’ including the Captain Cook Jet, the Carillon and night lighting display in the Parliamentary Triangle and along the water edge of Lake Burley Griffin.</li> <li>The planned nature of the city—its design and plantings.</li> <li>The compact layout of the early city reflecting public transport considerations. The 1925 gazetted road layout indicates the size and layout of the early city.</li> <li>The high proportion of tree planting in the public domain within the Central National Area of Canberra.</li> </ul> <p>(Refer to Section 3.2 of this report for full details of heritage values/attributes.)</p>	<p>road layout and the lake). Construction of 6–16 storey buildings in Section 63 would likely erode legibility of aspects of the heritage values identified in the ‘Canberra the Planned National Capital’ heritage list nomination, such as the existing road network and the open landscape, with currently unimpeded views along Commonwealth Avenue and to and from Lake Burley Griffin to City Hill.</p> <p>The ability to ‘read’ ‘the approaches and backdrops for national institutions and ceremonies as well as National Capital uses’ would become more constricted around Vernon Circle and adjacent to City Hill.</p> <p>The ‘landscape features which give the National Capital its character and setting, and which contribute to the integration of natural and urban environments’ would be changed by the densification of the built form and its scale around City Hill.</p> <p>Views between City Hill and Lake Burley Griffin are likely to be obstructed by the proposal, with the potential for cumulative visual impacts from similar high-density developments constructed within the vicinity of City Hill. The proposed height and density of development within Section 63 would visibly dominate City Hill. It would also limit visibility of City Hill from other areas of Canberra and its legibility as a visible terminal axis to Commonwealth Avenue.</p>		<p>Vernon Circle should prioritise articulation of form in order to minimise visual dominance over the roadway and City Hill.</p> <ul style="list-style-type: none"> <li>Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).</li> </ul>
<p><b>Parliament House Vista</b></p> <p>Key attributes summarised from the citation:</p> <ul style="list-style-type: none"> <li>Concentration of buildings, parklands and gardens that support Commonwealth parliamentary and governmental activity and national cultural life.</li> <li>The whole of the vista, including all elements and features contained within it, and the natural wooded hills beyond.</li> <li>Recreational landscape spaces and gathering spaces in which the community may demonstrate.</li> </ul>	<p><b>Positives:</b></p> <p>The proposal is unlikely to have a direct physical impact on the values of the Parliament House Vista, as Section 63 is located outside its boundary.</p> <p><b>Negatives:</b></p> <p>The proposed construction of high-density, multistorey buildings within Section 63 would permanently alter the character at the northern end of Commonwealth Avenue, which contributes to the broader setting of the Parliament House Vista. At present, this area is characterised by an open landscape, including arterial roadways and off-ramps. The landscaping proposed along the western boundary of Section 63 would aid in part toward softening and</p>	<p><b>Heritage impact:</b></p> <p>The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact on the setting of Parliament House Vista.</p> <p><b>Degree and intensity of impact:</b></p> <p>The degree of heritage impact would be <b>moderate</b>, due to the proposal being</p>	<p>The following design responses should be implemented through detailed design to mitigate risk:</p> <ul style="list-style-type: none"> <li>Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).</li> </ul>

## GML Heritage

Heritage Values	Potential Impact Analysis—Discussion	Heritage Impact Statement	Heritage Design Principles
<ul style="list-style-type: none"> <li>Planned layout of vista.</li></ul> <p>(Refer to Section 3.2 of this report for full details of heritage values and attributes.)</p>	<p>integrating the new development within the wider treed landscape of Canberra but would not fully mitigate the loss of existing character.</p> <p>There is potential for cumulative visual impacts from similar high-density developments constructed adjacent to the boundaries of the Parliament House Vista. The visibility of the natural wooded hills from some areas of the vista may be obstructed by similar development.</p>	<p>long term but small scale (localised).</p>	
<p><b>National Land Roads</b></p> <p>Summary of relevant attributes:</p> <ul style="list-style-type: none"> <li>The siting, alignment and width of Commonwealth and Kings Avenues.</li> <li>Plantings—layout and mix of native and exotic species.</li> <li>Use of Commonwealth Avenue as a major thoroughfare linking the Barton Highway/Federal Highway/Northbourne Avenue in the north with the roads to Woden (Adelaide Avenue) and Canberra Avenue and south to Cooma and the Monaro region.</li> <li>Views north and south along Commonwealth Avenue.</li> <li>The visual and spatial relationship of Commonwealth Avenue with Kings and Constitution Avenues.</li></ul> <p>(Refer to Section 3.2 of this report for full details of heritage values/attributes.)</p>	<p><b>Positives:</b></p> <p>The proposal is unlikely to have a direct physical impact on the fabric, form or siting of Commonwealth Avenue as works would be restricted within the boundaries of Section 63.</p> <p>The visual/spatial relationship between Commonwealth Avenue, Kings Avenue and Constitution Avenue would not be impacted by the proposal.</p> <p><b>Negatives:</b></p> <p>Direct views north and south along Commonwealth Avenue would be retained; however, wider views that encompass Commonwealth Park and/or West Basin would be limited by the proposal and similar high-density developments constructed adjacent to Commonwealth Avenue.</p> <p>The proposed construction of high-density, multistorey buildings within Section 63 would permanently alter the character at the northern end of Commonwealth Avenue. At present, this area is characterised by an open landscape created by the ‘cloverleaf’ off-ramps. The landscaping proposed along the western boundary of Section 63 would aid in part toward softening and integrating the new development within the wider treed landscape of Canberra but would not fully mitigate the loss of existing character.</p>	<p><b>Heritage impact:</b></p> <p>The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact on the character of Commonwealth Avenue.</p> <p><b>Degree and intensity of impact:</b></p> <p>The degree of heritage impact would be <b>moderate</b>, due to the proposal being long term but small scale (localised).</p>	<p>The following design responses should be implemented through detailed design to mitigate risk:</p> <ul style="list-style-type: none"> <li>Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).</li> <li>The design of the building façades, particularly along Commonwealth Avenue, should prioritise articulation of form to minimise visual dominance.</li></ul>



### 5.3.2 ACT Heritage Places

Table 5.3 provides an assessment of the potential impacts of the proposed action against the heritage significance of City Hill.

Table 5.3 Assessment of Heritage Impact on ACT Heritage Places.

Heritage Values	Potential Impact Analysis—Discussion	Statement of Heritage Effect	Mitigation Measures
<p><b>City Hill</b></p> <p>Key aspects of significance summarised from the citation:</p> <ul style="list-style-type: none"> <li>City Hill is a generating point for the major avenues of Civic and its plantings provide visual corridors for those avenues.</li> <li>Aesthetically, City Hill provides an important landscaped open space within the Central Business District and enables views of the key topographical elements of the city to be seen from the hill.</li> <li>The verticality created by the trees and flagpole forms a landmark for the city.</li> </ul> <p>Features intrinsic for heritage significance summarised from the citation:</p> <ul style="list-style-type: none"> <li>all grassed areas;</li> <li>cultural plantings; and</li> <li>metal flagpole in its existing location.</li> </ul> <p>(Refer to Section 3.3 of this report for full details of heritage significance and the features intrinsic to this significance.)</p>	<p>Positives:</p> <p>Views to and from City Hill along Commonwealth Avenue would be maintained.</p> <p>The proposal would be restricted within the boundaries of Section 63, therefore a direct and permanent impact on the fabric, siting, and form of City Hill is unlikely to occur.</p> <p>The proposal has the potential to increase public use of City Hill. This would result in a positive outcome and be in accordance with the ACT heritage guidelines for City Hill (refer to Section 3.5.4) that note 'access to City Hill by pedestrians is encouraged'.</p> <p>NCP City Hill Precinct Code provides height limits for this site.</p> <p>Negatives:</p> <p>The proposed 6–16 storey height of buildings within Section 63 is likely to detract from the landmark value of City Hill as the buildings would dwarf and overshadow the verticality of the trees and flagpole on City Hill.</p> <p>The current visibility of key topographical elements of the city from City Hill is likely to be obstructed by the scale and high density of the buildings proposed.</p> <p>The scale, high-density and continuous built form along Vernon Circle is likely to have a direct and permanent impact on the setting of City Hill. There is potential for cumulative impacts on the setting if similar high-density developments are constructed immediately adjacent to City Hill in the future.</p>	<p><b>Heritage impact:</b></p> <p>The proposed land release and redevelopment of Section 63 is <b>likely</b> to have an impact on the significance of City Hill.</p> <p><b>Degree and intensity of impact:</b></p> <p>The degree of heritage impact would be <b>significant</b>, due to the proposal being permanent and large scale.</p>	<p>The following heritage design principles should be considered in future detailed design of any development proposal:</p> <ul style="list-style-type: none"> <li>New development must be of an appropriate height, scale and density. Further consideration of the massing outcomes, prescribed by the Precinct Code and reflected in the EDP, in relation to the proposed height, scale and density of built development proposed for Section 63 is needed in future detailed design particularly to appropriately manage the scale and bulk of buildings fronting Vernon Circle.</li> <li>Any building fronting Vernon Circle should be designed to minimise visual dominance over Vernon Circle and City Hill. The design of the building façades fronting Vernon Circle should prioritise articulation of form in order to minimise visual dominance over the roadway and City Hill.</li> <li>Interpretation of the heritage significance of the City Hill</li> </ul>

## GML Heritage

Heritage Values	Potential Impact Analysis—Discussion	Statement of Heritage Effect	Mitigation Measures
			precinct should be incorporated into any new development within Section 63.

## 5.4 Summary Statement of Heritage Impact

The proposed action—the land release and redevelopment of Section 63—would have an impact on the heritage values/significance of the broader context of Section 63. The broader context includes Canberra the Planned National Capital, the National Land Roads (specifically Commonwealth Avenue), Parliament House Vista and City Hill. The degree and intensity of the impacts on these places and their heritage values varies.

In summary, the level of heritage impact for any proposal consistent with the intent of the NCP's City Hill Precinct Code, and in the absence of detailed design refinement, is as follows:

- The degree of impact on Canberra the Planned National Capital and City Hill would be **significant** as the proposed action would be permanent and large scale.
- The degree of impact on the Parliament House Vista and National Land Roads (specifically Commonwealth Avenue) would be **moderate** as the proposed action would be long term but small scale (localised).

There is the opportunity to mitigate the above potential impacts through detailed design development by a future owner/developer which should include consideration of the heritage design principles provided above. The heritage design principles are suggested to aid in guiding and mitigating heritage impacts and could be included within the Section 63 EDP Development Principles and Controls document that will accompany the deed of sale.

## 5.5 Endnotes

- <sup>1</sup> Department of the Environment and Heritage, October 2009, *Guidelines are Matters of National Environmental Significance Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*.

## 6.0 Conclusion and Recommendations

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### 6.1 Conclusion—Statement of Heritage Impact

This is a high-level or ‘preliminary’ statement of heritage impact, whereby the assessment has been undertaken on a preliminary stage proposal—the EDP. The EDP is consistent with the massing and scale intent of the NCP’s City Hill Precinct Code and will be subject to further detailed design investigations by a future owner/developer and associated approvals prior to construction. The site selection and its development controls are set by the NCP. However, the degree and intensity of any potential heritage impact could be reduced through detailed design development by a future owner/developer. This could be achieved (or guided by) the incorporation of heritage advice and design principles noted in Section 5.0, with the EDP Section 63 Development Principles and Controls.

The heritage impact assessment concludes that the proposed land release and redevelopment of Section 63 is likely to have an impact on the heritage values/significance of the broader context of Section 63—a context which includes Canberra the Planned National Capital, the National Land Roads (specifically Commonwealth Avenue), Parliament House Vista and City Hill. The degree and intensity of this potential impact on the heritage values/significance would be varied. In summary, the level of heritage impact for any EDP consistent with the intent of the NCP’s City Hill Precinct Code, and in the absence of detailed design refinement, is as follows:

- The proposed action would have a **significant** impact on the heritage values of Canberra the Planned National Capital.
- The proposed action would have a **moderate** impact on the heritage values of Parliament House Vista.
- The proposed action would have a **moderate** impact on the heritage values of the National Land Roads (specifically Commonwealth Avenue).
- The proposed action would have a **significant** impact on the heritage significance of City Hill.

### 6.2 Heritage Design Principles (for a Future Owner/Developer)

The following heritage design principles should be implemented into the EDP Section 63 Development Principles and Controls that will accompany the deed of sale, to assist a future owner/developer in managing and reducing heritage impacts.

1. New development must be of an appropriate height, scale and density. Further consideration of the massing outcomes prescribed by the Precinct Code and reflected in the EDP in relation to the proposed height, scale and density of built development proposed for Section 63 is needed in future detailed design, particularly to appropriately manage the scale and bulk of buildings fronting Vernon Circle.
2. The design of the building façades fronting Vernon Circle and Commonwealth Avenue should prioritise articulation of form in order to minimise visual dominance over the roadway and City Hill.
3. Landscaping treatment along the eastern boundary of Section 63 should be complementary to the importance and dominance of Commonwealth Avenue (as a place in the Central National Area of the Planned National Capital).

4. Interpretation of the heritage significance of the City Hill precinct should be incorporated into new development of Section 63.

Additional general heritage management recommendations include the following:

- Involve strategic heritage advice in the design development process.
- Explore design options and alternatives throughout the design process.
- Document the options and alternatives as a record of design development to ensure potential heritage impacts are avoided or mitigated as far as possible.
- Undertake a heritage impact assessment for detailed design in a future development proposal for Section 63.

21 January 2016

Jane Overton  
Infrastructure Officer  
Land Development Agency  
Chief Minister, Treasury and Economic Development Directorate  
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## **Golden Sun Moth Survey Report, Commonwealth Avenue, ACT**

**Project no. 21125**

Dear Ms Overton,

Biosis Pty Ltd (Biosis) was commissioned by the ACT Land Development Agency to undertake a targeted survey for the Golden Sun Moth (*Synemon plana*) within two of the 'clover leaf' sections of grassland at the intersection of Commonwealth Avenue and London Circuit, Canberra, ACT (Figure 1). The investigation area is based on previous study findings 'City to the Lake, State 2 Ecological Assessment' (EcoLogical, August 2014). The study area, which is under the jurisdiction of the National Capital Authority (NCA), consists of two circular patches of grassland: a 'north patch' of approximately 1.2 ha and 'south patch' of approximately 1.1 ha.

This survey was required to inform the Land Development Agency (LDA) regarding the significant ecological values of the study area to inform potential impacts of proposed development of the land (i.e. the 'City to the Lake' project').

Golden Sun Moth is listed as critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and endangered under the ACT *Nature Conservation Act 2014* (NC Act). Habitat for the species was identified within the study area in the *City to the Lake Stage 2 Ecological Assessment* (Eco Logical Australia, August 2014).

This letter presents the methodology and results of a targeted survey for the species, based upon the following:

- A total of 10 hours on site in November and December 2015 to survey for the Golden Sun Moth and to map the habitat within the study area.
- The experience of the author with regards to the habitat requirements of Golden Sun Moth and the habitat requirements of the species.



## Methodology

A desktop review was undertaken to locate any past records of the species at the study area. This included correspondence with Dr Michael Mulvaney (Conservation Planning and Research, Environment and Planning Directorate, ACT Government) and a review of relevant databases.

Targeted surveys for the Golden Sun Moth were undertaken in accordance with the survey guidelines provided in the Background Paper to EPBC Act Policy Statement 3.12 - *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana)* (DEWHA 2009).

As detailed in DEWHA (2009), surveys for Golden Sun Moth should involve fixed point counts or transects, as most suitable to the size and topography of the potential habitat. A combination of methods should be used if considered likely to increase the chances of detecting the species. Transects were selected as the primary survey method for the study area.

In accordance with the guidelines, four surveys were undertaken within the study area to best identify the habitat on site. For each survey, the ecologist (Samantha Vertucci, Consultant Ecologist) undertook the following:

- 'Meandering transects' 20 - 30 m apart were walked to observe and record flying males. A GPS waypoint was taken for each Golden Sun Moth flight observed. While every effort is made to avoid counting moths more than once, some double-counting occasionally occurs. Whilst observing and recording flying males was the primary focus of the survey, the ecologist also recorded any females and suspected pupal cases of the species. The patch surveyed first was alternated each survey.
- One 100 m 'monitoring transect' was surveyed within each patch for moths and vegetation characteristics. This provided data which can be easily compared, both between surveys and against data collected at other sites in the ACT region. Moths observed along the transect were noted however were not marked with the GPS. Each monitoring transect was also characterised using the step point transect methodology, whereby the groundcover component at each foot-fall along the transect is recorded into categories (dictated by Rowell and Evans 2014).

As per the guidelines, surveys were undertaken during the hottest period of the day, on days when moths were known to be flying at other locations in the ACT. This was determined through survey of a nearby reference site or through communication with other ecologists surveying for the species in the ACT region.

Dates and details of the surveys completed are provided in the results section below. The locations of the survey transects (meandering transects and monitoring transects) walked during each survey are shown on Figure 2.

## Results

The presence of Golden Sun Moth was confirmed within the study area, with a total of 40 Golden Sun Moth flights (males) recorded in the meandering transects, 17 recorded in the north patch and 23 in the south patch. Survey conditions and numbers of moths recorded are shown in Table 1. Most of the moths were recorded on the final survey on 10 December.

The locations of records from the meandering transects are shown on Figure 3. Figure 3 also shows the locations of the three females and two pupal cases recorded. Photographs taken from within the study area are shown in Appendix A. Additional moths were observed before and after commencing the surveys however were not recorded, as recording moths outside of the survey or when stationary would skew the distribution results, making the identification of any moth hotspots difficult.

Windy and cool conditions during the survey season necessitated some survey on sub-optimal survey days. One survey on 30 November, a time which is usually peak season for recording the species, was abandoned due to lack of flying moths at the study area, and has not been included in the results.

**Table 1 Golden Sun Moth survey conditions and results\***

Survey parameters	Survey 1	Survey 2	Survey 3	Survey 4
<b>Date</b>	20/11/2015	24/11/2015	04/12/2015	10/12/2015
<b>Time</b>	11:15	11:45	12:50	11:05
<b>Golden Sun Moth Flights</b>	<ul style="list-style-type: none"> <li>North patch: 3</li> <li>South patch : 0</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 4</li> <li>South patch : 1</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 0</li> <li>South patch : 3</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 10</li> <li>South patch : 19 males, 1 female, 1 pupal case</li> </ul>
<b>Golden Sun Moth Flights in 100m transect</b>	<ul style="list-style-type: none"> <li>North patch: 3</li> <li>South patch : 0</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 1 male, 2 females, 1 pupal case</li> <li>South patch : 0</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 0</li> <li>South patch : 0</li> </ul>	<ul style="list-style-type: none"> <li>North patch: 6</li> <li>South patch : 2</li> </ul>
<b>Temperature on site (Max temp. for day)</b>	30-34 °C (36.1 °C)	22-23 °C (27.4 °C)	26 °C (29.8 °C)	27 °C (31.6 °C)
<b>Cloud cover</b>	Clear –sunny	Clear –sunny	Clear – hot and sunny	Clear – hot and sunny
<b>Wind Speed (9 am – 3 pm)</b>	Light-moderate gusts (9-37 km/h)	Light-moderate. Gusts up to 17km/h during survey (9-22 km/h)	Light (6-13 km/h)	Mostly still, occasional gusts, picking up at the end of the survey (6-30 km/h)
<b>Ground conditions</b>	Dry	Dry	Dry	Dry
<b>Notes</b>	Windy however moths flying between gusts. Flying elsewhere in ACT. All moths recorded on western side of northern patch.	Few active flights however two females recorded – displaying behaviour observed.	Good numbers at the start of the survey. Fewer flights by the end, including over the road.	High numbers of moths.

\*Temperature and wind speed data obtained from Bureau of Meteorology (BOM) website for the Canberra Airport station.

The habitat for Golden Sun Moth within the study area is predominantly comprised of the highly invasive Chilean Needle Grass (*Nassella trichotoma*), on which the larvae are known to feed. The step point transects indicate a Chilean Needle Grass composition approximately 40% and 20% for the north and south patches, respectively (Table 2). Other exotic pasture grasses and weeds are also present in high density. One patch of low diversity native vegetation was recorded in the north of the study area. Several Golden Sun Moth were recorded from this location, including two females. These females may have been spotted due to the lower biomass and greater inter-tussock spaces of the native vegetation compared to the Chilean Needle Grass-dominated areas, making them easier to see against the soil.

**Table 2 Step-point transect results**

Groundcover	North patch	South patch
<b>Cryptograms</b>	0	0
<b>Bare Earth</b>	2	0
<b>Rocks</b>	0	0
<b>Litter/Dead Vegetation</b>	8	4
<b>Perennial Native Grass</b>	6	2
<b>Other Native</b>	0	0
<b>Chilean Needle Grass</b>	41	18
<b>Perennial Exotic Grass</b>	44	41
<b>Annual Exotic Grass</b>	1	0
<b>Exotic Forb</b>	12	33
<b>Total</b>	<b>114</b>	<b>98</b>

## Discussion

Windy and cool conditions during the survey season made selection of survey days difficult, necessitating some survey on sub-optimal survey days. Despite this, moths were actively flying (i.e. not just being flushed by the ecologist) on the selected survey days, and the data is sufficient to provide evidence of a population of the species at the study area. The assessment also provides an indication of the distribution of the species across the northern and southern patches.

Most of the moths were recorded on the final survey on 10 December, which is usually late in the Golden Sun Moth survey season for the ACT. Climatic conditions appear to have led to poor emergence and/or flying of the species at the study area this season. Low numbers, also reported by other consultants in the ACT, may also be due to suboptimal conditions two years ago, leading to poor egg-laying and/or larval development.

Conditions may also vary between sites. For example, a site such as the study area, which, due to occurring adjacent to a busy road, is regularly and frequently mowed and does not collect much rainfall, is likely to be hotter and dryer in summer than a site which is not. For this reason, it is not possible to categorise the population as being high, medium or low density. There has been anecdotal evidence of the presence of Golden Sun Moth in this location in previous years so it appears the population within the study area may be stable. It is also possible that the population size fluctuates from season to season.

Some hotspots of moth activity were detected in the study area and have been identified in Figure 3. Of particular note is the area in the north-western part of the north patch and the north-eastern edge of the south patch.

Areas unlikely to constitute habitat for Golden Sun Moth were determined through examination of groundcover composition and the presence of trees, as well as examination of Golden Sun Moth record results. The mapped Golden Sun Moth habitat is shown as Figure 4.

## Recommendations

Any loss, disturbance or fragmentation of a small or fragmented habitat area (<10 ha) is considered to be a significant impact upon the Golden Sun Moth according to the Commonwealth guidelines (DEWHA 2009). The habitat within the study area totals approximately 2.1 ha and given the distance between them (>35 m of roads) it is unlikely that high gene flow occurs between the habitat patches, or between the study area and other areas of habitat along Commonwealth Avenue, should they occur. Even if sufficiently regular gene flow does occur, the total extent of habitat is likely to be considerably less than 10 ha.

The habitat is therefore considered small and fragmented for the purposes of undertaking impact assessment. As such, Referral to Australian Government Minister for the Environment is recommended for any proposed development which may impact the mapped Golden Sun Moth habitat (Figure 4). Potential impacts to the Golden Sun Moth from development include both direct impacts (clearing of habitat for construction, landscaping etc.) as well as indirect impacts (shading from buildings, change in management regime etc.).

For any works within the study area, avoidance, minimisation and mitigation measures should first be examined, in that order. If impacts cannot be avoided or substantially minimised/mitigated, an EPBC referral will be required. Based on the Commonwealth's decision, offsetting may be required in accordance with the EPBC Act.

Based on observations made on site during the Golden Sun Moth survey and habitat assessment, it is also likely that potential habitat for Golden Sun Moth occurs elsewhere in the Commonwealth Ave road reserve system in the vicinity of the study area. This includes the other 'clover leaf' patch to the east of Commonwealth Avenue, as well as Block 1 of Section 34. Survey of these areas should be undertaken before any impacts occur.

I trust that this assessment and advice is of assistance. Should you wish to discuss any of the matters addressed herein, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'S. Vertucci'.

Samantha Vertucci  
**Consultant Ecologist**

## References

Department of Environment, Water, Heritage and the Arts / DEWHA (2009). *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana)* (and Background Paper). Commonwealth Department of Environment, Water, Heritage and the Arts.

Department of Sustainability, Environment, Water, Population and Communities / DSEWPoC (2012) *EPBC Act Environmental Offsets Policy*. Australian Government

## Attachments

Figure 1: Location of the study area

Figure 2: Golden Sun Moth survey effort

Figure 3: Golden Sun Moth survey results

Figure 4: Golden Sun Moth habitat mapping

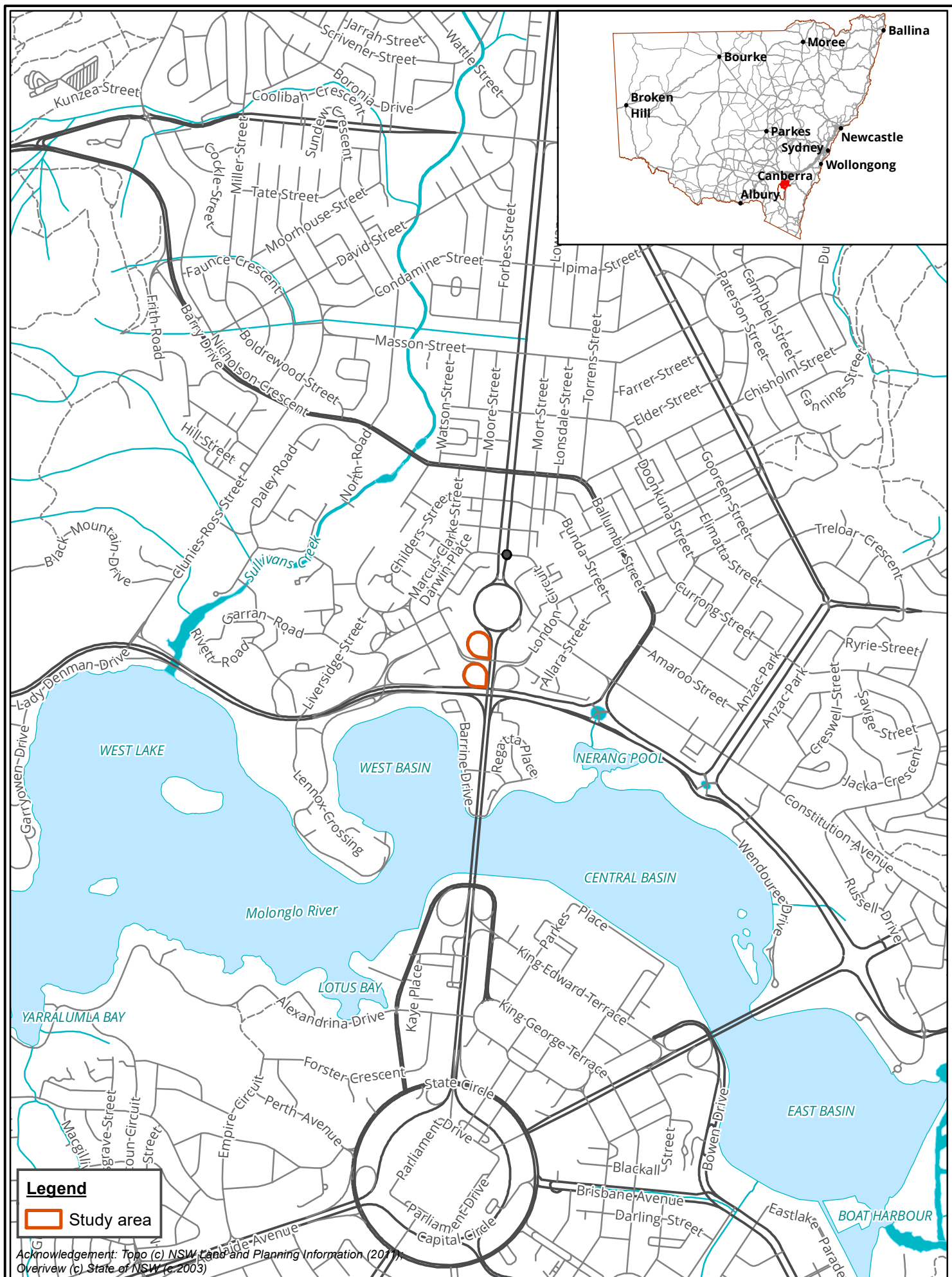
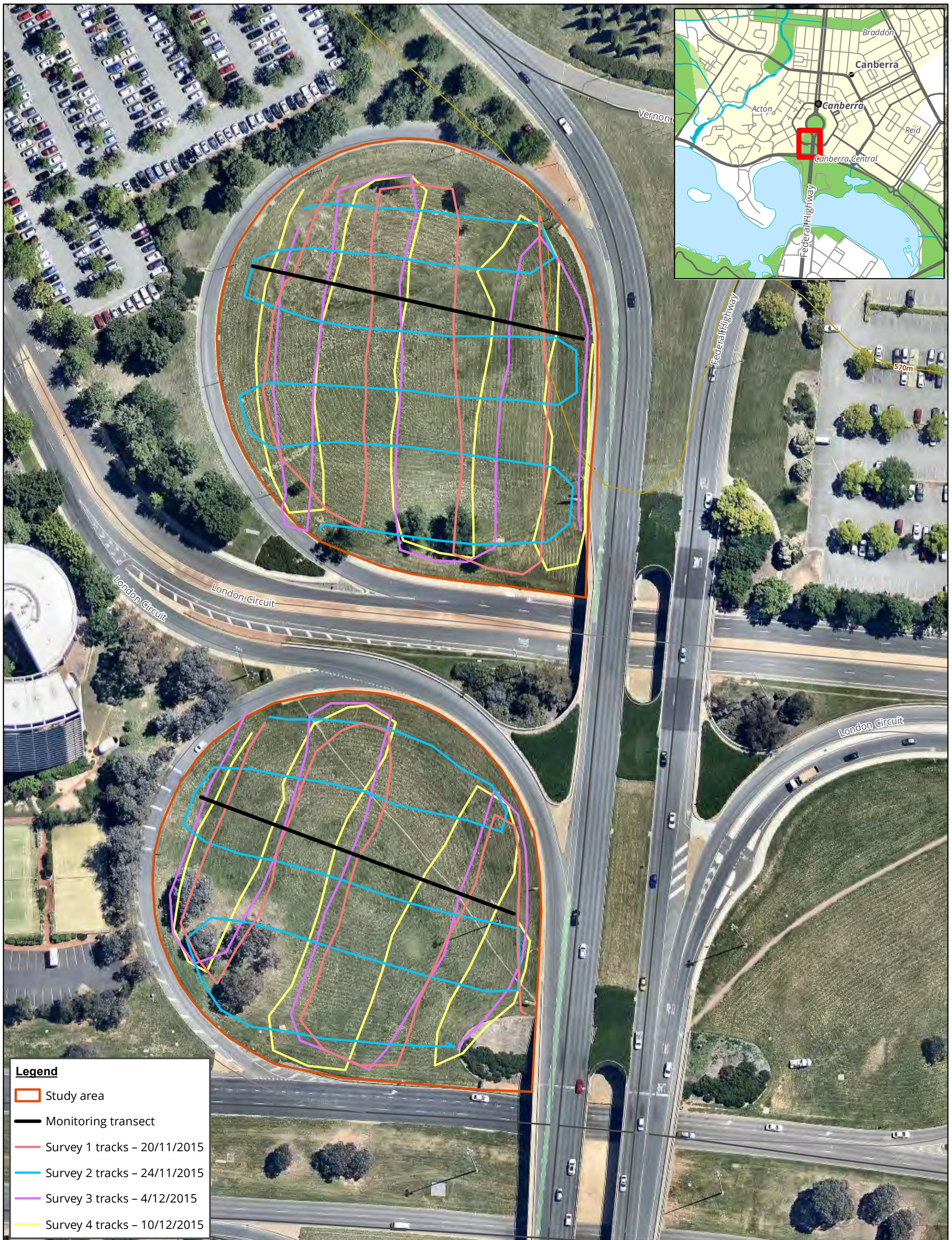


Figure 1: Location of the study area





**Legend**

Study area

Monitoring transect

Survey 1 tracks – 20/11/2015

Survey 2 tracks – 24/11/2015

Survey 3 tracks – 4/12/2015

Survey 4 tracks – 10/12/2015

Figure 2: Golden Sun Moth survey effort

Acknowledgements: Imagery (c) Nearmap 2015  
Topo (c) NSW Land and Planning Information (2015)  
Matter: 21125  
Date: 17 December 2015,  
Checked by: SMV, Drawn by: LH, Last edited by: Iharley  
Location:P:\21100s\21125\Mapping\  
21125\_F2\_GSM\_SurveyEffort





Figure 3: Golden Sun Moth survey results





Figure 4: Golden Sun Moth habitat mapping



## Appendix A. Photographs



Female Golden Sun Moth recorded in the north patch on 24 November 2015



North patch 100 m transect from eastern end (24 November 2015)



North patch 100 m transect from western end (24 November 2015)



South Patch 100 m transect from western end 24 November 2015





South patch 100 m transect from eastern end (24 November 2015)



Chilean Needle Grass within the north patch (24 November 2015)



# Commonwealth Avenue

## Golden Sun Moth Survey

Prepared for: Land Development Agency

Reference No: 3002561.501

2/03/2017



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## Executive Summary

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The Land Development Agency (LDA) commissioned SMEC Australia Pty Ltd (SMEC) to undertake a Golden Sun Moth (GSM) survey of roadside verges and green spaces along Commonwealth Avenue and Parkes Way in the vicinity of Vernon Circle (Figure 1). These roadside verges and green spaces comprise part of the proposed 'City to Lake' project and potentially would be redeveloped as the project progresses.

GSM surveys were undertaken following the guidelines set by the Department of the Environment, Water, Heritage and the Arts 'Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*)' (Australian Government, 2009), *Conservation Planning and Research Survey Guidelines for Golden Sun Moth* (ACT Government, 2010) and the *Draft ACT Golden Sun Moth Monitoring Plan* (ACT Government, 2014).

GSM were found in eight out of the ten sections surveyed. Numbers varied from low to high with the highest numbers found in the southern sections. Female GSM were recorded in three of the sections. The vegetation within these areas is dominated by exotic grasses. Chilean needlegrass is the dominant food species for GSM across the site. No areas of natural habitat for GSM, i.e. natural temperate grassland, were identified during the survey.

Depending on the potential disturbance to these areas anticipated under the City to Lake project, an EPBC referral may be warranted, as adverse impacts on GSM would occur as a result of development of these areas.

SMEC recommends that larvae translocation may be an appropriate impact mitigation strategy at this site, given the reliance of this population on the exotic weed species Chilean needlegrass. Approval from the Commonwealth and ACT Government would be required to undertake larvae translocation.

# 1. Introduction

---

## 1.1. Background

The Land Development Agency (LDA) commissioned SMEC Australia Pty Ltd (SMEC) to undertake a Golden Sun Moth (GSM) survey of roadside verges and green spaces along Commonwealth Avenue and Parkes Way in the vicinity of Vernon Circle (Figure 1).

The roadside verges and green spaces comprise part of the proposed 'City to Lake' project and potentially would be redeveloped as the project progresses.

Biosis (2016) surveyed the two western 'clover leaf' greenspaces bounded by the Commonwealth Avenue exit ramps (i.e. areas I and J, Figure 1) in 2015 and identified GSM populations in both areas.

The aim of this GSM survey was to determine the presence of GSM on the eastern clover leaf and additional grassy verges along Commonwealth Avenue and Parkes Way (Figure 1). The supplementary information would increase the understanding of GSM populations in the areas and inform a referral under the Commonwealth *Environmental Protection Biodiversity and Conservation Act 1999* (EPBC Act), if required.

## 1.2. Golden Sun Moth

### 1.2.1. Description

GSM (*Synemon plana*) is a medium sized, diurnal moth. The upper-side of the female's forewing is dark grey with paler grey patterning, while the hindwing is bright orange with black spots along the edges (refer front cover). The under-side of both wings is white with small black spots along the margins. Adult males have a wingspan of 34 mm and have dark brown upper forewings with patterns of pale grey scales. Male hindwings are bronze or brown with dark brown blotches and the underside is pale grey with dark brown spots (Australian Government, 2009).

### 1.2.2. Life History and Breeding

GSM have two distinct life stages. Larvae spend two to three years underground consuming the roots of summer growing C3 grasses, including native Wallaby grass (*Rytidoperma* spp.), speargrasses (*Austrostipa* spp.) and exotic Chilean Needle Grass (*Nassella neesiana*) (Ritcher *et al.*, 2013). Age cohorts are distinguished by size. Small larvae (6 – 13 mm long) are from eggs 12 months earlier, medium size (>13-20 mm long) are from the second year and large larvae (>20 mm long) are approaching pupation (Ritcher *et al.*, 2013). Pupation occurs in spring and adults emerge from October to January to live for 1- 4 days (Ritcher *et al.*, 2013).

Adult moths do not have functional mouthparts and therefore are unable to feed, spending much of their time searching for mates and breeding. During the GSM flight season, adult moths emerge continuously in cohorts and males are seen actively flying low (e.g. to approximately 1 m above the ground) and fast, usually in a zig-zag pattern over the grassland in search of females (Australian Government, 2009). The females, which only fly irregularly, position themselves on the ground in a conspicuous location (i.e. usually in inter-tussock spaces), flashing their brightly coloured hind wings to attract males. Females walk between tussocks and lay 100-150 eggs between grass tillers or between tillers and the soil (Australian Government, 2009).

Adults are most active during the hottest part of the day (i.e. between 10am and 2pm) on warm to hot, windless and cloudless days (Ritcher *et al.*, 2009); however, previous surveys (e.g. Biosis Research, 2011) recorded active male moths in more variable weather conditions. Such conditions include: cooler days (i.e. less than 20°C), days with partial or full cloud cover, on days within 24 hours after rainfall, during periods of moderate to strong wind conditions and also at times earlier and later



in the day than previously expected. Activity during these conditions typically involved smaller moth numbers than those observed during 'optimal' conditions.

Male GSM cannot travel more than 100 m away from suitable habitat patches and therefore populations separated by distances greater than 200 m can be considered effectively isolated. Sites from which the species has gone extinct are unlikely to be naturally recolonised (Australian Government, 2009).

### **1.2.3. Habitat**

GSM occurs in Natural Temperate Grasslands and open grassy woodlands. Previous GSM habitat definitions that required the area to be 40% *Rytidosperma* cover (O'Dwyer and Attiwell, 1999) are no longer considered accurate. GSM have been identified to reside in degraded grasslands dominated by exotic Chilean needle grass (*Nassella neesiana*), a noxious Weed of National Significance (Brady and Dunford, 2006). Tall, dense grasslands are unsuitable for moth activity as it can inhibit flying male moths from detecting female moths.

GSM occur in two threatened ecological communities listed under the Commonwealth EPBC Act; the Natural Temperate Grassland of the Victorian Volcanic Plain (Australian Government, 1999) and the Natural Temperate Grassland of the Southern Tablelands of New South Wales (NSW) and the Australian Capital Territory (ACT) (Australian Government, 2009). In the ACT, GSM have also been detected in secondary grassland, predominantly those derived from Yellow Box – Blakely's Red Gum Grassy Woodland.

### **1.2.4. Distribution**

Historically, GSM were distributed in native grasslands and open grassy woodlands across NSW, the ACT, Victoria and South Australia (TSSC, 2013). Based on the information provided in the Commonwealth Department of Environment (DoE) threatened species profiles (SPRAT; Australian Government, 2017) GSM are now only known in 125 sites across its range (TSSC, 2013); 48 sites occur in NSW, 46 in Victoria and 32 in the ACT. The species is now extinct in South Australia (TSSC, 2013). Surveys since 2008 have identified more than double the number of sites in the ACT, with GSM known to occur at low densities across relatively extensive areas of native grassland and pasture, and to occur in disturbed areas dominated by exotic Chilean needlegrass.

### **1.2.5. Conservation Status and Threats**

GSM are listed as Endangered under the ACT *Nature Conservation Act 2014* (NC Act), endangered under the NSW *Threatened Species Conservation Act 1995* (TSC Act) and threatened under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act). The species is listed as Critically Endangered under the EPBC Act.

The main threat to GSM is the loss of Natural Temperate Grasslands, which have been cleared for urban and agriculture development (Australian Government, 2009). In addition, habitat degradation through overgrazing, which changes the soil structure, reduces native grass species and promotes weed invasion, has further threatened GSM (Australian Government, 2009). GSM populations have become highly fragmented and isolated.

## **1.3. Study Area**

The study area is located within and adjacent to the intersection of Commonwealth Avenue and Parkes Way, Canberra City, ACT (Figure 1). The three clover leaf green spaces are adjacent to Vernon Circle and Commonwealth Avenue. Grassy road verges occur along Parkes Way and London Circuit. The LDA has identified these areas as potentially being redeveloped to accommodate the City to Lake project and are likely to be adversely affected during the construction phase.



**LEGEND**  
Survey boundary



<b>FIG NO. 1</b>	<b>FIGURE TITLE</b> Site Locality	<b>DATE</b> 17/01/2017		<b>PAGE SIZE</b> A4	<b>COORDINATE SYSTEM</b> GDA 1994 MGA Zone 55	© SMEC Australia Pty Ltd 2017. All Rights Reserved. <small>Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, this map contains data from a number of sources - no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of all information prior to using it. This map is not a design document.</small>
<b>PROJECT NO.</b> 3002561.501	<b>PROJECT TITLE</b> Commonwealth Avenue Golden Sun Moth Survey	<b>SOURCES</b> Roadnet© basemaps/imagery2015mga: ACTMapi ©Australian Capital Territory		<b>CREATED BY</b> N.Crook		



## 2. Methods

---

### 2.1. Golden Sun Moth Monitoring

#### 2.1.1. Field Surveys

Survey methods were in accordance with the guidelines set by the Department of the Environment, Water, Heritage and the Arts 'Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*)' (Australian Government, 2009), *Conservation Planning and Research Survey Guidelines for Golden Sun Moth* (ACT Government, 2010) and the *Draft ACT Golden Sun Moth Monitoring Plan* (ACT Government, 2014).

Surveys must be undertaken during the GSM emergence period or 'flying season', which is usually from October to December in the ACT.

The guidelines also require GSM surveys to be conducted during certain preferred conditions, specifically:

- On a warm to hot day (i.e. above 20°C by 10am)
- During the warmest part of the day (i.e. 10am – 2pm)
- When there is a clear or mostly cloudless sky
- In still or nearly still wind conditions
- When there has been at least two days since rain.

Four surveys were undertaken in each grassy area at least one week apart.

Incidental observations of female moths and pupae cases were also recorded during the survey.

#### 2.1.2. Meandering Survey

The 'meandering survey' method was used to determine GSM presence. Each grassy area was walked and the total number of GSM recorded. The survey were repeated on four suitable flying days during the season.

### 2.2. Vegetation

Baseline vegetation was recorded for the grassy areas. Dominant grass species were recorded.

## 3. Results

### 3.1. GSM Survey Results

Weather conditions during the surveys are presented in Table 1.

*Table 1. Weather Conditions during GSM surveys at Commonwealth Avenue.*

Survey	Date	Survey Time	Temperature (°C)	Wind (km/h)	Weather
1	21 Nov 2016	1100-1220	30	2-30	Sunny with light winds
2	28 Nov 2016	1040-1150	25-28	0-10	Sunny, no cloud cover
3	12 Dec 2016	1155-1300	31	9-17	Sunny, still (light) breeze, <5% cloud cover
4	20 Dec 2016	1210-1330	28-30	22-31	Sunny, slight to moderate wind, cloud cover and winds increased halfway through survey.

For assessment purposes, the survey area was divided into ten sections (Figure 1). Total GSM numbers are summarised for each section in Table 2. Two-hundred and seventy-six GSM were observed during the four surveys. One moth was observed (i.e. in Section E) during the first survey. Ninety-eight GSM were observed during the second survey in sections E-G and I-J. Seventy-seven GSM were observed during the third survey in section D-J. One hundred GSM were observed on the fourth survey in sections B, D-G and I-J.

Table 2 Total GSM Numbers at Commonwealth Avenue

Survey	Date	Duration (person minutes)	Section A	Section B	Section C	Section D	Section E	Section F	Section G	Section H	Section I	Section J	Total	Moths/ Minute
1	21 Nov 2016	160	0	0	0	0	1	0	0	0	0	0	1	<0.1
2	28 Nov 2016	140	0	0	0	0	24	37	19	0	8	10	98	0.7
3	12 Dec 2016	130	0	0	0	3	46	10	7	1	6	4	77	0.6
4	20 Dec 2016	160	0	1	0	1	82	13	1	0	1	1	100	0.6
	<b>Overall Total</b>		<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>153</b>	<b>60</b>	<b>27</b>	<b>1</b>	<b>15</b>	<b>15</b>	<b>276</b>	

Sections A and C did not record any GSM (Figure 2). Low GSM numbers (i.e. 1-4 individuals) were observed in sections B, D and H. The highest GSM numbers were recorded in section E (Figure 2). GSM were observed in section F in patches more commonly on the eastern side of Commonwealth Ave along to the pedestrian bridge and then less commonly so from there to Correnderk Pond. Patches of GSM were observed in section G west from Commonwealth Ave to the pedestrian bridge but then were generally absent. A locally-common patch of GSM was observed in the south western section adjacent to a small patch of trees in section I and were more commonly observed in the north western part of section J.

Female GSM were recorded in sections E (7), F (1) and I (1) (Figure 2).

### **3.2. Vegetation**

All sections were open areas dominated by exotic grasses such as Chilean needle grass (*Nassella neesiana*) with scattered trees. These areas are regularly disturbed (i.e. from mowing). Disturbance tolerant native grasses, i.e. wallaby grasses (*Rytidosperma* sp.) and tall spear grass (*Austrostipa bigeniculata*) are sparse and generally only present in small patches, commonly under trees. Disturbance tolerant native forbs such as yellow buttons (*Chrysocephalum apiculatum*) and cudweeds (*Euchiton* sp.) occur in restricted locations. No vegetation potentially meeting criteria for classification as natural temperate grassland was observed within the study area.

Chilean needle grass is a Weed of National Significance.



LEGEND

Female GSM Counts

- ★ 1 individual
- ★ 7 individuals

GSM Records

- 0 individual
- 1 individual
- 4 individuals
- 15 individuals
- 27 individuals
- 60 individuals
- 153 individuals
- Survey boundary



FIG NO. 2      **FIGURE TITLE** GSM observed at Commonwealth Avenue

**DATE**  
31/01/2017  
0 35 70 140  
1:5,000 Meters

**PAGE SIZE**  
A4

**COORDINATE SYSTEM**  
GDA 1994 MGA Zone 55

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**PROJECT NO.** 3002561.501

**PROJECT TITLE** Commonwealth Avenue  
Golden Sun Moth Survey

**SOURCES** Roadnet©  
basemaps/imagery2015mga: ACTMapi ©Australian Capital Territory

**CREATED BY** N.Crook



## 4. Discussion

---

### 4.1. Golden Sun Moth Presence

GSM were present in most green spaces adjacent to Commonwealth Avenue, except for sections A and C. GSM, including females, were abundant in the clover leaf to the east of Commonwealth Avenue (i.e. section E).

GSM were confirmed to still be present in the two clover leaf areas (i.e. sections I and J) west of Commonwealth Avenue, as previously observed by Biosis (2016) in the previous season. The abundance was an order of magnitude lower than the numbers observed in the clover leaf to the east of Commonwealth Avenue (i.e. section E).

GSM numbers varied. Based on a semi-quantitative method of assessing the activity level of GSM based on the number of moths observed per minute (Hogg, 2010), low GSM numbers were observed in sections B, D and H, low-moderate numbers in sections G, I and J and moderate - high numbers were observed in sections E and F. Female GSM were recorded in three sections (i.e. sections E, F and I) indicating that populations are breeding and are perhaps sustainable.

Native vegetation, and particularly native grass food sources for GSM, are sparse; therefore, it is likely that GSM are primarily feeding on Chilean needle grass. Various studies show GSM have a broader tolerance for other grass species as food, including degraded grasslands dominated by exotic Chilean needle grass (refer Australian Government 2016 and references cited).

### 4.2. Implications

Any works that are undertaken within sections B, D, E, F, G, H, I and J have the potential to have an adverse impact on GSM.

Due to the presence of moderate-high numbers of GSM, and the confirmation of breeding through the identification of female GSM, the proposed City to Lake project is likely to have an adverse impact on the species. Due to the highly disturbed nature of the site, potential adverse impacts may not be significant, particularly if appropriately avoided and mitigated.

As the city to the lake project will have a negative impact (i.e. clearing of habitat during construction for development) on the GSM population at Commonwealth Avenue, SMEC recommend that referral to the Commonwealth Minister for the Environment is warranted under the EPBC Act in order to assess the potential significance of the impacts.

Should development of the area proceed, areas of moderate to high density GSM in Sections E, F and G, may be a suitable source population for larvae translocation research being undertaken by the ACT. Suitable locations for relocating GSM would be required and the translocation would need to be undertaken prior to construction. Translocation would need to be discussed and approved by the Commonwealth and ACT Government.

## 5. References

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<[http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon\\_id=25234](http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=25234)>.
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15 March 2018

Nic Plunkett-Cole  
Sustainability Manager  
City Renewal Authority, ACT Government  
Canberra Nata Centre  
1 Constitution Avenue  
Canberra City, ACT 2601

Dear Nic Plunkett-Cole,

***RE: Vegetation, Habitat Assessment and Golden Sun Moth survey at City Hill***

## 1 Introduction

### **Overview**

City Renewal Authority (ACT Government) requested SMEC Australia Pty Ltd (SMEC) to undertake a golden sun moth (*Synemon plana*, GSM) survey of City Hill and adjacent road verges to the north and west to investigate the extent of the local GSM population for the City Renewal project. GSM are listed as critically endangered under the Commonwealth *Environmental Protection Biodiversity and Conservation Act 1999* (EPBC Act). These surveys follow on from surveys confirming GSM presence in the three Commonwealth Avenue clover-leaves, and verges immediately south of City Hill, conducted in 2016 (SMEC 2017). The following assessments were undertaken:

- Vegetation mapping
- GSM habitat mapping
- GSM flying moth survey.

The purpose of this report is to provide information which would increase the understanding of the local GSM population for the City Renewal project referral under the Commonwealth EPBC Act.

### **Location**

The survey area is located on City Hill, Canberra City, ACT (Figure 1). The grassy road verges occur along Vernon Circle and the southern end of Northbourne Avenue. The total survey area is 6.12 ha.

## 2 Method

The survey area was divided into six sections (Figure 1), identified as A, B, C, K, L and M. Section labelling is consistent with previous assessment of verges (SMEC 2017) at Commonwealth Ave.



## Vegetation assessment

Vegetation condition was assessed across the site by meandering traverse. Dominant grass species were recorded. Areas were assessed to determine whether any sites were dominated by perennial native groundcover.

Any vegetation dominated by native vegetation was reviewed against criteria for the EPBC Act listed critically endangered Natural Temperate Grassland of the Southern Highlands ecological communities (Australian Government 2016). Threshold values for determining the classification of natural temperate grassland were determined from Australian Government (2016). To meet criteria for classification of natural temperate grassland, the patch must be over 0.1 ha (e.g. 20 m x 50 m), within the defined region and altitude, and apparently naturally treeless or sparsely treed, and it must meet criterion A or B:

- Criterion A: contains a foliage cover of more than 50% *Themeda triandra* (Kangaroo Grass) or *Poa labillardierei* (River Tussock) – or *Carex bichenoviana* (Plains Sedge) if the patch is an ephemeral wetland
- Criterion B: contains a greater percentage cover of native plants (including annual and perennial species but not cryptogams) than of perennial exotic species (including weeds), AND in favourable sampling times (generally spring and early summer, and in non-drought affected seasons) it has:
  - at least 8 non-grass native species, or
  - at least 2 indicator species, or
  - a floristic value score of at least 5OR at other sampling times it has:
  - at least 4 non-grass native species, or
  - at least 1 indicator species, or
  - a floristic value score of at least 3.

Thresholds for favourable sampling times were applied.

## GSM Habitat Assessment

Potential GSM habitat was mapped following a qualitative assessment. A qualitative assessment of the areas that are likely to be shaded for extended periods causing these areas to be unsuitable for GSM was completed and the areas mapped.

Vegetation in unshaded areas was assessed against criteria for four condition classes of GSM habitat, i.e. high, medium, low and Chilean needle grass (*Nassella neesiana*), based on relatively stable habitat features such as density of larval food plants, weed cover and physical characteristics such as soil type, slope and aspect. Condition classes are defined as follows:

- HIGH quality GSM habitat
  - Primary NTG or native pasture dominated by native larval food plants (i.e. *Rytidosperma* sp. and/or *Austrostipa* sp.), with low weed cover and some bare ground.
- MEDIUM quality GSM habitat
  - Primary or secondary grassland, with a moderate component of *Rytidosperma* sp. and/or *Austrostipa* sp., and/or moderate weed cover.  
or
  - Native-dominated grassland with a high component of *Rytidosperma* sp. and/or *Austrostipa* sp., but less than High quality habitat because of one or more of the following conditions:
    - On a steep slope or hill top
    - On a south or east-facing slope
    - Soil very shallow and/or stony, rock outcrops present
    - Secondary grassland or contains scattered trees.

- LOW quality GSM habitat
  - Larval food plants (*Rytidosperma* sp., *Austrostipa* sp. and/or CNG) are a minor component of the ground layer, growing sparsely or in patches among unsuitable vegetation such as:
    - Exotic species (excluding CNG)
    - Native C4 grasses (such as *Themeda* sp.)
    - Other unsuitable native ground cover (e.g. *Poa labillardieri*, rushes/sedges)
    - Trees, shrubs, regeneration, plantings.
- CNG dominated GSM habitat
  - Grassland dominated by CNG.

Information from previous reports (Ecological 2014; Biosis 2016; SMEC 2017) was reviewed to identify the extent and nature of GSM habitat within the Commonwealth Avenue verges and clover leaf intersection, and habitat in these areas was mapped to ensure consistent habitat mapping in this area. The habitat in these areas was reviewed against the criteria above by site inspection.

### **GSM Flying Moth Surveys**

Survey methods were in accordance with the guidelines set by the Department of Environment, Water, Heritage and the Arts 'Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*)' (Australian Government 2010), Conservation Planning and Research 'Survey Guidelines for Golden Sun Moth' (Australian Government 2014a) and the draft ACT 'Golden Sun Moth Monitoring Plan' (ACT Government 2014b).

Four 'meandering surveys', at least one week apart, were undertaken in each grassy area during the GSM emergence period ('flying season') during November to December. Surveys were conducted under these conditions:

- On a warm to hot day (i.e. above 20°C by 10 am)
- During the warmest part of the day (i.e. 10 am – 2 pm)
- When there is a clear or mostly cloudless sky
- In still or nearly still wind conditions
- When there has been at least two days since rain.

GSM numbers and locations, incidental observations of female moths and pupa cases were recorded.

## **3 Results**

### **Vegetation Assessment**

The vegetation assessment was undertaken on 11 October 2017 in spring conditions favourable for the detection of native grasses and forbs.

A complete list of flora observed at the site is presented in Appendix A. All areas have been disturbed by past landscaping and are regularly maintained by mowing. No native grasses were observed and only one disturbance tolerant native forb was observed across all the sections.

All parts of the site were dominated by exotic perennial grasses with planted exotic trees and shrubs (Figure 2). Dominant grasses at the site were goose-grass (*Eleusine tristachya*), Chilean needlegrass (CNG, *Nassella neesiana*), cocksfoot (*Dactylis glomerata*) and bulbous meadow-grass (*Poa bulbosa*). A range of exotic weeds were also present (Appendix A). The vegetation at the site was categorised into the following five categories:

- Exotic shrubs, CNG absent
- Exotic understorey with dense planted trees, CNG present

- Exotic understorey with dense planted trees, CNG absent
- Exotic grassland with no trees or scattered planted trees, CNG present
- Exotic grassland with no trees or scattered planted trees, CNG absent

Part of Section B became a construction site after the assessment was completed.

### **GSM Habitat Assessment**

Mapping of GSM habitat is shown in Figure 3. Shaded areas within the site are unsuitable habitat for GSM. Approximately 2.2 ha (i.e. 35%) would be shaded for extended periods of time and are hence unsuitable habitat for GSM. This includes extensive areas surrounding the exotic tree plantings in Section L and all of Section K. Habitat assessment was conducted within the study site on 10 November 2017 and habitat mapping along Commonwealth Avenue and Parkes Way was reviewed during a site inspection on 21 February 2018.

Within unshaded areas, no native feed species for GSM were recorded during the survey. Consequently, no potential GSM habitat meeting criteria for High, Medium or Low quality was present within the site.

One feed species, exotic CNG, was recorded at four of the six site sections (i.e. Sections A, C, K, L). Much of this area was shaded, including all of Section K and extensive areas within Section L and consequently does not comprise GSM habitat. Approximately 3.6 ha of unshaded or only partly shaded CNG dominated grassland, which is potential GSM habitat, is present within Sections C and L (Figure 3). Potential GSM habitat is extensively distributed in Section L, with the exception of a segment in the north-eastern corner, and is otherwise restricted to a small patch in the north-western part of Section C. Within Section A, CNG was very sparse and scattered (i.e. <5% CNG cover), and is unlikely to support GSM populations.

Review and field checking of previous habitat assessments indicated that all three components of the clover-leaf intersection support predominantly CNG dominated habitat for GSM, along with the median at the northern end of Commonwealth Avenue (Figure 5). The median along Parkes Way supports scattered patches of CNG dominated habitat (Figure 5) with occasional isolated patches of sparse native grasses typical of low quality GSM habitat which were too small to warrant mapping as separate habitat zones.

### **GSM Survey Results**

Surveys were undertaken in suitable conditions on four occasions during the GSM flying season (Table 1). GSM were confirmed flying at other Canberra reference sites on all survey occasions. No female GSM or pupa cases were observed during the surveys.

**Table 1. Weather conditions during GSM surveys at City Hill.**

Survey	Date	Survey Time	Temperature (°C)	Wind (km/h)	Weather
1	10 Nov 2017	1340-1410	24	0-5	Sunny, no wind, <10% cloud cover
2	21 Nov 2017	1255-1320	19-23	10-15	Sunny, light breeze, 20% cloud cover
3	1 Dec 2017	1125-1150	26	5-15	High cloud cover (i.e. 80%). Storm clouds building to 30%
4	12 Dec 2017	1359-1440	28	0-5	Sunny, no cloud cover

GSM survey results are summarised for each section in Table 2. No GSM were recorded in Sections A, B, or K (Figure 4). Thirteen GSM were observed during the four surveys (Figure 4); twelve of these were in Section L (City Hill). No GSM were observed during the first survey. One GSM was observed in unsuitable vegetation in Section M during the second survey. Eight GSM were observed in CNG dominated GSM habitat in Sections C and L during the third survey. Four GSM were observed in CNG dominated GSM habitat in Section L during the fourth survey. The numbers of GSM recorded are consistent with 'Low' GSM numbers (i.e. 2 or less moths observed per minute), according to Hogg (2010).

**Table 2. Total GSM numbers at City Hill.**

Survey	Date	Duration (person minutes)	Section A	Section B	Section C	Section K	Section L	Section M	Total	Moths / Minute
1	9/11/17	50	0	0	0	0	0	0	0	0
2	21/11/17	50	0	0	0	0	0	1	1	<0.1
3	01/12/17	25	0	0	1	0	7	0	8	<0.1
4	12/12/17	39	0	0	0	0	4	0	4	<0.1
	<b>Total</b>		<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>13</b>	

## 4 Discussion

### *Results Summary*

Potential GSM habitat dominated by CNG is present within Section L and a restricted area of Section C (Figure 3). Vegetation within the other parts of the site did not support suitable feed species for GSM or were heavily shaded, and consequently do not comprise GSM habitat (Figure 3).

Low levels of GSM activity were recorded on three occasions on City Hill (i.e. Section L), and an extensive area of unshaded exotic grassland was classified as potential CNG dominated habitat. A single GSM was recorded in Sections C and M.

Section M does not support potential habitat for GSM, as suitable native feed plants and the exotic CNG is absent. Section C supports a very small (i.e. <10 m x 20 m) patch of CNG; however, soil has been recently disturbed and has a low likelihood of supporting GSM. No GSM were observed in Section B, although a single GSM was recorded outside of potential habitat in section B in the 2016 survey (SMEC 2016). As for Section M, Section B does not support potential GSM habitat due to the absence of potential feed species.

GSM are highly unlikely to be breeding in Sections M or B, due to the absence of feed species; therefore, Section M is discounted as habitat despite this record. The single moth recorded in this area is likely to have originated from City Hill. There is potential for a small GSM population to be present within CNG dominated habitat in Section C; however, as is the case for Section M, the individual moth recorded may have accessed the area from adjacent habitat on City Hill or around Commonwealth Avenue to the south-west (Figure 5). The likelihood of GSM to be breeding on Section C is considered low due to the extensive site disturbance, but it cannot be excluded.

### *Implications*

When interpreted with reference to the results of the GSM survey conducted by SMEC (2016) along Commonwealth Avenue and in the three Commonwealth Avenue clover-leaves (Figure 5), the GSM at City Hill should be considered as part of the local GSM population at Commonwealth Avenue. With the exception of a small patch of CNG in Section 3, suitable habitat for GSM is not present in other verges around City Hill, and consequently the low density population at City Hill can be assumed to be the northern extent of this population. The combined results support the absence of a breeding population of GSM in Sections C, B and A.

Male GSM are likely to move between City Hill and other habitat areas identified by SMEC (2016) on the Commonwealth Avenue verge and clover leaf green spaces. These areas are approximately 135 m (i.e. Section J, SMEC 2016) to 270 m (i.e. Section E, SMEC 2016) from City Hill, and separated by one to three lanes of sealed road. The remaining verges around Vernon Circle, with the exception of a small patch of CNG in Section C, do not support potential GSM habitat. Male flying moths are occasionally recorded at these verges due to the close proximity of habitat at City Hill and Commonwealth Avenue.

Works likely to disturb areas identified as GSM habitat in Figure 5 must be considered as having the potential to have significant adverse impacts on GSM, and consequently warrant referral to the



Commonwealth Minister of the Environment under the EPBC Act on this basis. Works outside areas identified as GSM habitat are not considered likely to have significant adverse impacts on GSM and do not warrant referral to the Commonwealth under the EPBC Act on the basis of potential adverse impacts to GSM.

Due to the absence of potential habitat within areas A, B, K and M, development within these areas does not warrant referral under the Commonwealth EPBC Act on the basis of potential impacts. Disturbance to areas mapped as habitat within Sections L and C would warrant referral under the Commonwealth EPBC Act, as would any disturbance to habitat areas on verges and within the cloverleaf intersection adjacent to Commonwealth Avenue immediately to the south (Figure 5; SMEC 2017; Biosis 2016).

## Conclusion

### ***Survey and Habitat Assessment Results***

This survey confirms the presence of a low-density golden sun moth (GSM) population likely to be breeding within the section of City Hill on which habitat comprising of exotic Chilean needle grass (CNG) is located. The habitat extent and quality for GSM on City Hill is limited by the absence of native groundcover or exotic food plants and by extensive shading by planted exotic trees (Figure 3), such that less than half of City Hill supports vegetation which is suitable GSM habitat. Based on the habitat assessment, identified habitat within City Hill is likely to comprise northern extent of breeding GSM populations identified on verges and within the cloverleaf intersection adjacent to Commonwealth Avenue immediately to the south (Figure 3).

Individual flying male GSM were recorded on single occasions in both Sections C and M. Section C supports a small patch of CNG dominated habitat, but has been extensively disturbed. Breeding populations are unlikely to be supported in the assessed verges surrounding City Hill, including Sections C and M, due to the restricted presence of GSM feed species and absence of consistent records. Sections A, B, K and M do not support potential GSM habitat due to the absence of GSM feed species.

### ***Approval implications***

As the overall extent of GSM habitat in the survey area, and adjacent to Commonwealth Avenue and Parkes Way to the south, is <10 ha, any habitat loss or degradation is considered as a significant impact under the EPBC Act. Even though habitat present is low quality habitat (i.e. Chilean needle grass), any negative impact (i.e. clearing or modifying the habitat) on habitat would require a referral to the Commonwealth Minister for the Environment, as part of the City Renewal project.

Works likely to disturb areas identified as GSM habitat (Figure 5 – referred to as ‘CNG dominated GSM habitat’) must be considered as having the potential to have significant adverse impacts on GSM, and consequently warrant referral to the Commonwealth Minister of the Environment under the EPBC Act on this basis.

Works outside areas identified as GSM habitat (refer to Figure 5) are not considered likely to have significant adverse impacts on GSM and do not warrant referral to the Commonwealth under the EPBC Act on the basis of potential adverse impacts to GSM.

## Closure

I trust this meets your requirements. If you have any queries, please do not hesitate to contact David Moore (02 6234 1947).



Yours sincerely,

**David Moore**

Team Lead Environment (ACT) on behalf of SMEC Australia Pty Ltd.

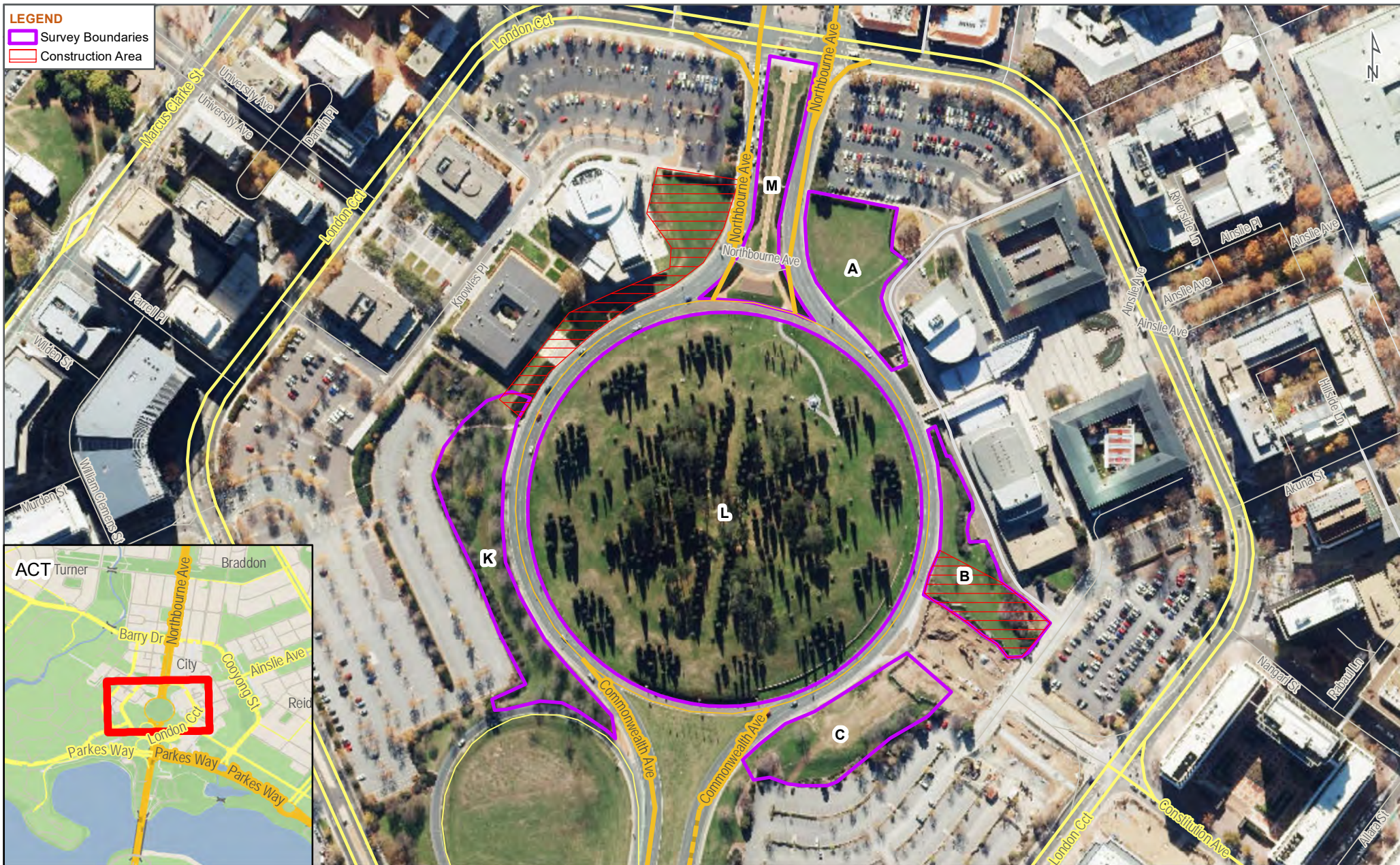
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## APPENDIX A – Flora Species List

Scientific Name	Common Name	Status
<b>Exotic Species</b>		
<i>Anagallis arvensis</i>	Scarlet pimpernel	
<i>Arcotheca calendula</i>	Capeweed	
<i>Avena</i> sp.	Oats	
<i>Bromus catharticus</i>	Prairie grass	
<i>Cupressus semperviens</i>	Roman cypress	
<i>Dactylis glomerata</i>	Cocksfoot	
<i>Eragrostis curvula</i>	African Lovegrass	Class 2 ( <i>Pest Plants and Animal Act 2005</i> )
<i>Hirschfeldia incana</i>	Buchan weed	
<i>Hordeum</i> sp.	Barley grass	
<i>Hypochaeris radicata</i>	Catsear	
<i>Lolium perenne</i>	Perennial rye-grass	
<i>Malva parviflora</i>	Small-flower mallow	
<i>Nassella neesiana</i>	Chilean needle-grass	Weed Of National Significance, Class 3 ( <i>Pest Plants and Animal Act 2005</i> )
<i>Paspalum dilatatum</i>	Paspalum	
<i>Pinus radiata</i>	Radiata pine	Class 2 ( <i>Pest Plants and Animal Act 2005</i> )
<i>Plantago lanceolata</i>	Ribwort	
<i>Poa bulbosa</i>	Bulbous meadow-grass	
<i>Sonchus asper</i>	Common sow-thistle	
<i>Sporobolus africanus</i>	Rat-tail grass	
<i>Taraxacum</i> sect. <i>Ruderallia</i>	Dandelion	
<i>Vulpia</i> sp.	Rat's-tail fescue	
<b>Native Species</b>		
<i>Oxalis perennans</i>	Grassland wood-sorrel	



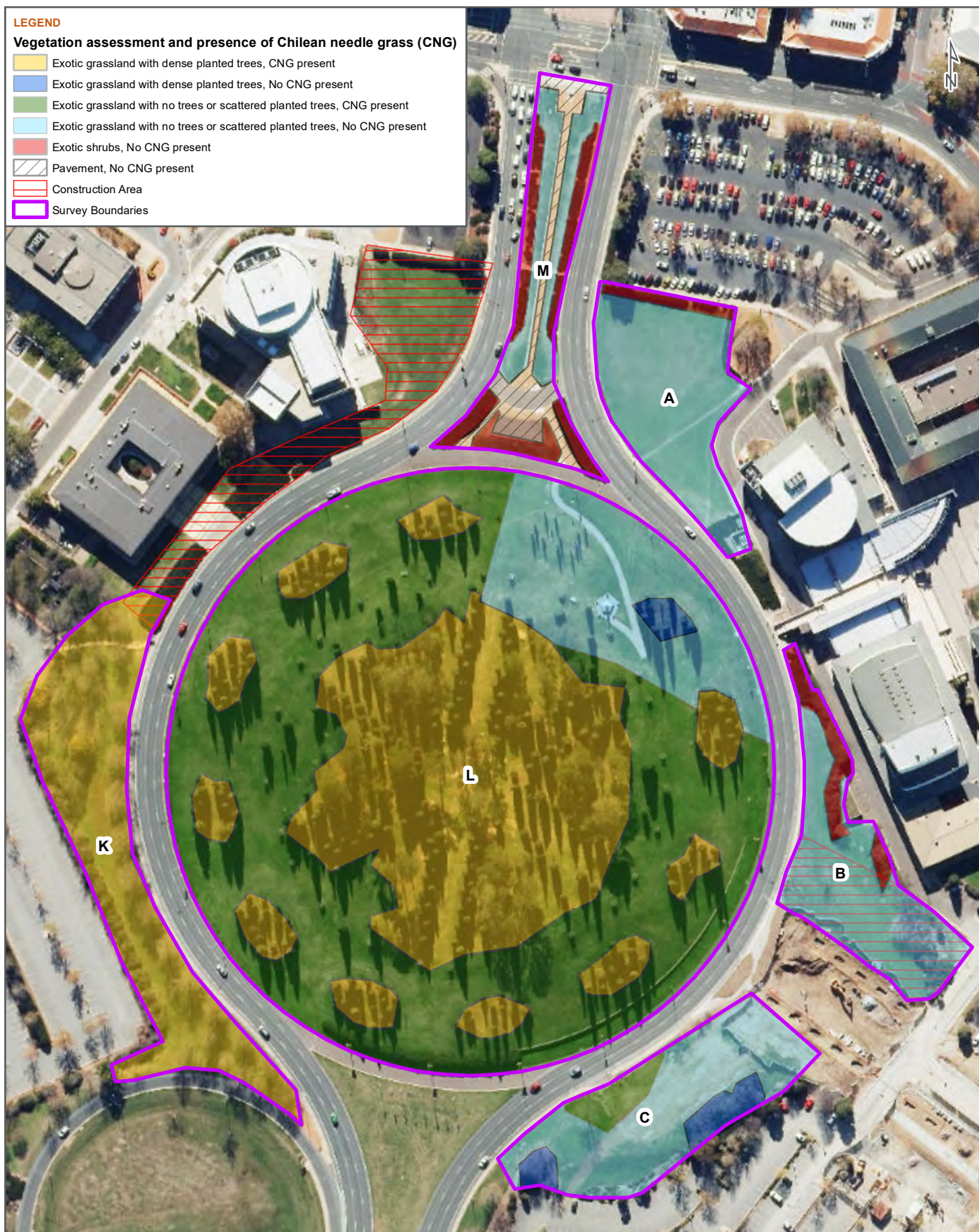




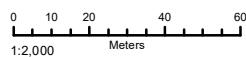
# LEGEND

## Vegetation assessment and presence of Chilean needle grass (CNG)

- Exotic grassland with dense planted trees, CNG present
- Exotic grassland with dense planted trees, No CNG present
- Exotic grassland with no trees or scattered planted trees, CNG present
- Exotic grassland with no trees or scattered planted trees, No CNG present
- Exotic shrubs, No CNG present
- Pavement, No CNG present
- Construction Area
- Survey Boundaries



DATE 25/01/2018



PAGE SIZE A4

COORDINATE SYSTEM  
GDA 1994 MGA Zone 55

FIG NO. 2

FIGURE TITLE Vegetation Assessment

PROJECT NO. 3002561

PROJECT TITLE City Hill GSM Assessment

CREATED BY N.Crook

SOURCES  
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COORDINATE SYSTEM  
GDA 1994 MGA Zone 55

FIG NO. 3

FIGURE TITLE Habitat Assessment

PROJECT NO. 3002561

PROJECT TITLE City Hill GSM Assessment

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

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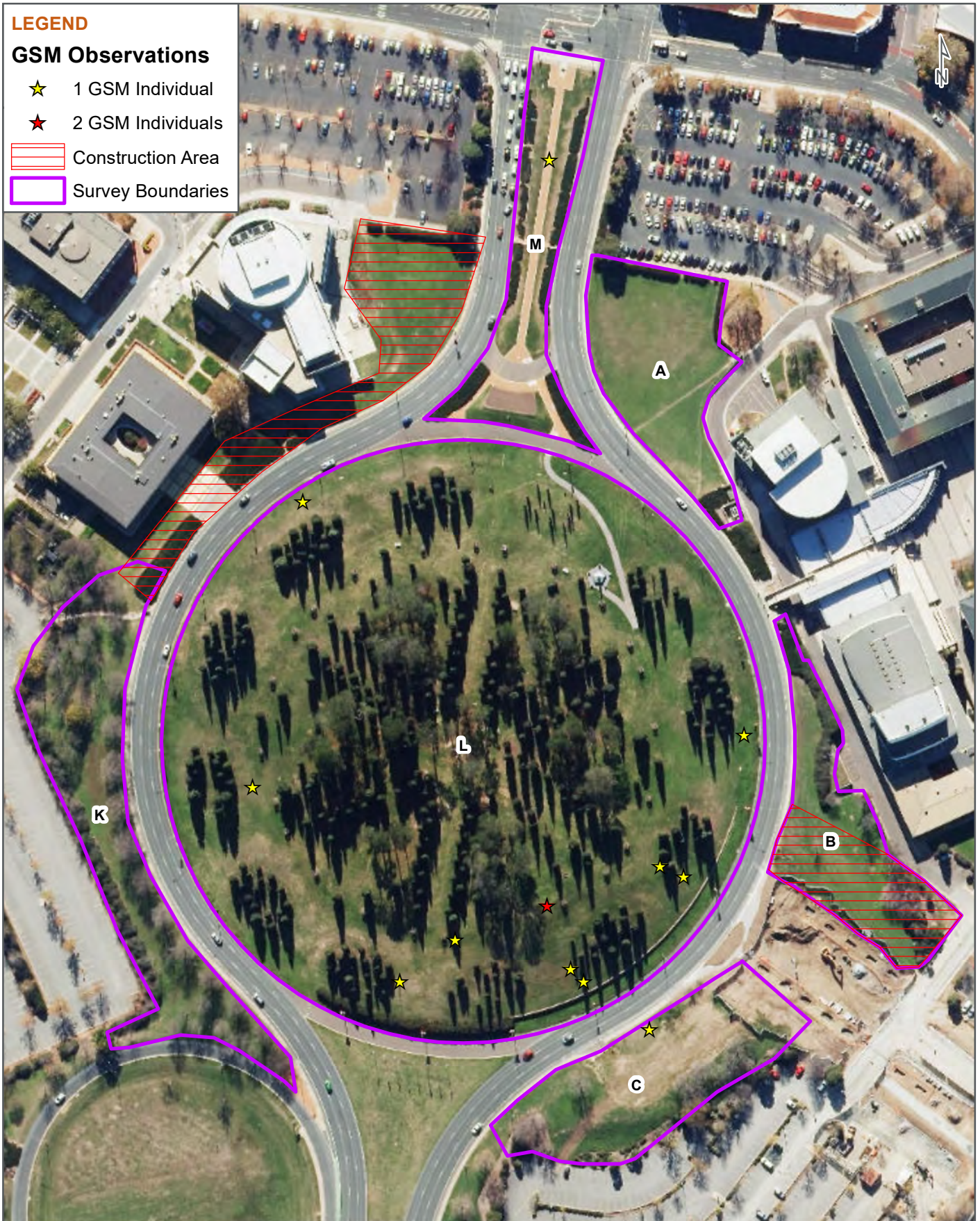
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## LEGEND

### GSM Observations

- ★ 1 GSM Individual
- ★ 2 GSM Individuals
-  Construction Area
-  Survey Boundaries



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COORDINATE SYSTEM  
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FIG NO. 4

FIGURE TITLE GSM Observations

PROJECT NO. 3002561

PROJECT TITLE City Hill GSM Assessment

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LEGEND

- GSM observed by SMEC 2017
- Female GSM observed by SMEC 2016
- CNG dominated GSM habitat, Biosis 2016
- CNG dominated GSM habitat, SMEC 2017-2018
- Not GSM habitat, Biosis 2016
- Not GSM habitat, SMEC 2017-2018
- Survey boundary
- Construction area



**FIG NO. 5** **FIGURE TITLE** Habitat assessment and GSM observations across Commonwealth Avenue

**PROJECT NO.** 3002561 **PROJECT TITLE** Vegetation, Habitat Assessment and Golden Sun Moth survey at City Hill

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05/03/2018

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**COORDINATE SYSTEM**  
GDA 1994 MGA Zone 55

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**ACT**  
Government

**CITY  
RENEWAL  
AUTHORITY**

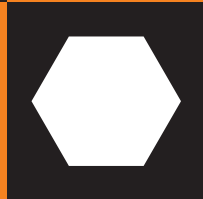
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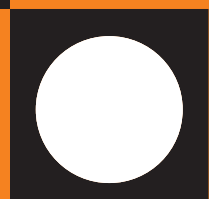
# Section 63

## Visual Impact Assessment

City Renewal Authority  
April 22, 2021



**CITY  
RENEWAL  
AUTHORITY**



# Section 63

## Visual Impact Assessment

City Renewal Authority  
April 22, 2021



CITY  
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Source: City Hill Precinct National Capital Plan

# Project Introduction

## THE PROPOSAL

The Master Plan for the Section 63, City Hill Site aims to provide a vibrant and lively place at the heart of Canberra's commercial centre. The design has been informed by place-based research and collaboration to create a place that is appropriate and reflective of City Hill and Canberra's important legacy.

Derived from a synthesis of strategic aims for the area including; the objectives of the National Capital Plan, City Renewal Authority, the Precinct Code, and the West Basin Master Plan, as well as community aspirations.

In order to promote innovation and support the realisation of the project Vision, the Place Principles, NCP Objectives and CRA Objectives were summarised into the following Four Pillars of Design:

1. Create a stimulating, fine-grained and welcoming place for people
2. Integrate the site harmoniously within its historical, cultural, physical and environmental context
3. Provide a network of open spaces that are connected, active and accessible
4. Promote a next practice urban model and catalyst that sets the standard for its surrounds

The built form and landscape character of the site will be complementary to one another and reflect the existing features of the area, whilst also incorporating unique elements in order to develop Section 63 into a distinguishable part of City Hill.

The design will incorporate liveable, considered and commercially viable Commercial and Apartment buildings, as well as significant building markers, set amongst an intriguing, yet contextually-sensitive, urban landscape.



## National Capital Plan - City Hill Precinct

Section 63 sits within the City Hill Precinct that is covered by the National Capital Plan Amendment 59 (National Capital Authority). The Visual Impact Assessment is assessed against the City Hill Precinct.

As outlined in the NCP:

*City Hill Precinct is central to the implementation of The Griffin Legacy. The precinct should take its rightful place as the municipal heart of central Canberra. City Hill Precinct will be reclaimed as Griffin's symbolic and geographical centre for City – a corner completing the National Triangle as a gateway to the Central National Area and a hub connecting significant main avenues and vistas.*



Source: City Hill Precinct National Capital Plan

### Building Form, Height, and Landmark Buildings

The City Hill Precinct nominates two landmark towers on the Section 63 site that are up to RL 617, which are '*restricted to the corners of main avenues intersecting with London Circuit*'. The proposal is consistent with the locations of these towers.

The built form of the remaining proposed buildings follow the key alignments within the Precinct Code to define the edges of the surrounding streets. These buildings are 25 metres in height.



Building form, height and landmark buildings

■ ■ ■ ■ Primary building alignment    □ Landmark buildings (RL 617)

Source: City Hill Precinct National Capital Plan

# Concept Master Plan

## City Hill Precinct Concept

The City Hill Precinct Code includes indicative built form for the Section 63 site, which included two towers to RL 617 along London Circuit.

The intersection of Commonwealth Avenue and Vernon Circle is proposed as a 'T' intersection, which creates a different building footprint than the existing road alignment allows.

## Proposed Master Plan

The proposed master plan uses the existing alignment of Commonwealth Avenue and Vernon Circle to determine the best location for the Knowles Place road intersection. This creates different parcels of land for built form compared to the precinct code.

The built form priorities the perimeter roads to define the street edges, as per the precinct code requirements.

The 617 towers are located in the same location as the City Hill Precinct Code, however the tower on the corner of Edinburgh Avenue is orientated to be suitable for residential solar access.



Source: City Hill Precinct National Capital Plan



Proposed Built Form - 617 tower locations

# Assessment Methodology

## Contextual Analysis

A site inspection was carried out on the 25th March and 25th March 2021 at 09.30am to better understand the results of desktop studies and the existing visual character of the area. A number of locations were inspected to evaluate the scenic qualities and visual prominence of the site and cross referenced these locations with aerial photographs, land topography and panoramic photographs to identify potential vantage viewpoints.

## Detailed Assessment Methodology

A qualitative assessment of the visual impacts and changes to landscape has been undertaken based on the following guidelines:

- RMS Environmental Impact Assessment Guidance Note: Guidelines for landscape character and visual impact assessment (2013)
- The Guidance for Landscape and Visual Impact Assessment (GLVIA), Third Edition (2013) prepared by the Landscape Institute and Institute of Environmental Management and Assessment; and
- Visual Representation of Development Proposals, Technical Guidance Note 02 (2017)

The guidelines describe the assessment as a way to define the changes to the physical landscape and day to day visual effects of a project on people's views. The

determination of the impacts is based on the following criteria:

**Sensitivity** is defined as *"The sensitivity of a landscape character zone or view and its capacity to absorb change"* (EIA No4 Guidelines, 2013, RMS).

The visual sensitivity of a view is defined by the nature of the view and its duration. A higher visual sensitivity is given to views which would be seen for longer, by a higher numbers of potential viewers and where visual amenity is important to viewers. The context of the view and the distance from the views are also used to determine the visual sensitivity level of the landscape.

**Magnitude** is defined as *"The measurement of the scale, form and character of a development proposal when compared to the existing condition"* (EIA No4 Guidelines, 2013, RMS).

It reflects the degree of visual contrast between the proposal and the existing landscape setting. In the case of visual assessment this also relates to how far the proposal is from the viewer.

For the purposes of this assessment the criteria listed in the following tables have been specifically defined for sensitivity and magnitude of change for both the assessment of landscape character and the visual impact to viewpoints. The combined assessment of sensitivity and magnitude provides an overall rating of the visual impact, as shown in the Impact Level table.

## Existing and Proposed Scenarios

Finalisation of the design and supporting technical documentation enabled the selected vantage points to be realistically documented.

The accuracy of the existing and proposed images is based on the following process and information:

- Creating a 3D model of the terrain;
- 3D massing model of the proposed built form provided by the project architect;
- Digitally linking the coordinate data into Google Earth (GE);
- Positioning camera in 3D software to prepare proposed scenarios from vantage points based on existing coordination and reference points;
- Photo matching and rendering to reflect landscaping, intended materials and lighting.

## Alternative Scenario

The proposed scenarios include two towers to 617 RL on the corner of Commonwealth Avenue / London Circuit, and Edinburgh Avenue and London Circuit, with the remaining buildings 25 metres above ground level.

For each view, an alternative scenario is identified with the towers removed and all buildings 25 metres in height.



		MAGNITUDE				
		Very High	High	Medium	Low	Very Low
SENSITIVITY	Very High	Substantial	Major	Major / Moderate	Moderate	Moderate / Minor
	High	Major	Major / Moderate	Moderate	Moderate / Minor	Minor
	Medium	Major / Moderate	Moderate	Moderate / Minor	Minor	Minor / Negligible
	Low	Moderate	Moderate / Minor	Minor	Minor / Negligible	Negligible
	Very Low	Moderate / Minor	Minor	Minor / Negligible	Negligible	Negligible / None

Impact Level (Matrix of Sensitivity & Magnitude)

Sensitivity	Criteria
<b>Very High</b>	Designed view to or from a heritage / protected asset. Key protected viewpoint e.g. interpretive signs. References in literature and art/or guidebooks and tourist maps. Protected view recognised in planning policy designation. Views from the main living space of residential properties, state public rights of way e.g. bush trails and state designated landscape feature with public access. Visitors to heritage assets of state importance.
<b>High</b>	View of clear value but may not be formally recognised e.g. framed view of high scenic value from an individual private dwelling or garden. It may also be inferred that the view is likely to have value e.g. to local residents. Views from the secondary living space of residential properties and recreational receptors where there is some appreciation of the landscape e.g. golf and fishing. Local public rights of way and access land. Road and rail routes promoted in tourist guides for their scenic value.
<b>Medium</b>	View is not promoted or recorded in any published sources and may be typical of the views experienced from a given receptor. People engaged in outdoor sport where an appreciation of the landscape has little or no importance e.g. football and soccer. Road users on main routes (Motorway/Freeway/Highway) and passengers on trains.
<b>Low</b>	View of clearly lesser value than similar views experienced from nearby visual receptors that may be more accessible. Road users on minor roads. People at their place of work or views from commercial buildings where views of the surrounding landscape may have some importance.
<b>Very Low</b>	View affected by many landscape detractors and unlikely to be valued. People at their place of work or other locations where the views of the wider landscape have little or no importance.

Sensitivity Ranking Criteria

Magnitude	Criteria
<b>Very High</b>	There would be a substantial change to the baseline, with the proposed development creating a new focus and having a defining influence on the view. Direct views at close range with changes over a wide horizontal and vertical extent.
<b>High</b>	The proposed development will be clearly noticeable and the view would be fundamentally altered by its presence. Direct or oblique views at close range with changes over a noticeable horizontal and or/vertical extent.
<b>Medium</b>	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. Direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected.
<b>Low</b>	The proposed development will form a minor constituent of the view being partially visible or at sufficient distance to be a small component. Oblique views at medium or long range with a small horizontal/vertical extent of the view affected.
<b>Very Low</b>	The proposed development will form a barely noticeable component of the view, and the view whilst slightly altered would be similar to the baseline situation. Long range views with a negligible part of the view affected.

Magnitude Ranking Criteria

# Vantage Points

## Physical Absorption Capacity

Physical Absorption Capacity means the extent to which the existing visual environment can reduce or eliminate the perception of the visibility of the proposed development or its effects, such as view blocking. It includes the ability of the existing and future elements of the landscape setting to physically hide, screen or disguise the proposed development.

Physical Absorption Capacity also includes the extent to which the material and finishes of the proposal blend with others of the same or closely similar kinds, to the extent that they cannot be easily perceived as new elements of the environment. The following factors provide some physical absorption capacity for the proposal and reduces the visibility of the site:

- Dense vegetation with mature trees along Commonwealth Avenue and around State Circle
- Potential future developments within New Acton West Basin

## Selection of Vantage Points

The key vantage points for the purpose of visual impact assessment have been determined through identification of physical absorption capacity and visibility of the site as well as focus on the areas that are more likely to be affected by the proposal in consultation with the City Renewal Authority.

The scope of this VIA is focused on the medium distant views from the public realm at City Hill, and the distant views from Parliament House.

The key vantage points analysed include:

- View 01 - City Hill towards Commonwealth Avenue
- View 02 - Parliament House capturing the Parliamentary triangle
- View 03 - Parliament House towards Commonwealth Avenue / City Hill

Following visual analysis covers different development options for each view, including:

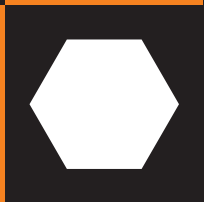
1. Two 617 towers on the corner of Commonwealth Avenue / London Circuit and Edinburgh Avenue (Compliant with City Hill Precinct Code)
2. Alternative option - all buildings at 25m height limit



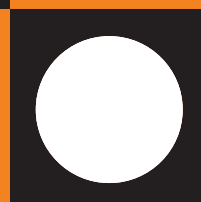
# View 01

## City Hill





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# View 01

## City Hill



Existing



Compliant  
with City Hill Precinct Code



Alternative  
(25m Max Height)

		MAGNITUDE				
		Very High	High	Medium	Low	Very Low
SENSITIVITY	Very High	Substantial	Major	Major / Moderate	Moderate	Moderate / Minor
	High	Major	Major / Moderate	Moderate	Moderate / Minor	Minor
	Medium	Major / Moderate	Moderate	Moderate / Minor	Minor	Minor / Negligible
	Low	Moderate	Moderate / Minor	Minor	Minor / Negligible	Negligible
	Very Low	Moderate / Minor	Minor	Minor / Negligible	Negligible	Negligible / None

The aim of assessing the view from City Hill is:

- To test the proposal against the City Hill Precinct Code built form and massing, including the RL 617 towers as gateway buildings
- To assess to what degree the proposal will block views to the Brindabella Mountains
- To test the extent to which the change of built elements is consistent with the future character of the area

### Sensitivity

The view from the City Hill is considered to have **HIGH** sensitivity due to:

- The proposal is on the edge of the Parliamentary Triangle, but not within it
- The proposal is visible from Parliament House
- The proposal is within close proximity of the vantage point

### Magnitude

The magnitude of the proposal in this view is considered **MEDIUM**, due to:

- Whilst the proposal forms a dominant feature of the scene, it is consistent with the future character of the area as defined by the City Hill Precinct Code
- The RL 617 tower forms a landmark gateway built form along Commonwealth Avenue towards City Hill, and frames views towards Parliament House
- Increased opportunities for landscaping along Commonwealth Avenue to screen buildings
- The alternative proposal has the same impact to views towards the mountains

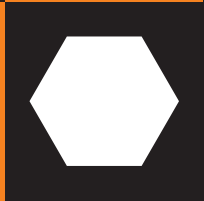
The visual impact for this view is assessed as **MODERATE** which is the combination of the sensitivity and magnitude of impact.

# View 02

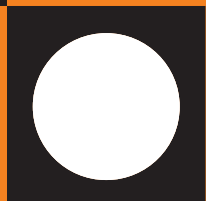
# Parliamentary

# Triangle





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# View 02

## Parliamentary Triangle



Existing

Compliant  
with City Hill Precinct Code

Alternative  
(25m Height)

		MAGNITUDE				
		Very High	High	Medium	Low	Very Low
SENSITIVITY	Very High	Substantial	Major	Major / Moderate	Moderate	Moderate / Minor
	High	Major	Major / Moderate	Moderate	Moderate / Minor	Minor
	Medium	Major / Moderate	Moderate	Moderate / Minor	Minor	Minor / Negligible
	Low	Moderate	Moderate / Minor	Minor	Minor / Negligible	Negligible
	Very Low	Moderate / Minor	Minor	Minor / Negligible	Negligible	Negligible / None

The aim of assessing the view from the Parliament House forecourt is:

- To assess to the impact of the proposal on the Parliamentary Triangle vista

### Sensitivity

The view from the Parliament House Forecourt is considered to have **HIGH** sensitivity due to:

- The wide view from the forecourt towards the Parliamentary Triangle is a formally recognised view;

### Magnitude

The magnitude of the proposal in this view is considered **VERY LOW**, due to:

- The proposal matches existing built form, and is not higher than the mountain ridge in the distance;
- The proposal blends into the existing buildings in the distance;
- Low change in the view;
- The difference between the compliant and alternative proposals is negligible at this distance.

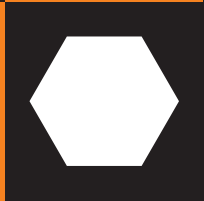
The visual impact for this view is assessed as **MINOR** which is the combination of the sensitivity and magnitude of impact.

# View 03

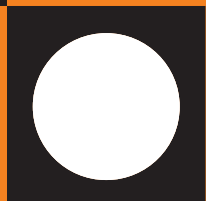
# Parliament

# House





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# View 03

## Parliament House



Existing

Compliant  
with City Hill Precinct Code

Alternative  
(25m Height)

		MAGNITUDE				
		Very High	High	Medium	Low	Very Low
SENSITIVITY	Very High	Substantial	Major	Major / Moderate	Moderate	Moderate / Minor
	High	Major	Major / Moderate	Moderate	Moderate / Minor	Minor
	Medium	Major / Moderate	Moderate	Moderate / Minor	Minor	Minor / Negligible
	Low	Moderate	Moderate / Minor	Minor	Minor / Negligible	Negligible
	Very Low	Moderate / Minor	Minor	Minor / Negligible	Negligible	Negligible / None

The aim of assessing the view from the Parliament House forecourt is:

- To assess to the impact of the proposal on the Parliamentary Triangle vista

### Sensitivity

The view from the Parliament House Forecourt is considered to have **HIGH** sensitivity due to:

- The wide view from the forecourt towards the Parliamentary Triangle is a formally recognised view;

### Magnitude

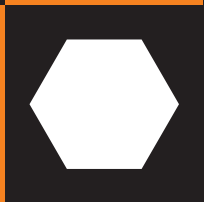
The magnitude of the proposal in this view is considered **VERY LOW**, due to:

- The proposal matches existing built form, and is not higher than the mountain ridge in the distance;
- The proposal blends into the existing buildings in the distance;
- Low change in the view;
- The difference between the compliant and alternative proposals is negligible at this distance.

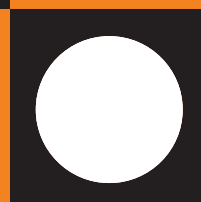
The visual impact for this view is assessed as **MINOR** which is the combination of the sensitivity and magnitude of impact.

# Summary





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## Summary of View Analysis

This Visual Analysis report has reviewed and assessed the sensitivity and magnitude of the proposed changes on the landscape and from various key locations to assist people with interpreting any impacts they believe may exist.

Overall, the visual impacts assessed from Parliament House's distant viewpoints result in impacts considered to be in the minor range. This is mostly due to the physical absorption capacity of the surrounding environment including the existing dense vegetation along State Circle towards Commonwealth Avenue, and the proposal blending into existing built form in the background.

The visual impacts assessed from City Hill in close proximity result in impacts considered to be in the moderate range. However, our study showed a number of mitigation measures have been incorporated into design to reduce the visual impact of the proposal:

- Provide additional mature trees and other landscaping surrounding the site for screening - particularly along Commonwealth Avenue
- Use of facade treatment, articulation and colour selection to reduce the height and bulk impact
- Street setbacks along Commonwealth Avenue and generous building separations to retain view corridors including pedestrian spine
- New trees and landscaping for screening and reducing the visual impact along Vernon Circle
- A built form compatible with the future character of the precinct that reinforces The Griffin Legacy as outlined within the City Hill Precinct Code.

In addition, the proposal is compliant with the National Capital Plan City Hill Precinct Code's objectives, built form/massing, and landmark tower locations. It contributes to the evolving character of the area from a road reserve to vibrant mixed-use community.







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