Prepared for
Major Projects Canberra
ABN: 66 676 633 401

AECOM

Canberra Light Rail Stage 2a

Landscape and Visual Impact Assessment

15 December 2022

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Client: Major Projects Canberra

ABN: 66 676 633 401

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Executive summary

Introduction

Major Projects Canberra (MPC) proposes to extend Canberra Light Rail (CLR) from its current southern terminus at Alinga Street, Canberra City, to Woden (Stage 2: Light Rail City to Woden). Light Rail City to Woden is being progressed in two, self-contained stages for a faster project delivery: Light Rail City to Commonwealth Park, Stage 2A (the Project, the subject of this Landscape and Visual Impact Assessment (LVIA)), and Light Rail Commonwealth Park to Woden, Stage 2B.

This LVIA has been prepared to assesses the effect of the Project with regard to potential landscape character and visual impacts during construction and at operation and will be used to inform the Environmental Assessment (EA) for the Project.

This report has been undertaken in accordance with Transport for NSW (TfNSW) *Environmental Impacts Assessment Practice Note – Guideline for Landscape and Visual Impact Assessment EIA-N04* (2020), with more detailed guidance taken from *Guidelines for Landscape and Visual Impact Assessment, Third Edition* (2013), developed by the Landscape Institute and Institute for Environmental Management (UK), which is widely recognised as comprising an example of 'best practice' in this field.

In accordance with these guidelines, key steps in the development of the LVIA include:

1. **Environmental and planning baseline** - An analysis of the regional and local context of the Project. This includes a thorough review of background documents, including policy and planning instruments, as well as an analysis of the environment within which the Project lies.
2. **Design review** - A summary of design outcomes:
   - Urban and landscape design
   - Sustainability
3. **Impact assessment**:
   - **Landscape character impact assessment** - An assessment of the anticipated impact of the Project on landscape character as a result of the final design outcome
   - **Visual Impact Assessment** - An evaluation of the impact of the Project on existing views and visual amenity within the study area
4. **Mitigation** – Design outcomes and mitigation measures to avoid, reduce or mitigate adverse impacts that the Project may impose within the study area.

Summary of impacts

Impact on landscape character

Assessment of impact on landscape character considers the impact of change due to a project on the landscape as a resource in its own right. Impacts on landscape character are assessed at operation only as it is assumed that the landscape outside the Projects operational footprint would be restored to its original condition after construction.

The impact of the Project on landscape character has considered the Raising London Circuit (RLC) project as a 'baseline environment', i.e. the existing environment would already have assumed to have changed due to the construction of RLC, therefore the Project is assessed over the already changed 'baseline environment' rather than the existing environment.

Of the seven Landscape Character Zones (LCZs) identified within the study area (refer to **Figure i**), only three returned a magnitude of impact greater than Negligible due to the Project (refer to **Table i**). These were LCZ 2: Major Avenues and Axes, LCZ 4: London Circuit and LCZ 5: Parkes Way. Only LCZ 4 returned a rating of High or High to Moderate, prompting a higher level of mitigation, however, this LCZ also returned a 'Beneficial' qualitative outcome.

The High to Moderate impact rating on landscape character within LCZ 4 was due to the larger proportion of the LCZ that was affected by the Project and the high sensitivity of the LCZ due to its landscape value, importance as Designated Areas and multiple heritage items.

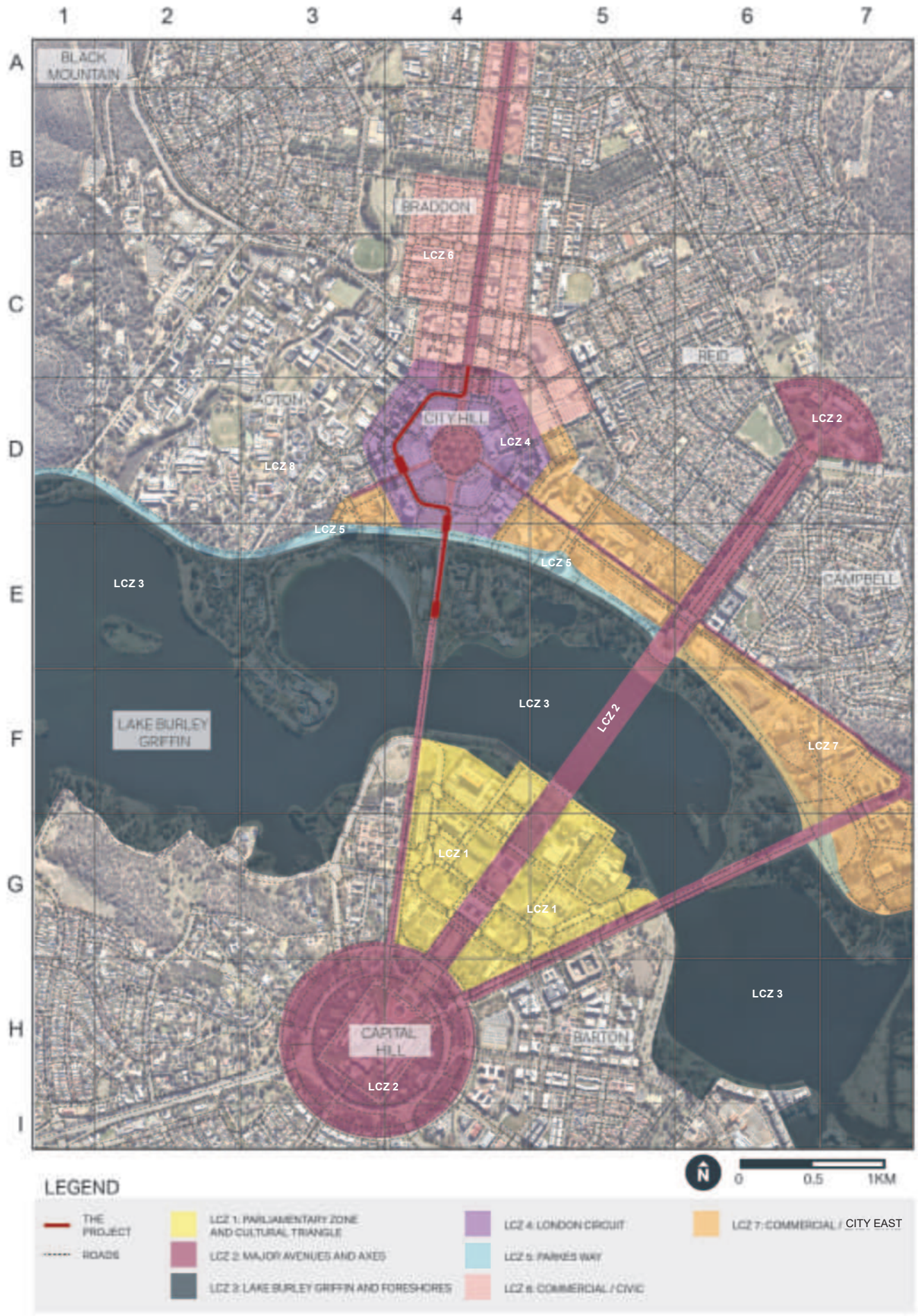

Figure i. Landscape Character Zones

While the addition of light rail infrastructure and the reconfiguration of London Circuit is considered a substantial change in the character of this area, these changes are supported within the strategic planning documents and Griffin Plan, and any change in character would be considered acceptable within that context.

Overall the impact of the Project on landscape character is considered to be Moderate to Low (Neutral).

Table i: Summary of impact of the Project on landscape character within LCZs

Landscape Character Zone	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
LCZ 1: Parliamentary Zone and Cultural Triangle	Moderate	Negligible	Negligible	N/A	Negligible	Neutral
LCZ 2: Major Avenues and Axes	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial
LCZ 3: Lake Burley Griffin and Foreshores	Moderate	Negligible	Negligible	N/A	Negligible	Neutral
LCZ 4: London Circuit	High	Moderate	High to Moderate	Moderate	High to Moderate	Beneficial
LCZ 5: Parkes Way	Low	Low	Low	Low	Low	Neutral
LCZ 6: Commercial / Civic	Low	Negligible	Negligible	N/A	Negligible	Neutral
LCZ 7: Commercial / City East	Moderate	Negligible	Negligible	N/A	Negligible	Neutral

Visual Impact Assessment

Assessment of visual impact considers the impact of change on the views available to people and their visual amenity. It assesses how the surroundings of individuals or groups of people (visual receptors) may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements within the landscape and/or the introduction of new elements (Landscape Institute and Institute for Environmental Management and Assessment, 2013). Visual impacts are assessed during construction and at operation.

The visual impact of the Project has considered the RLC project as a 'baseline environment', i.e. the existing environment would already have assumed to have changed due to the construction of RLC, therefore the Project is assessed over the already changed 'baseline environment' rather than the existing environment.

Impact of the Project on views during construction

The visual impact on views from surrounding viewpoints range from Moderate to Low to High (refer to **Table ii**), with the highest ratings experienced from viewpoints close to the Project with direct views to the changes.

During construction, 10 out of 14 viewpoints returned a High or High to Moderate impact rating. These viewpoints were all either positioned close to the changes (on Northbourne Avenue, London Circuit or Commonwealth Avenue) and / or had high sensitivities due to heritage or cultural aspects of the viewpoints (views to or from City Hill or Parliament House).

Four viewpoints returned a Moderate or Moderate to Low rating. These viewpoints were typically positioned further from the construction, where the works could be seen but would not affect a large proportion of the view.

Construction activity resulted in adverse affect on the quality of the views from all of the viewpoints, however, construction activity is a temporary change within the landscape.

Overall, the visual impact of the Project on views is considered to be High to Moderate (Adverse). Construction of the Project would be seen predominantly from closer locations rather than distant ones, however, these locations include some which are highly sensitive due to heritage and planning importance. The construction would typically comprise the addition of the 'visual clutter' of equipment, activity and changes to traffic that would result in an adverse affect on views.

Table ii: Summary of impact of the Project on views from viewpoints during construction

Viewpoint	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
Viewpoint 1: Northbourne Avenue	High	High	High	High	High	Adverse
Viewpoint 2: Sydney Building	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 3: Intersection of London Cct and University Ave	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 4: Law Court	Moderate	Low	Moderate to Low	Low	Moderate to Low	Adverse
Viewpoint 5: 7 London Circuit	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 6: 1 London Circuit	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 7: City Hill North	High	Moderate	High to Moderate	Moderate	High to Moderate	Adverse
Viewpoint 8: City Hill South	High	High	High	High	High	Adverse
Viewpoint 9: Commonwealth Avenue	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 10: Commonwealth Avenue	High	High	High	High	High	Adverse
Viewpoint 11: Commonwealth Park	High	Low	Moderate	Low	Moderate	Adverse
Viewpoint 12: National Museum of Australia	High	Low	Moderate	Low	Moderate	Adverse
Viewpoint 13: Lake Burley Griffin / Land Axis	Moderate	Low	Moderate to Low	Low	Moderate to Low	Adverse
Viewpoint 14: Parliament House	High	Moderate	High to Moderate	Moderate	High to Moderate	Adverse

Impact of the Project on views during construction

The visual impact on views from surrounding viewpoints range from Negligible to High (refer to **Table iii**), with the highest ratings experienced from viewpoints close to the Project with direct views to the changes.

At operation, the Project resulted in a High or High to Moderate impact ratings from five viewpoints, four of which were positioned on the footpaths next to the proposed light rail (i.e. directly adjacent to or within areas that had been changed due to the Project) and the other from within City Hill looking south along the Main Avenue of Commonwealth Avenue. Other locations within City Park were not affected to the same degree.

Of the locations along the proposed light rail route, those on London Circuit returned lower visual impact ratings than seen on Commonwealth and Northbourne Avenues. This was typically due to the lower sensitivity of views from roads that were not Main Avenues, or that had undergone changes due to RLC previously.

Overall, there were only five viewpoints where the Project affected the quality of the views. Of these, four were beneficial changes to the view and one was an adverse change. The beneficial aspects of the changes were typically related to the 'tidying up' of built elements and groundplane design (e.g. signage, lighting, paving details) within the views and the planting of continuous street trees, which would visually strengthen the views along the road corridors. The one adverse rating was where a shade structure for a light rail stop would be seen against a backdrop of City Hill. This rating is likely to reduce as street trees within the median mature and reduce the visual prominence of the structure within the view.

Overall, the Project would have a High to Moderate (beneficial) effect on views from close to the Project, and a Low impact on more distant views.

Table iii: Summary of impact of the Project on views from viewpoints at operation

Viewpoint	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
Viewpoint 1: Northbourne Avenue	High	High	High	High	High	Beneficial
Viewpoint 2: Sydney Building	Moderate	High	High to Moderate	High	High to Moderate	Neutral
Viewpoint 3: Intersection of London Cct and University Ave	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial
Viewpoint 4: Law Court	Moderate	Low	Moderate to Low	Low	Moderate to Low	Neutral
Viewpoint 5: 7 London Circuit	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial
Viewpoint 6: 1 London Circuit	Moderate	Moderate	Moderate	Moderate	Moderate	Neutral
Viewpoint 7: City Hill North	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 8: City Hill South	High	Moderate	High to Moderate	Moderate	High to Moderate	Neutral
Viewpoint 9: Commonwealth Avenue	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 10: Commonwealth Avenue	High	High	High	High	High	Beneficial
Viewpoint 11: Commonwealth Park	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 12: National Museum of Australia	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 13: Lake Burley Griffin / Land Axis	Moderate	Negligible	Negligible	Negligible	Negligible	Neutral
Viewpoint 14: Parliament House	High	Low	Moderate	Low	Moderate	Neutral

Mitigation of impact

The following mitigation measures outlined in **Table iv** attempt to address impacts on landscape character and views, particularly where the impact has been rated as High or High to Moderate, or had an adverse affect on the quality of the landscape or views.

Table iv: Mitigation measures

Ref	Issue / observation	Recommendation
LV1	Minimise the visual impacts of construction activities	Wherever possible, high quality construction hoarding would be used with consideration given to the potential for local public art or heritage interpretation, subject to all other necessary approvals. The design of the hoarding should consider visually recessive, natural colours and images, and where possible be developed with input from local schools or artists.
LV2		Storage of materials and equipment at worksites and compounds would be planned to reduce visual impacts
LV3	Enhance visual amenity within the Project area	Lighting associated with the Project would be designed to limit spill into non-target areas and up-lighting would be capped by structures. Light colour would be designed to complement the adjacent area and public safety cameras would be selected to function without unnecessary lighting.
LV4		Wherever practicable, combine above-ground street elements (lighting, traffic signals, traffic signs) on common use poles to reduce visual clutter and to reduce potential conflict with landscape elements, in consultation with TCCS and NCA.
LV5		Advanced trees would be procured for landscaping activities completed as part of the Project
LV 6		Trees removed for construction would be replaced in accordance with the Street Tree Masterplan.
LV7		Within the Project area, green track areas would be monitored by an active irrigation system with an appropriate control system to monitor and provide optimum growing conditions for planted and turf grass areas , without unnecessarily overusing water
LV8		In consultation with relevant authorities, the ‘Queen Elizabeth II’ commemorative plaque and the public artwork ‘Dream Lens to the Future’ would be relocated to an appropriate location

Conclusion

While many LCZs have a heightened sensitivity due to cultural or heritage importance, particularly related to the location within the Nation’s capital, the susceptibility of these areas to the Project is relatively low (with the exception of LCZ 4: London Circuit) effectively lowering the overall sensitivity of these LCZs to the Project. The magnitude of change was assessed at operation and was typically found to be low, predominantly due to the Project being in keeping with the character of the LCZs within which it lies. Overall, the highest impact rating returned for landscape character was High to Moderate Beneficial, which occurred within LCZ 4: London Circuit.

Overall, the Project is considered to have a Moderate to Low impact on local landscape character (i.e. the character of the landscape directly surrounding the Project). There would be no impact on the greater landscape character of the area due to the Project. The Project, while comprising a series of changes within the existing landscape, fits within the surrounding existing and proposed landscape character as described by strategic planning documents.

The visual impact of the Project was considered during construction and at operation.

During construction, the Project typically impacted views close to the construction activity, including views seen on Northbourne and Commonwealth Avenue, London Circuit and within City Hill Park. One more distant viewpoint was found to be impacted during construction: Viewpoint 14: Parliament House. The High to Moderate rating returned from this viewpoint was more dependent on the high sensitivity of visual receptors at that location rather than the magnitude of change seen, as construction activity would be viewed from a considerable distance.

During construction, changes to views from surrounding areas due to the Project is considered acceptable due to the temporary nature of the changes and the anticipated ongoing development of the surrounding area as described by strategic planning documents.

At operation, changes due to the Project would only impact views close to the Project. Distant viewpoints would not be impacted either due to the distance of viewing, screening by landform, vegetation and built form, or the low visual prominence of the operational changes.

The Project is considered to have a positive influence on visual amenity. The proposed street trees, creating continuous avenues, and ‘tidying up’ of the groundplane (paving and road surfaces), signage and other structures seen within the road corridors are considered beneficial outcomes to views from surrounding areas. The addition of light rail within highly sensitive Main Avenues would be seen as a considerable change from the existing situation, however, is considered visually acceptable within the context of the provision of public transport as outlined in strategic planning documents. Changes to street trees along Commonwealth Avenue are also considered acceptable, particularly given these changes are either listed as desirable outcomes in the NCP or would reduce the visual prominence of infrastructure within the medians.

Overall, the Project is considered to have a High to Moderate (beneficial) effect on views from close to the Project, and a Low impact on more distant views.

Changes to landscape character and views due to the Project are considered acceptable within the context described in this report.

Abbreviations

Abbreviation	Meaning
ACT	Australian Capital Territory
AHD	Australian Height Datum
CBD	Central Business District
CHL	Commonwealth Heritage List
CLR	Canberra Light Rail
DA	Development approval
EA	Environmental Assessment
FoV	Field of View
GIS	Geographic Information System
GSM	Golden Sun Moth
HIA	Heritage Impact Assessment
IS	Infrastructure Sustainability
ISC	Infrastructure Sustainability Council
km	Kilometres
LVIA	Landscape and visual impact assessment
LCZs	Landscape Character Zones
m	Metres
MPC	Major Projects Canberra
NCA	National Capital Authority
NCP	National Capital Plan
NHL	National Heritage List
NSW	New South Wales
PALM ACT	Australian Capital Territory (Planning and Land Management) Act 1988
TCCS	Transport Canberra and City Services
RLC	Raising London Circuit
WSUD	Water Sensitive Urban Design
ZTV	Zone of Theoretical Visibility

Definitions

Term	Meaning
Central National Area	Precincts within Designated Areas numbered 1-15 and Canberra Airport form the Central National Area, as defined by the National Capital Plan.
Cloverleaf / Cloverleaves	The loop roads connecting Commonwealth Avenue with London Circuit and Parkes Way.
Detailed study area	A smaller study area within the broader contextual study area used to detail or analyse features or effects on a more detailed scale (refer to **Figure 1**).
Magnitude	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or not, and whether the change is short or long term in duration (Landscape Institute and Institute for Environmental Management and Assessment, 2013).
Land Axis and Water Axis	The structure of the Griffins' plan for Canberra was based on two axes - the Water Axis running south east from Black Mountain along the line of the formal central lake, and the Land Axis, connecting Mount Ainslie to Capital Hill, intersecting the Water Axis at a right angle.
Main Avenues	Canberra's Main Avenues and Approach Routes as listed in the NCP, which have symbolic and functional significance of the National Capital. These include Commonwealth Avenue, Edinburgh Avenue, Constitution Avenue, Northbourne Avenue, Kings Avenue and University Avenue.
National Triangle	A triangle bounded by three Main Avenues (Commonwealth, Constitution and Kings Avenues) which make up the heart of the Griffin Plan, with Capital Hill at its apex.
Receptors	(or 'visual receptors'). Individuals and/or defined groups of people who have the potential to be affected by a Proposal (Landscape Institute and Institute for Environmental Management and Assessment, 2013).
Sensitive receptors	Land uses which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
Sensitivity	A term applied to specific receivers, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor (Landscape Institute and Institute for Environmental Management and Assessment, 2013).
'Sentinel' tree	A feature tree with columnar form.
Study area	The area within which the impact of the Project on landscape character, views and visual amenity is assessed in this report (refer to **Figure 1**).
The Project	The construction and operation of Canberra Light Rail Stage 2a.
The Territory	The Australian Capital Territory.
Viewpoint	The location from which an assessment is made of the impact the Project has on the view.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area (Landscape Institute and Institute for Environmental Management and Assessment, 2013).
Visual simulation	A computer simulation illustrating the predicted appearance of a development overlaid on a photo of the existing view.
Zone of Theoretical Visibility	A map showing the likely visibility of the Project, once operational, from surrounding areas.

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1.0 Introduction

The Canberra Light Rail (CLR) network is better connecting Canberra to meet the growing city's transport needs now and in the decades to come. CLR currently operates from Gungahlin Place to Alinga Street, transporting between 4,000 to 13,000 passengers/day and over 10 million passengers since 2019.

Major Projects Canberra (MPC) proposes to extend CLR from its current southern terminus at Alinga Street, Canberra City, to Woden (Stage 2: Light Rail City to Woden). Light Rail City to Woden is being progressed in two, self-contained stages for a faster project delivery: Light Rail City to Commonwealth Park, Stage 2A (the Project, the subject of this Landscape and Visual Impact Assessment (LVIA)), and Light Rail Commonwealth Park to Woden, Stage 2B.

The Project is needed as part of a coordinated and holistic delivery of a series of major projects in Canberra City and surrounds, to realise the strategic planning and development for Canberra City presented in the Territory Plan 2008, the National Capital Plan (NCP) and the ACT Transport Strategy. In accordance with these plans, the Project would:

- Provide additional sustainable transport options
- Enhance liveability by improving connectivity and access
- Future proof the transport network to accommodate growth
- Support affordable transportation.

This LVIA has been prepared to assesses the effect of the Project with regard to potential landscape character and visual impacts during construction and at operation and will be used to inform the Environmental Assessment (EA) for the Project.

1.1 Background

CLR between Gungahlin to the City is currently operational with 13 stops provided along Northbourne Avenue, the Federal Highway and Flemington Road. With more than one million passengers boarding the CLR within the first three months of operation, CLR has proven successful in providing the public a sustainable, accessible and affordable public transport option. Building on the success of Light Rail City to Gungahlin, the ACT Government has committed to continue to better connect Canberra by providing a north-south spine, extending the current CLR network to Woden.

The Project forms the first stage of the CLR City to Woden, and would better connect Canberra City to Lake Burley Griffin. The Project would frame the future shape of development along the corridor, supporting the activation of underutilised land around City West, City Hill and the Acton Waterfront and enabling the delivery of city wide initiatives for urban renewal and diversity of place. Extending the CLR network along London Circuit would bring the network closer to businesses along London Circuit, and the Australian National University. The Project, and in the future, Light Rail City to Woden, would contribute towards supporting the 500,000 people Canberra is expected to be home to by 2030. By extending the CLR network to Woden, Canberra is better equipped to provide more public transport options, reduce traffic congestion, reliance on cars and urban sprawl and transition to a net zero future.

The Project would also act as a key approach for meeting the strategic outcomes outlined in the NCP and the Territory Plan, which are the principal strategic documents that govern the planning, design and development of Canberra and the ACT. The Project would deliver on the following strategic outcomes outlined in the NCP and the Territory Plan:

- Improve connectivity and facilitate the transition to a compact city to futureproof against urban sprawl by providing more public transport options closer to Canberra City to limit car use and limit the stress of a growing Canberra population
- Provide more convenient, sustainable and reliable transport options by increasing the provision of public transport options powered by renewable energy and the extent of the CLR network
- Reduce transport emissions to support Canberra's transition to net zero emissions by providing public transportation that runs on renewable energy
- Enhance liveability and accessibility by providing more accessible public transport options closer to Canberra City

- Provide for improved urban design and amenity outcomes by encouraging urban renewal, sustainable development and investment in Canberra City
- Achieve economic vitality, community wellbeing and environmental quality by supporting the activation of underutilised land around City West, City Hill and the Acton Waterfront
- The efficient use of resources whilst reducing reliance on non-renewable resources by providing public transport options powered by renewable energy
- Improve local amenity through the City Hill precinct by providing an alternative route for through-traffic
- Facilitate active living through the provision of active transport infrastructure connected to existing networks by providing more choice and increasing public transport patronage and reducing car dependency
- Recognise the needs of people with disabilities by providing accessible public transport options.

1.2 The Project

The Project would involve extending the CLR network from the current southern terminus at Alinga Street to a proposed stop at Commonwealth Park. The Project would include the following key elements:

- An extension of approximately 1.7 kilometres (km) of track, extending southbound via the western side of London Circuit before continuing on Commonwealth Avenue
- A new bridge across Parkes Way
- Three stops are proposed to be located at key points along the alignment to provide access to the light rail where there is expected to be high demand: Edinburgh Avenue Stop, City South Stop and Commonwealth Park Stop.
- One scissor crossover (crossover of railway tracks) to allow LRVs to reverse direction
- Utility, stormwater drainage and streetlighting adjustments, relocations and provisions
- Landscaping features sympathetic with Canberra's design as envisioned by the Griffins' along with requirements set out in other Territory and Australian Government policy
- 'Green tracks' running along Commonwealth Avenue and Northbourne Plaza that involve planting grass or shrubs between and besides the alignment
- Intersection layout, traffic signal phasing and road traffic speed changes along the alignment, including new intersections and modifications to existing intersections
- Pedestrian footpaths and crossing modifications
- Road widening and verge and kerb line changes.

1.3 Study area

Two study areas have been identified for this report: a wider, contextual study area (hereafter the study area) and a detailed study area.

The study area has been defined as the area shown as the map extents of **Figure 1**. This range stretches approximately 3 km to the north, east and west of the Project, and 4.5 km to the south of the Project. This study area has been selected to show landscape characteristics and elements within the broader city-wide setting.

The detailed study area (refer to inner dotted line in **Figure 1**) has been selected to show more detailed elements and patterns within the Project setting.

The 'delivery phase area' refers to the area required for the construction and operation of the Project.

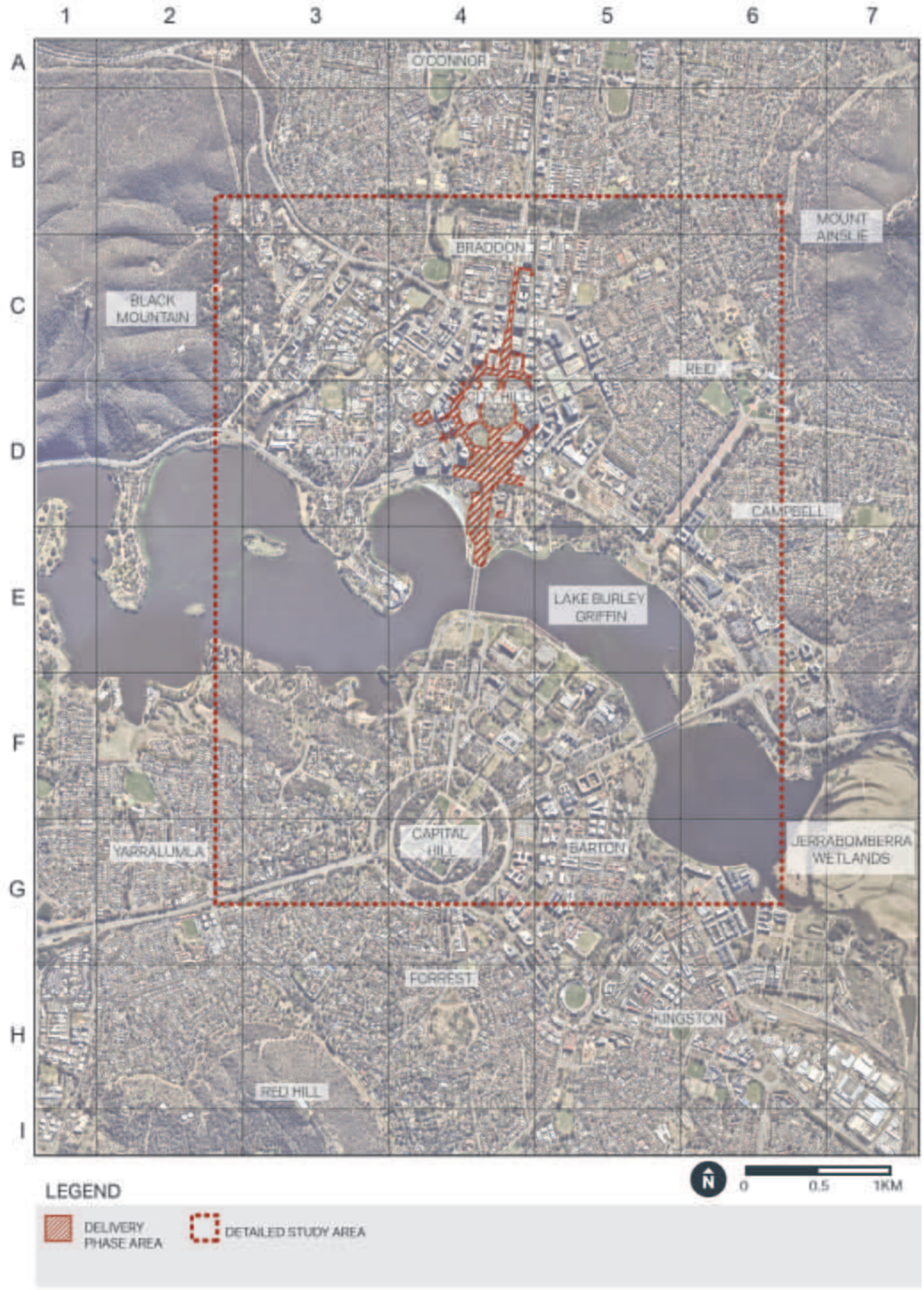

Figure 1 Site context map (study area) with delivery phase area and detailed study area

2.0 Project description

Major Projects Canberra (MPC) proposes to extend the Canberra Light Rail (CLR) network from its current southern terminus at Alinga Street, Canberra City, to Woden (Light Rail to Woden). Light Rail to Woden is being progressed in two, self-contained stages for a faster project delivery: Stage 2A City to Commonwealth Park (the Project, the subject of this Assessment), and Stage 2B Commonwealth Park to Woden.

The Project is needed as part of a coordinated and holistic delivery of a series of major projects in Canberra City and surrounds, to realise the strategic planning and development for Canberra City presented in the Territory Plan, the Transport for Canberra Plan and the National Capital Plan (NCP). The Project also supports the ACT Government's vision for a compact and efficient city and reaching net zero by 2045. Furthermore, the Project is a specific directive identified as a key strategy for developing and delivering an efficient, compact and sustainable Canberra City within the Moving Canberra Plan, The Light Rail Network Plan and The ACT Planning Strategy.

The Project would involve extending the light rail network from the current southern terminus at Alinga Street to a proposed stop at Commonwealth Park. A full project description for the Project is provided in Chapter 3.0 of the Environmental Assessment.

2.1 Key Project elements

2.1.1 Construction

Construction activities associated with Project would occur within a footprint referred to as the 'delivery phase area', shown in **Figure 2**. The operation of the Project would occur within a subset of the delivery phase area. The delivery phase area includes both Designated Land and Territory land.

In addition to the main components of the Project, ancillary infrastructure and works would be carried out including provision of utilities, adjustments and relocations to existing utilities, installation of street furniture, landscaping and lighting, and drainage and stormwater management infrastructure. Protection or removal of affected trees are shown in **Figure 3** and **Figure 4**.

Construction of the Project is anticipated to commence in 2024 with completion of construction planned in 2026. However, the duration of the construction would be dependent on final construction methodology and staging selected by the delivery contractor, as well as any efficiencies identified during the program. Testing and commissioning would commence in the latter stages of construction and continue for a period of up to nine months following the conclusion of main works. Successful completion of the testing and commissioning programme would allow the Project Contractor to obtain accreditation from the Office of the National Rail Safety Regulator (ONRSR). Once complete, the system would be ready to be handed over for operation.

2.1.1.1. Site establishment and preparatory works

There would be four major compound sites, as shown on **Figure 2**. Several temporary construction compounds, stockpile sites and laydown areas would also be required as part of the Project. Upon completion of the works all established site compounds would be reinstated prior to handing back to the respective land owners.

There are utilities within the delivery phase area which are affected to various degrees by the Project. Most protection, decommissioning and removal of utilities would be completed early in the Project construction period, but may also be staged during the construction period depending on construction planning requirements.

Traffic management arrangements would include full and partial road closures and would introduce necessary traffic detours to direct the travelling public around work sites and construction access and egress points. Notification of these closures would be advertised in advance and sufficient time to deliver written notice would be required for the local businesses and residents. All temporary traffic management arrangements and diversionary routes would be agreed and approved by TCCS (RoadsACT) prior to implementation.

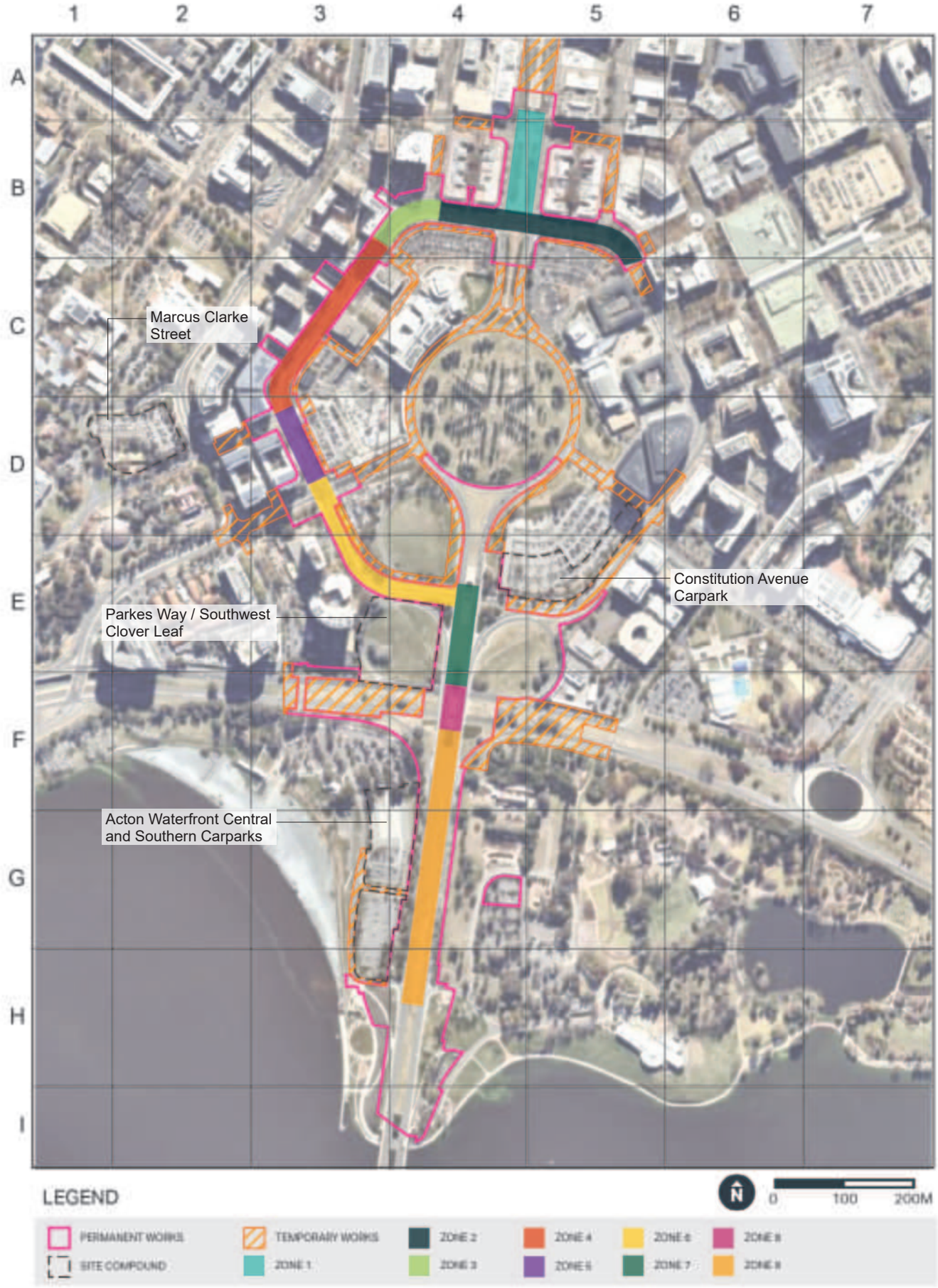

Figure 2 The delivery phase area and construction compounds

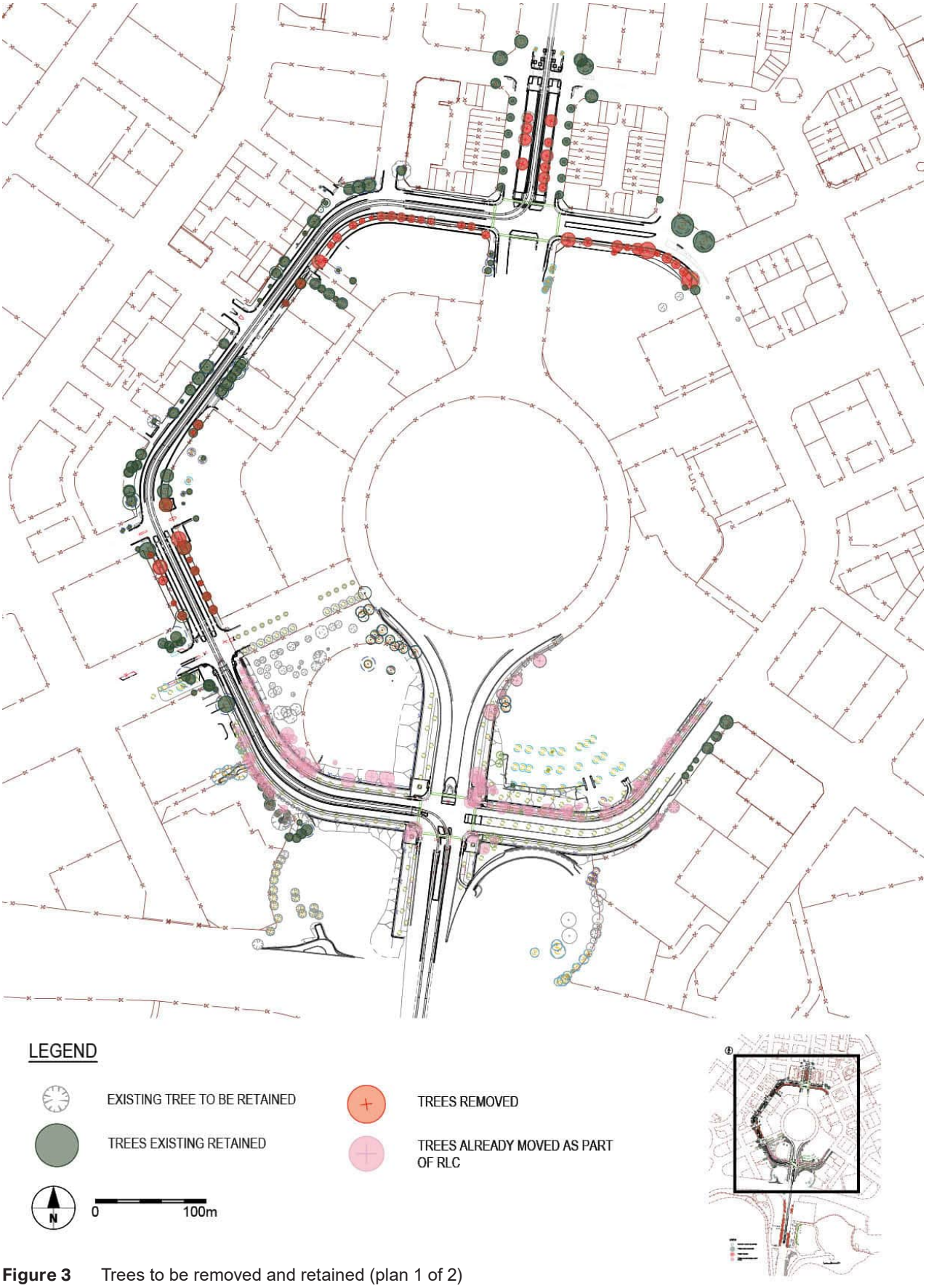

Figure 3 Trees to be removed and retained (plan 1 of 2)

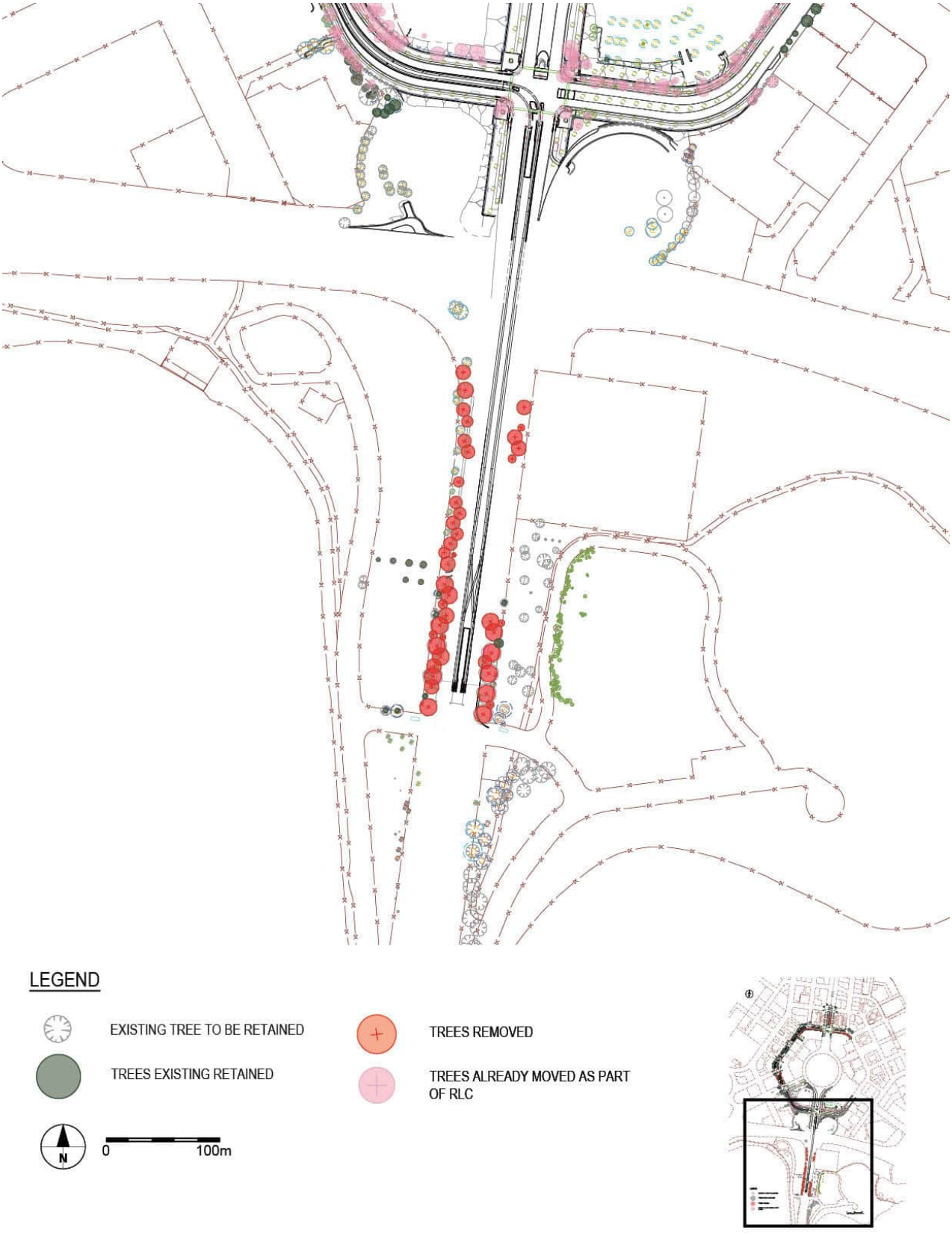

Figure 4 Trees to be removed and retained (plan 2 of 2)

2.1.1.2. Construction strategy

The construction strategy of the Project has been divided by construction zones, major intersections and the Parkes Way Bridge.

Table 1: Construction staging locations

Precinct	Landscape strategy
Block closures	These are construction areas between major intersections. Block closures would be used to close off entire sections of the road network, typically between blocks to allow the Project contractor full access to the worksite and the best opportunity to complete the Project most efficiently. Stops would be constructed upon the occupation of the block section where it is located. Blocks include: • Northbourne Avenue (between Alinga Street and London Circuit) • London Circuit (between Northbourne Avenue and Petrie Plaza) • London Circuit (between Northbourne Avenue and West Row) • London Circuit (West Row to Knowles Place North) • London Circuit (between Knowles Place North and Gordon Street) • London Circuit (between Gordon Street and Edinburgh Avenue) • London Circuit (between Edinburgh Avenue and Commonwealth Avenue) • Commonwealth Avenue (between London Circuit and Parkes Way) • Commonwealth Avenue (between Parkes Way and Lake Burley Griffin).
Major intersections	The major intersections include Northbourne Avenue and Alinga Street, Northbourne Avenue and London Circuit, London Circuit and Edinburgh Avenue, London Circuit and Gordon Street and Commonwealth Avenue and London Circuit. For works within major intersections, wherever possible the construction of the intersection would be carried out during normal working hours, within the confines of a protected worksite. Closures, where required, are expected to be carried out over several weekends (typically from Friday 10pm to Monday 6am) for a maximum of 56 hours at a time, except during construction of track slab where a continuous 80 hours would be required to facilitate concrete curing and ensure adequate concrete strength is achieved prior to intersection reopening and eventual trafficking. The Commonwealth Avenue and London Circuit intersection would not require full closure, and would be subject to a contraflow arrangement for several weeks.
Parkes Way bridge	A new bridge would be built between the two road bridges on Commonwealth Avenue over Parkes Way. In appearance, the gap would be infilled to create a single surface. The new rail bridge would be supported on 8 concrete piles (four piles for each bridge abutment) and concrete-walled abutments. The construction of temporary roads allows for the continued movement of traffic during bridge construction activities, with the location of temporary roads selected by the contractor in line with the Roads ACT requirements.

2.1.2 Operation

The Project would be an extension of the City to Gungahlin service and would therefore have the same frequency. It would take approximately six to nine minutes to travel between Alinga Street and Commonwealth Park.

A minimum of five LRVs would be required for the expansion of the CLR network. The new LRVs would be similar in appearance, size and performance to those that operate on the current CLR network. These LRVs and modifications to the stabling yard at the Mitchell Depot would be complete prior to the operation of this Project.

A wire free track is proposed for the Project alignment with LRVs operating using onboard battery power supply between the current Alinga Street southern terminus and the proposed Commonwealth Park terminus. Battery storage capacity for additional and existing LRVs has been proposed to minimise visual impact in landscape and visual sensitive zones, such as Commonwealth Avenue.

Two track forms, a permanent form of rail infrastructure that provides a surface for rail vehicles to move, are required for the Project. One trackform would operate northbound and the other southbound, with a crossover installed on Commonwealth Avenue to allow LRVs to change direction. Green track would also be included as part of the Project, in three locations: Northbourne Place, London Circuit between Northbourne Avenue and West Row, and Commonwealth Avenue between London Circuit and Albert Street. Non-potable water would be used for the irrigation of the Commonwealth Avenue green track.

2.1.2.1. Light rail stops

Three stops are proposed to be located at key points along the alignment to provide access to the CLR where there is expected to be high demand. These comprise the following (refer to **Figure 5**):

- Edinburgh Avenue Stop – located at London Circuit between Gordon Street and Edinburgh Avenue. The stop would be a side platform. A side platform is positioned to one side, in this case, of a trackform. This stop would be accessed by signalised crossings
- City South Stop – located at Commonwealth Avenue north of Parkes Way. This stop would comprise an island platform stop with a single central platform between the trackforms. This stop would be accessed from a signalised crossing on Commonwealth Avenue
- Commonwealth Park Stop – located at Commonwealth Avenue, near Albert Street, Commonwealth Park. The stop would be an island platform and the southern terminus of the CLR network as part of Light Rail City to Commonwealth Park. It is configured to allow extension of the network to the south as part of Light Rail Commonwealth Park to Woden. This stop would be accessed from a signalised crossing on Commonwealth Avenue

All stops are designed to meet AS 1428 DDA and Disability Standards Accessible Public Transport (DSAPT) requirements and would be fitted with infrastructure to ensure accessibility, including:

- Accessible supporting infrastructure, such as passenger ramps handrails and grab rails
- Facilities such as seating, drinking fountains and ticket machines.

2.1.2.2. Light rail trackform

A trackform is a permanent form of rail infrastructure that provides a surface for rail vehicles to move. For this Project, the track is non-ballasted, meaning that the bed of the trackform is concrete and asphalt, rather than a traditional combination of sleepers and ballasts. The trackform would support the movement of LRVs.

Two track forms would be installed from the current Alinga Street southern terminus, southbound on the western side of London Circuit, continuing onto Commonwealth Avenue, before ceasing at a proposed southern terminus at Commonwealth Park.

The rail corridor would be separated from the traffic lanes either by being raised or using physical measures such as kerbs, signalised intersections, landscaping or visual markers at intersections. This would reduce the ability for people to cross the road and alignment outside of designated crossing points.

A wire free track is proposed for the Project alignment with LRVs operating using onboard battery power supply between the current Alinga Street southern terminus and the proposed Commonwealth Park terminus.

Green track would also be included as part of the Project. An example of how green track may look is shown on Figure 3 8. It is proposed that green track would be located:

- On Northbourne Place, between Alinga Street and London Circuit
- On London Circuit, between Northbourne Avenue and West Row
- On Commonwealth Avenue, between London Circuit and Albert Street.

Figure 5 Light rail stops

2.1.2.3. Light rail vehicles

The Project includes the addition of a minimum of five LRVs to the CLR network. The new LRVs would be similar in appearance, size and performance to those that operate on the current CLR network from City to Gungahlin.

The additional LRVs would be fitted with battery technology to allow wire-free operation. Current LRVs would be retrofitted with battery technology to also ensure wire-free operation. Battery storage capacity for additional and existing LRVs has been proposed to minimise visual impact in landscape and visual sensitive zones, such as Commonwealth Avenue. To provide wire-free running, an onboard power supply would be included on new LRVs and retrofitted to current LRVs. This would be charged from the overhead wires on the City to Gungahlin alignment and supplemented through the use of regenerative breaking along the alignment.

2.1.2.4. Operating hours and scheduling

The Project would be an extension of the City to Gungahlin service and would therefore have the same level of service (LoS) (frequency). CLR operations are expected to achieve a frequency of at least 10 minutes on weekdays between the core hours of 7am and 6pm with six minute frequencies in peak periods. Outside these hours on weekdays and all day on Saturdays, Sundays and public holidays, the frequency is anticipated to be at least every 15 minutes. It would take approximately six minutes to travel between Alinga Street and Commonwealth Park.

2.1.2.5. Changes to the road network

The proposed light rail track would run within a median between opposing vehicular traffic flows for the entire length of the proposed alignment. The median would be between 80-150 mm high between intersections to minimise the possibility of road vehicles straying into the rail corridor. The median height would transition to be at grade just before each signalised intersection. This would facilitate vehicular and pedestrian movement across the track.

Road network changes required to accommodate the Project's median light rail alignment and associated stops are provided in **Table 2**.

Table 2: Lane configuration

Precinct	Landscape strategy
London Circuit	• The lane arrangement on London Circuit between Edinburgh Avenue and Commonwealth Avenue would remain unchanged • Two 3.3m wide traffic lanes in each direction along London Circuit between Northbourne Avenue and West Row, including a dedicated westbound right turn lane to West Row • A single 3.7m wide traffic lane in each direction along London Circuit between West Row and Edinburgh Avenue, except on the southbound approach to Gordon Street which would have a dedicated right turn lane. • The posted speed limit along London Circuit would remain 40km/h except in the vicinity of the Edinburgh Avenue stop where the speed would be reduced to 20km/h because of the high pedestrian activity expected at the stop • All on street parking and loading along London Circuit would be removed. • Two new signalised intersections on London Circuit to facilitate right turns across the Project's alignment at West Row and University Avenue. The remaining unsignalised intersections along London Circuit would be converted to left-in/left-out out.
Alinga Street	One lane in each direction on Alinga Street within the median on Northbourne Avenue. These lanes would be for buses only.
Commonwealth Avenue	No change
Northbourne Avenue	No change

2.1.2.6. Active transport infrastructure

The Project includes walking and cycling facilities or upgrades that aim to improve pedestrian and cyclist safety, connectivity and amenity within the study area, and in particular along London Circuit West and Commonwealth Avenue. Active transport infrastructure includes dedicated and separate pedestrian and cycling paths.

2.1.3 Urban design

The Project will be an urban transformation project that underpins the growth of Canberra's CBD and revitalisation of the London Circuit precinct. The adoption of consistent and appropriate design themes for common components such as street tree planting, pavements, street furniture, Water Sensitive Urban Design (WSUD) arrangements and finishes will provide the Project with a contextually appropriate character, identity and quality of finish.

The development of a complete design for the Project is based on three key principles:

1. To deliver a well balanced movement and place outcome
2. Active movement networks within the Project are to be well defined and provide adequate space to meet user demands, including during peak periods and projected long-term demands
3. The built elements of the Project will contribute to creating good public spaces and a high-quality experience for all users. Built elements will balance a contextually responsive approach with a consistent project-wide design aesthetic that ensures value for money.

2.1.3.1. Landscape Strategy

The design generally adopts a hierarchy of integrated landscape treatments including:

- **General Landscape:** Proposed plant species have been selected to be appropriate to local conditions and relate to the character of the urban context.
- **Existing and proposed vegetation:** In considering the treatment of existing vegetation the design addresses:
  - The protection and enhancement of key views from within streetscape corridors using framing vegetation
  - The potential for existing vegetation to reduce the apparent scale and visual impact of the proposed infrastructure
  - Opportunities to protect and enhance the quality of adjacent landscapes and associated open space areas
  - The use of locally sourced native species where practicable and appropriate street tree planting
  - Shade trees define both the structure and scale of the streetscape and thereby the amenity and comfort experienced by all users
  - A consistent and regular set out of trees, across all street typologies, when measured from the street centre line provides legibility. The set out of street trees along the length of the streets creates a regular and consistent rhythm and can be coordinated with associated furniture and fittings. These characteristics provided a sense of scale and aid navigation for all users, encouraging activation.
- **Corridor Landscapes:**
  - Canopy trees will provide spatial structure to the streetscape hierarchy and associated public domain spaces
  - Structure tree planting will moderate less desirable views; celebrate the linear character of the road corridor and reduce the apparent scale of major structural components, and frame view corridors to highlight key vistas
  - Screen planting will be located adjacent to retaining and noise walls where appropriate, in order to reduce their visual impact, and as close as offset limits permit
- **Precinct Landscapes:** Precinct landscape treatments provide appropriate scale and comfort to users throughout the seasons, with measures including:
  - Planting palettes suited to local microclimate and development considerations
  - Selected tree species provide shade during summer months and good solar access in winter months
  - All tree planting within activated precincts will be installed at 6.0m high, in 1,000L container size (i.e. pot size), with a nominal trunk diameter of 150mm calliper and a clear trunk to 1.5m to 2.0m height to create a more instant landscape effect
  - Planting strategies for precincts are described in **Table 3**.

The landscape plan for the Project is shown in **Figure 6**, **Figure 7**, **Figure 8**, **Figure 9** and **Figure 10**.

Table 3: Precinct landscape strategies

Precinct	Landscape strategy
Northbourne Place	Northbourne Place extends from the Sydney Building to the Melbourne Building and includes the verges, carriageways and the median. The Project is limited to the median, however, the design relates to the context of the whole of Northbourne Place and the relationship between the Sydney and Melbourne buildings. The design response for Northbourne Place seeks to provide a visually simple ground plane with minimum vertical or structural content. Tree species selection for Northbourne Place responds to the unique 'gateway' character of the Place. Tree plantings within the Place are limited to the median, with a double-row of trees located either side of the track alignment. The location of trees within the median of Northbourne Place are informed by the architecture of the Melbourne and Sydney buildings. Likewise, the tree locations along London Circuit. Under-pruning of trees in these locations is critical to maintaining views to the façades of these heritage buildings. The balance of Northbourne Place is subsequently defined by the double-row of singular species trees, intending to meet the following character requirements: • Provide seasonal interest unique to the place • Be resilient and robust and large enough to not be a target for vandalism • Have a tree form that avoids interference with vehicles within the light rail track. The preferred species for the inner row is *Zelkova serrata* 'Green Vase'. The proposed light rail power supply will be wireless. The rhythm of proposed street lighting is coordinated with the street tree set out.
London Circuit	The landscape design response for London Circuit continues the themes established for the RLC project. Achieving a good balance of movement and place elements is essential, as is maximising the quantum of the tree shade canopy. It is also important that the street tree alignments are consistent and coordinated with the street lighting layout. The street trees on the London Circuit verges will match the existing predominant species *Platanus acerifolia*, consistent with the RLC proposal. Wherever possible trees that have a short useful life expectancy will be replaced and existing gaps will be filled to maximise shade coverage and framing structure. The proposed street trees for London Circuit are in accordance with the Canberra Central Design Manual (ACT Planning and Land Authority, 2008)- City Hill Precinct requirements. Wherever possible the tree pits also incorporate ground cover plantings for added amenity and to maximise permeability.
Commonwealth Avenue	The landscape strategy for Commonwealth Avenue is based on the *Common Avenue Landscape Structure Plan* (Jane Irwin Landscape Architecture with GML Heritage, 2021). Tree species selection for Commonwealth Avenue is based on the recommended heritage species described in the CALSP consisting of; *Cedrus deodara; Ulmus parvifolia* 'Yarralumla'; *Lagerstroemia x fauriei* varieties; *Quercus fastigiate* (sentinel trees); and *Cedrus atlantica*. A draft Tree Succession Plan has been developed to guide the detail design and scope for the Project in Commonwealth Avenue. The Succession Plan establishes a stepped tree replacement approach considering the heritage framework for Commonwealth Avenue.

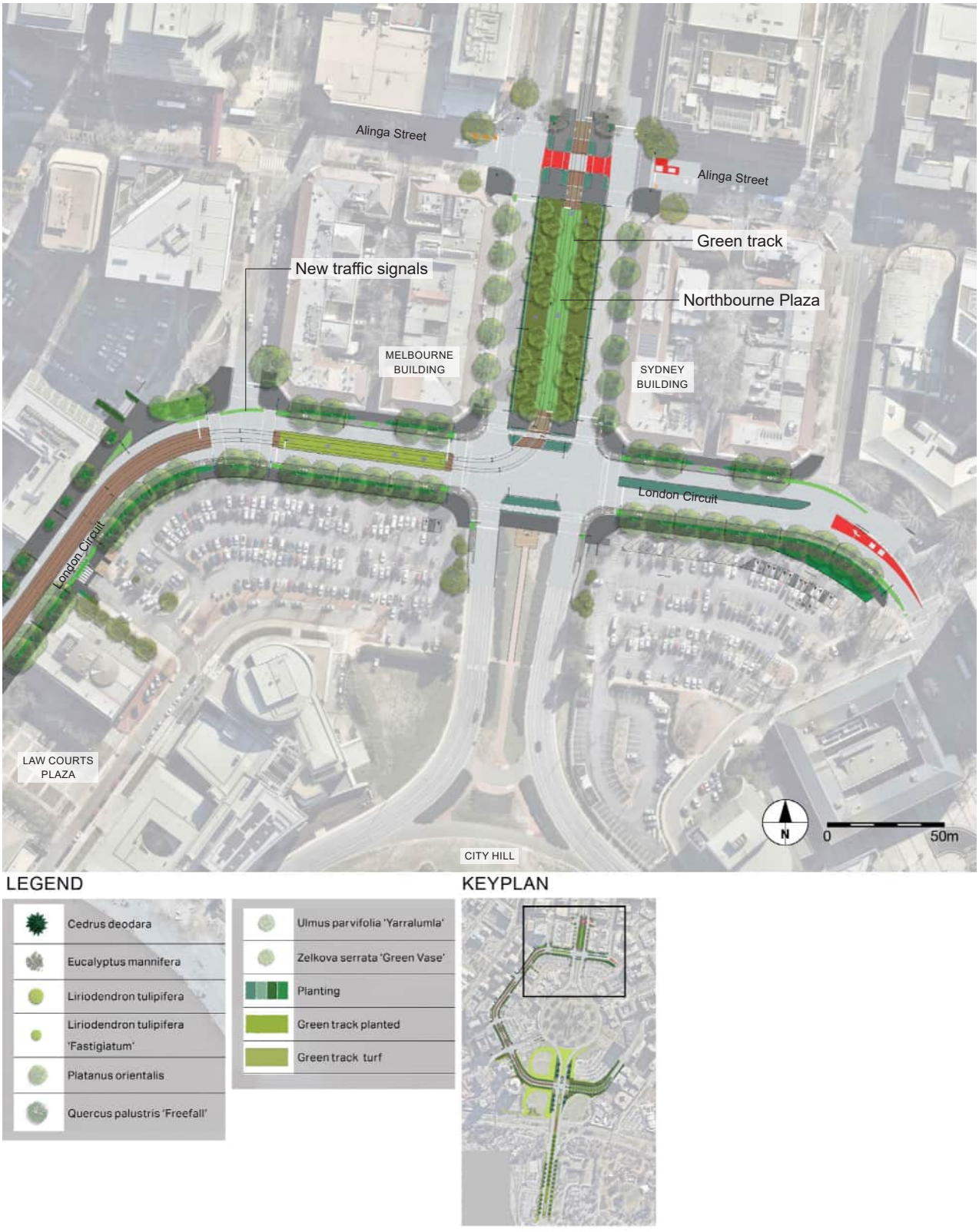

Figure 6 Landscape plan (plan 1 of 5)

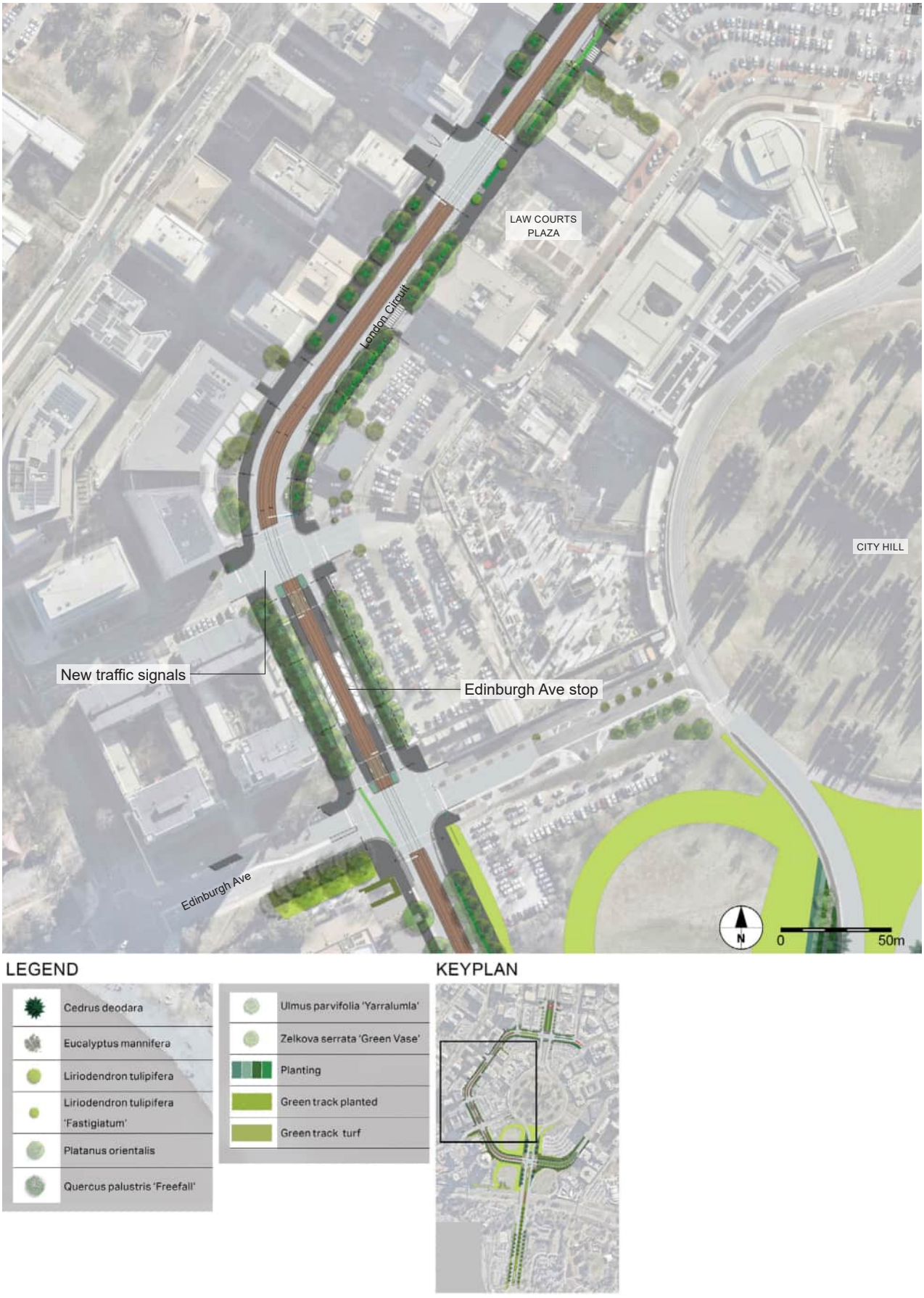

Figure 7 Landscape plan (plan 2 of 5)

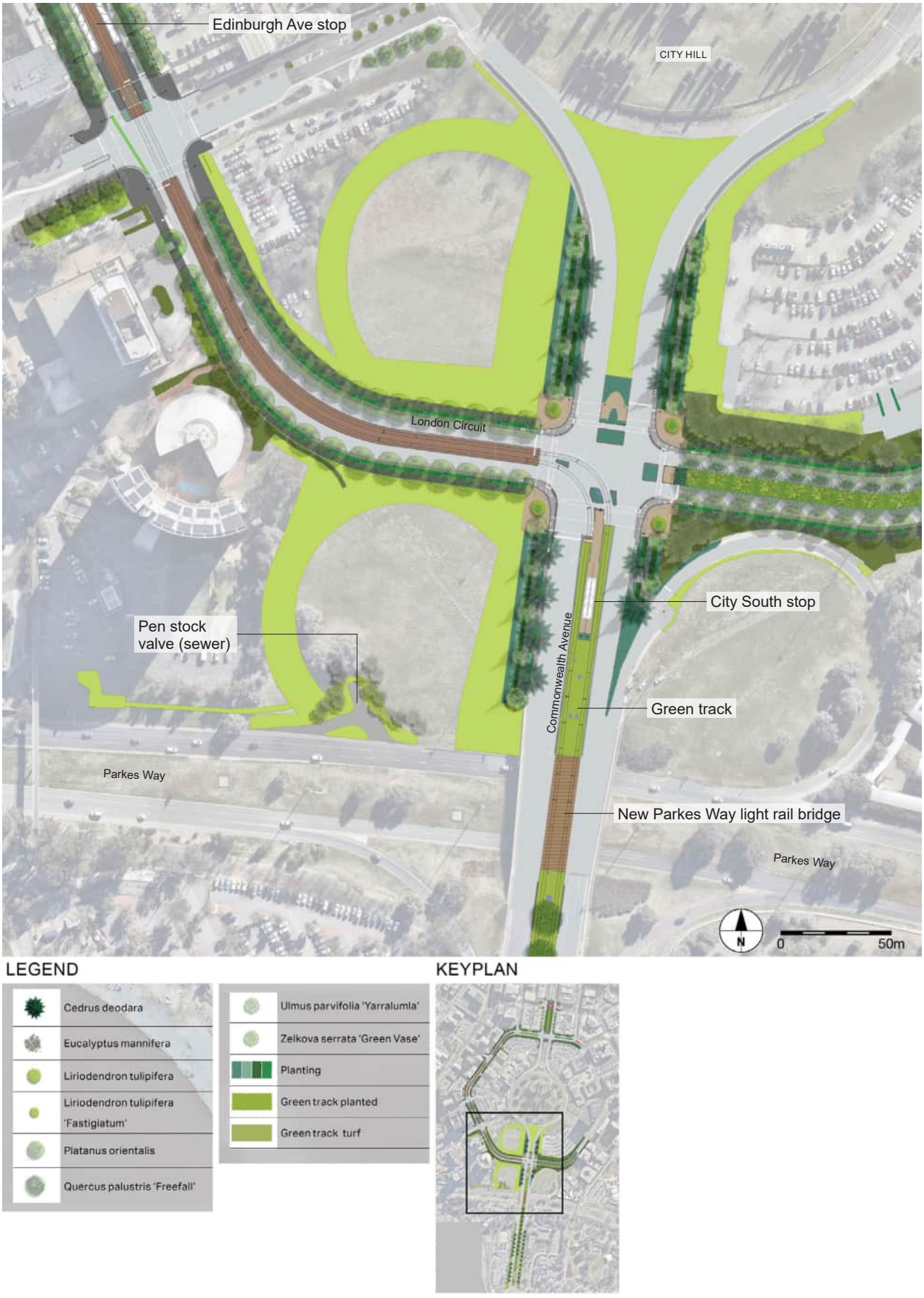

Figure 8 Landscape plan (plan 3 of 5)

Figure 9 Landscape plan (plan 4 of 5)

Figure 10 Landscape plan (plan 5 of 5)

3.0 Methodology

3.1 Introduction

LVIA is a tool used to identify and assess the impact and significance of change due to a project on both:

- The landscape as an environmental resource in its own right
- People's views and visual amenity.

This report has been undertaken in accordance with Transport for NSW (TfNSW) *Environmental Impacts Assessment Practice Note – Guideline for Landscape and Visual Impact Assessment EIA-N04* (2020), with more detailed guidance taken from *Guidelines for Landscape and Visual Impact Assessment, Third Edition* (2013), developed by the Landscape Institute and Institute for Environmental Management (UK), which is widely recognised as comprising an example of 'best practice' in this field.

In accordance with these guidelines, key steps in the development of the LVIA include:

1. **Environmental and planning baseline** - An analysis of the regional and local context of the Project. This includes a thorough review of background documents, including policy and planning instruments, as well as an analysis of the environment within which the Project lies.
2. **Design review** - A summary of design outcomes:
   - Urban and landscape design
   - Sustainability
3. **Impact assessment**:
   - **Landscape character impact assessment** - An assessment of the anticipated impact of the Project on landscape character as a result of the final design outcome
   - **Visual Impact Assessment** - An evaluation of the impact of the Project on existing views and visual amenity within the study area
4. **Mitigation** – Design outcomes and mitigation measures to avoid, reduce or mitigate adverse impacts that the Project may impose within the study area.

3.2 Environmental and planning baseline

3.2.1 Desktop analysis

Existing data was gathered and reviewed, including:

- Site inspection protocols, Project design, and similar examples of key infrastructure elements
- GIS mapping, including visual envelope mapping, zoning / land use, topography and land cover
- Information from Google Earth and Google Street View.

Using this data, a preliminary assessment of the landscape and visual resources was undertaken and used to inform the site inspection.

3.2.1.1. Zone of Theoretical Visibility

The likely visibility of the Project, once operational, from surrounding areas was broadly mapped to define a Zone of Theoretical Visibility (ZTV). This provides an indication of which parts of the Project are likely to be viewed from surrounding areas. The mapping typically shows 'worst case', i.e. some receptors may only see a small portion of the Project, while other receptors may view a more substantial part of the Project. This mapping accounts for landform, built form and vegetation.

This map was generated using the function tool 'Viewshed' in ArcMap (version 10.8).

3.2.1.2. Legislation and strategic context

A background document review was undertaken to ascertain any information that would assist in identifying LCZs, sensitive visual receptors or as criteria for assessment of the impact of the Project on landscape character and views. Policy and planning documents were reviewed as well as a review of heritage reports for this and related projects (refer to **Appendix B**).

3.2.2 Site inspection

A site inspection was undertaken by two AECOM team members on the 7th and 8th of June 2021. The purpose of the inspection was to:

- Ground truth information gathered during the desktop analysis
- Identify views from sensitive visual receptors within publicly accessible locations using information generated within the visual envelope mapping and assess landscape character
- Undertake site photography suitable for preparation of visual simulations, to record key views and landscape character.

3.2.2.1. On ground photography

A series of photographs were captured at each location over a the dates listed in **Section 3.2.2** using a Nikon D810 digital camera with a Sigma 24 mm f/1.4 DG HSM lens. The camera has a full frame sensor equal in size to that of 35 mm film and therefore there is no crop factor to be considered. The lens was selected for its excellent image quality and low levels of distortion.

For general site photography (i.e. recording landscape character or to illustrate typical environmental conditions) the camera was hand-held to take photos.

For the creation of panoramas and visual simulations, the camera was mounted in a vertical position on a level tripod using an RRS panoramic head (i.e. with no tilt angle). This allows the camera to be rotated around the nodal point of the lens, removing any parallax error from the photography. A series of images were then captured from left to right in 30 degrees (°) increments, until a minimum of 120° had been recorded. Camera positions were recorded using aerial mapping data to identify the known tripod / camera locations and then cross checked against the digital model.

All images were recorded from a camera height of 1.7 m from ground level.

3.2.3 Existing environment

Information was collated and summarised into a broad description of the landscape within which the Project is located (refer to **Chapter 4.0**). Elements and features relevant to assessment of the Project were identified, including site setting, topography, land use, landscape and heritage values.

Mapping of the existing environmental features (including topography, hydrology etc.) was generated using GIS information from ArcMap (version 10.8) and overlaid in Adobe Illustrator (version 2019). Mapping of LCZs was generated by hand over base mapping (including aerial photography).

3.2.3.1. Landscape Character Zones (LCZs)

A landscape character assessment was undertaken. This identifies what makes a place distinctive, without necessarily assigning a value to it. It considers the way different components of the environment, both natural (e.g. the influences of geology, soils, climate, flora and fauna), and cultural (e.g. the historical and current impact of land use, settlement, enclosure and other human interventions), interact together and are perceived to form a distinct pattern, which gives its particular sense of place.

To provide a framework for more clearly describing the area and assessing how the Project would affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character, distinct parts of the overall landscape have been separately defined and mapped as LCZs.

These LCZs were defined with consideration of the physical attributes of the landscape, cultural and heritage attributes and with respect to future planning designations and development proposals. The central Canberra area is in a phase of active development, particularly the areas directly surrounding the Project (e.g. within London Circuit) and fringing Constitution Avenue. The future (planned) character must be taken into account when considering LCZs in these areas, in addition to assessing the existing landscape / environment.

3.3 Impact assessment

3.3.1 Landscape character impact assessment

Assessment of impact on landscape character considers the impact of change due to a project on the landscape as a resource in its own right. Impacts on landscape character are assessed at operation only as it is assumed that the landscape outside the Projects operational footprint would be restored to its original condition after construction.

The impact of the Project on landscape character has considered the Raising London Circuit (RLC) project as a 'baseline environment', i.e. the existing environment would already have assumed to have changed due to the construction of RLC, therefore the Project is assessed over the already changed 'baseline environment' rather than the existing environment.

3.3.1.1. Selection of LCZs

From the LCZs identified in the landscape character assessment, only LCZs deemed likely to be impacted by the Project were selected for impact assessment. These comprised either LCZs within or adjacent to the Project, or any that were deemed close enough or sensitive enough to potentially experience changes due to the Project.

3.3.1.2. Assessment of impact on landscape character

The consideration of potential impacts on landscape character is determined based on the landscape's **sensitivity to change** and the **magnitude of change** that is likely to occur. Sensitivity and magnitude are both assigned a rating based on a series of criteria, and then a matrix is used to combine the ratings to determine an overall 'Significance of Landscape Impacts' rating.

Sensitivity

The sensitivity of a LCZ to the Project is assessed and rated as being High, Moderate, Low or Negligible. The rating is based on:

- Susceptibility to change - the ability of the landscape to accommodate the Project without undue consequences for the maintenance of the existing situation or the achievement of landscape planning policies and strategies
- The value of landscape.

Criteria for the assessment of sensitivity of LCZs have been defined using a combination of the physical environment of the LCZ and policy and planning documents that relate to it. The following would influence the susceptibility of the LCZ to change:

- Does the Project lie within or adjacent to the LCZ?
- Is the Project characteristic of other elements within the LCZ?
- Does the Project fit within the general principles or precinct principles of the NCP? In particular:
  - Emphasise the national significance of the Main Avenues and Approach Routes
  - Respect the geometry and intent of the Griffins' formally adopted plan for Canberra
  - Vistas of major landscape features must be protected from and enhanced by development.

The following would influence the value of the landscape:

- Does the LCZ have any notable physical contributors to value, such as landscape features, notable aesthetic, perceptual or experiential (e.g. recreational, tourist, scenic) qualities?
- Does the LCZ contain, flank or lie within a Designated Area?
- Does the LCZ contain, flank or lie within a heritage item?

Magnitude

Magnitude of change is assessed and graded as being High, Moderate, Low or Negligible. The magnitude of the impact of the Project on a landscape is based on:

- The size or scale of change:
  - Does the Project result in the loss / addition of an element in the LCZ?
  - Are any aesthetic or perceptual aspects of the landscape altered by the Project?
  - Do the changes influence or impact upon any key characteristic of the LCZ?
- Geographical extent of impact:
  - Is the change perceivable at site level only (i.e. within the development site itself), effect the immediate setting of the site, or at the scale of the LCZ within which the Project lies (or several LCZs)?
- Duration and reversibility of impacts
  - Would the changes be felt in the short term (0-5 years), medium term (5-10 years) or over a long term (10-25 years)?
  - Would the change be permanent within the landscape?

Overall impact of change

A matrix is then used to combine the ratings for sensitivity and magnitude (refer to **Table 4**) to determine an overall rating of landscape character impact.

Table 4: Landscape and visual impact assessment matrix

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High to Moderate	Moderate	Negligible
	Moderate	High to Moderate	Moderate	Moderate to Low	Negligible
	Low	Moderate	Moderate to Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Qualitative assessment of change

A rating for the quality of the change to the LCZ due to the Project is provided for each LCZ, being Beneficial, Adverse or Neutral. This rating is assigned based on professional judgment, but considers:

- The degree to which the Project fits within existing / proposed and desired landscape character
- The contribution to the landscape that the Project may make in its own right, particularly by virtue of good design, even if it is in contrast to the existing character.

The qualitative judgment often relies on the urban and landscape design outcomes of the Project.

3.3.1.3. Mitigation of impacts and assessment of residual risk

Mitigation measures were prepared in response to any landscape character impact issues identified in this report as High or High to Moderate. An assessment of residual risk was undertaken on these LCZs to determine the residual impact after any mitigation measures were applied.

3.3.2 Visual impact assessment

Assessment of visual impact considers the impact of change on the views available to people and their visual amenity. It assesses how the surroundings of individuals or groups of people (visual receptors) may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements within the landscape and/or the introduction of new elements (Landscape Institute and Institute for Environmental Management and Assessment, 2013). Visual impacts are assessed during construction and at operation.

The visual impact of the Project has considered the RLC project as a 'baseline environment', i.e. the existing environment would already have assumed to have changed due to the construction of RLC, therefore the Project is assessed over the already changed 'baseline environment' rather than the existing environment.

3.3.2.1. Selection of viewpoints

A series of viewpoints were selected from which to assess the visual impact of the Project using a combination of information gathered from:

- ZTV mapping
- Background document review
- The site visit.

Other factors such as proximity to the Project, number of visual receptors at each location and the type of visual receptors were taken into account when selecting viewpoints. Viewpoints were chosen to assess the changes due to the Project from publicly accessible locations, although some viewpoints were used to approximate these changes when seen from private locations such as residences or community facilities.

These viewpoints were then used to assess the visual impact due to the Project.

Selection of visual simulation locations

Visual simulations (photomontages) were produced from those viewpoints which were deemed to experience the greatest potential impacts from the Project. These included places which were positioned closest to the Project and / or would include highly sensitive visual receptors.

Visual simulations were not produced from other viewpoints for several reasons, including:

- They were deemed too far from the Project to receive clear views to the Project
- Where the changes would be screened from view by landform or vegetation
- Had very few receptors; where receptors were deemed of negligible or low sensitivity or were present in very few numbers.

3.3.2.2. Assessment of visual impact

The evaluation of potential impacts on visual amenity is based on the **sensitivity of the viewpoint** (i.e. the visual receptors it represents) to change, and the **magnitude of change** arising from the Project that is likely to occur. Sensitivity and magnitude are both assigned a rating based on a series of criteria, and then a matrix is used to combine the ratings to determine an overall 'Significance of Visual Impacts' rating.

For each viewpoint several criteria have been considered (in addition to sensitivity and magnitude of change) that contribute to the assessment of visual impact, including:

- The location, nature and characteristics of the viewpoint
- The type and relative number of visual receptors likely to be affected
- Visual characteristics of the existing view, including the nature and extent of the skyline, aspects of visual scale and proportion, any horizontal or vertical emphasis, key foci
- Elements within the view such as landform, buildings or vegetation which may interrupt, filter or otherwise influence view.

Sensitivity

The sensitivity of visual receptors at a viewpoint to the Project is assessed and rated as being High, Moderate, Low or Negligible. The rating is based on:

- Susceptibility to change, which is a function of:
  - The occupation or activity of the visual receptors experiencing the view
  - The extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations
- Value attached to the view experienced, e.g.:
  - In relation to heritage assets, or through planning designations; or
  - Indicators of value attached to views, e.g. through appearing on tourist maps, or provision of facilities for their enjoyment (such as parking places, sign boards and interpretative material).

More sensitive visual receptors may include:

- Residents at home with living areas orientated towards the view
- People engaged in outdoor recreation where the quality of the landscape or the views are intrinsic to their enjoyment of the activity
- Visitors to heritage assets or other attractions where views are an important contributor to the experience
- Communities where views contribute to the landscape setting of the area.

Magnitude

The magnitude of change to views and visual amenity depends on:

- Size or scale of change in the view with regard to the:
  - Loss or addition of features in the view and changes in its composition;
  - Degree of contrast or integration of any new features with the existing landscape, in terms of form, scale and mass, line, height, colour and texture; and
  - Nature of the view of the proposed development in terms of amount of time it would be experienced, and whether the views would be full, partial or glimpses.
- Extent of the visual impact with different viewpoints including the:
  - Angle of view in relation to the main activity of the receptor;
  - Of the viewpoint from the proposed development; and
  - Extent of area over which the changes would be visible.
- Duration and reversibility of visual impacts, e.g.:
  - Duration in terms of short term (0-5 years), medium term (6-15 years) or long term (16-30+ years); and
  - Reversibility with regard to the prospects and practicality of a proposed change being reversed in say a generation, e.g. housing can be considered permanent, but wind energy developments for example are often argued to be reversible since they have a limited life, and could eventually be removed and the land reinstated (Landscape Institute and Institute for Environmental Management and Assessment, 2013).

The extent of magnitude is assessed and graded as being High, Moderate, Low or Negligible.

Overall impact of change

A matrix is used to combine the ratings for sensitivity and magnitude to provide an overall rating of visual Impact (refer to **Table 4**). The rating does not contain a value judgment regarding the nature of the visual change (i.e. if the change is a positive or negative impact on views).

Qualitative assessment of change

A rating for the quality of the change to views seen from each viewpoint due to the Project is provided, being Beneficial, Adverse or Neutral. This rating is assigned based on professional judgment, but considers:

- The degree to which the Project fits within existing / proposed views
- The contribution of the Project to the view, particularly by virtue of good design, even if it the overall change has been rated as High or High to Moderate.

The qualitative judgment often relies on the urban and landscape design outcomes of the Project.

3.3.2.3. Mitigation of impacts and assessment of residual risk

Mitigation measures were prepared in response to any visual impact issues identified in this report as High or High to Moderate.

An assessment of residual risk was undertaken on these viewpoints to determine the residual impact after any mitigation measures were applied.

3.3.3 Photos and visual simulations

3.3.3.1. Creation of panoramas

A series of photographs were arranged to produce a panorama from each viewpoint. These provided a baseline from which to assess changes arising from the Project.

Photographs captured on site (refer to **Section 3.2.2.1** for photo capture methodology) were processed to remove any elements of lens distortion and stitched together using specialised panoramic software (PTGui Pro, version 11.18). Each photograph was tied to its adjacent image using relative tie points to create an accurate panorama. A minimum of 10 control points were used to ensure a high level of accuracy with average control point divergence measured at <1 pixel.

Panoramic photographs are then generated with a horizontal Field of View (FoV) of 124° using a true rectilinear projection to accurately simulate a camera lens with a FoV equal to 124°.

3.3.3.2. Creation of visual simulations

Visual simulations were produced to depict changes due to the Project at selected viewpoints. Visual simulations are a type of photomontage which provides the most accurate representation of relative position and size of the Project from a chosen viewpoint.

Visual simulations were prepared for key viewpoints to show the unmitigated impact of the Project (i.e. the Project on the day of completion). Refer to **Section 3.3.2** for method of selecting key viewpoints from which visual simulations were to be produced.

Once the accurate background image (panorama, refer **Section 3.3.3.1**) had been created, it was aligned into visualisation software (Autodesk 3ds Max 2016) with a virtual camera. Virtual cameras do not suffer the same distortion as real lenses because they are based on the scientific principles of a perfect lens. The virtual camera is set to the required FoV with no need for correction.

The models and plans were imported into 3DS Max and were aligned to a local datum offset from MGA56. Once the virtual and real cameras had been aligned, the image was rendered using a 3D model and photo editing software (Adobe Photoshop, version 2020) to combine the two into a seamless simulation.

During the photo editing process any vegetation or structures to be removed during construction was removed from the image.

4.0 Existing environment

4.1 Site context

Canberra and the Territory are of national significance as the outcome and symbol of the Federation and the home of Australia's democracy (NCA, 2016).

Canberra was designed on a greenfield site at the time Australia was Federated. The design, prepared by Walter Burley and Marion Mahony Griffin and influenced by the Garden City and City Beautiful movements, was selected amongst those submitted to the international town planning competition in 1911 and used the topography to provide the location, backdrop and outlooks for pivotal buildings to house major institutions or landmarks for commemoration. The open space, hills and grand avenues that highlight axes between landmarks are the symbolic and functional base for the city.

The Garden City and City beautiful movements rose to prominence during the 1890s and 1900s. These movements promoted beautification within cities to promote moral and civic virtue amongst residents and surrounded city communities with greenbelts containing industry and agriculture.

The Griffins' design had four main elements:

- The use of topography as an integral design feature and as a setting (refer to **Figure 11**)
- A symbolic hierarchy of land uses designed to reflect the order and functions of democratic government
- A geometric plan with the central triangle formed by grand avenues terminating at Capital Hill, the symbolic centre of the nation
- A system of urban centres.

The design of the city where grand landmarks are linked with strong geometric axes (the most prominent being the Water Axis and Land Axis, nominally shown in **Figure 12**) are a defining feature of the city.

Canberra has been developed as a series of separate but linked towns, established in valleys and shaped and separated from each other by a system of open space. This arrangement has protected the major hills and ridges from development, and has created a scenic backdrop and natural setting for the urban areas. It has reinforced the Garden City and City Beautiful character for which Canberra is renowned. This landscape setting makes a major contribution to the environmental quality which is a feature of Canberra's character. Conserving and enhancing the landscape setting is important in retaining the character of the National Capital.

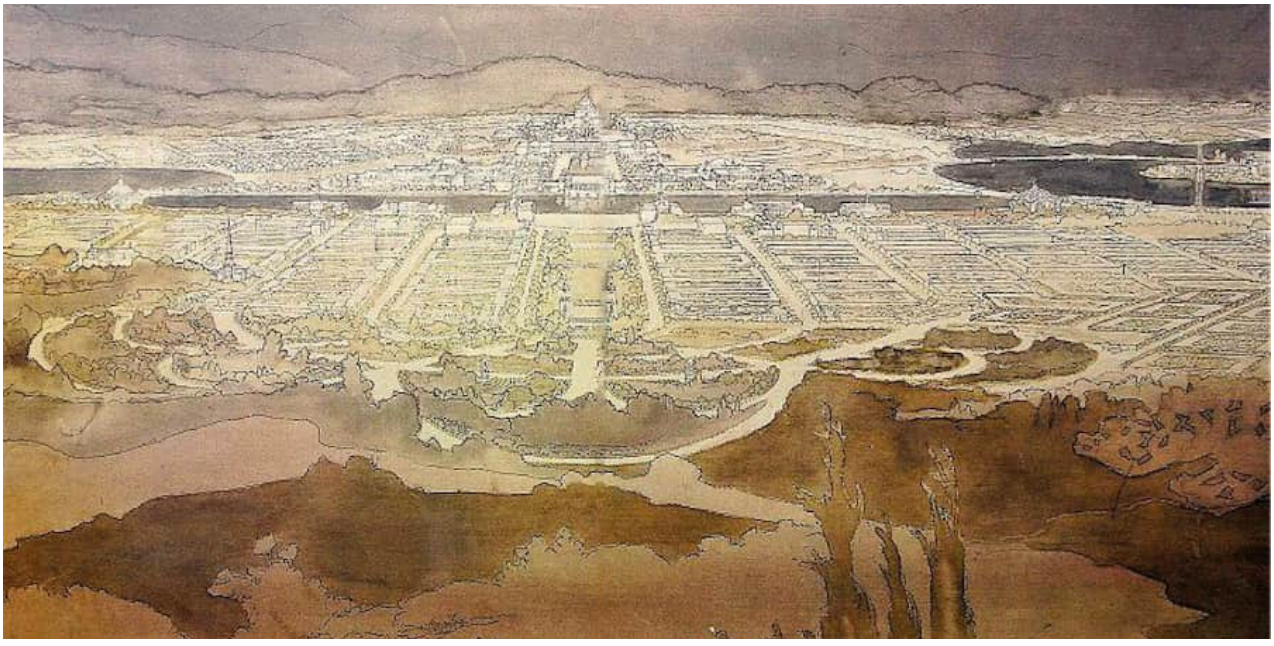

Figure 11 Watercolour painting by Marion Mahony Griffin of the view from Mount Ainslie, 1912 (National Archives of Australia, 2013)

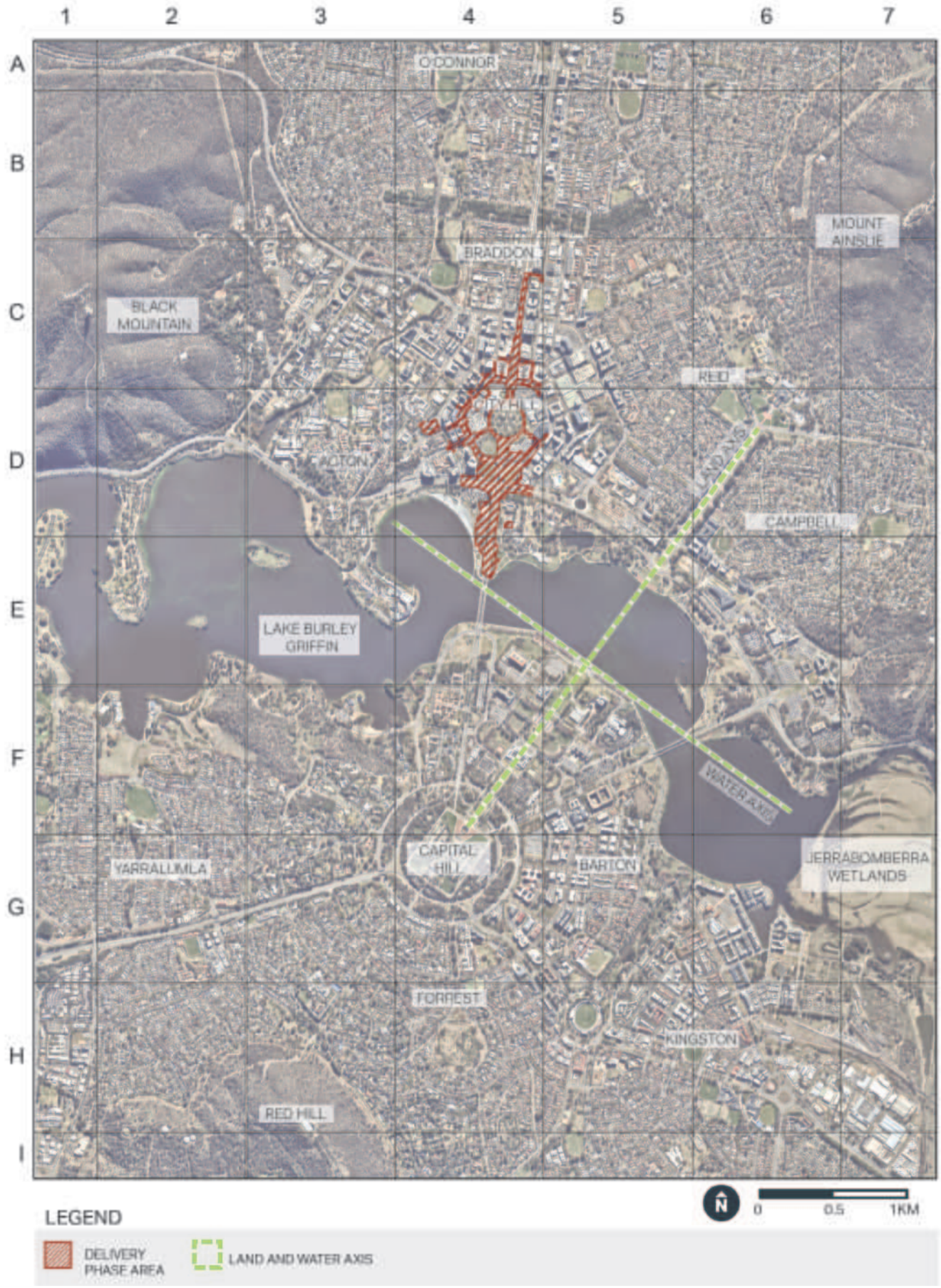

Figure 12 Site context map

4.2 Topography and hydrology

The city of Canberra was designed with topography as a dominant element: an irregular amphitheater between Black Mountain, Mount Ainslie and Mount Pleasant, with the mountain ranges of the Territory serving as a scenic backdrop. The city layout elements, comprising the National Triangle and its inferred Land and Water Axes, respond to the topographical features. The Project lies at the northern corner of the National Triangle.

The topography of the study area comprises Black Mountain to the north west (812 m AHD), Mount Ainslie to the North East (842 m AHD), and the city centre positioned within the valley between the two landmark formations. City Hill is a localised high point within the central area, providing a landmark focal point to the Northbourne Avenue vista from the north (refer to **Figure 13**).

On the southern side of Lake Burley Griffin, Capital Hill lies as another landmark focal point, positioned at the base of Red Hill, which rises to the south behind the National Triangle.

The major hydrological feature within the study area is Lake Burley Griffin, an artificial lake created by damming the Molonglo River, which flowed from east to west through the study area. Lake Burley Griffin is significant within the Canberra landscape as it forms the Water Axis within the Griffin Plan (GML, 2020).

To the east of the lake are the Jerrabomberra Wetlands, formed when the Molonglo river was dammed. The wetlands are an important habitat for local and migratory bird species (ACT Government, 2021).

Sullivans Creek is positioned within this valley but to the west, flowing south and emptying into West Basin within Lake Burley Griffin.

The topography within the study area is shown in **Figure 14**.

Figure 13 City Hill seen from London Circuit at the intersection with Northbourne Avenue

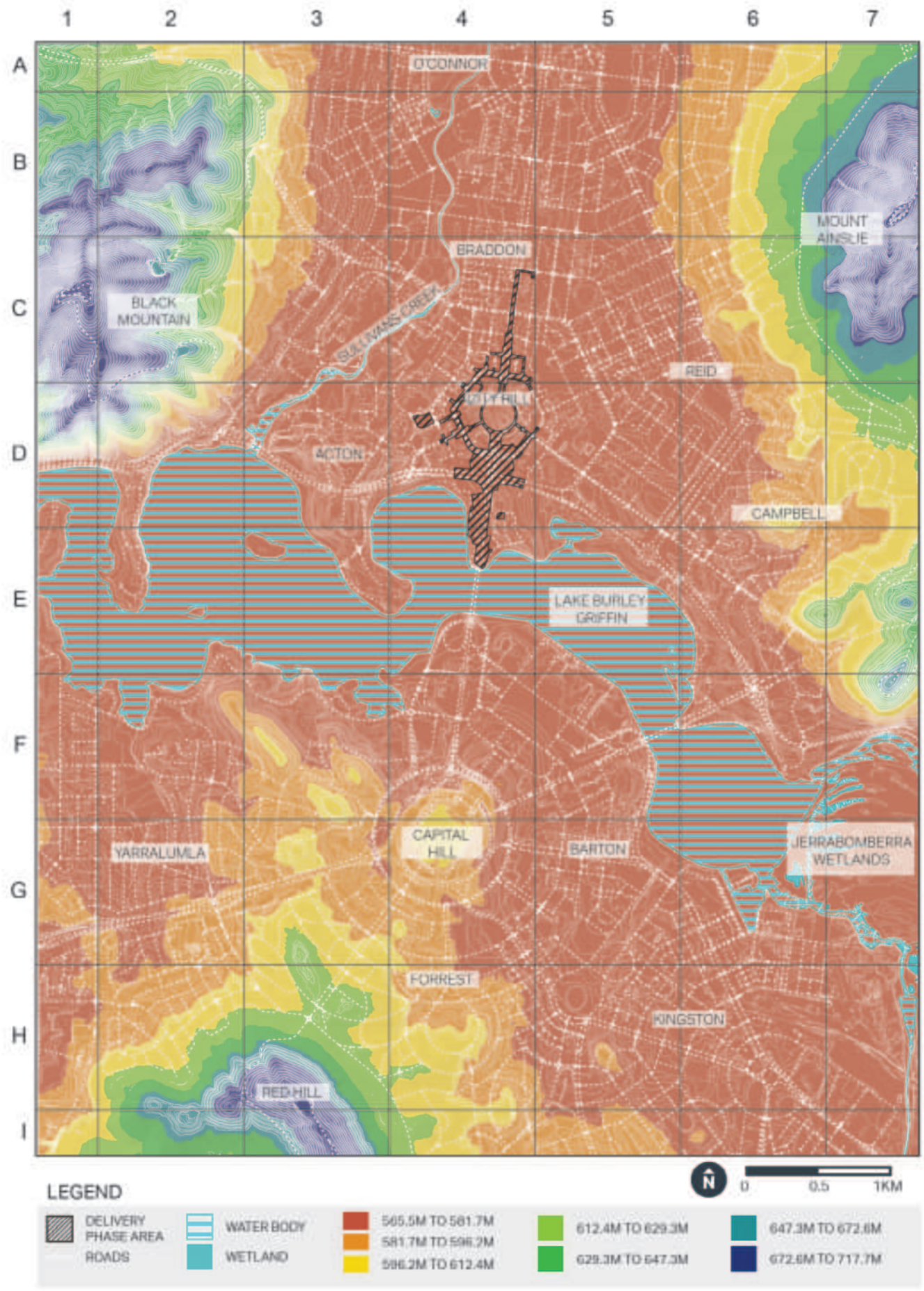

Figure 14 Topographic map

4.3 Land use

Within the study area, land use is defined by both the Territory Plan and the NCP. The NCP has identified precincts within the Designated Areas within the Central National Area and comprise (refer to **Figure 85**):

- City Hill
- West Basin
- Constitution Avenue and ANZAC Parade
- Australian National University
- Parliament Zone
- Acton
- Lake Burley Griffin and its foreshores.

While not a precinct, the Main Avenues (refer to **Figure 15**) and Approach Routes between the ACT border and the Central National Area are distinct land uses that apply to the Project.

The Territory Plan has identified land use as follows. A central core of commercial and business land uses are centred around Northbourne Avenue, flanked on either side by urban and suburban development, reducing in density as it radiates out from the road corridor. Green open space within these areas is typically arranged in bands and corridors, either responding to the topography (foothills or hydrological features such as Sullivans Creek) or planned linear parks such as Haig Park.

South of Capital Hill, residential areas dominate the landscape to the south and west, with small pockets of green open space. To the east, a triangular wedge of medium to high density residential development with some commercial development, including mixed use and accommodation.

Figure 15 The view from City Hill south along Commonwealth Avenue, which is one of the Main Avenues

4.4 Vegetation

Pre-settlement vegetation on the highest peaks and ridges within Canberra (including Black Mountain and Mount Ainslie) were Open Forest, with more gentle slopes comprising sparser tree cover in areas of Grassy Woodland. The Molonglo River, prior to the damming of Lake Burley Griffin, was vegetated with Riparian Forest. In the lower areas, including the Project site area, vegetation comprised Temperate Grassland and *E. melliodora / E. blakelyi* Grassy Woodland.

Present day vegetation includes preserved Open Forest on the peaks and upper slopes of Black Mountain and Mount Ainslie. Some areas of Open Woodland on the western lower slopes of Mount Ainslie have also been preserved.

A majority of the lower areas of Canberra have been cleared and developed, with vegetation listed as 'urban' and comprising a managed landscape of turf, exotic and native planted trees and shrubs. Some patches of grassland remain within the city, along with some wetland areas to the east of Lake Burley Griffin.

The planting / vegetation within the developed city of Canberra plays an important role in the legibility of the design of the city. Many of the structural plantings along roads and other public open spaces were part of the Griffin Plan implemented by Thomas Weston when he was Superintendent of Parks and Gardens during the 1920s, including:

- The planting of *Cupressus sempervirens var. stricta* (Italian Cypress) and *Pinus radiata (*Radiata Pine) on City Hill to reinforce views along Main Avenues and vistas (refer to **Figure 16**)
- Planting of formal avenues of trees along the Main Avenues of Canberra, including Commonwealth, Constitution and Kings Avenue
- Formal tree plantings within Haig Park, built to honour Earl Haig, the Commander-in-Chief of the British Expeditionary Forces during the First World War, comprising fourteen rows of predominantly exotic trees.

Present day vegetation coverage is shown in **Figure 17**.

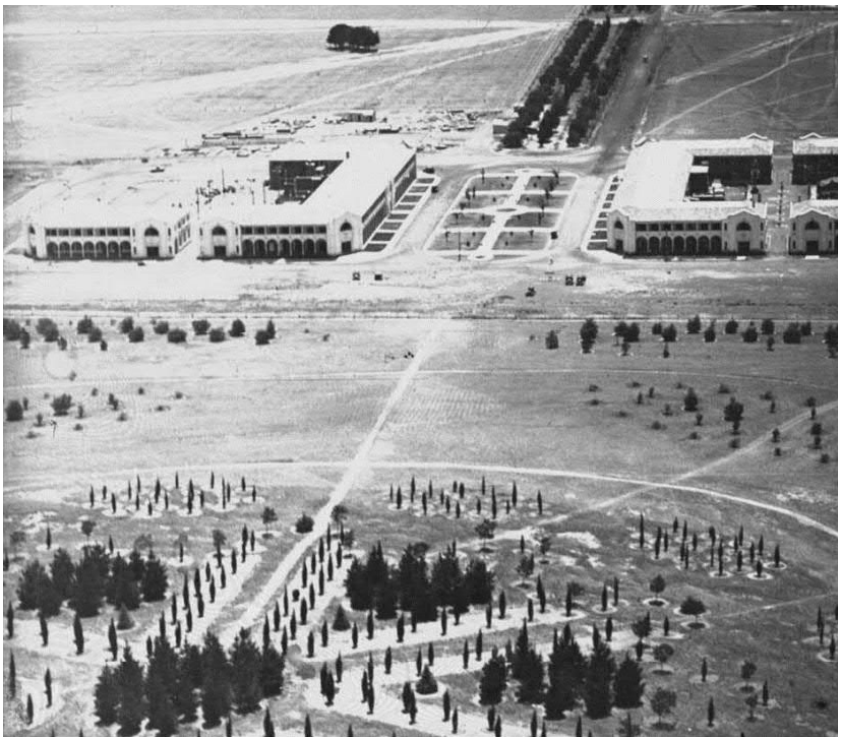

Figure 16 City Hill, 1927 (GML, 2020)

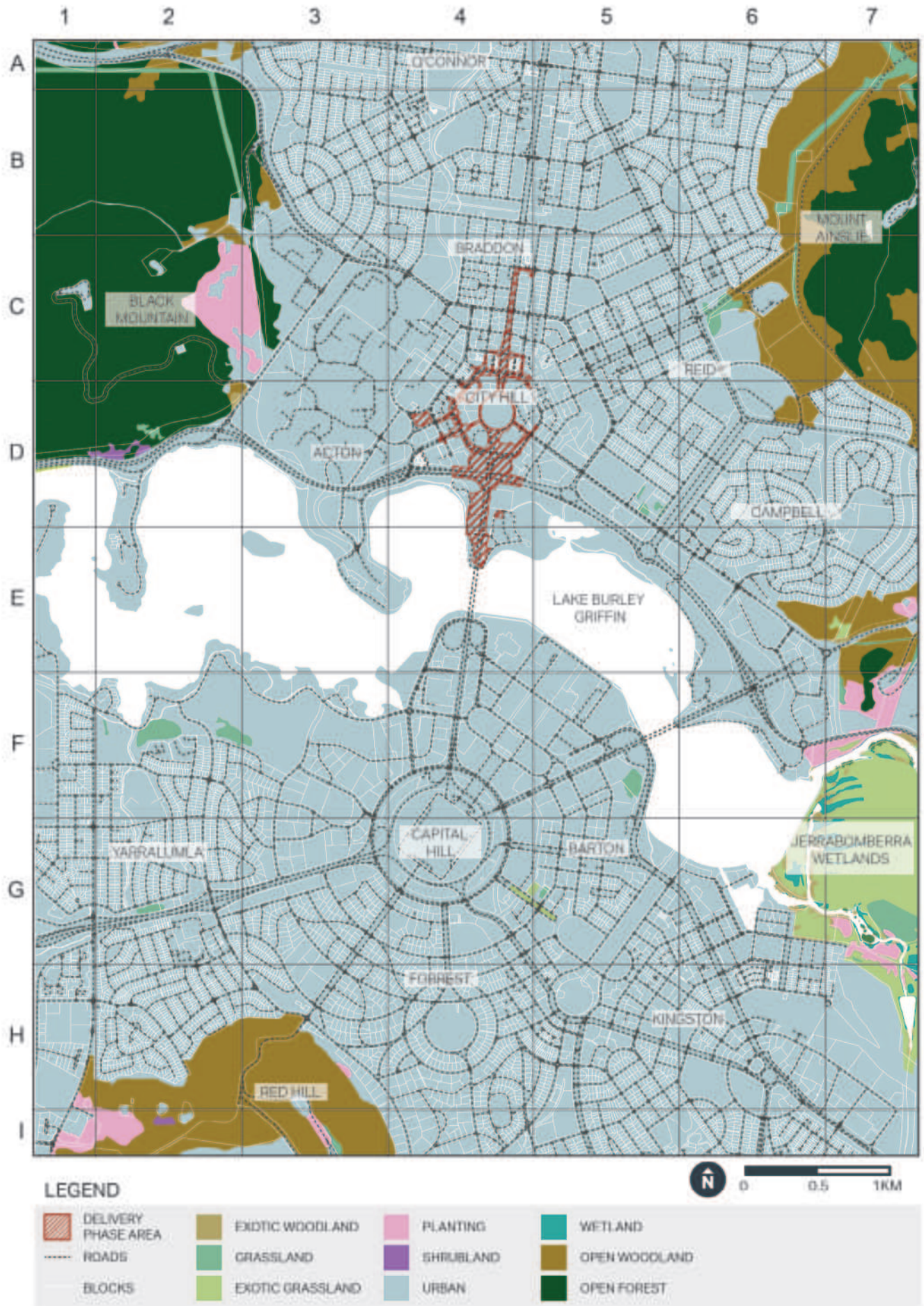

Figure 17 Vegetation coverage map

4.5 Heritage and tourism

This section provides an overview of the places and items within the study area that have identified heritage value. It has been informed by a heritage review for the City to Commonwealth Park Light Rail proposal (GML, 2020) and the Heritage Impact Assessment (HIA) for the RLC Project (GML, July 2021) .

4.5.1 Historic heritage values

Places listed in the CHL, NHL and ACT Heritage Register are shown in **Figure 18** (with the exception of Canberra and Surrounding Areas).

Within the study area, items with heritage significance include:

- Canberra and Surrounding Areas (NHL)
- Lake Burley Griffin and Adjacent Lands (CHL) and Lake Burley Griffin and Lakeshore Landscape and Parklands (NHL)
- Australian Academy of Science Building (NHL)
- Parliament House Vista (CHL)
- Reserve Bank of Australia (CHL)
- Parliament House and Surrounds (CHL)
- Acton Conservation Area (CHL)
- City Hill (ACT Heritage Register)
- Sydney and Melbourne Buildings (ACT Heritage Register)
- ANZ Bank Building (ACT Heritage Register)
- The Civic Square Precinct (ACT Heritage Register)
- Law Courts Precinct ((ACT Heritage Register)
- Hotel Acton (ACT Heritage Register)
- Ian Potter House (ACT Heritage Register).

Canberra is considered to have outstanding heritage value due to its importance in the history of Australia's urban planning and evolving democracy. It has a special association with Australians as the nation's capital and the seat of federal democracy, and special association for Indigenous Australians as the place significant progress has been made towards Indigenous rights and reconciliation.

Refer to **Table 5** for a summary of historic heritage values, key attributes and management policies for heritage listed places within or adjacent to the Project. The Australian Academy of Science, Civic Square Precinct, Hotel Acton and Ian Potter House are all somewhat removed from the operational footprint of the Project, and therefore have not been described in detail in **Table 5**.

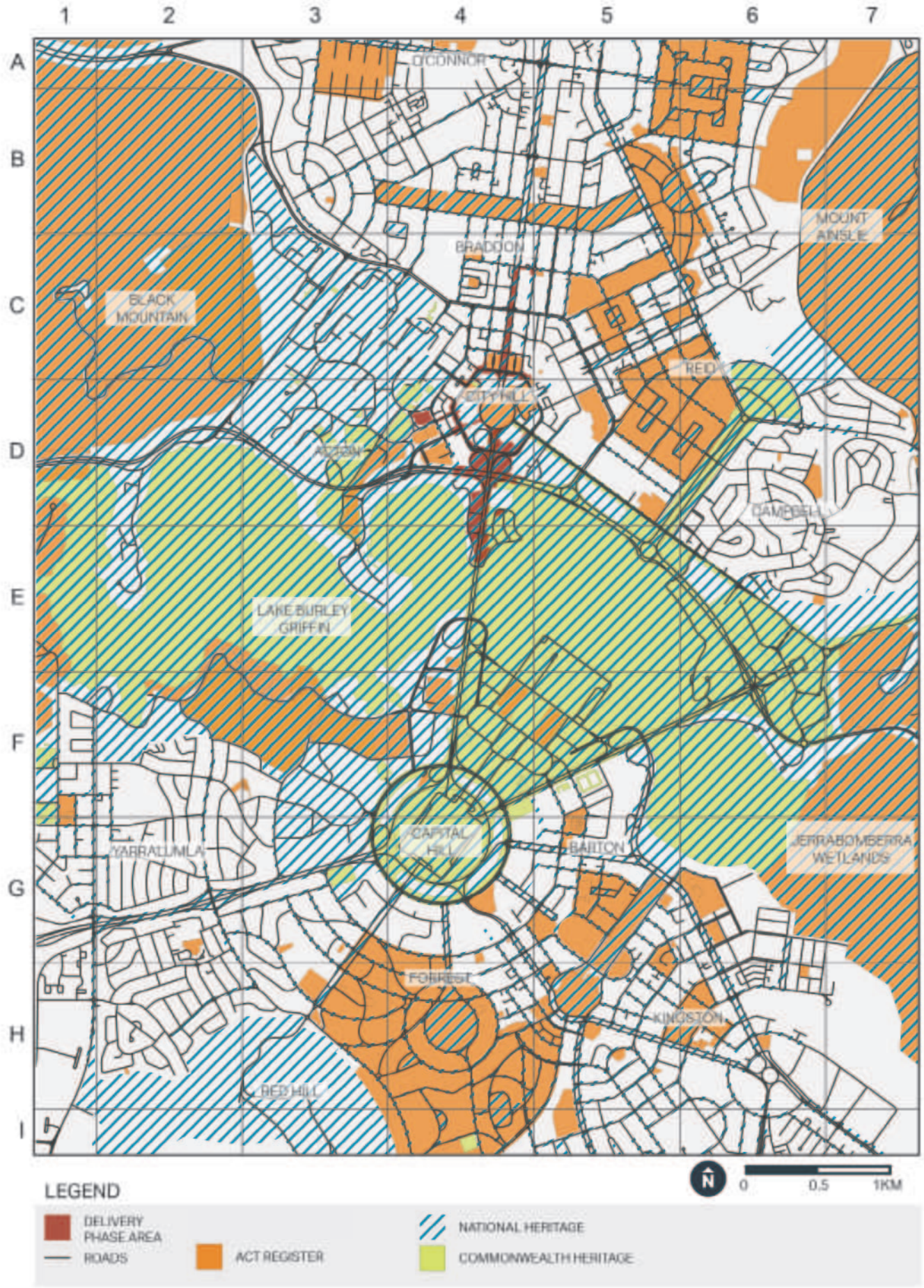

Figure 18 Heritage items within the study area.

Table 5: Heritage values and key attributes of heritage items within or adjacent to the Project (modified from GML, August 2022)

Heritage values	Key attributes and management issues
Parliament House Vista	
The vista has significance due to: • The extensive sweeping views along the Land Axis in two directions, set within natural features of forested hills, architectural massing accentuated by open spaces, water planes and tree plantings. • Its visual drama and sweeping views to terminal features. • Its symbolic representation of the democratic interchange between the people and their elected representatives and its use of the natural landforms to generate a strong planning geometry. • It being an ambitious and successful example of twentieth century urban planning in Australia. • Its association with the broad Australian community because of its social values as a symbol of Australia and the Federal Government. • Its association with its designers, including Walter Burley Griffin and Marion Mahony Griffin, John Smith Murdoch, Thomas Charles Weston, Sir John Overall, Peter Harrison and Paul Reid.	Key attributes include: • Buildings, parklands and gardens that support governmental activity as well as national cultural life • The vista along the Land Axis • Memorial features including sculptures, plaques, commemorative trees, water features and gardens. Also, recreational landscape spaces and gathering spaces in which the community may demonstrate • The whole of the vista, its planned layout, and the view from the top of Mount Ainslie which illustrates the realisation of Marion Mahony Griffins' perspective drawing. Views and vistas are protected by the NCA, including views: • To the surrounding hill, especially Mount Ainslie, Black Mountain and Mount Pleasant • To the Parliament House • From Commonwealth and Kings Avenues, especially from the bridges.
Lake Burley Griffin	
• Importance for its association with the creation of the national capital and its reflection of two periods of urban design: the City Beautiful / Garden City discourse and the later discourses of International Modernism • Lake Burley Griffin is an important component of the Griffin plan and its subsequent realisation in central Canberra's designed landscapes, in particular the Land and Water Axes • The lake has heritage value as a designed landscape of creative genius and high technical achievement and is valued highly by communities for its landmark value, as a symbol of Canberra and as an iconic cultural landscape which for many is a symbol of local identity • Highly valued as an important element in the Canberra landscape, frequently visible and ever-present in daily life, acting as a reference point, backdrop and important gathering place within the heart of the city.	Key attributes include: • The lake landscape including its edge treatments, bridges, dam, Captain Cook Water Jet and islands and its relationship to the geometry of Griffin's Plan • The size and diverse shape of the lake and its location within Canberra, public access to and use of the lake and its foreshores, its quiet and peaceful qualities • The presence of the lake in views of and within central Canberra, and the availability of views from publicly accessible locations • The qualities of naturalness, including the places with natural habitat values • The integrity of the Griffin land/water axis and associated lands (Mount Ainslie, Black Mountain, Parliament House Vista etc.) • Formal design elements especially Central basin and its foreshores in relation to the National Triangle and other elements of the Griffin Land Axis • The submerged Molonglo River may possess significance for Aboriginal communities.
City Hill	
City Hill represents an important element of urban design and is an integral component of the Griffin plan. It is a generating point for the major avenues, its plantings provide visual corridors for those avenues. • City Hill provides an important landscaped open space within the Central Business District (CBD) and enables views of the key topographical elements of the city to be seen. • The verticality of the trees and flagpole forms a landmark within the city. • Plantings have historical significance due to their association with Thomas Charles Weston. • City Hill is also of local historical significance because of its association with the first visit of a reigning British monarch to Canberra.	Key attributes include: • Grass areas and plantings of *Cupressus sempervirens 'Stricta'*, *Pinus radiata*, *Robinia pseudocacia*. • The metal flagpole in its existing location. The ACT Heritage Register require the landscape qualities of City Hill are to be retained as an important element of Canberra's planning.

Table 6: Heritage values of other buildings and landmarks

Heritage values of other buildings and landmarks
Reserve Bank of Australia • The Reserve Bank is important as the national central bank having evolved from the separation of the central banking function from the activities of the Commonwealth Bank • The building is a major component of the Law Courts Precinct and links harmoniously with the precinct and associated buildings • The building design is Stripped Classical style and is important for its overall impression of institutional security • Contributes to the enframement to visual axis of the Black Mountain Vista.
Sydney and Melbourne Buildings • Good examples of the Inter-War Mediterranean style and the earliest major developments in Civic • The buildings have been the model to establish the colonnade principle which is now an important element throughout Civic. They are landmarks within the area • Management plans for these buildings outline policy to protect the setting of these buildings, including respecting the planned relationship between them through the treatment of the Northbourne Avenue medium, the visibility of the buildings and parking.
ANZ Bank Building • Demonstrates an adoption of the Modern style of architecture in an Australian context. The design was advanced and technologically innovative for the 1960s • The setting enables its scale and form to be appreciated from the public domain of London Circuit and University Avenue • Management policies stipulate that new street furniture, signage and plantings within the frontages and verges addressing London Circuit and University Avenue be installed in a manner that does no detract from the significance of the building.
The Law Courts Precinct • The precinct is significant as a comparatively rare and successful example of twentieth century civic design incorporating three buildings which differently express the Late Twentieth-Century Stripped Classical style, to a National Capital Development Commission masterplan and control drawings • The contribution of the precinct to Canberra's townscape is noteworthy and the siting of the buildings gives due prominence especially to the Law Courts which closes the vista along University Avenue at City Hill • The central courtyard is bounded by three buildings: the Law Courts of the ACT, the Reserve Bank of Australia and the City District Police Station. The vista along University Avenue terminating with the Law Courts of the Australian Capital Territory building also has significance.

4.5.2 Aboriginal heritage values

No previously recorded Aboriginal sites were located within the study area for the report (GML, 2020). Four Aboriginal heritage sites were located outside this study area on basal slopes of Mount Pleasant, comprising three stone artifact scatters and one isolated artifact.

A number of Aboriginal cultural values of the area have been identified, including that the delivery phase area had once been part of a general thoroughfare between Mount Ainslie, Mount Pleasant and the Molonglo River. Archaeological potential had been identified in Kings Park and in the vicinity of the Molonglo River at the base of Mount Pleasant, however, landscape modification and development would have destroyed most, if not all, Aboriginal sites in these areas (GML, 2020).

An early series of desktop studies for the Light Rail to Woden project include the following recorded Aboriginal Cultural Sites and Values (GML, 2020):

- Capital Hill was identified as a 'woman's area' by a Ngunawal man and part of a wider cultural landscape which includes Black Mountain and Mount Ainslie.
- Molonglo River Landscape, now inundated by Lake Burley Griffin, however, camp sites may be undisturbed, albeit submerged
- The Aboriginal Tent Embassy, which is nominated in the NHL and included in the CHL.

Consultation with the Aboriginal community has confirmed that the general landscape was, and continues to be, of significance to them. The cultural values of the study area have been impacted by past activities but endure beyond the development of Canberra.

4.5.3 Natural heritage values

Natural heritage is defined as an item or place demonstrating 'natural significance', meaning the importance of ecosystems, biodiversity or geodiversity for their existence or value for present and future generations. This could apply to original or modified environments.

Pre-settlement vegetation within the Project site area was natural temperate grassland and *E. melliodora / E. blakelyi* grassy woodland, however, decades of landscape changes and ongoing management have removed all remnants of the natural grassland community (GML, 2020). Despite the lack of natural grassland within the Project construction footprint, the endangered Golden Sun Moth (GSM) has been recorded in several locations within the Project footprint.

4.5.4 Designated cultural landscape

The National Triangle is a designated cultural landscape due to its historic character in the Central National Area. Due to extensive vista along Land Axis, the open landscape and the prominent location of some of these heritage places, the Project has the potential to have a direct or indirect, temporary or permanent, visual or physical impacts on several listed and nominated heritage places along the proposed route.

4.5.5 Tourism

As the nation's capital, Canberra is an important tourist destination for Australian and international visitors. Many of Canberra's attractions lie within the centre of the city, centred around Lake Burley Griffin and the National Triangle.

Tourism in these areas comprise recreational activities based on the importance of the national capital, including exploring the landscape of Lake Burley Griffin (on land or on the lake itself) or visiting landscape landmarks within the city including lookouts at Black Mountain and Mount Ainslie or City Hill. Other attractions include visiting cultural destinations within the National Triangle and surrounding Lake Burley Griffin, such as the National Gallery or Questacon.

4.6 Landscape Character Zones

Seven (7) LCZs were identified within the detailed study area with broadly homogeneous characteristics or spatial qualities (refer to **Figure 19**). These are:

- LCZ 1: Parliamentary Zone and Cultural Triangle
- LCZ 2: Major Avenues and Axes
- LCZ 3: Lake Burley Griffin and Foreshores
- LCZ 4: London Circuit
- LCZ 5: Parkes Way
- LCZ 6: Commercial / Civic
- LCZ 7: Commercial / City East.

The Project lies predominantly within LCZ 4: London Circuit, but also lies within parts of LCZ 2: Major Avenues and Axes, and adjacent to LCZ 3: Lake Burley Griffin and Foreshores and LCZ 4: Parkes Way.

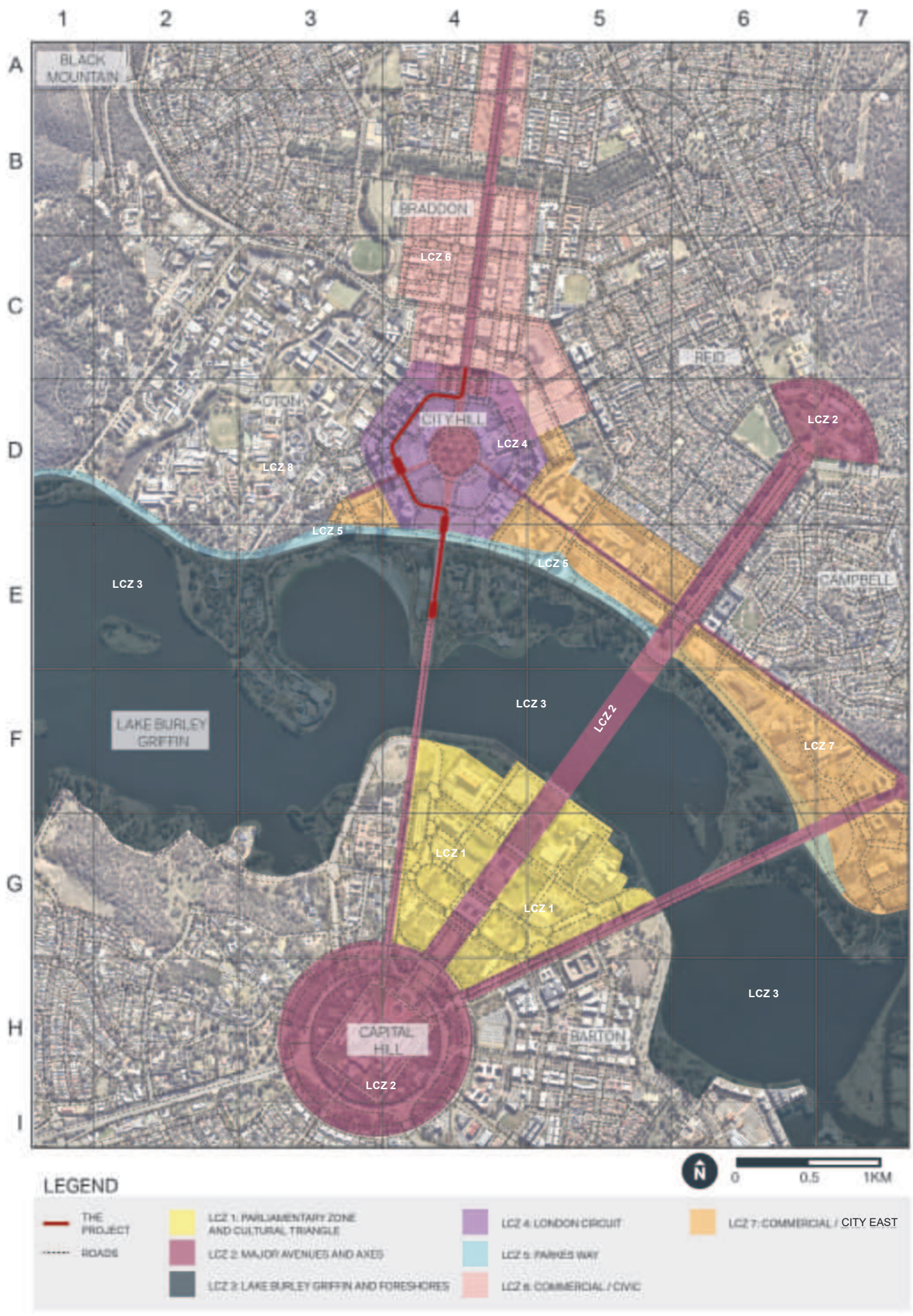

Figure 19 Landscape Character Zones

4.6.1 LCZ 1: Parliamentary Zone and Cultural Triangle

This LCZ, shown in **Figure 20**, is located in the Parliamentary Zone in the Central National Area within the suburb of Parkes, approximately 1 km from the Project. It comprises the triangle of land bounded by Commonwealth Avenue to the west, Lake Burley Griffin to the north, and Kings Avenue to the south east and makes up a majority of the National Triangle, as defined by the NCP. Parliament house lies at the southern confluence of these avenues, and while important to LCZ 1, has not been included within this zone as it has been included within LCZ 2: Main Avenues and Axes.

LCZ 1 comprises a formal landscape, with the geometry of the road and block network responding to the triangular shape of the land parcel, bisected and bounded by axes that are integral to the structure of the city. The formal geometry and spatial arrangement respond to the symbolic importance of the zone as the heart of the nation's capital.

Spatial rationale for buildings is based on a series of campuses with internal 'campus squares' around which building layout is spaced. Each campus has a large focal building within it, around which other smaller spaces and buildings are arranged. These include:

- National Library of Australia (refer to **Figure 21**)
- High Court of Australia
- National Gallery of Australia
- National Portrait Gallery
- Questacon
- Treasury Building
- National Archives.

The topography of this LCZ is predominantly flat to very gently undulating. Buildings within the LCZ are typically large and built on podiums or local high points to give them a sense of presence within the landscape. Built form is typically of a grand scale in a mix of architectural styles, depending on use. The landform falls to Lake Burley Griffin at the northern boundary.

Views and vistas within this LCZ are compartmentalised within the landscape by the formal planting of avenues along road corridors or along boundaries (refer to **Figure 20**). This results in a framing of buildings within smaller landscape zones, while visually expressing a sense of prominence and importance within each campus. Vegetation comprises predominantly formal tree planting along boundaries, with large areas of open turf and some smaller gardens, including the National Rose Garden and the Sculpture Garden at the National Gallery of Australia.

Land uses within the LCZ are predominantly National Capital Use, with some commercial (i.e. restaurants and cafés). A series of large car parks servicing each campus are fringed by vegetation.

The LCZ contains several listed heritage items, the most notable for this area being the Parliament House Vista, listed on the Commonwealth Heritage List. This listing encompasses the entire area of the LCZ, however, key attributes focus on the vistas along the Land Axis and Main Avenues, to and from the current and former Parliament Houses, and to and from Black Mountain and Mount Ainslie. The formal arrangement and layout of the LCZ contributes to the preservation of these views.

Figure 20 Aerial photo showing LCZ (Base imagery: Google Earth Pro 7.3.3.7721 (2020) [1])

Figure 21 The National Library

4.6.2 LCZ 2: Major Avenues and Axes

This LCZ comprises a series of linear corridors and focal points. Within the study area the focal points include:

- Parliament House (refer to **Figure 22**), which is the southern focal point for:
  - The Land Axis (refer to **Figure 23**)
  - Commonwealth Avenue (refer to **Figure 24**)
  - Kings Avenue
- Old Parliament House (refer to **Figure 25**), which lies within the Land Axis
- Australian War Memorial, the northern focal point for the Land Axis and ANZAC Parade
- City Hill (refer to **Figure 26**), which is the:
  - Northern focal point for Commonwealth Avenue
  - Southern focal point for Northbourne Avenue
  - Western focal point for Constitution Avenue
  - Eastern focal point for Edinburgh Avenue
- The Melbourne and Sydney Buildings (refer to **Figure 27**), which frame Northbourne Avenue
- Sir Thomas Blamey Square, the north eastern focal point for Kings Avenue.

The Project lies partially within this LCZ on Commonwealth Avenue near City Hill.

This LCZ emphasises a major design component of Canberra, providing strong, linear elements that assist in orientation, highlight landmarks and introduce drama and weight to areas and items within the landscape.

Figure 22 Parliament House

Figure 23 Land Axis seen from Mount Ainslie

Figure 24 View north to City Hill from Parliament House along Commonwealth Ave

Figure 25 View north along the Land Axis from Capital Hill

The topography within this LCZ varies, but typically the focal points are accentuated with raised landform (e.g. City Hill and Capital Hill, the location of Parliament House). Avenues and axes between these landmarks often drop to a low point, rising again to the next focal point. Views along the avenues and axes are an integral element, with vegetation planted as an avenue on either side of the central viewing corridor (e.g. the Land Axis) or occasionally within the central median (Commonwealth Avenue). However, when planting occurs within the central median the width of the avenue has allowed for views along the corridor to remain (refer to **Figure 24**).

Built form within this LCZ is limited to a few key landmark buildings, including the current and former Parliament Houses, which act as focal points, or framing buildings, such as the Sydney and Melbourne Buildings. Architectural style is varied, but typically monumental and formal in design.

Architecture and planting at focal points address the views and vistas along the avenues and axes they relate to, e.g.:

- The orientation and design of the current Parliament House address the major view along the Land Axis, as well as sweeping lawn areas that address Commonwealth and Kings Avenue, designed to ensure the focal point of the avenues remains largely landscape focussed
- The built form and orientation of the former Parliament House frames the Australian War Memorial when viewed along the Land Axis from the Capital Hill
- Plantings of Cypress and Pine trees on City Hill provide view corridors from the centre along the avenues that radiate from it (refer to **Figure 28**).

The Main Avenues and Approach Routes are subject to a Precinct Code within the NCP as Designated Areas, however, they are not part of the Central National Area. Their importance as structural elements of the Griffins' plan for Canberra is emphasised by the desire to reinforce and protect these avenues and axes within the NCP and other planning instruments.

Figure 26 View south to City Hill from Northbourne Avenue

Figure 28 View south from City Hill along Commonwealth Avenue to Parliament House

Figure 27 View south along Northbourne Avenue framed by the Sydney and Melbourne Buildings

The symbolic weight of the Land Axis (particularly with the relationship to the current and former Parliament Houses) makes this an important space for cultural functions. The Aboriginal Tent Embassy (which is listed in the CHL and nominated for inclusion in the NHL) is located within the Land Axis.

The predominant land use of this LCZ are transport corridors, with the exception of the Land Axis, which comprises public open space.

4.6.3 LCZ 3: Lake Burley Griffin and Foreshores

LCZ 3: Lake Burley Griffin and Foreshores is one of the largest LCZs within the detailed study area. It extends from the eastern to the western boundary of the detailed study area, physically bisected by two bridges at Commonwealth Avenue (refer to **Figure 29**) and Kings Avenue. The LCZ comprises the large, open expanse of water of Lake Burley Griffin and the parkland foreshore areas which address the lake rather than the land uses behind them. The Project lies adjacent to this LCZ where Commonwealth Avenue passes over parkland within a foreshore area.

Lake Burley Griffin is one of the key landscape landmarks within Canberra. Its values include its aesthetic qualities, its presence and importance in the Land and Water Axes (refer to **Figure 30**), as an iconic cultural landscape and symbol of identity, as a recreational and tourist destination, as a key component of the Griffin Plan, and its association with the creation of the national capital.

The topography of the LCZ is predominantly the flat expanse of the lake fringed by gently undulating parks. The lake edges comprise a mix of formal and informal shoreline treatments which respond to the landform and adjoining land use. The southern edge of the lake adjoining LCZ 1: Parliamentary Zone and Cultural Triangle, the lake edge responds with a straight, formal edge and ornamental avenues of pear trees. This straight, formal shoreline emphasises the Water Axis, which lies perpendicular to the Land Axis (refer to **Figure 31**).

Figure 29 View west to the Commonwealth Avenue Bridge

Figure 30 View to Black Mountain along the Water Axis

Figure 31 View to the National Gallery and the Land Axis from the protruding board walk

Due to the flat topography and low lying nature of the LCZ, views and vistas across the lake and to the landscape beyond are accessible from most locations. They include views to Black Mountain along the Water Axis, to Mount Ainslie along the Land Axis, and to several landmark buildings surrounding the lake (refer to **Figure 35**). The Commonwealth Avenue Bridge water jet, as seen in **Figure 30**, provides a focal point within the lake itself.

Within the central lake area (between Commonwealth and Kings Avenues) the lake edges are unified by a wide recreational shared path. A majority of the parkland landscape beyond this path is gently undulating turf parkland with scattered native and exotic trees and occasional built form. Sculptural focal elements at different scales are often accompanied by interpretive signage, such as the Captain Cook Memorial (refer to **Figure 32**) or the display of Australians of the Year.

The LCZ contains heritage items, including Lake Burley Griffin and Adjacent Lands (CHL) and Lake Burley Griffin and Lakeshore Landscape and Parklands (NHL).

4.6.4 LCZ 4: London Circuit

This LCZ comprises the band of developed land and land which is under going development on either side of London Circuit, but not including City Hill within Vernon Circuit. The existing landscape between Vernon Circle and London Circuit currently comprises buildings developed on blocks to the north east and north west, with the remainder covered with large expanses of car parking (refer to **Figure 33**). However, this area is designated for development within planning instruments (refer to **Figure 34**) and undergoing rapid changes and will therefore be described in its current and proposed states.

The Project lies predominantly within this LCZ, centred on the intersection of London Circuit with Commonwealth Avenue.

Figure 35 View across the lake to landmark buildings

Figure 32 The Captain Cook Memorial

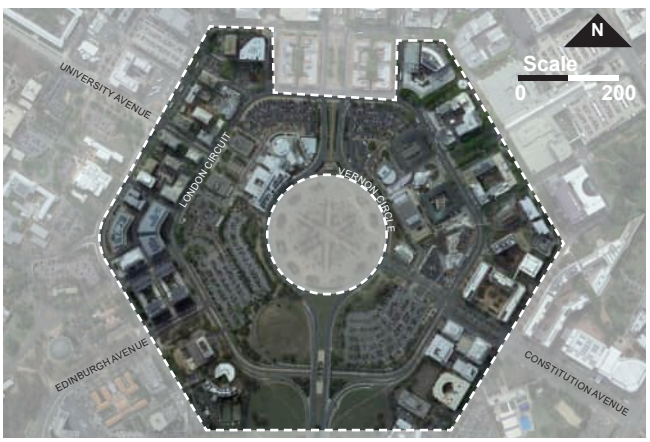

Figure 33 Existing London Cct showing multiple car parks (Base imagery: Google Earth Pro 7.3.3.7721 (2020) [2])

Figure 34 Artists impression of City Hill looking towards the Parliamentary Zone (NCA, 2016)

LCZ 4: London Circuit lies within the City Hill Precinct identified within the Central National Area as defined by the NCP. As such, the City Hill Precinct is considered the municipal heart of central Canberra, forming the Griffins' symbolic and geographical centre for the city and a hub connecting significant Main Avenues and vistas.

The topography of the LCZ falls from the highest point at Vernon Circle to the lower London Circuit (refer to **Figure 36**), Marcus Clarke Street and Allara Street. Views along the road corridors can be seen within the LCZ, with the most significant available along the Main Avenues:

- Looking north west along University Avenue (refer to **Figure 37**)
- Looking south along Commonwealth Avenue to Parliament House
- Looking south west along Constitution Avenue
- Looking north along Northbourne Avenue.

The character of the LCZ is strongly influenced by the unusual road layout: a circular road radiating out to a hexagonal shape, with perpendicular avenues radiating out from the LCZ. The distinctive loop roads (known as the cloverleaves) connecting Commonwealth Avenue to London Circuit and Parkes Way lie in the southern portion of this LCZ. Roads are typically wide, many with planted central medians.

Built form within the LCZ comprises a mix of mid rise to tall commercial and office buildings on large blocks, many with internal courtyard and laneway spaces. While the inner areas of the LCZ are largely undeveloped (with current land use car parking), the built form of these areas will in the future resemble the existing built form within the outer areas of the LCZ (refer to **Figure 38**). Sites within this LCZ are to be developed in accordance with their national importance at the Apex of the National Triangle.

Vegetation within the LCZ comprises predominantly avenues of street trees and some formal plazas, such as the plaza within the Law Courts Precinct (refer to **Figure 37**). Trees within the streetscape includes predominantly exotic deciduous species, with some newer plantings referencing the Cypress trees on City Hill (refer to **Figure 36**).

Figure 36 View from London Cct west along the recent Edinburgh Ave extension to City Hill

Figure 37 View along University Avenue from the plaza at the ACT Law Courts

Figure 38 View along London Circuit to existing built form

Land use within the LCZ is a mix of commercial, civic and some open space and accommodation.

Several heritage items lie within this LCZ, including the Reserve Bank of Australia, the ANZ Bank Building and the Law Courts Precinct.

4.6.5 LCZ 5: Parkes Way

LCZ 5: Parkes Way is a wide, linear road (refer to **Figure 39**) that runs roughly parallel to the northern shoreline of Lake Burley Griffin, positioned behind the foreshore parkland. It often creates a barrier between the lakeside parkland and the landscape behind it, with few opportunities to cross between the two. The Project overlaps this LCZ where it intersects with Commonwealth Avenue.

The topography of the LCZ is rough to gently undulating, with steeper hills, embankments and retaining walls along its boundaries where it interfaces with adjacent LCZs (refer to **Figure 39**). A series of overhead road and pedestrian bridges span the road corridor (refer to **Figure 40** and **Figure 41**). Views within the LCZ typically lie within the road corridor, with views out of the LCZ often screened by landform or vegetation.

The spatial form within the LCZ comprises the open, linear road corridor, with three lane carriageways traveling in either direction separated by a wide turf median with occasional planted trees. Trees planted within the LCZ are typically native, with some deciduous exotic species.

The LCZ contains no heritage items, although it is crossed by LCZ 2: Main Avenues and Axes, which include Commonwealth Avenue, Kings Avenue and the Land Axis.

Figure 39 View along Parkes Way from an overpass, looking west towards Commonwealth Avenue

Figure 40 View north towards the Project with Parkes Way in the foreground

Figure 41 An overpass connecting a foreshore park to New Acton

4.6.6 LCZ 6: Commercial / Civic

This LCZ lies to the north of City Hill, flanking Northbourne Avenue. It is one of two commercial areas within close proximity to the Project (the other being LCZ 7: Commercial / City East), but is unique from LCZ 7 due to the rectangular grid structure of the street layout, the commercial, restaurant and accommodation (hotel) uses and the higher density of built form. LCZ 6 comprises the CBD of Canberra.

Built form within this LCZ is typically mid rise to tall office blocks which are built to the lot boundaries (refer to **Figure 42**). Footpaths typically span from the roadside kerb to the base of each building, with some wider plaza spaces at building entries or between buildings. Some buildings open up at street level, with restaurants and cafés fronting the street.

Formal avenues of trees and some low vegetation is positioned in the verges.

The topography of this LCZ is flat with some gently sloping areas. Views are limited to along road corridors, with limited distance views seen (not including views along main avenues).

The largest of the heritage items within this LCZ is the Civic Square Precinct, which is listed in the ACT Heritage Register.

4.6.7 LCZ 7: Commercial / City East

This LCZ lies to the east of the Project, positioned between LCZ 5: Parkes Way and either fringing or bounded by Constitution Avenue. This LCZ, as with LCZ 4: London Circuit, is undergoing significant development and will be in a state of ongoing flux for the next few years as the development progresses. The desired character and form of this area is detailed in the NCP as a Designated Area precinct (Constitution Avenue and ANZAC Parade).

The LCZ is characterised as a long, linear strip of land which fringes Constitution Avenue between London Circuit and ANZAC Parade, then lies to the south of Constitution Avenue to the west of ANZAC Parade. At present the dominant land use is car parking, as shown in **Figure 43**, with several large developments spread out within the landscape. This will be developed into a more densely built up commercial precinct, with pockets of education and mixed use developments.

The topography of the LCZ is gently sloping from City Hill westward to a low point near ANZAC Parade. The LCZ is characterised by the relationship of the zone to Constitution Avenue, which runs the length of the LCZ.

Land use within the LCZ would be primarily commercial and mixed use. The LCZ contains some heritage items and is flanked by Constitution Avenue and Parkes Way.

Figure 42 View west along Rudd Street in Civic (Source: Google Street View)

Figure 43 View east along Constitution Avenue showing landscape with some built form (Source: Google Street View)

5.0 Landscape character impact assessment

5.1 Assessment of LCZs

Seven (7) LCZs were identified within the detailed study area with broadly homogeneous characteristics or spatial qualities that could be affected by the Project (refer to **Section 4.6** and **Figure 19**). A majority of the Project lies within LCZ 4: London Circuit and LCZ 2: Major Avenues and Axes. Small portions of the Project overlap the edges of LCZs 3, 5, 6 and 7. While the Project does not physically overlap with LCZ 1: Parliamentary Zone and Cultural Triangle, this LCZ is of high sensitivity within Canberra and of national importance, and has sensitivity surrounding views to and from the area (as outlined in the NCP) which are linked to landscape character in this instance. Impacts on landscape character are assessed at operation only as it is assumed that the landscape outside the Projects operational footprint would be restored to its original condition after construction.

5.1.1 LCZ 1: Parliamentary Zone and Cultural Triangle

Refer to **Table 7** for the assessment of impact of the Project on landscape character for LCZ 1: Parliamentary Zone and Cultural Triangle.

Table 7: Landscape character assessment of LCZ 1: Parliamentary Zone and Cultural Triangle

Criteria		Response				
Existing environment		Refer to **Section 4.6.1** for a description of the existing environment.				
Baseline environment (changes due to RLC)		No changes would have occurred within or adjacent to the LCZ due to RLC				
Description of works		None of the Project lies within or adjacent to this LCZ.				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the Project lie within the LCZ?		●	The nearest boundary of the Project lies approximately 350 m north of this LCZ, however, operational changes would be positioned approximately 600 m north of the LCZ.		
	Is the Project uncharacteristic within the LCZ?		●	While the Project is separated from the LCZ and therefore is not required to be characteristic of this LCZ, the LCZ lies within the heritage listed Parliamentary Vista, which places importance on views to and from this area.		
	Does the Project depart from principles within the NCP?		●	The NCP requires that vistas to major landscape features must be protected. The Project lies within the view to numerous landscape features (particularly due to its position between Mount Ainslie and Black Mountain, and adjacent to City Hill), however, the Project is physically separated from this LCZ and would be visually recessive within the view.		
Value	Does the LCZ have any notable physical contributors to value?	●		The LCZ contains numerous contributors to value, including (but not limited to) the high cultural value of the buildings and landscape within the LCZ, the scale and layout of the landscape, including a formal park setting with campuses arranged around a central axis and the number of heritage items within the LCZ.		
	Does the LCZ lie within a Designated Area?	●		The LCZ lies within the Parliament Zone, a precinct within the Central National Area.		
	Does the LCZ contain or lie within a heritage item?	●		Numerous, as listed in Section **4.5**.		
Overall sensitivity rating		H	**M**	L	Neg	While this LCZ is a highly sensitive area due to its high landscape value, the low susceptibility to the Project results in its overall sensitivity being lowered to Moderate.

Table 7 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ		●	The Project does not fall within or adjacent to the LCZ.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	The Project does not fall within or adjacent to the LCZ and does not alter perceptual aspects, including views and vistas.		
	Do the changes affect any key characteristic of the LCZ?		●	The Project does not fall within or adjacent to the LCZ.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	There would be no changes due to the Project experienced within this LCZ		
Duration	Would the changes be felt over a long period of time?		●	There would be no changes due to the Project experienced within this LCZ		
	Would the change be permanent within the landscape?		●	There would be no changes due to the Project experienced within this LCZ		
Overall magnitude rating		H	M	L	**Neg**	The distance between the LCZ and the Project would result in no changes to this LCZ.
Significance of landscape effects						
Overall impact rating		**Negligible**		There would be no changes due to the Project experienced within this LCZ		
Qualitative rating		**Neutral**		As above.		

5.1.2 LCZ 2: Major Avenues and Axes

Refer to **Table 8** for the assessment of impact of the Project on landscape character for LCZ 2: Major Avenues and Axes.

Table 8: Landscape character assessment of LCZ 2: Major Avenues and Axes

Criteria	Response
Existing environment	Refer to Section **4.6.2** for a description of the existing environment.
Baseline environment (changes due to RLC)	RLC is partially located within this LCZ, positioned between Vernon Circle (abutting City Hill), and extending south along Commonwealth Avenue to Parkes Way. RLC would result in the upgrade of Commonwealth Avenue north of Parkes Way and the raising of London Circuit resulting in an at-grade intersection with Commonwealth Avenue. New pedestrian pathways, cycle paths, landscaping to the verges and medians (including street trees and trees at the proposed intersection) would be installed.

Table 8 continued

Criteria		Response				
Description of works		The Project would include: • The addition of light rail infrastructure (including trackform, two light rail stops on Commonwealth Avenue, light rail vehicles and 'Green track') along Northbourne Avenue between Alinga Street and London Circuit • A new bridge over Parkes Way on Commonwealth Avenue • Pedestrian footpaths and verge adjustments • Changes to utilities, furniture and street lighting • Changes to intersection layouts • Landscaping (including street trees). On Northbourne Avenue between the Sydney and Melbourne Buildings the existing raised median would be redeveloped to include 'Green track' flanked by landscaped areas and two narrow pedestrian footpaths. A double avenue of Zelcovas would be installed. On Commonwealth Avenue the existing turf median would be replaced with 'Green track', with two light rail stops positioned centrally within the median. Trees would be planted between tracks travelling in either direction. The new bridge over Parkes Way would be similar to existing, however, the light rail would result in the proposed bridge being solid rather than having a gap separating the two carriageways.				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the Project lie within the LCZ?	●		The Project lies within this LCZ on Commonwealth Avenue and Northbourne Avenue.		
	Is the Project uncharacteristic within the LCZ?		●	The Project is not uncharacteristic within this LCZ. While light rail infrastructure would be a new addition along Commonwealth Avenue towards Lake Burley Griffin, light rail exists elsewhere within the LCZ and is characteristic of major transport boulevards.		
	Does the Project depart from principles within the NCP?		●	The Project adheres to the principles set out in the NCP, particularly: • Emphasise the national significance of the Main Avenues and Approach Routes • Respect the geometry and intent of the Griffins' formally adopted plan for Canberra • Realising the main avenues as multi-use boulevards, including public transport and broad, tree-lined footpaths • Reinforce the original design intent of avenue planting: provide a backdrop of coniferous evergreen trees contrasting with deciduous trees in a staggered planting to make the avenues distinctive throughout the seasons.		
Value	Does the LCZ have any notable physical contributors to value?	●		Yes, the Main Avenues (particularly Commonwealth Avenue), visually reinforce the geometry of the Griffin Plan, linking symbolic landmarks within the city (namely City Hill with Capital Hill and Parliament House). The view corridors along the Main Avenues and axes also reinforce the relationships to larger landforms, including Mount Ainslie and Black Mountain.		
	Does the LCZ lie within a Designated Area?	●		Yes.		
	Does the LCZ contain or lie within a heritage item?	●		Yes, as outlined in **Chapter** and **Section 4.5**.		
Overall sensitivity rating		H	**M**	L	Neg	This LCZ is a highly sensitive area due to its high landscape value, importance within the structure of the Griffin Plan and heritage values. However, the susceptibility of the LCZ to the Project would lover the overall sensitivity rating as the Project adheres to the principles in the NCP and is somewhat characteristic of the LCZ.

Table 8 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ	●		The Project results in the addition of Light Rail infrastructure with in two avenues in the LCZ, as well as changes to the road corridors including road design, footpaths and planting (particularly street trees). A new stop would be added to Commonwealth Ave between Parkes Way and Lake Burley Griffin.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	No. The key aesthetic and perceptual aspects of the LCZ are retained and protected, including strong, linear elements that assist in orientation, highlight landmarks and introduce drama and emphasis to areas and items within the landscape. The overall spatial arrangement within the avenues would be retained, with the Light Rail utilising the wide medians of the road corridors rather than resulting in change to the widths and spatial arrangement within the corridors.		
	Do the changes affect any key characteristic of the LCZ?		●	Key linear elements that link landmarks within the landscape are not affected by the Project. Changes to street trees, particularly along Commonwealth Avenue, would be altered by the Project, however, in line with the principles in the NCP and therefore in keeping with the desired character of the LCZ.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	The changes occur over a small area within the overall LCZ, however, changes would occur within a very important area of the LCZ (along Commonwealth Avenue, which makes up one side of the National Triangle).		
Duration	Would the changes be felt over a long period of time?	●		These changes would be felt over the long term, however, the Project would be expected to 'bed down' within the landscape as the street trees and landscaping matured.		
	Would the change be permanent within the landscape?	●		The changes would be permanent within the landscape, with no chance of reversibility		
Overall magnitude rating		H	**M**	L	Neg	The magnitude of change due to the Project within this LCZ is considered to be Moderate. While the Project would result in new elements within the LCZ (namely the light rail infrastructure), the overall characteristic elements of the LCZ would be retained, particularly the linear nature of the avenues, framed with street trees.
Significance of landscape effects						
Overall impact rating		**Moderate**		The overall impact on landscape character of the Project on this LCZ is considered to be Moderate. While the Project would result in the addition of Light Rail within an area which did not have similar infrastructure, the changes are considered to be: • In character with that of the Main Avenues and axes • Only experienced over a moderate portion of the greater LCZ • In keeping with principles of the NCP and Griffin Plan and Legacy.		
Qualitative rating		**Beneficial**		The Project would result in a beneficial change to the LCZ, adding weight to the avenues due to the addition of public transport infrastructure which fits thoughtfully into the corridors. The preservation of key spatial characteristics within the LCZ and consideration of heritage elements (including the visual relationship between the Sydney and Melbourne Buildings and the view corridors along Commonwealth Avenue) result in a series of positive changes within the LCZ. The consideration of the street tree planting along Commonwealth Avenue, as outlined in the NCP, would result in an increase in street trees as well as a realisation to provide a backdrop of coniferous evergreen trees contrasting with deciduous trees to make the avenues distinctive throughout the seasons. An increase in tree canopy is an identified action in Canberra's Living Infrastructure Plan (ACT Government, 2019). The species of tree chosen reinforce the cultural importance and heritage aspects of the avenue. The urban design and landscape concept integrate with the proposed urban design framework for Commonwealth Avenue, which consider the heritage aspects and landscape importance of the Main Avenues as described within the NCP and other policy documents.		

5.1.3 LCZ 3: Lake Burley Griffin and Foreshores

Refer to **Table 9** for the assessment of impact of the Project on landscape character for LCZ 3: Lake Burley Griffin and Foreshores.

Table 9: Landscape character assessment of LCZ 3: Lake Burley Griffin and Foreshores

Criteria		Response				
Existing environment		Refer to Section **4.6.3** for a description of the existing environment.				
Baseline environment (changes due to RLC)		No changes would have occurred within or adjacent to the LCZ due to RLC.				
Description of works		None of the Project lies within this LCZ, however, part of the Project lies adjacent to this LCZ along Commonwealth Avenue.				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the Project lie within the LCZ?		●	The Project does not lie within the LCZ, however, the changes would extend along Commonwealth Avenue which lies adjacent to the boundary of the LCZ.		
	Is the Project uncharacteristic within the LCZ?		●	While the Project does not lie within the LCZ and therefore is not required to be characteristic of it, the LCZ lies within the heritage listed Parliamentary Vista, which places importance on views to and from this area.		
	Does the Project depart from principles within the NCP?		●	The NCP requires that vistas to major landscape features must be protected. While the Project lies within an area including views to numerous landscape features (e.g. Mount Ainslie and Black Mountain), it is somewhat visually separated from this LCZ due to landform and vegetative screening.		
Value	Does the LCZ have any notable physical contributors to value?	●		There are multiple contributors to value within this LCZ, including (but not limited to) recreational pathways and open areas, signage, attractions, artworks and memorials, the most visually prominent being the water jet to the east of the Commonwealth Avenue Bridge.		
	Does the LCZ lie within a Designated Area?	●		The LCZ lies within the Lake Burley Griffin and foreshores, a precinct within the Central National Area.		
	Does the LCZ contain or lie within a heritage item?	●		Lake Burley Griffin and Lakeshore Landscape / Lake Burley Griffin and Adjacent Lands are listed in the NHL and CHL.		
Overall sensitivity rating		H	**M**	L	Neg	While this LCZ is a highly sensitive area due to its high landscape value, the low susceptibility to the Project results in its overall sensitivity being lowered to Moderate.
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ		●	The Project does not fall within or adjacent to the LCZ.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	As the Project does not fall within this LCZ, no perceptual aspects are altered. The LCZ is separated from the Project by distance and landform, therefore the Project does not alter any aesthetic elements within the LCZ.		
	Do the changes affect any key characteristic of the LCZ?		●	The Project does not fall within or adjacent to the LCZ.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	There would be no changes due to the Project experienced within this LCZ		
Duration	Would the changes be felt over a long period of time?		●	There would be no changes due to the Project experienced within this LCZ		
	Would the change be permanent within the landscape?		●	There would be no changes due to the Project experienced within this LCZ		
Overall magnitude rating		H	M	L	**Neg**	The Project would result in no changes to this LCZ.

Table 9 continued

Criteria	Response	
Significance of landscape effects		
Overall impact rating	**Negligible**	There would be no changes due to the Project experienced within this LCZ.
Qualitative rating	**Neutral**	As above.

5.1.4 LCZ 4: London Circuit

Refer to **Table 10** for the assessment of impact of the Project on landscape character for LCZ 4: London Circuit.

Table 10: Landscape character assessment of LCZ 4: London Circuit

Criteria				Response
Existing environment				Refer to Section **4.6.4** for a description of the existing environment.
Baseline environment (changes due to RLC)				Within this LCZ the Raising of London Circuit would have occurred along London Circuit nearing Commonwealth Avenue, with retaining walls constructed both east and west of Commonwealth Avenue to facilitate a new intersection at Commonwealth Avenue, and the removal of two of the loop roads (also known as the cloverleaves) either side of the intersection. The intersection itself lies within the adjoining LCZ 2: Main Avenues and Axes. London Circuit would be reconfigured between the Edinburgh Avenue intersection and Constitution Avenue. Changes would include new road surfacing and lane markings, wide, vegetated median strips with street trees, new verge landscaping (including street trees extending along both sides of the road along the length of the upgraded road), turfed batters and retaining walls to make up the level change on either side of Commonwealth Avenue nearing the intersection, new road furniture and lighting.
Description of works				The Project would include: • The addition of light rail infrastructure (including trackform, one light rail stop on London Circuit and light rail vehicles) and changes to the road alignment along London Circuit between Northbourne Avenue and Commonwealth Avenue • Changes to verges east of Northbourne Avenue to mirror the design of the verges west of Northbourne Avenue to provide symmetry about the intersection • Updates to the intersections and short sections of roads radiating from London Circuit on the western side of City Hill • Road widenings, verge and kerb line changes • Pedestrian footpaths and verge adjustments • Changes to utilities, furniture and street lighting • Landscaping (including street trees).
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the Project lie within the LCZ?	●		The Project lies within this LCZ, comprising changes to the length of the London Circuit between Northbourne Avenue and nearing Constitution Avenue.
	Is the Project uncharacteristic within the LCZ?		●	At present there is no Light Rail within London Circuit. However, public transport is an accepted form of development within strategic planning documents and are therefore considered characteristic within the future (anticipated) character of the area. The accompanying upgrade of roadway, particularly the new landscaping and provision of pedestrian and cycle infrastructure, are considered within the existing character of the LCZ.
	Does the Project depart from principles within the NCP?		●	The LCZ overlaps with the City Hill precinct described in the NCP. The Project aligns with key guiding principles, including London Circuit serving as a gateway and operating as the main public transport circuit for Canberra Central. The Project allows the view corridors along the radiating Avenues to be retained and also aligns with the design aspirations of elegant, simple and bold design emphasising the geometry and formality of the Main Avenues.

Table 10 continued

Criteria		Response				
Value	Does the LCZ have any notable physical contributors to value?	●		The circular to hexagonal street layout and tree-lined streets are unique to this LCZ, providing a unique experience within the city centre.		
	Does the LCZ lie within a Designated Area?	●		Yes - the LCZ lies within the City Hill precinct as defined within the NCP.		
	Does the LCZ contain or lie within a heritage item?	●		Yes, most notably Civic Square and the Law Courts Precinct and heritage listed buildings associated with it.		
Overall sensitivity rating		**H**	M	L	Neg	This LCZ is a sensitive area due to its high landscape value, heritage items and importance within central Canberra civic area. The Project would effect a substantial portion of the overall LCZ.
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ	●		The Project would result in the addition of the light rail (including tracks and other infrastructure) within London Circuit between Northbourne Avenue westwards to Commonwealth Avenue. The streetscape would be upgraded, with changes to street trees, paving, signage, furniture and general road layout (including new signalised intersections and crossings). However, approximately half of London Circuit would have already been upgraded due to the RLC project, with footpaths, road arrangement and street trees already having been upgraded. This would reduce the overall effect of the Project on the LCZ.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	The unique road layout (including the circular form of Vernon Circle and the hexagonal London Circuit) would be reinforced, with street tree planting, general road arrangement and paving updated to accommodate the light rail. The addition of the light rail to the streetscape would elevate London Circuit to a more prominent road within the LCZ, which may fulfil the 'gateway' aim within the NCP principles for the area. While a new street tree planting strategy for London Circuit has been proposed, the overall perceptual aspects of the landscape would remain unchanged.		
	Do the changes affect any key characteristic of the LCZ?		●	As above, key elements characteristic of the LCZ would not be altered by the Project. The unique road layout and formal street tree arrangement would be preserved.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?	●		The changes due to the Project would occur over a substantial proportion of the overall LCZ. The LCZ is quite small, therefore changes within it have the ability to affect large proportions of it.		
Duration	Would the changes be felt over a long period of time?	●		The changes would be experienced over the long term, however, would tend to visually 'bed down' with the maturation of the planting and street trees.		
	Would the change be permanent within the landscape?	●		The Project would result in a permanent change in the landscape with no chance of reversibility. However, the area is undergoing development in line with strategic planning documents outlined in **Appendix B**.		
Overall magnitude rating		H	**M**	L	Neg	The magnitude of change due to the Project within this LCZ is considered to be Moderate. The addition of the light rail within the main road within the LCZ would comprise a change to a substantial portion of the LCZ, as would changes to the overall road layout and street tree arrangement of London Circuit. However, the overall urban design and landscape strategy would conform to desired future character outlined in planning and design strategies and guidelines, including those outlined as part of the NCP and the Griffin Plan.

Table 10 continued

Criteria	Response	
Significance of landscape effects		
Overall impact rating	**High to Moderate**	The overall impact of the Project on landscape character within this LCZ is considered to be High to Moderate. The LCZ is inherently sensitive given its central location, unique character and heritage items. The Project would comprise the addition of a new public transport element within a substantial portion of the LCZ, however, the overall street layout and streetscape design would comprise an upgrade which adheres to desired future character of the area. The ongoing development of the LCZ as a mixed use zone would be facilitated by the Project.
Qualitative rating	**Beneficial**	The change to the LCZ due to the Project is considered to be Beneficial. The upgrade of the London Circuit road corridor, particularly the rationalisation of street trees, would unify the road, providing an almost continuous ring of Plane Trees (*Platanus x acerifolius*) along its entirety. This would tie in to the street trees already added to London Circuit due to the RLC project. An increase in tree canopy is an identified action in Canberra's Living Infrastructure Plan (ACT Government, 2019) amongst other policy documents. An improvement in the quality of the public realm, including verges with footpaths, planting and cycleways fulfil key strategic direction of policy and planning documents, including the ACT Planning Strategy and ACT Transport strategy. The inclusion of well thought-out public transport, in conjunction with the simple, bold design of streetscape elements fulfil key principles in the NCP for London Circuit.

5.1.5 LCZ 5: Parkes Way

Refer to **Table 11** for the assessment of impact of the Project on landscape character for LCZ 5: Parkes Way.

Table 11: Landscape character assessment of LCZ 5: Parkes Way

Criteria		Response		
Existing environment		Refer to Section **4.6.5** for a description of the existing environment.		
Baseline environment (changes due to RLC)		No changes to Parkes Way would have occurred due to RLC		
Description of works		The Project would intersect with Parkes Way, with a new bridge that would result in the gap between the carriageways on the Commonwealth Avenue bridge crossing Parkes Way filled in to allow the light rail to travel along the median strip of Commonwealth Avenue. The batters on either side of Parkes Way at Commonwealth Avenue would be cleared and planted with turf. Street trees would be planted to the south of Parkes Way on either side of Commonwealth Avenue between Commonwealth Avenue and the entry / exit ramps to Parkes Way.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the Project lie within the LCZ?		●	The Project crosses Parkes Way near on Commonwealth Avenue, but lies within LCZ 2: Main Avenues and axis.
	Is the Project uncharacteristic within the LCZ?		●	While the Project (being primarily the addition of light rail) is a new addition to the road corridor passing overhead, it is not uncharacteristic within this LCZ, considering the LCZ is a transport corridor and therefore such infrastructure would be in keeping with it.
	Does the Project depart from principles within the NCP?		●	The NCP requires that vistas to major landscape features must be protected. While the Project lies within an area including views to numerous landscape features (e.g. Mount Ainslie and Black Mountain), the transport infrastructure would be visually recessive within these view corridors.

Table 11 continued

Criteria		Response				
Value	Does the LCZ have any notable physical contributors to value?		●	Not particularly - the LCZ comprises a wide road corridor.		
	Does the LCZ lie within a Designated Area?	●		The LCZ lies within Constitution Avenue and ANZAC Parade, a precinct within the Central National Area.		
	Does the LCZ contain or lie within a heritage item?		●	No.		
Overall sensitivity rating		H	M	**L**	Neg	The sensitivity of this LCZ is considered to be Low. It is a visually contained road corridor over which the Project would pass, but has a low susceptibility to change due to the Project.
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ	●		The Project would cross this LCZ at one location, comprising changes to the Commonwealth Avenue bridge.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	No, the Project does not alter the landscape within the road corridor, nor spatial or perceptual qualities of the LCZ.		
	Do the changes affect any key characteristic of the LCZ?		●	The Project does not affect any key characteristics of the LCZ, with the changes limited to a very small area of the LCZ and limited to an overhead bridge and abutments. The addition of street trees on Commonwealth Avenue would also comprise a change adjacent to the LCZ, however, this may act as a marker within Parkes Way to the crossing point of a Main Avenue and would not affect characteristics of the LCZ.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	No, the Project only affects a very small portion of the LCZ.		
Duration	Would the changes be felt over a long period of time?	●		While the changes are permanent, they are visually recessive and somewhat characteristic of the overall LCZ. The changes would also recede over time as the planting matured and the Project 'bedded down' into the surrounding landscape.		
	Would the change be permanent within the landscape?	●				
Overall magnitude rating		H	M	**L**	Neg	The Project would result in a very small change within this LCZ.
Significance of landscape effects						
Overall impact rating		**Low**		While addition of light rail over Parkes way (thereby consolidating the carriageways of the Commonwealth Avenue bridge) would comprise a small change adjacent to the LCZ, the Project has a characteristic 'fit' within the LCZ, being the addition of public transport infrastructure crossing a transport infrastructure corridor.		
Qualitative rating		**Neutral**		As noted, the Project would not alter the character of the LCZ.		

5.1.6 LCZ 6: Commercial / Civic

Refer to **Table 12** for the assessment of impact of the Project on landscape character for LCZ 6: Commercial / Civic.

Table 12: Landscape character assessment of LCZ 6: Commercial / Civic

Criteria		Response				
Existing environment		Refer to **Section 4.6.6** for a description of the existing environment.				
Baseline environment (changes due to RLC)		No changes to the LCZ would have occurred due to RLC.				
Description of works		The northern end of the Project lies adjacent to the boundary of this LCZ, where LCZ 6 meets Northbourne Avenue. No changes would lie within this LCZ.				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the Project lie within the LCZ?		●	The Project lies adjacent to the boundary of this LCZ at its northern extent, where the light rail extends from the existing stop at Alinga Street.		
	Is the Project uncharacteristic within the LCZ?		●	While no light rail lies within LCZ 6, the Project would be a continuation of light rail within the adjacent LCZ 2: Main Avenues and Axes. As such, the Project is characteristic of this area.		
	Does the Project depart from principles within the NCP?		●	No, the Project adheres to the principles of the NCP, but the LCZ does not lie within a Designated Area.		
Value	Does the LCZ have any notable physical contributors to value?	●		Yes, the LCZ has several heritage items and comprises part of the civic centre of Canberra.		
	Does the LCZ lie within a Designated Area?		●	The LCZ does not lie within a Designated Area.		
	Does the LCZ contain or lie within a heritage item?	●		Yes, however, heritage items within the LCZ do not lie near the Project.		
Overall sensitivity rating		H	M	**L**	Neg	The LCZ comprises part of the civic centre of Canberra, however, the sensitivity would be Low due to the low susceptibility to change due to the Project.
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ		●	The Project would not lie within the LCZ, therefore does not result in the addition or removal of elements within it.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	No, the Project lies to the south of the LCZ and does not change any aspects of the landscape within it.		
	Do the changes affect any key characteristic of the LCZ?		●	No. All key characteristic elements within the LCZ remain unchanged.		
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	No, the Project would only lie adjacent to a very small edge of the LCZ.		
Duration	Would the changes be felt over a long period of time?		●	Not applicable.		
	Would the change be permanent within the landscape?		●	Not applicable.		
Overall magnitude rating		H	M	L	**Neg**	There would be no changes within the LCZ due to the Project.

Table 12 continued

Criteria	Response	
Significance of landscape effects		
Overall impact rating	**Negligible**	There would be no changes due to the Project experienced within this LCZ.
Qualitative rating	**Neutral**	As above.

5.1.7 LCZ 7:Commercial / City East

Refer to **Table 13** for the assessment of impact of the Project on landscape character for LCZ 7: Commercial / City East.

Table 13: Landscape character assessment of LCZ 7: Commercial / City East

Criteria		Response				
Existing environment		Refer to **Section** for a description of the existing environment.				
Baseline environment (changes due to RLC)		No changes to the LCZ would have occurred due to RLC.				
Description of works		No Project works would occur within or adjacent to this LCZ.				
Sensitivity		**Y**	**N**	**N/A**	**Comments**	
Susceptibility	Does the Project lie within the LCZ?		●		The Project lies to the west of this LCZ, not within or adjacent to it.	
	Is the Project uncharacteristic within the LCZ?		●		While the Project does not lie within the LCZ and therefore is not required to be characteristic of it, the LCZ contains Constitution Avenue, the view along which should be preserved.	
	Does the Project depart from principles within the NCP?		●		The Project does not depart from principles in the NCP, particularly in relation to preserving views along the Main Avenues (of which Constitution Avenue belongs). The Project would not impact on this view corridor. The provision of public transport on London Circuit benefits the principles of connectivity within the NCP, linking main avenues with London Circuit in the National Triangle.	
Value	Does the LCZ have any notable physical contributors to value?	●			Yes, the LCZ contains parts of Griffins Land Axis (along ANZAC Parade) and Constitution Avenue comprises a Main Avenue and one side of the National Triangle.	
	Does the LCZ lie within a Designated Area?	●			Yes, the LCZ lies within the Constitution Avenue and ANZAC Parade Designated Area.	
	Does the LCZ contain or lie within a heritage item?	●			Yes, Constitution Avenue is a Main Avenue	
Overall sensitivity rating		H	**M**	L	Neg	While the LCZ has sensitivity due to the importance of the area in relation to the overall Griffin Plan, the distance to the Project reduces the overall rating as the LCZ is not susceptible to change due to the Project.
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Does the Project result in the loss / addition of an element in the LCZ		●	There would be no changes in the LCZ due to the Project.		
	Are any aesthetic or perceptual aspects of the landscape altered by the Project?		●	Views along Constitution Avenue are important and the Project lies within London Circuit, at the western end of Constitution Avenue. However, no parts of the Project would be seen, therefore no perceptual aspects would be altered.		
	Do the changes affect any key characteristic of the LCZ?		●	There would be no changes to characteristics of the LCZ, including views.		

Table 13 continued

Criteria		Response				
Extent	Are the changes due to the Project experienced over a large area of the LCZ?		●	The Project is not positioned within or adjacent to the LCZ.		
Duration	Would the changes be felt over a long period of time?		●	While the Project would be permanent within the landscape, there would be no changes within the LCZ.		
	Would the change be permanent within the landscape?		●			
Overall magnitude rating		H	M	L	**Neg**	There would be no changes due to the Project experienced within this LCZ.
Significance of landscape effects						
Overall impact rating		**Negligible**		There would be no changes due to the Project experienced within this LCZ.		
Qualitative rating		**Neutral**		As above.		

5.2 Summary of landscape character impact

Of the seven LCZs identified within the study area, only three returned a magnitude of impact greater than Negligible due to the Project (refer **Table 14**). These were LCZ 2: Major Avenues and Axes, LCZ 4: London Circuit and LCZ 5: Parkes Way. Only LCZ 4 returned a rating of High or High to Moderate, prompting a higher level of mitigation, however, this LCZ also returned a 'Beneficial' qualitative outcome.

The High to Moderate impact rating on landscape character within LCZ 4 was due to the larger proportion of the LCZ that was affected by the Project and the high sensitivity of the LCZ due to its landscape value, importance as Designated Areas and multiple heritage items.

While the addition of light rail infrastructure and the reconfiguration of London Circuit is considered a substantial change in the character of this area, these changes are supported within the strategic planning documents and Griffin Plan, and any change in character would be considered acceptable within that context.

Overall the impact of the Project on landscape character is considered to be Moderate to Low (Neutral).

Table 14: Summary of impact of the Project on landscape character within LCZs

Landscape Character Zone	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
LCZ 1: Parliamentary Zone and Cultural Triangle	Moderate	Negligible	Negligible	N/A	N/A	Neutral
LCZ 2: Major Avenues and Axes	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial
LCZ 3: Lake Burley Griffin and Foreshores	Moderate	Negligible	Negligible	N/A	N/A	Neutral
LCZ 4: London Circuit	High	Moderate	High to Moderate	Moderate	High to Moderate	Beneficial
LCZ 5: Parkes Way	Low	Low	Low	Low	Low	Neutral
LCZ 6: Commercial / Civic	Low	Negligible	Negligible	N/A	N/A	Neutral
LCZ 7: Commercial / City East	Moderate	Negligible	Negligible	N/A	N/A	Neutral

5.3 Mitigation of impact to landscape character

Only LCZ 4: London Circuit returned a High to Moderate rating, prompting a mitigation of impact response. However, this LCZ returned a 'Beneficial' qualitative outcome. The High to Moderate rating for this LCZ was due to a combination of the landscape and heritage values of the LCZ and the addition of the Project within a large portion of it. Much of the urban and landscape design outcomes have already maximised the integration of the Project into the surrounding landscape, particularly:

- The undergrounding of electrical infrastructure for the light rail to reduce the amount of wires overhead within the corridor, reducing potential new visual clutter from the LCZ.
- The consideration of street trees within the precincts, adhering to appropriate planning requirements and NCP requirements, such as the use of Platanus species to create an endless ring of street trees around London Circuit.
- The strong design response to surface finishes, including:
  - The use of different paving materials to delineate important intersections, particularly where London Circuit intersects with the radiating avenues, and the simplicity of paving to enhance continuity along the corridor
  - Reduce the visual prominence of the ground plane with the use of a unified, muted palette of surface finishes.
- The use of 'Green track' along Commonwealth Avenue, which preserves the wide green median aesthetic along the avenue.
- The response of the landscape design to particular heritage aspects along the corridor, for example, the design for 'Green track', low groundcovers and formal arrangement of *Zelkova serrata* between the Sydney and Melbourne Buildings on Northbourne Avenue to preserve the formal 'garden courtyard' landscape between the buildings.

A series of observations and recommendations have been outlined in **Table 15**.

Table 15: Observations and recommendations

Ref	Issue / observation	Recommendation
LV4	While views are not typically considered in landscape character as they are experienced by visual receptors (and therefore considered in the visual impact assessment rather than the landscape character assessment), views contribute to heritage value within some of the LCZs, particularly the views along Main Avenues. Visual clutter that threatens to impact those views should be kept to a minimum, including signage, traffic lights, street lighting and electricity poles and wires.	Wherever practicable, combine above-ground street elements (lighting, traffic signals, traffic signs) on common use poles to reduce visual clutter and to reduce potential conflict with landscape elements, in consultation with TCCS and NCA.
LV5	The removal or replacement of mature street trees within the road corridors have the potential to impact landscape character, removing larger vegetation that provides canopy and reduces the perceived scale of surrounding built form.	Advanced trees would be procured for landscaping activities completed as part of the Project
LV 6		Trees removed for construction would be replaced in accordance with the Street Tree Masterplan.

5.4 Assessment of residual risk

Overall, the Project would result in changes to landscape character of High to Moderate within LCZ 4: London Circuit, however, it returned a beneficial qualitative rating. As the rating has been based on the scale and range of the Project within the LCZ, with details considered within the design process already minimising the impact of the Project on the landscape character, further mitigation of impact to a level that would reduce the overall rating is not considered possible if the Project goes ahead.

6.0 Visual impact assessment

6.1 Visibility of the Project

The Zone of Theoretical Visibility (ZTV) map (refer to **Figure 47**) shows the theoretical area which would receive views to the Project. The mapping has used all visible elements of the Project, including ground level changes, street lighting, traffic poles and landscaping, including trees. While the visual envelope map suggests that views to the Project could be seen from up to 5 kms away, the Project would be more visually contained in some areas (for example, on London Circuit), and more visually prominent in others. Only the taller items of the Project would be seen from many locations, however, these taller items are typically more visually recessive as they are either slender in form (e.g. cranes, light poles or traffic lights) or vegetation, which comprises an attractive element within the view that breaks up areas of hard surfaces within the city (refer to **Figure 44**). Due to the visually recessive nature of these items, it would be unlikely that these would be discernible from the surrounding landscape from these distances.

A taller band of development along the western edge of London Circuit (refer to **Figure 45**) would screen most of the ground-level changes seen from the surrounding landscape, particularly from elevated areas such as Black Mountain. Existing vegetation would blend with proposed vegetation to break down the expanse of hard surfaces of buildings and paving / road surfaces. Commonwealth Avenue is more visible from surrounding areas due to the lower elevation of the surrounding landscape and its position on a peninsula that protrudes onto Lake Burley Griffin (refer to **Figure 46**).

Figure 44 The view east from Black Mountain, with taller buildings surrounding London Circuit and City Hill seen in the middle ground of the view

Figure 45 Taller buildings fringing London Circuit screen views to the Project from the west

Figure 46 Flatter terrain, a wide road corridor and position on a peninsula on Lake Burley Griffin make changes on Commonwealth Ave more visually prominent within the landscape

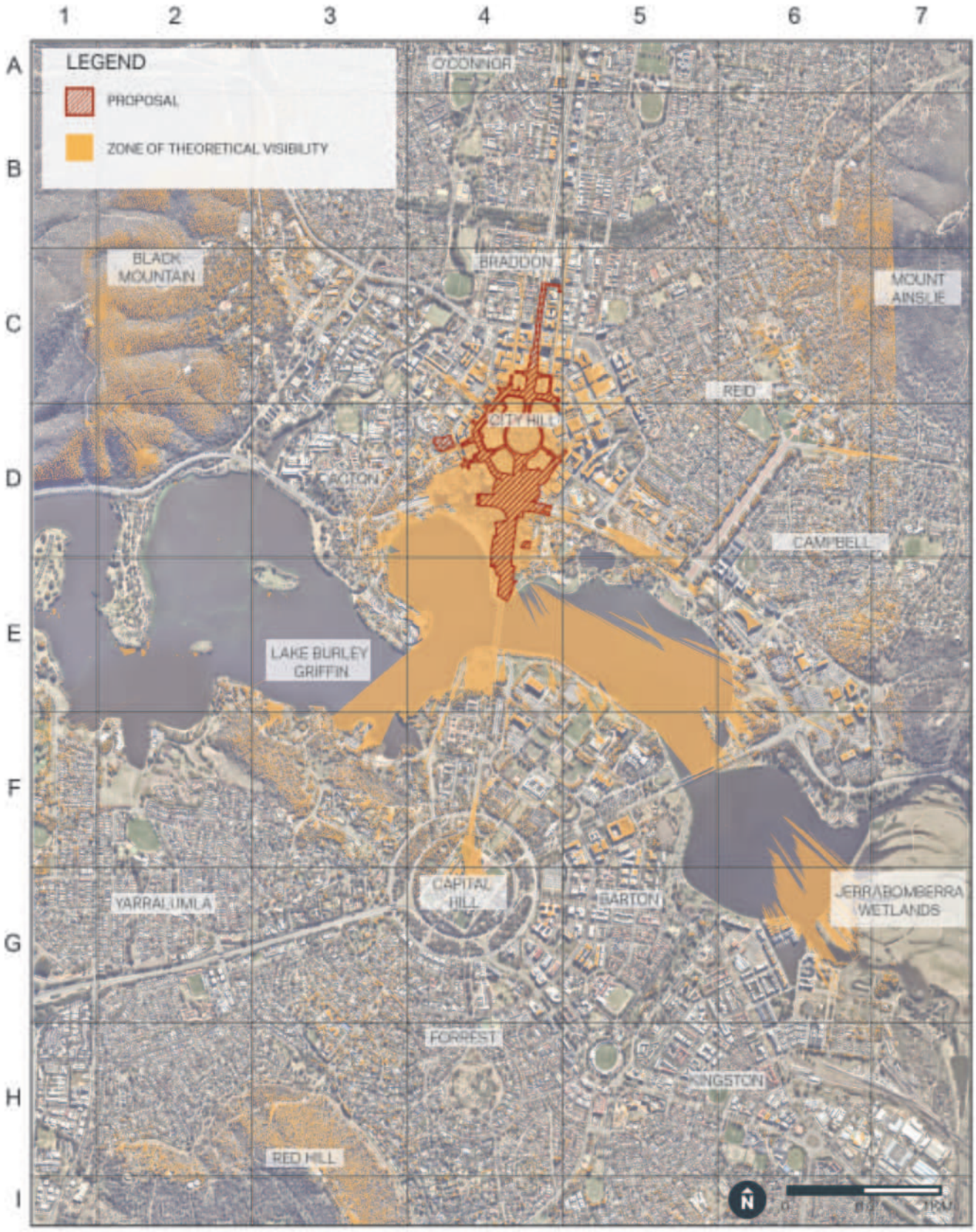

Figure 47 Zone of Theoretical Visibility of the Project

6.2 Assessment of viewpoints

6.2.1 Representative viewpoints

While 21 locations were considered to assess the visual impact of the Project from the surrounding landscape (refer to **Table 16**, **Figure 48** and **Figure 49**), 14 were selected as representative viewpoints. These viewpoints and the rationale behind selection are described in **Table 16**.

Table 16: Viewpoints considered and selected for assessment of visual impact

Viewpoint	Assessed	Description	Requirement / rationale	Visual simulation rationale
Viewpoint 1: Northbourne Avenue	**Yes**	View south along Northbourne Avenue from the pedestrian island	Changes to the streetscape looking towards City Hill. City Hill listed as a heritage item in the ACT Heritage Register.	Visual simulation to be created due to importance of the view to City Hill and the operational changes likely to be seen from this location.
Viewpoint 2: Sydney Building	**Yes**	View south west from the front of the Sydney Building	The relationship between the two buildings are important as visual markers along Northbourne Ave culminating in City Hill. Viewpoint shows the relationship between the Project and City Hill at the end of Northbourne Avenue.	Visual simulation to be created due to importance of the view with regards to the relationship between the Sydney and Melbourne Buildings and the operational changes likely to be seen from this location.
Viewpoint 3: Intersection of London Circuit and University Avenue	**Yes**	View from the intersection north and north east towards the Law Courts and along London Cct	Heritage importance of the Law Courts Precinct and the relationship with University Avenue.	Visual simulation to be created due to importance of the view with regards to the close proximity of the ANZ Bank Building, the Law Courts Precinct and the operational changes likely to be seen from this location.
Viewpoint 4: Law Court	**Yes**	View from Law Court along University Avenue	Heritage aspect to Law Courts and its relationship with University Avenue.	No visual simulation produced due to the representation of changes to this area illustrated by the visual simulation from Viewpoint 4.
Viewpoint 5: 7 London Circuit	**Yes**	View south east along London Circuit	Viewpoint close to the operational changes Lies within the Central National Area.	Visual simulation to be created due to the extent of operational changes likely to be seen from this location. A visual simulation of changes due to the RLC project has been produced.
Viewpoint 6: 1 London Circuit	**Yes**	View south east along London Circuit from the QT Canberra hotel	Viewpoint close to the operational changes Lies within the Central National Area.	Visual simulation to be created due to the extent of operational changes likely to be seen from this location. A visual simulation of changes due to the RLC project has been produced.
Viewpoint 7: City Hill North	**Yes**	View North along Northbourne Avenue from City Hill	City Hill is listed as a heritage item in the ACT Heritage Register. Views from City Hill are listed as important in the NCP, particularly along the Main Avenues.	No visual simulation produced due to small extent of operational changes likely to be seen from this location.

Table 16 continued

Viewpoint	Assessed	Description	Requirement / rationale	Visual simulation rationale
Viewpoint 8: City Hill South	**Yes**	View south along Commonwealth Avenue from City Hill	City Hill is listed as a heritage item in the ACT Heritage Register. Views from City Hill are listed as important in the NCP, particularly along the Main Avenues and towards Capital Hill.	Visual simulation to be created due to importance of the view south along Commonwealth Avenue towards Capital Hill. A visual simulation of changes due to the RLC project has been produced.
Viewpoint 9: Commonwealth Avenue	**Yes**	View from Commonwealth Avenue north	Views to and from City Hill are listed as important in the NCP, particularly along the Main Avenues View corridor listed as key in the City Plan.	Visual simulation to be created due to importance of the view along Main Avenues and the close proximity of the viewpoint to changes. A visual simulation of changes due to the RLC project has been produced.
Viewpoint 10: Commonwealth Avenue	**Yes**	View from Commonwealth Avenue looking north towards City Hill	Views to and from City Hill are listed as important in the NCP, particularly along the Main Avenues. View corridor listed as key in the City Plan.	Visual simulation to be created due to importance of the view along Main Avenues and the close proximity of the viewpoint to changes.
Viewpoint 11: Commonwealth Park		View from Commonwealth Park north west towards Commonwealth Ave	Views within park important from recreational and heritage perspective as location lies within National Triangle.	Visual simulation to be created due to importance of the view
Viewpoint 12: National Museum of Australia		View from the wharf outside the National Museum to the northeast and east	Views across Lake Burley Griffin are considered important from a recreational and heritage perspective as the location looks back towards National Triangle over the lake.	No visual simulation produced due to small extent of operational changes likely to be seen from this location.
Viewpoint 13: Lake Burley Griffin / Land Axis		View from the south bank of Lake Burley Griffin looking north-north west towards the Project	Listed within the CHL Lake Burley Griffin and foreshores listed within both CHL and NHL.	No visual simulation produced due to small extent of operational changes likely to be seen from this location.
Viewpoint 14: Parliament House		View from Parliament House lawn north along Commonwealth Avenue	Parliament House Vista listed within the CHL View corridor listed as key in the City Plan.	No visual simulation produced due to small extent of operational changes likely to be seen from this location.

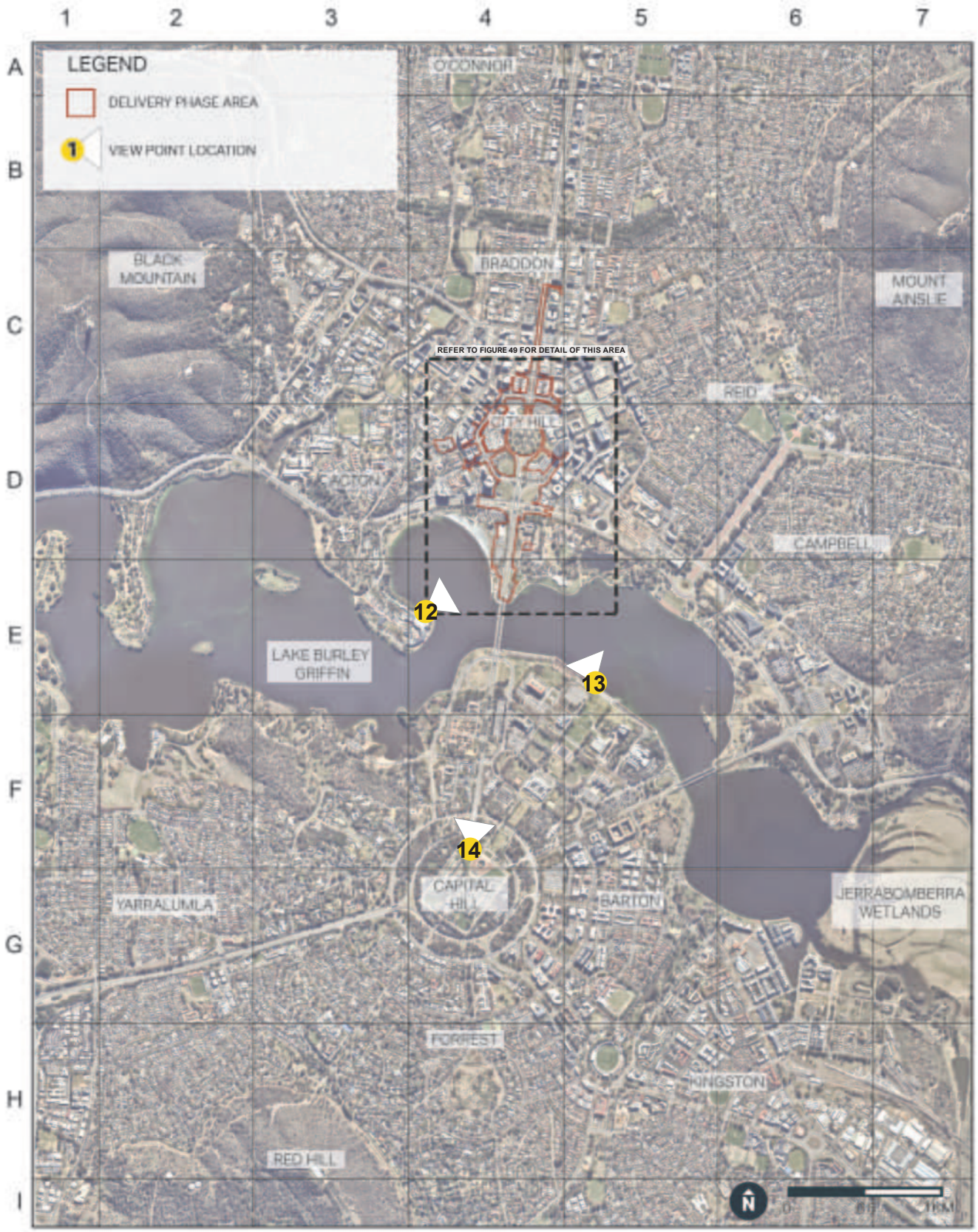

Figure 48 Distant viewpoints and locations considered for visual impact assessment

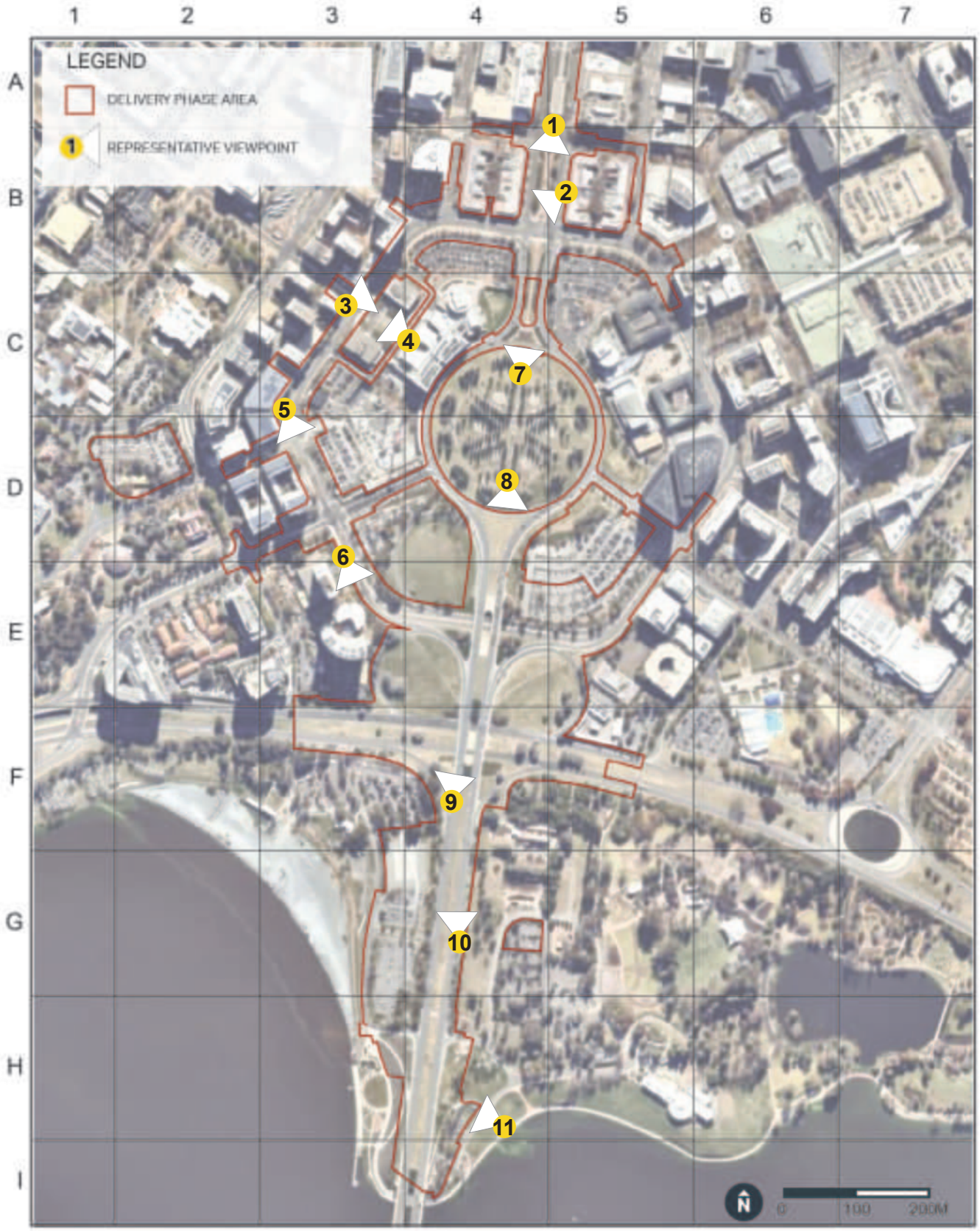

Figure 49 Viewpoints and locations considered for visual impact assessment within the detail area shown in **Figure 48**

6.2.2 Viewpoint 1: Northbourne Avenue

Refer **Table 17** for the assessment of impact of the Project on views from Viewpoint 1.

Table 17: Visual impact assessment of Viewpoint1: Northbourne Avenue

Criteria		Response		
Viewpoint location		This viewpoint is located at the northern end of the existing light rail stop on Northbourne Avenue at the intersection with Alinga Street, looking south along Northbourne Avenue towards City Hill.		
Viewpoint rationale		This viewpoint has been chosen to represent views: • Showing changes to the streetscape looking south towards City Hill, including within Northbourne Place, between the Sydney and Melbourne buildings • As City Hill listed is a heritage item in the ACT Heritage Register.		
Visual receptors		A high number of visual receptors would experience the view from this viewpoint and include both pedestrians and motorists on Northbourne Avenue and Alinga Street and those seeing the view along the road from neighbouring buildings, including offices and the Novotel hotel. Visual receptors would get brief views to the Project from the street as they passed by, or more prolonged views from an elevated position from office buildings or the hotel.		
Existing view		The existing view from this location is shown in **Figure 50.** The view from this viewpoint includes the intersection of Northbourne Avenue and Alinga Street, with Northbourne Avenue extending south into the distance and terminating with the raised landscape of City Hill framed within the road corridor. The foreground of the view comprises the horizontal plane of Alinga Street and low planting within the median strip of Northbourne Avenue. In the middle ground, beyond the road pavement of the intersection, Northbourne Avenue is framed on either side by the Sydney and Melbourne Buildings, which focus the view south along the road corridor. Deciduous trees planted in an avenue within the side median strip also focus the view along Northbourne Avenue, terminating in the raised landform of City Hill with its characteristic planting of dark, columnar trees.		
Baseline environment (view after RLC)		There would be no changes within the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		While most of the visual receptors who would see this view would be passers-by, a proportion of these would be tourists who would be walking along Northbourne Avenue towards City Hill due to its value as a destination within Canberra. Other receptors seeing the view along Northbourne Street may have less of an overall focus on the landscape as they pass, however, the view itself is of a scenic nature and to a heritage item, therefore would comprise somewhat a landmark view within their greater journey.
	Would visual receptors be focussed on the view?	●		
	Are receptors likely to see views for long periods of time?		●	No, this is likely to be a view that is seen as receptors pass by, either on Northbourne Avenue or Alinga Street. Some receptors would see a similar view from surrounding buildings, but none would have the same aligned perspective along Northbourne Street to City Hill that is experienced from this viewpoint.
	Would the Project be visible within the view?	●		The Project would be visible in the fore ground and middle ground of the view.
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		This viewpoint lies within land subject to the Territory Plan, however, views and vistas to City Hill are recommended to be framed and enhanced within the NCP. Views along Main Avenues are deemed important.
	Are there other planning or heritage assets within the view?	●		The view to City Hill is framed by the Sydney and Melbourne Buildings, which are both listed heritage items. The planned relationship between the Sydney and Melbourne buildings are considered important and therefore add to the sensitivity of this viewpoint.
	Are there other indicators of value attached to the view?	●		Artworks and signage are placed along Northbourne Avenue and lie within the focal area of the view.

Table 17 continued

Criteria	Response				
Overall sensitivity rating	**H**	**M**	**L**	**Neg**	The sensitivity of Viewpoint 1 is considered to be High. The deliberate symmetry of the framed view to City Hill, with the Sydney and Melbourne Buildings on either side help to identify this view as an important moment within the landscape. This view provides a suggestion of the importance of City Hill as a pivot point within the landscape, from which the urban form radiates. The Project would be positioned within the focal point of the view.

CONSTRUCTION					
Anticipated change in view	While this exact viewpoint would not be accessible during construction due to the changes occurring at the location, which would remove visual receptors from this point, similar changes would be seen from nearby areas in the median by those at the Light Rail stop just north of this viewpoint. From this viewpoint, the construction activity would include: • Fencing, hoarding, signage, traffic safety equipment • Removal of trees, furniture and signage • Bulk earthworks, construction of trackform and retaining walls / landscape elements • Installation of lighting, signage and landscaping, including planting of street trees.				
Magnitude		**Y**	**N**	**Comments**	
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the removal of all trees within the median within Northbourne Plaza, the demolition of the median itself, and earthworks to regrade the area. Construction elements would then be additional to the view, including those listed above.	
	Would the change result in a high degree of contrast to the existing situation?	●		The construction activity would be in contrast to the existing view. Construction within the intersection would result in traffic being diverted around the site. The landscaped median within Northbourne Place would be demolished and include large scale construction equipment and activity.	
	Is the change prominent within the view?	●		The change would be prominent within the view due to the close distance of viewing and the amount of the view that is affected.	
Extent	What is the angle of the view in relation to the receptor?			Construction activity would be seen within almost the entire length of the view from close proximity.	
	Is the viewpoint close to the Project?	●		Yes, as above.	
	Does the change encompass a large extent of the view?	●		Yes, as above.	
Duration	Would the changes be seen over the long term or be permanent?		●	The construction activity would be temporary, seen within the 2 year construction period.	
Overall magnitude rating		**H**	**M**	**L**	**Neg**
The magnitude of change experienced at this viewpoint during construction of the Project is considered to be High. The construction would be seen in the fore and middle ground of the view, over a large proportion of the view.					
Significance of visual impacts during construction					
Overall impact rating	**High**	The overall impact of the Project during construction on the view from this viewpoint is considered to be High. The high sensitivity of visual receptors due to the heritage importance of elements within the view (including the symmetric, framed view along a Main Avenue to City Hill, flanked by the Sydney and Melbourne buildings), coupled with the visual prominence of the changes and the position of construction within the view result in the rating. The changes would only be temporary and seen over a short term.			

Table 17 continued

Criteria	Response	
Qualitative rating	**Adverse**	The Project would result in an adverse effect on the view from this location during construction, introducing the visual clutter associated with construction activity within the view.

OPERATION					
Anticipated change in view	At completion, the Project would comprise the following changes (refer to **Figure 51**): • The prominent planted median and horizontal alignment of Alinga Street would be replaced with the proposed light rail tracks and extended pedestrian paving within the foreground of the view. The trackform would extend south along Northbourne Avenue, while the pedestrian paving would match the existing bluestone paving. • The view south to City Hill would be preserved, with City Hill framed between an avenue of proposed Zelkova trees planted either side of the track in the central median. • The entire median strip between the Sydney and Melbourne Buildings would have a green, planted groundplane, with 'Green track' extending along the central track area. • There would be updated signage, lighting and furniture within the middle to background of the view.				
Magnitude		**Y**	**N**	**Comments**	
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the reconfiguration of the road corridor within the view to include light rail infrastructure. The existing raised median (including trees, signage and artworks) would be removed and replaced with the light rail tracks and associated infrastructure, and the planted area replaced (including the central avenue of Zelkova trees).	
	Would the change result in a high degree of contrast to the existing situation?	●		The Project would result in a change in composition within the view, including the lowering in visual prominence of the horizontal Alinga Street intersection and the lengthening of the view from the foreground south along Northbourne Avenue to City Hill. The removal of raised elements within the centre of the median in the middle ground, such as the pale blue raised planter bed, signage and artworks, also draws the eye along the length of the track on Northbourne Avenue towards City Hill, which would remain framed by the central avenue of deciduous trees.	
	Is the change prominent within the view?	●		Yes, the Project would be seen prominently in the foreground and middle ground of the view.	
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen centre, focal point of the view.	
	Is the viewpoint close to the Project?	●		Yes - the viewpoint lies within the Project extents, next to the proposed light rail tracks that extend along Northbourne Avenue.	
	Does the change encompass a large extent of the view?	●		The Project would be seen over the entire foreground of the view and at least half of the middle ground.	
Duration	Would the changes be seen over the long term or be permanent?	●		The Project would be permanent within the view.	
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be High. The Project would be visually prominent and comprise a series of new elements within the view. The changes would be seen from close proximity and in a high amount of detail.

Table 17 continued

Criteria	Response	
Significance of visual impacts at operation		
Overall impact rating	**High**	The visual impact of the Project from this viewpoint is considered to be High. The viewpoint is considered highly sensitive even though a majority of the visual receptors would only see the view for short periods of time as they passed, due to the importance of heritage elements in the view and the highly considered framing of these elements (in particular, the view along a Main Avenue between heritage listed buildings to a heritage item: City Hill). The extension of the light rail tracks from the existing stop north of the viewpoint south along Northbourne Avenue would comprise a substantial change to the composition of the view, drawing the eye south along Northbourne Avenue and accentuating the focus of the view towards City Hill. However, the use of 'Green track' and soft landscaping would preserve the view to the 'green median' between the Sydney and Melbourne Buildings in the middle ground of the view. Also, the larger elements that compositionally anchor the view (the Sydney and Melbourne Buildings) remain unchanged.
Qualitative rating	**Beneficial**	The changes to the view would result in a beneficial outcome to the quality of the view from this location. The Project would result in a lengthening of the view along Northbourne Avenue towards City Hill (reducing the visual prominence of the horizontal alignment of Alinga Street and elements within the existing median). The 'green' median between the Sydney and Melbourne Buildings strengthens the relationship between these buildings without taking from the importance of the extended view along the road corridor.

Figure 50 Existing view from Viewpoint 1 looking south along Northbourne Avenue

Figure 51 Visual simulation showing changes to the view seen from Viewpoint 1

6.2.3 Viewpoint 2: Sydney Building

Refer **Table 18** for the assessment of impact of the Project on views from Viewpoint 2.

Table 18: Visual impact assessment of Viewpoint 2: Sydney Building

Criteria		Response		
Viewpoint location		This viewpoint is located on Northbourne Avenue at the central entry point to the Sydney Building, looking south west.		
Viewpoint rationale		This viewpoint has been chosen to represent views considering: • The relationship between the two heritage listed buildings are important as visual markers along Northbourne Ave and as part of the visual avenue leading to City Hill • The relationship between the Project and City Hill at the end of Northbourne Avenue.		
Visual receptors		A high number of visual receptors would experience the view from this viewpoint and include both pedestrians and motorists on Northbourne Avenue and those seeing the view from the Sydney Building. Visual receptors would get brief views to the Project from the street as they passed by, or more prolonged views from the Sydney Building, both from a bar / restaurant at ground level, or from the upper levels of the building.		
Existing view		The existing view from this location is shown in **Figure 52**. The view comprises the footpath and southbound lanes of Northbourne Avenue in the foreground, with the raised median strip in the middle ground. The median includes a low concrete retaining wall with arc detailing, a wide turf strip and central paved pedestrian area framed on either side by a row of deciduous trees. The background of the view includes the Melbourne Building framing Northbourne Avenue to the west to the centre and right of frame. To the south west (left of the Melbourne Building), office buildings are seen in beyond an open car park with large trees, and the raised landform and distinctive dark, columnar trees in City Hill can be seen terminating Northbourne Avenue to the far left of frame.		
Baseline environment (view after RLC)		There would be no changes within the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		While most of the visual receptors who would see this view would be passers-by, a proportion of these would be tourists who would be walking along Northbourne Avenue towards City Hill or people seated at the outdoor tables associated with a bar / restaurant at this location.
	Would visual receptors be focussed on the view?	●		To a varying degree, yes. Tourists travelling up Northbourne Avenue and people sitting at outdoor tables next to the Sydney Building would have a heightened interest in the view, while others would be less likely to have any more than a passing interest in the view.
	Are receptors likely to see views for long periods of time?		●	Most receptors would see the view briefly as they passed by. People seated at the bar or those seeing the view from the upper windows of the Sydney Building would see a similar view but for longer periods of time, however, few visual receptors would see this static view and many from a different viewing angle that may obscure parts of the view.
	Would the Project be visible within the view?	●		The Project would be visible in the fore ground and middle ground of the view and would span the length of the view.
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?		●	This viewpoint lies within land subject to the Territory Plan. While views and vistas to City Hill are recommended to be framed and enhanced within the NCP and views along Main Avenues are important, this view is more oblique and looking across rather than along the corridor towards City Hill.
	Are there other planning or heritage assets within the view?	●		City Hill and the Melbourne Building are both listed heritage items visible within the view. The planned relationship between the Sydney and Melbourne buildings are considered important and therefore add to the sensitivity of this viewpoint.
	Are there other indicators of value attached to the view?		●	While one artwork lies within the view, it is not viewed at an angle or position where it can be appreciated as it was designed to be viewed from a particular angle, front on, from Northbourne Avenue.

Table 18 continued

Criteria	Response				
Overall sensitivity rating	**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 2 is considered to be Moderate. While the view includes elements of heritage importance, the more oblique viewing angle of Northbourne Avenue does not provide the characteristic view along a Main Avenue that Viewpoint 1 does. The Project would affect a large proportion of the view from this location.

CONSTRUCTION					
Anticipated change in view	During construction, one lane travelling in each direction on Northbourne Avenue would be maintained. Construction would be limited to the central median and the lanes directly adjacent to it. From this viewpoint, the construction activity would include: • Fencing, hoarding, signage, traffic safety equipment • Removal of trees, furniture and signage • Bulk earthworks (initially to lower the topography to the raised median) construction of trackform and retaining walls / landscape elements • Installation of lighting, signage and landscaping, including planting of street trees.				
Magnitude		**Y**	**N**	**Comments**	
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the removal of all trees within the median, the demolition of the median itself, and earthworks to regrade the area. Construction elements would then be additional to the view, including those listed above. Views into the construction activity would be limited by 1.8 m hoarding surrounding the works.	
	Would the change result in a high degree of contrast to the existing situation?	●		The construction activity would be in contrast to the existing view. The landscaped median trafficked by occasional pedestrians would be demolished and include large scale construction equipment and activity.	
	Is the change prominent within the view?	●		The change would be prominent within the view due to the close distance of viewing and the amount of the view that is affected.	
Extent	What is the angle of the view in relation to the receptor?			Construction activity would be seen within almost the entire length of the view from close proximity.	
	Is the viewpoint close to the Project?	●		Yes, as above.	
	Does the change encompass a large extent of the view?	●		Yes, as above.	
Duration	Would the changes be seen over the long term or be permanent?		●	The construction activity would be temporary, seen within the 2 year construction period.	
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint during construction of the Project is considered to be High. The construction would be seen in the fore and middle ground of the view, over a large proportion of the view. The work (including the 1.8 m hoarding around the site) is likely to predominantly screen views to the Melbourne Building and City Hill.
Significance of visual impacts during construction					
Overall impact rating	**High to Moderate**				The overall impact of the Project during construction on the view from this viewpoint is considered to be High to Moderate. The moderate sensitivity of visual receptors due to the heritage importance of elements within the view, coupled with the visual prominence of the changes and the position of construction within the view result in the rating. The changes would only be temporary and seen over a short term.

Table 18 continued

Criteria	Response	
Qualitative rating	**Adverse**	The Project would result in an adverse effect on the view from this location during construction, introducing the visual clutter associated with construction activity within the view.

OPERATION					
Anticipated change in view	At completion, the Project would be seen in the middle ground of the view, travelling from the north (to the right of frame) almost to the far left of frame. The raised turf median would be replaced with a slightly raised planted area, with planting outside the retaining walls, partially screening the structure. The proposed median would be planted almost along its entire width, with two pedestrian paths either side of the track. The track would comprise 'Green track' and would be visually recessive within the view. A double avenue of Zelkova trees would be positioned either side of the tracks. Passing light rail vehicles would be visible within the median.				
Magnitude	**Y**	**N**	**Comments**		
Size / scale – Would the Project result in the addition or removal of elements within the view?	●		Yes, while the raised median within the view would be somewhat replaced, the arrangement and spacing of Zelkova trees would be changed, with an increase in trees in the median. While the track would be visually recessive, passing light rail vehicles would be a new addition to the view. The Melbourne Building on the other side of the road would be screened to a higher degree due to the increase in trees.		
Size / scale – Would the change result in a high degree of contrast to the existing situation?		●	While the addition of light rail to the view would be in contrast to the existing view, the infrastructure itself would not be in contrast to the existing situation, with the expanse of vegetated ground plane remaining similar to the existing, and with the trees replaced (albeit in greater numbers).There would be no change to the road layout outside the central median.		
Size / scale – Is the change prominent within the view?	●		The change is considered prominent within the view due to the close distance of viewing and the amount of the view that is affected.		
Extent – What is the angle of the view in relation to the receptor?			The Project would be seen within almost the entire length of the view from close proximity.		
Extent – Is the viewpoint close to the Project?	●		Yes, as above.		
Extent – Does the change encompass a large extent of the view?	●		Yes, as above.		
Duration – Would the changes be seen over the long term or be permanent?	●		Yes, the changes would be permanent, however, the infrastructure elements would become less prominent over time as the planting matured.		
Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be High. The Project would be seen over a large proportion of the view and in a high amount of detail.
Significance of visual impacts at operation					
Overall impact rating	**High to Moderate**		The view contains elements of heritage importance, however, is more focussed across the road at an oblique angle and is therefore not as sensitive as one looking south along the road corridor as seen in Viewpoint 1. The Project would be seen in close proximity and across a large amount of the view, but would be seen in the middle ground plane of the view only, with both sides of Northbourne Avenue remaining unchanged (including that in the foreground of the view). The Project, while seen in close proximity, would be more visually recessive than that where a view along the length of the tracks is seen (e.g.. from Viewpoint 1), as the soft landscape elements partly screen views to the static infrastructure. Passing light rail vehicles would be a new addition to the view.		

Table 18 continued

Criteria	Response	
Qualitative rating	**Neutral**	There are positive and negative aspects to the change in the view from this location, resulting in an overall neutral rating. Benefits of the changes include the revitalisation of a somewhat tired looking median within the road corridor, including a simplification of signage and structures positioned within it. The proposed median would be as 'green' (if not more so) due to the large amount of planting on the ground plane and the use of 'Green track'. The increase of street trees can be viewed as a visually positive or negative change. An increase in street trees is typically considered a positive change as they soften the hardscape of city areas. However, due to the staggered spacing, the increased tree numbers may partly obscure the view to the Melbourne Building on the other side of the road.

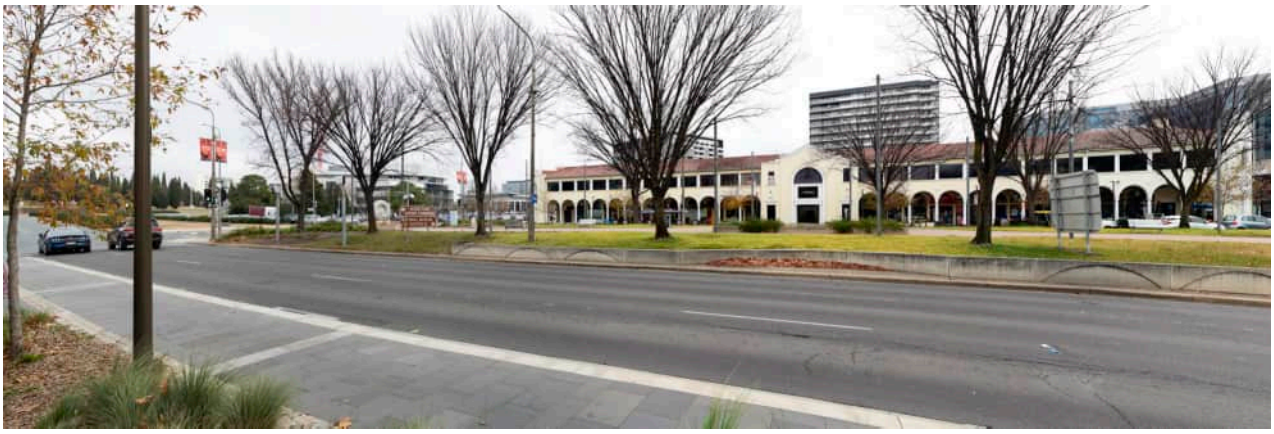

Figure 52 Existing view from Viewpoint 2 looking southwest towards the Melbourne Building and City Hill

Figure 53 Visual simulation showing changes to the view seen from Viewpoint 2

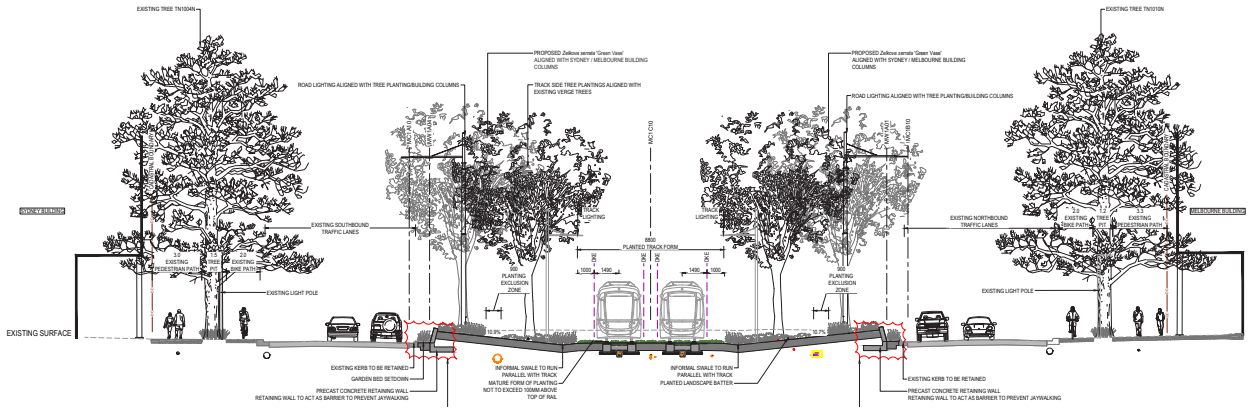

Figure 54 Proposed section of the median between the Sydney and Melbourne Buildings

6.2.4 Viewpoint 3: Intersection of London Circuit and University Avenue

Refer **Table 19** for the assessment of impact of the Project on views from Viewpoint 3.

Table 19: Visual impact assessment of Viewpoint 3: Intersection of London Circuit and University Avenue

Criteria		Response		
Viewpoint location		This viewpoint is located on London Circuit at the intersection of University Avenue, looking north east towards the Law Courts Precinct plaza.		
Viewpoint rationale		This viewpoint has been chosen to represent views from London Circuit due to the heritage importance of the Law Courts Precinct, nearby heritage listed buildings (including the Reserve Bank and ANZ Bank buildings).		
Visual receptors		A high number of visual receptors would experience the view from this viewpoint, comprising workers and tourists to the central Canberra area. Visual receptors would include pedestrians on the footpath, but also passers-by on the road which would include motorists and cyclists. There are cafés and bars with outdoor seating on both corners of this intersection where visual receptors would see this view.		
Existing view		The existing view from this location is shown in **Figure 55**. This view comprises the expanse of road paving associated with the intersection of London Circuit and University Avenue, including road markings and narrow sections of a raised concrete median in the foreground. The opposite corner of University Avenue is seen to the left of frame, including the heritage listed ANZ Bank Building with a cafe on the ground floor and steps into the building. The middle ground of the view includes the eastern verge of London Circuit, with two long, raised planter beds on either side of a wide set of steps leading into the Law Courts Precinct plaza. Deciduous trees frame the entry to the plaza, with shrub planting underneath within the planters. The long, low, heritage listed Reserve Bank building flanks the Law Courts plaza to the north. The somewhat unadorned Supreme Court building terminates the view through the plaza to the east, screening views to the horizon. London Circuit extends north towards the left of frame, lined with deciduous trees and terminating in the distance with a cluster of civic buildings. The road is lined with typical infrastructure such as lighting, signage and street furniture.		
Baseline environment (view after RLC)		There would be no changes within the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?		●	Visual receptors at this viewpoint would include workers and visitors to the city centre, most of which would be either travelling on the footpath or on the road. Some visual receptors would be seated at outdoor tables associated with the cafe / bar near the viewpoint who may have a greater sensitivity to the view.
	Would visual receptors be focussed on the view?	●		Most visual receptors at this viewpoint are unlikely to be focussed on the view as they walk or drive past this location. Tourists and those seated at the nearby cafe would be more focussed on the view, particularly as it includes a number of heritage items and places of interest.
	Are receptors likely to see views for long periods of time?		●	Visual receptors at this viewpoint are most likely to see the view for short periods of time as they walk or drive past the viewpoint.
	Would the Project be visible within the view?	●		The Project would be seen within the view, contained within London Circuit road corridor.
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?		●	The view is not listed as important within these documents. However, the viewpoint lies within a Designated Area, with London Circuit identified as a gateway between the avenues and the inner City Hill area.
	Are there other planning or heritage assets within the view?	●		The ANZ Bank Building, the Reserve Bank and the Law Courts Precinct all lie within the view.
	Are there other indicators of value attached to the view?		●	There are no other indicators of importance of view from this location.

Table 19 continued

Criteria	Response				
Overall sensitivity rating	**H**	**M**	**L**	**Neg**	The sensitivity to change of this viewpoint is considered to be Moderate. The viewpoint lies within the Central National Area and is important a location within the City Hill precinct. In addition, a high number of visual receptors would see the view from this location.

CONSTRUCTION					
Anticipated change in view	This section of London Circuit is narrow and the existing carriageway would need to be widened to enable traffic flow. A 1.5m footpath on both sides of the road would be maintained and some vehicular traffic would be allowed along London Circuit but limited during construction. From this viewpoint, the construction activity and equipment would include: • Fencing, hoarding, signage, traffic safety equipment • Changes to utilities, including new drainage infrastructure • Bulk earthworks and construction of trackform, new kerb alignments and verge upgrades • Installation of lighting, signage and landscaping, including planting of street trees.				
Magnitude		**Y**	**N**	**Comments**	
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		As experienced with Viewpoint 1, this viewpoint would be located within the hoarding associated with construction, however, views from just outside on the footpath would still be available. The Project would result in the addition of hoarding / fencing, along with some visual clutter associated with construction within the road corridor. Existing trees within the verges would be retained and protected.	
	Would the change result in a high degree of contrast to the existing situation?	●		The construction activity would be in contrast to the existing view and would be positioned in the road corridor, spilling out into the footpaths on either side.	
	Is the change prominent within the view?	●		The change would be prominent within the view due to the close distance of viewing and the amount of the view that is affected.	
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, as well as either side.	
	Is the viewpoint close to the Project?	●		The viewpoint is located directly adjacent to the Project, construction would be seen in the foreground and middle ground of the view and in high detail.	
	Does the change encompass a large extent of the view?	●		Construction activity would be seen within the entire length of the view and from close proximity.	
Duration	Would the changes be seen over the long term or be permanent?		●	The construction activity would be temporary, seen within the 2 year construction period. Intersection closure would be for short periods (over several weekends) within this overall construction period.	
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint during construction of the Project is considered to be High. The construction would be seen in the fore and middle ground of the view and over a large proportion of the view. The work is likely to at least partially screen views to the Reserve Bank building and the Law Courts Precinct.
Significance of visual impacts during construction					
Overall impact rating		**High to Moderate**			The impact is considered to be High to Moderate. The moderate sensitivity of visual receptors due to the heritage items within the view, coupled with the visual prominence of the changes and the position of construction within the view result in the rating.
Qualitative rating		**Adverse**			The construction would result in an adverse effect on the view from this location, introducing the visual clutter associated with construction activity within the view.

Table 19 continued

Criteria		Response				
OPERATION						
Anticipated change in view		At completion, the more visually prominent changes within the view would include: • The realignment of kerbs resulting in changes to the road and footpath widths. Within the view the footpath in the foreground is extended and the carriageway has been narrowed. • Changes to surface finishes, including paving on the footpaths, articulation of crossing locations on the road and the addition of a central paved strip. • The addition of light rail infrastructure within the median, including trackform (cobblestone paving and track) and passing light rail vehicles. • New signage, traffic lights, light poles, although this change visually comprises a 'tidying up' of these elements within the view. • New landscaping within the verges, including two rectangular areas of planting adjacent to the Law Courts Precinct plaza with grasses and street trees, placed either side of the entry steps to the plaza.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of light rail infrastructure within the view (including passing light rail vehicles), a rationalisation of lighting, signage and street furniture, the addition of planted areas within the verges separating pedestrian footpaths from the road corridor and a reconfiguration of the road layout.		
	Would the change result in a high degree of contrast to the existing situation?		●	Compositionally, the view remains largely unchanged. The overall cross section of the road corridor devoted to transport remains unchanged. The elements that have been added to the view are somewhat visually recessive, with the exception of passing light rail vehicles, which are similar to passing buses and temporary within the view as they pass.		
	Is the change prominent within the view?		●	As above, the view remains compositionally unchanged. The most visually prominent elements of the view are either temporary within the view (passing light rail vehicles) or are limited to the ground plane.		
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, as well as either side, but predominantly within the road corridor.		
	Is the viewpoint close to the Project?	●		The Project would be seen in the foreground and middle ground of the view and in high detail.		
	Does the change encompass a large extent of the view?	●		Changes due to the Project would be seen within the entire length of the view and from close proximity.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, seen over the long term.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be Moderate. The changes, while positioned prominently within the view and across the breadth of the view, are somewhat visually recessive, with the overall composition of the view remaining unchanged. The addition of planted areas and a street tree either side of the Law Courts Precinct steps within the verge partly screens the view through the plaza to the Supreme Court building. However, this placement responds to the primary view to / through the plaza, which would be from within the plaza looking north west along University Avenue, and from University Avenue back through the plaza to the Courts building. From these angles (which are more important than the view from this viewpoint into the plaza), the view is maintained and framed.

Table 19 continued

Criteria	Response	
Significance of visual impacts at operation		
Overall impact rating	**Moderate**	While a high number of receptors would see this view, most would see it as they passed by (i.e. for short periods of time). The view contains heritage items, but is not the primary viewing area for any of these items individually. While the addition of light rail infrastructure within the view is a substantial change, the major elements of the view remain unchanged: • There are no changes to the existing street trees within the view, which creates a look of maturity to the changes (i.e. they look as though the Project 'always was' within the view). • There are no changes to the levels within the ground plane, just resurfacing of the road and some of the footpaths, which visually result in a 'tidying up' of the ground plane. • The rationalisation of infrastructure within the view, including lighting and signage, comprises a replacement of these elements, which does not read as a 'change'.
Qualitative rating	**Beneficial**	Overall, the Project results in a 'tidying up' and 'refreshing' of the groundplane and structures within the view (including lighting, signage and street furniture). The addition of the trackform to the centre of the road reduces the visual prominence of the vehicular road area within the view, along with the upgrade of surface finishes. These result in a beneficial qualitative outcome to the view by the Project.

Figure 55 Existing view from Viewpoint 3 looking northeast towards the Law Courts and along London Circuit

Figure 56 Visual simulation showing changes to the view seen from Viewpoint 3

6.2.5 Viewpoint 4: Law Court

Refer **Table 20** for the assessment of impact of the Project on views from Viewpoint 4.

Table 20: Visual impact assessment of Viewpoint 4: Law Court

Criteria		Response		
Viewpoint location		This viewpoint is located on Knowles Place, at the south eastern end of the Law Courts Precinct plaza, looking north west along University Avenue.		
Viewpoint rationale		This viewpoint has been chosen due to heritage value of the Law Courts Precinct and the importance of views along Main Avenues radiating from London Circuit to a terminus.		
Visual receptors		A moderate number of visual receptors would experience the view from this viewpoint and include workers and visitors to the Supreme Court, passers by on Knowles Place, tourists and those using the plaza as a public space (e.g. to eat lunch or rest).		
Existing view		The existing view from this location is shown in **Figure 57** and **Figure 58**. This view comprises the view along the symmetrical Law Courts plaza, framed to the north by the Reserve Bank Building and to the south by the Canberra City Police Station. A raised bed planted with groundcovers and evenly spaced trees runs the length of the plaza on either side. The Plaza itself contains a central wide band of paving in the foreground that references the width of University Avenue, which extends north west into the distance. Even blocks of turf lie on either side of the paving, with a water feature and sculpture positioned to the north (right of the centre of frame) in the middle ground. A pair of larger deciduous trees lie at the western end of the plaza on either side of the entry steps that lead down to London Circuit. London Circuit is visible in the middle ground of the view, although the horizontal plane of the road corridor is visually recessive as it lies at a lower level than the plaza ground plane. Although the road is not visible, the western corners of the intersection with University Avenue both have similarly scaled 5 storey buildings, one of which is the heritage listed ANZ Bank Building (on the left side of University Avenue). These buildings frame the view along University Avenue, which extends into the distance. One of the forested slopes of Black Mountain is visible in the distance, seen as the focal point of the view along the avenue.		
Baseline environment (view after RLC)		There would be no changes within the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		Visual receptors passing the plaza on Knowles Place would get short views north west along the plaza and down University Avenue. People either walking through the plaza or sitting within the plaza would get more prolonged views and would be more likely to be interested in the view.
	Would visual receptors be focussed on the view?	●		Tourists and those using the plaza for recreational purposes (e.g. to eat lunch) would be likely to be somewhat focussed on the view, particularly due to the deliberate symmetry of the plaza and the emphasis of the long view north west along University Avenue.
	Are receptors likely to see views for long periods of time?		●	Most would only have short or moderate viewing times.
	Would the Project be visible within the view?	●		While the Project would be visible within the view, it would be difficult to see and only be seen over a small proportion of the overall view.
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Views along Main Avenues are important. In addition, this viewpoint lies within a precinct within the Central National Area, with London Circuit identified as a gateway between the avenues and the inner City Hill area.
	Are there other planning or heritage assets within the view?	●		There are several heritage items within the view, including the Reserve Bank Building and ANZ Bank Building. The plaza also lies within a heritage listed place: the Law Courts Precinct.
	Are there other indicators of value attached to the view?	●		Yes, there is public artwork positioned in the plaza in the middle ground of the view.

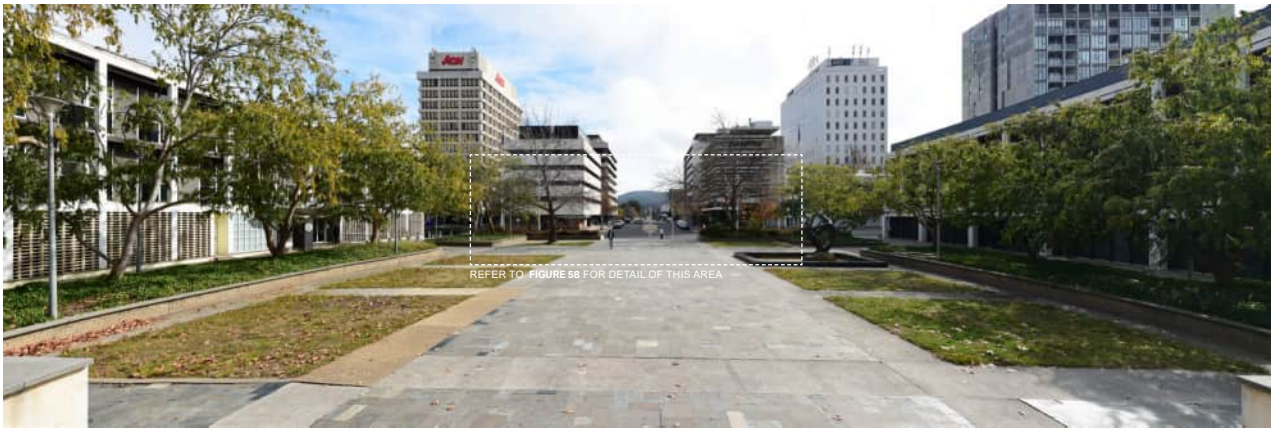

Figure 57 Existing view from Viewpoint 4 looking north west towards University Avenue

Figure 58 Detail of **Figure 57** showing the existing view from Viewpoint 4

Criteria	Response				
Overall sensitivity rating	**H**	**M**	**L**	**Neg**	Overall, the sensitivity of the view is considered to be Moderate. While the viewpoint has several elements that would make it highly sensitive, the distance and position of the Project within the view lowers the susceptibility of the view to change, therefore lowers the overall sensitivity to Moderate.

CONSTRUCTION	
Anticipated change in view	From this viewpoint, while construction would be seen, it would only be seen in a small area within the view and would include: • Fencing, hoarding, signage, traffic safety equipment • Changes to utilities, including new drainage infrastructure • Bulk earthworks and construction of trackform, new kerb alignments and verge upgrades • Installation of lighting, signage and landscaping, including planting of street trees.

Table 20 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The construction activity and equipment would be additional elements seen within the view.		
	Would the change result in a high degree of contrast to the existing situation?	●		Construction activity would be in contrast with the existing elements in the affected portion of the view, with the visual clutter and larger scaled machinery unusual within the view. Only the tops of the construction would be visible over the 1.8 m hoarding surrounding the works.		
	Is the change prominent within the view?		●	The changes would not be visually prominent due to the distance from the construction, partial screening by trees and the lower level of London Circuit to the plaza ground plane (refer to **Figure 59**).		
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen in the centre of the view in a small viewing plane and within the middle ground of the view.		
	Is the viewpoint close to the Project?		●	Not particularly: London Circuit is approximately 65 m from the viewpoint.		
	Does the change encompass a large extent of the view?		●	No, only a small portion of the view would be affected, however, within the central part of the view and within the focal viewing corridor along the Plaza and University Avenue.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen in the short term within the two year construction period.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude is considered to be low due to the small amount of the view affected by the construction. Although the construction activity would be seen along the focal viewing corridor along University Avenue, the visual depth of the area affected would be small, limited to London Circuit.
Significance of visual impacts during construction						
Overall impact rating		**Moderate to Low**		The impact is considered to be Moderate to Low. The sensitivity of the viewpoint would be affected by the heritage items and visual importance of the corridor view along a Main Avenue, however, the Project would only be seen within a small portion of the view and would predominantly be screened by buildings on either side of the plaza and trees.		
Qualitative rating		**Adverse**		The construction would result in an adverse effect on the view from this location, introducing the visual clutter associated with construction activity within the view.		

Figure 59 Desaturated image of the existing view from Viewpoint 4 showing areas likely to be seen with construction activity highlighted in pink

Table 20 continued

Criteria		Response				
OPERATION						
Anticipated change in view		At completion, the Project would be mostly screened from view from this location. Changes to the ground plane would only be seen in the gap between the two planter beds at the western end of the plaza, and comprise a small portion of paving, tracks and a band of different grey paving crossing University Avenue on London Circuit. Two new street trees would be positioned on either side of the intersection with University Avenue, and would partially screen the lower levels of the buildings on either side (although these two buildings are already partially screened by existing trees within the plaza. Passing light rail vehicles would be seen.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of two trees and changes to the paving within the road corridor on London Circuit. Light rail vehicles would also be an additional element within the view.		
	Would the change result in a high degree of contrast to the existing situation?		●	No, the changes would be in keeping with the characteristic elements of the existing view.		
	Is the change prominent within the view?		●	No, the changes would be difficult to see, with the exception of the passing light rail vehicles, which would be prominent but only be seen for a moment as the vehicles passed the western end of the plaza and would visually replace buses within the view.		
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen in the centre of the view in a small viewing plane and within the middle ground of the view.		
	Is the viewpoint close to the Project?		●	No, London Circuit is approximately 65 m from the viewpoint.		
	Does the change encompass a large extent of the view?		●	No, only a small portion of the view would be affected, however, within the central part of the view and within the focal viewing corridor along the Plaza and University Avenue.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent and seen over the long term.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The low magnitude is due to the small amount of the view affected by the Project. The Project would be difficult to see, with the most prominent change the passing of light rail vehicles on London Circuit.
Significance of visual impacts at operation						
Overall impact rating		**Moderate to Low**		The impact is considered to be Moderate to Low. The sensitivity of the viewpoint would be affected by the heritage items and visual importance of the corridor view along a Main Avenue, however, the Project would only be seen within a small portion of the view be visually recessive, with the exception of passing light rail vehicles.		
Qualitative rating		**Neutral**		While the upgrade and 'tidying up' of the road pavement and footpaths would be a positive outcome, the ground plane is only just visible from this viewpoint due to the distance, screening by built form and vegetation, and change in levels. The two additional trees within the view would be predominantly screened during summer by existing deciduous trees within the plaza. Passing light rail vehicles, while a new element within the view, would be similar in character to passing buses or other larger vehicles, and would not alter the quality of the view. Overall, there would be no qualitative change in the view due to the Project.		

6.2.6 Viewpoint 5: 7 London Circuit

Refer to **Table 21** for the assessment of impact of the Project on views from Viewpoint 5.

Table 21: Visual impact assessment of Viewpoint 5: 7 London Circuit

Criteria	Response
Viewpoint location	This viewpoint is located on the western footpath outside 7 London Circuit, looking south along London Circuit. 7 London Circuit is a 5 storey commercial building positioned on a corner of London Circuit. The viewpoint is positioned approximately 400 m north west of the intersection between London Circuit and Commonwealth Avenue.
Viewpoint rationale	This viewpoint has been chosen to represent views from London Circuit from a location close to the operational changes of the Project. This viewpoint lies within the Central National Area of Canberra, close to the Law Courts Precinct.
Visual receptors	A high number of visual receptors would experience the view from this viewpoint, predominantly comprising workers and visitors to the city centre, but also may include tourists to the central Canberra area. Visual receptors would include pedestrians on the footpath, but also passers-by on the road which would include motorists and cyclists. There is some seating within the forecourt of the building, however, receptors are not expected to spend long periods of time here, it would be more of a meeting place as the bench seating is positioned close to the footpath.
Existing view	The existing view from this location is shown in **Figure 60**. The view from this viewpoint looking south comprises the London Circuit road corridor, which is two lanes travelling in either direction with a narrow concrete median strip. A wide, paved footpath with parking indent can be seen to the right of frame in the foreground, extending to the signalised intersection of London Circuit and Gordon Street in the middle ground and the intersection with Edinburgh Avenue in the background. The view along London Circuit is framed by deciduous street trees on either side of the road. A row of tall buildings on the western side of the road screen views to the landscape beyond, directing the eye along the length of the road corridor. A single low building surrounded by a flat expanse of car parking can be seen on the eastern side of the road, along with construction activity such as cranes, temporary fencing and stacked demountables in the middle to background to the left of frame. The view to the distant horizon is screened in all directions by vegetation and built form. Taller development similar to the height and scale of 7 London Circuit is expected to be constructed in the near future along the eastern side of the road, as described in the NCP for desired development of the City Hill Precinct. Once built, the view from this location would be narrow, directed between built form on either side of the road, however, the road corridor would visually widen within the view to include a wider, more pedestrian friendly footpath and verge as seen on the western edge of London circuit. A strong terminal focal point would be created at the point where London Circuit visually terminates as the road bends to the left.
Baseline environment (view after RLC)	**Figure 61** shows the anticipated view after RLC. Changes due to RLC would be seen within the middle to background of the view, comprising the reinstatement of London Circuit from the intersection of Edinburgh Avenue. A new central median would be visible, along with new pedestrian and cycle paths, street trees on either side of the road, and a retaining wall seen in the background on the southern edge of London Circuit (right of frame). London Circuit road pavement would be seen to raise slightly into the distance, where it turns to the east and is screened from view behind the proposed street trees.

Table 21 continued

Criteria		Response				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?		●	Visual receptors at this viewpoint would predominantly comprise workers and visitors to the city centre, most of which would be either travelling on the footpath or on the road.		
	Would visual receptors be focussed on the view?		●	Most visual receptors at this viewpoint are unlikely to be focussed on the view as they walk or drive past this location. There is some seating at the entry to 7 London Circuit but this is likely to be provided as a temporary meeting place or place to drink a quick coffee, rather than somewhere to spend time and appreciate the view.		
	Are receptors likely to see views for long periods of time?		●	Visual receptors at this viewpoint are most likely to see the view for short periods of time as they walk or drive past or pause to meet someone at the benches provided in the building forecourt.		
	Would the Project be visible within the view?	●		The Project would be seen within the view, contained within London Circuit road corridor.		
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?		●	The view is not listed as important within these documents. However, London Circuit is identified as a gateway between the avenues and the inner City Hill area.		
	Are there other planning or heritage assets within the view?	●		This viewpoint lies within the Central National Area. The Acton Conservation Area (ACT Heritage Register) boundary is visible within the view, on the western side of London Circuit past Edinburgh Avenue.		
	Are there other indicators of value attached to the view?		●	There are no other indicators of importance of view from this location.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 5 is considered to be Moderate. While there is no strong historic or cultural importance to the view seen from this location, the viewpoint lies within the Central National Area and is important a location within the City Hill precinct. In addition, a high number of visual receptors would see the view from this location and the Project would be seen within the view, making it potentially susceptible to change.

CONSTRUCTION	
Anticipated change in view	Part of this section of London Circuit is narrow and the existing carriageway would need to be widened to enable traffic flow. A 1.5m footpath on both sides of the road would be maintained and some vehicular traffic would be allowed along London Circuit but limited during construction. Construction of the Edinburgh Avenue Light Rail Stop would be seen within the view. From this viewpoint, the construction activity and equipment would include: • Fencing, hoarding, signage, traffic safety equipment • Changes to utilities, including new drainage infrastructure • Bulk earthworks and construction of trackform, new kerb alignments and verge upgrades • Construction of the light rail stop between Gordon Street and Edinburgh Avenue • Installation of lighting, signage and landscaping, including planting of street trees. A construction compound may be positioned in the existing car park opposite this viewpoint. Hoarding around this site would be seen if this location is used during construction.

Table 21 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition / removal of elements within the view?	●		Where seen beyond the 1.8 m hoarding, the Project would result in the addition of the visual clutter associated with construction within the road corridor. Existing trees within the verges would be retained and protected.		
	Would the change result in a high degree of contrast to the existing situation?	●		The construction activity would be in contrast to the existing view and would be positioned in the road corridor, spilling out into the footpaths on either side.		
	Is the change prominent within the view?	●		The change would be prominent within the view due to the close distance of viewing and the amount of the view that is affected.		
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, as well as either side.		
	Is the viewpoint close to the Project?	●		The viewpoint is located directly adjacent to the Project, construction would be seen in the foreground and middle ground of the view and in high detail.		
	Does the change encompass a large extent of the view?	●		Construction activity would be seen within the entire length of the view and from close proximity.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be seen over the short term (up to 2 years) and would be temporary. Intersections would be closed for short term periods (several weekends) within the construction time.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be High. Construction activity would be seen from a close distance and in a high amount of detail within most of the view. The change would be in high contrast to the existing view.
Significance of visual impacts during construction						
Overall impact rating		**High to Moderate**		While the view does not contain the heritage elements similar to Viewpoints 1, 2, 3 and 4, the construction activity would be seen by a high number of visual receptors from close proximity. The view would also include the construction of the light rail stop within the middle ground, as well as the construction of other light rail infrastructure.		
Qualitative rating		**Adverse**		The Project would result in an adverse effect on the view from this location during construction due to the visual clutter of construction activity within the view.		

OPERATION	
Anticipated change in view	At completion, the more visually prominent changes within the view would include: • The realignment of kerbs resulting in changes to the road and footpath widths. Within the view, a parking area would be removed and replaced with an area of paved footpath. • The addition of light rail infrastructure within the centre of the road corridor, including trackform (paving and track) and passing light rail vehicles. • New paving within the footpath, signage, traffic lights and light poles would be seen, including three new street trees. • The light rail stop would be seen in the middle ground of the view, including two shelters on either side of the trackform, framing the view along London Circuit.

Figure 60 Existing view from Viewpoint 5 looking south east along London Circuit (existing view, prior to RLC)

Figure 61 Visual simulation showing the anticipated view seen from Viewpoint 5 after construction of RLC

Figure 62 Visual simulation showing changes to the view seen from Viewpoint 5 due to the Project

Table 21 continued

Criteria		Response		
Magnitude		**Y**	**N**	**Comments**
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of light rail infrastructure within the view (including passing light rail vehicles), as well as changes to lighting, signage and street furniture, the addition of planted areas within the verges separating pedestrian footpaths from the road corridor and a reconfiguration of the road layout. A new light rail stop would also be an additional element within the view, the most visually prominent element comprising a shelter on either side of the central trackform.
	Would the change result in a high degree of contrast to the existing situation?		●	Compositionally, the view remains largely unchanged, with additional light rail elements somewhat visually recessive (with the exception of passing light rail vehicles, which are similar to existing buses and temporary within the view as they pass).
	Is the change prominent within the view?		●	As above, the view remains compositionally unchanged. The most visually prominent elements of the view are either temporary within the view (passing light rail vehicles) or are limited to the ground plane. The proposed light rail stop shelters would be seen in a small portion of the middle ground of the view and from a distance along the road corridor.
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, as well as either side, but predominantly within the road corridor.
	Is the viewpoint close to the Project?	●		The Project would be seen in the foreground and middle ground of the view and in high detail.
	Does the change encompass a large extent of the view?	●		Changes due to the Project would be seen within the entire length of the view and from close proximity.
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, seen over the long term.

Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be Moderate. The changes, while positioned prominently within the view and across the breadth of the view, are somewhat visually recessive, with the overall composition of the view remaining unchanged.

Significance of visual impacts at operation		
Overall impact rating	**Moderate**	The visual impact at this viewpoint is similar to that of Viewpoint 3 in that a high number of receptors would see this view but most would see it as they passed by (i.e. for short periods of time) and the addition of light rail infrastructure within the view is a substantial change, the major elements of the view remain unchanged: • There are no changes to the existing street trees within the view • There are no changes to the levels within the ground plane, just resurfacing of the road and some of the footpaths • Changes to infrastructure within the view would visually comprise a replacement or rationalisation of elements, rather than a 'change'. • The light rail stop would be somewhat visually recessive within the view due to the small area of the view affected by this infrastructure and the position of the shelters on either side of the trackform, which preserves views along the centre of the road corridor.
Qualitative rating	**Beneficial**	Overall, the Project results in a 'tidying up' and 'refreshing' of the groundplane and structures within the view (including lighting, signage and street furniture). The addition of the trackform to the centre of the road reduces the visual prominence of the vehicular road area within the view, along with the upgrade of surface finishes. These result in a beneficial qualitative outcome to the view by the Project.

6.2.7 Viewpoint 6: 1 London Circuit

Refer to **Table 22** for the assessment of impact of the Project on views from Viewpoint 6.

Table 22: Visual impact assessment of Viewpoint 6: 1 London Circuit

Criteria	Response
Viewpoint location	This viewpoint is located on the driveway of 1 London Circuit looking south east along London Circuit towards Commonwealth Avenue. The viewpoint is positioned on the boundary of the Project at the entry point to the QT Hotel. It is assumed that this location would not be in use during construction due to changes to the verge up to the property boundary. There is an alternative entry into the property from the rear on Marcus Clarke Street.
Viewpoint rationale	This viewpoint has been chosen to represent views from London Circuit where the road corridor begins to rise up to meet Commonwealth Avenue. It would be frequented by locals and tourists, particularly as it is the entry to the hotel on London Circuit. This viewpoint is located on the footpath but from outside a hotel with unimpeded views to the Project.
Visual receptors	From the footpath, a low to moderate number of visual receptors would experience the view. From the road, a high number of motorists would see the view as they drove along London Circuit, including tourists and locals.
Existing view	The existing view from this location is shown in **Figure 63**. The view south east along London Circuit from this viewpoint is visually dominated by the road corridor in the foreground, including one lane travelling in either direction separated by a concrete median strip. The verge on either side of the road includes a narrow concrete footpath, turf, shrubs and street trees. A car park is seen in the middle ground of the view on the north eastern side of the road, predominantly screened by vegetation. Some built form is seen rising above the vegetation to the north, and vegetation seen at the gap in street trees to the east at the point where London Circuit turns to join Commonwealth Avenue. The eye is drawn along the road to a focal point to the south east, where trees on either verge frame the view to the treetops in the landscape beyond one of the cloverleaves to the south of London Circuit.
Baseline environment (view after RLC)	**Figure 64** shows the anticipated view after RLC. Changes due to RLC would be seen within the foreground to background of the view, comprising the reinstatement of London Circuit from the intersection of Edinburgh Avenue to the east until the road disappears from view. A new central median planted with turf would be seen, along with new pedestrian and cycle paths, street trees on either side of the road, and a retaining wall along the southern edge of the road (right of frame). London Circuit would be seen towards the east, where it turns towards Commonwealth Avenue and is screened from view behind the proposed street trees.

Sensitivity		Y	N	Comments
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?		●	Visual receptors at this viewpoint would predominantly comprise workers and visitors to the city centre travelling on the footpath or on the road, however, tourists would see the view from the QT Hotel.
	Would visual receptors be focussed on the view?		●	Most visual receptors at this viewpoint are unlikely to be focussed on the view as they walk or drive past this location.
	Are receptors likely to see views for long periods of time?		●	Visual receptors at this viewpoint are most likely to see the view for short periods of time as they walk or drive past this location.
	Would the Project be visible within the view?	●		The Project would be seen within the view, contained within London Circuit road corridor.

Table 22 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?		●	The view is not listed as important within these documents. However, this viewpoint lies within a precinct within the Central National Area (it is a Designated Area). London Circuit is identified as a gateway between the avenues and the inner City Hill area.		
	Are there other planning or heritage assets within the view?	●		This viewpoint lies within the Central National Area and on the boundary of the Acton Conservation Area (ACT Heritage Register).		
	Are there other indicators of value attached to the view?		●	There are no other indicators of importance of view from this location.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 6 is considered to be Moderate. While there is no strong historic or cultural importance to the view seen from this location, the viewpoint lies within the Central National Area and is an important location within the City Hill precinct.

CONSTRUCTION						
Anticipated change in view		Construction would occur within the turf median constructed during RLC and would include: • Fencing, signage, traffic safety equipment • Construction of remaining utilities not completed as part of RLC, trackform and drainage within the median • Localised pavement sheeting. A construction compound may be positioned in the existing car park opposite this viewpoint. Hoarding around this site would be seen if this location is used during construction. While the block would be closed to traffic between Edinburgh Avenue and Commonwealth Avenue, access to the QT Hotel main driveway (this viewpoint) would be maintained.				
Size / scale	Would the Project result in the addition / removal of elements within the view?	●		The Project would result in the addition of the visual clutter associated with construction within the road corridor. Existing trees within the verge (planted during the construction of RLC) would be protected.		
	Would the change result in a high degree of contrast to the existing situation?		●	The construction activity would be in contrast to the existing view to the completed RLC project, however, this area would have been subject to construction during RLC so would be somewhat typical within the area.		
	Is the change prominent within the view?	●		The change would be prominent within the view due to the close distance of viewing and the amount of the view that is affected.		
Extent	What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, extending to the right of frame within the view.		
	Is the viewpoint close to the Project?	●		The viewpoint is located directly adjacent to the Project, construction would be seen in the foreground and middle ground of the view and in high detail.		
	Does the change encompass a large extent of the view?	●		Construction activity would be seen within the entire length of the view and from close proximity.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be seen over the short term (up to 2 years) and would be temporary.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be High. Construction activity would be seen from a close distance and in a high amount of detail within most of the view. The change would be in high contrast to the existing view.

Table 22 continued

Criteria	Response	
Significance of visual impacts during construction		
Overall impact rating	**High to Moderate**	The construction activity would be seen by a moderate to high number of visual receptors from close proximity from close proximity and in a high level of detail.
Qualitative rating	**Adverse**	The Project would result in an adverse effect on the view from this location during construction due to the visual clutter of construction activity within the view.

OPERATION					
Anticipated change in view	Changes within the view would comprise the addition of trackform and passing light rail vehicles within the median of London Circuit. All changes within the verges of London Circuit would have been completed during RLC.				
Magnitude	**Y**	**N**	**Comments**		
Size / scale – Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of the trackform in the road and passing light rail vehicles. No other changes to the road and verges would be seen.		
Size / scale – Would the change result in a high degree of contrast to the existing situation?		●	The changes would be seen in the fore and middle ground of the view and be commensurate with the existing character of the road. The primary change seen would be to the ground plane of London Circuit, which would not be in contrast to the existing situation.		
Size / scale – Is the change prominent within the view?		●	The changes would not be visually prominent within the view, primarily affecting the surface finish within the median (which would change from a slightly raised turf median to trackform).		
Extent – What is the angle of the view in relation to the receptor?			The Project would be seen directly in front of the viewpoint, extending to the right of frame within the view.		
Extent – Is the viewpoint close to the Project?	●		The viewpoint is located directly adjacent to the Project, with changes seen in the foreground and middle ground of the view and in high detail.		
Extent – Does the change encompass a large extent of the view?	●		Yes - within the entire length of the view and from close proximity.		
Duration – Would the changes be seen over the long term or be permanent?	●		The changes would be seen over the long term.		
Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be Moderate. The changes, while positioned prominently within the view and across the breadth of the view, are considered to be visually recessive, with the overall composition of the view remaining unchanged.
Significance of visual impacts at operation					
Overall impact rating	**Moderate**		The overall rating of Moderate is due to the close proximity of the changes and moderate to high number of receptors who would see this view. The addition of trackform and light rail vehicles within the view would not be a considerable or visually prominent change, with the major elements of the view remaining.		
Qualitative rating	**Neutral**		The changes to the ground plane within the road (the replacement of the turf median with trackform) would not alter the quality of the existing view. Passing light rail vehicles would be a new addition to the view, but would be similar in scale to buses or other large vehicles within the road corridor and be a temporary addition to the view as they passed.		

Figure 63 Existing view from Viewpoint 6 looking south east along London Circuit

Figure 64 Visual simulation showing the anticipated view seen from Viewpoint 6 after RLC

6.2.8 Viewpoint 7: City Hill North

Refer **Table 23** for the assessment of impact of the Project on views from Viewpoint 7.

Table 23: Visual impact assessment of Viewpoint 7: City Hill North

Criteria		Response		
Viewpoint location		This viewpoint is located on City Hill between the row of cypress trees, looking north along Northbourne Avenue towards the Project.		
Viewpoint rationale		This viewpoint has been chosen to represent one of the views from City Hill, which is a heritage listed item (ACT Heritage Register). Views from this location are listed as important in the NCP and City Plan, the views illustrate the geometric layout of the Griffin Plan. City Hill is positioned at the northern corner of the National Triangle. This location is a tourist destination containing landmarks including a flagpole at the peak of the hill, erected to mark the Territory becoming self-governing, and the Canberra Centenary Column. The planting, coupled with the topography within the park, focusses views along the avenues radiating out from City Hill.		
Visual receptors		A moderate number of visual receptors would experience the view from this viewpoint and include visitors to a recreational open space, including tourists and locals. Locals using the park as a pedestrian thoroughfare are more likely to use the path provided on the side of the park, which provides a shorter distance between likely destinations.		
Existing view		The existing view from this location is shown in **Figure 65** and **Figure 66**. This view comprises a framed view to the north between an avenue of Cypress trees, across Vernon Circle and along the length of Northbourne Avenue, culminating in dark, vegetated hillsides seen in the distance against the horizon. London Circuit is visible at the northern end of Northbourne Plaza, however, Vernon Circle is a more visually prominent horizontal element (road) within the view due to the road pavement continuing past Northbourne Avenue to the east and west within the view. The row of Cypress trees framing the view, as well as others within the park to the north and south, provide a strong vertical emphasis to the view. This is reiterated by the tall, vertical built form and street trees framing Northbourne Avenue and the strips of low planting and red decomposed granite path that extends north between Vernon Circle and London Circuit. The low, open landscape on Northbourne Avenue between Alinga Street and Vernon Circle within the middle ground of the view provides some ‘space’ within the view which accentuates the view framed by street trees in the median from London Circuit north. This also increases the visual prominence of the Sydney and Melbourne Buildings within the view, as the built form height rises from these two framing elements to the more substantial buildings within the city. The existing light rail is visible within the middle to background of the view, comprising an open, paved area where track would be located, and light rail vehicles.		
Baseline environment (view after RLC)		There would be no changes within the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint is likely to attract tourists and other visual receptors who would be using the park to walk through. The quality of the view would be important to the enjoyment of the recreational / tourist experience.
	Would visual receptors be focussed on the view?	●		Tourists and local walkers visiting this location are likely to be focussed on the view.
	Are receptors likely to see views for long periods of time?		●	Visitors are likely to pause to reflect on the view before moving on to experience the view from another part of the park.
	Would the Project be visible within the view?	●		The Project would be visible from this location within a small portion of the middle ground of the view.

Table 23 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●				View listed within the NCP and City Plan. City Hill is a Designated Area. The view corridors from City Hill are particularly mentioned. London Circuit is identified as a gateway between the avenues and the inner City Hill area, and is visible within this view.
	Are there other planning or heritage assets within the view?	●				This location is important both in its heritage context and from a planning perspective as described in the viewpoint rationale.
	Are there other indicators of value attached to the view?	●				The planting within City Hill park focusses the attention of visitors along the avenues, including along Northbourne Avenue. The park contains landmarks, including commemorative items such as the flagpole and the Centenary Column.
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 7 is considered to be High. The viewpoint is positioned within an important area from a heritage and planning perspective. The Project would be visible within the view.

Figure 65 View from Viewpoint 7 looking north along Northbourne Avenue

Figure 66 Detail of **Figure 65** showing the view north along Northbourne Avenue

Table 23 continued

Criteria		Response				
CONSTRUCTION						
Anticipated change in view		Construction would be limited to the central median and the lanes directly adjacent to it, seen in middle to background of the view and framed between the row of Cypress trees that focus the view from this location along Northbourne Avenue. It would include: • Fencing, hoarding, signage, traffic safety equipment • Removal of trees, furniture and signage • Bulk earthworks (initially to lower the topography to the raised median between Alinga Street and London Circuit) construction of trackform and retaining walls / landscape elements • Installation of lighting, signage and landscaping, including planting of street trees. During construction, one lane travelling in each direction on Northbourne Avenue would be maintained.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		Construction activity and equipment would comprise additional elements within the view. Trees would be removed from within the view, from the median between the Sydney and Melbourne Buildings.		
	Would the change result in a high degree of contrast to the existing situation?	●		Construction, while common within the city, would be in contrast to the established landscape, particularly between the Sydney and Melbourne Buildings, where street trees would be removed and replaced with earthworks and general construction activity.		
	Is the change prominent within the view?	●		While the construction is unlikely to be seen in a great amount of detail due to the distance of viewing (230m at its nearest point), the works would happen within the focal point of the view and framed between the heritage listed Sydney and Melbourne Buildings.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint in the centre of the view, framed within the focal point of the view		
	Is the viewpoint close to the Project?		●	Not particularly. Construction would occur at its closest point around 230m away.		
	Does the change encompass a large extent of the view?		●	No. The construction would only be seen in a small portion of the view, and seen along the length of the work (rather than spread out on the horizontal ground plane), which would further reduce the amount construction visible within the view.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term during the 2 year construction period.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be Moderate. While the distance of viewing would limit the amount of detail discernible of the construction, the works would be seen within the focal point of the view along Northbourne Avenue.
Significance of visual impacts during construction						
Overall impact rating		**High to Moderate**		The overall visual impact rating for the viewpoint during the construction period is High to Moderate. This rating is due to the high sensitivity of the visual receptors coupled with the position of the construction activity within the view along Northbourne Avenue, along which the view is focussed. While construction activity would be seen in the middle ground of the focal point of the view, the extended view along Northbourne Avenue would be preserved.		
Qualitative rating		**Adverse**		The Project would result in an adverse effect on the view from this location during construction, introducing the visual clutter associated with construction activity to a key focal point within the view.		

Table 23 continued

Criteria		Response		
OPERATION				
Anticipated change in view		At completion, the Project would comprise: • The light rail tracks would extend south from the Alinga Street light rail stop between the Sydney and Melbourne Buildings to London Circuit, where the tracks would turn to the left (west) and out of view behind built form on London Circuit. • The raised, landscaped median strip between the Sydney and Melbourne Buildings would be replaced with a green, planted groundplane, with 'Green track' extending along the central track area. • A double avenue of Zelkova trees would be planted on either side of the track within the median. • While updated signage, lighting and furniture would be positioned within the median, these would most likely not be seen due to the distance of viewing.		
Magnitude		**Y**	**N**	**Comments**
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of the above listed elements within the view, as well as light rail vehicles, which would be seen travelling on the extended light rail tracks.
	Would the change result in a high degree of contrast to the existing situation?		●	No. Light rail is already a feature within the view along Northbourne Avenue. The Project would be seen as an extension of this track rather than an uncharacteristic element. The soft landscaping and avenue of Zelkova trees within Northbourne Plaza would be similar to that seen in the existing view.
	Is the change prominent within the view?		●	No, while the changes would occur within the centre / focal point of the view, they would be seen from a moderate distance and would visually comprise a replacement of the more prominent elements (namely tree planting within the median). The changes would reduce in visual prominence as the street trees matured.
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint in the centre of the view, framed within the focal point of the view
	Is the viewpoint close to the Project?		●	Not particularly. The changes would be seen from around 230m away at the closest point.
	Does the change encompass a large extent of the view?		●	The changes would only be seen in a small portion of the view.
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be seen over the long term, although the view would change as the trees matured.
Overall magnitude rating		**H**	**M**	**L** **Neg** The magnitude of change experienced at this viewpoint at operation of the Project is considered to be Low due to the distance of the changes, the visual replacement of elements within the view and the small proportion of the overall view that would be affected.
Significance of visual impacts at operation				
Overall impact rating		**Moderate**		While visual receptors at this viewpoint are likely to be sensitive to changes to views from within City Hill Park, the changes due to the Project along Northbourne Avenue would be predominantly visually recessive, given the replacement of elements within the view (namely the avenue of street trees and the green, landscaped median). The extension of the light rail from the Alinga Street light rail stop would increase the amount of light rail infrastructure within the road corridor, but would not comprise a new or uncharacteristic element within the view.
Qualitative rating		**Neutral**		Due to the above, there would be no change in the quality of the view from this viewpoint. The key elements within the view: the framing quality of the trees within City Hill Park and the gun-barrel view along Northbourne Avenue would not be affected by the Project.

6.2.9 Viewpoint 8: City Hill South

Refer to **Table 24** for the assessment of impact of the Project on views from Viewpoint 8.

Table 24: Visual impact assessment of Viewpoint 8: City Hill South

Criteria	Response
Viewpoint location	This viewpoint is located on City Hill within City Hill Park on the southern side of the hill between the avenue of Cypress trees looking south along Commonwealth Avenue. The viewpoint is positioned approximately 50 m north of Vernon Circle and 200 m from the intersection of London Circuit and Commonwealth Avenue.
Viewpoint rationale	As per Viewpoint 9 and 10, this viewpoint has been chosen to represent views from City Hill, which is a heritage listed item (ACT Heritage Register). Views from this location are listed as important in the NCP and City Plan, the views illustrate the geometric layout of the Griffin Plan. City Hill is positioned at the northern corner of the National Triangle. This location is a tourist destination from which views along Commonwealth Avenue to Capital Hill can be enjoyed. Canberra Renewal Authority have proposed the City Hill Footpath which, if implemented, would provide a viewing platform from this location (construction is anticipated to occur in 2022).
Visual receptors	A moderate number of visual receptors would experience the view from this viewpoint and include visitors to a recreational open space, including tourists and locals. Locals using the park as a pedestrian thoroughfare are more likely to use the path provided on the side of the park, which provides a shorter distance between likely destinations.
Existing view	The existing view from this location is shown in **Figure 67** and **Figure 68**. The composition of the view comprises a framed view between an avenue of Cypress trees along a Main Avenue(Commonwealth Avenue , which is one side of the National Triangle) and terminates at Parliament House on Capital Hill. A horizontal band of low shrubs are seen in the foreground of the view at the edge of City Park fringing Vernon Circle, with the two carriageways and median of Commonwealth Avenue extending south to a low point at the Commonwealth Avenue Bridge, which spans Lake Burley Griffin. The lake itself is not seen from this location. The intersection of London Circuit with Commonwealth Avenue is not seen within the view as London Circuit passes below Commonwealth Avenue. The row of Cypress trees framing the view, as well as others within the park to the north and south, provide a strong vertical emphasis within the view. There are a couple of taller buildings seen to the west, partially screened by the Cypress trees. The remainder of the view, particularly to the south along the avenue, is devoid of tall buildings so the dark, vegetated hillsides surrounding Canberra can be seen on the horizon. The distinctive flagpole on Parliament House bisects the horizon line and can be seen in relief against the sky, as can several light and flag poles in the middle ground of the view. The linear view along the avenue, culminating in the focal point of Parliament House, is a strong, characteristic view with vertical emphasis repeated throughout. The key focal point is emphasised by the design of the Parliament House building and flagpole, and landscape elements (including the road pavement, paler grassed median, flagpoles, vertical structures on the bridge and avenue of trees on either side of the road) within the view all combine to further strengthen this focal point within the view.
Baseline environment (view after RLC)	**Figure 69** and **Figure 70** show the anticipated changes to the view from this viewpoint at operation. The intersection of London Circuit and Commonwealth Avenue would be seen within the middle ground of the view on Commonwealth Avenue. The foreground of the view remains unchanged, comprising the turf and trees within City Hill Park and a row of shrubs fringing Vernon Circle. Beyond this, the extent of the central median on Commonwealth Avenue would be planted near the intersection with shrubs and groundcovers, the variation in colour and texture of which would be seen. London Circuit would be seen in the middle ground to the east (left of Commonwealth Avenue) and west (right of Commonwealth Avenue). The road would be lined with deciduous trees. The intersection of London Circuit and Commonwealth Avenue appears more prominently within the view than the existing bridge over London Circuit. Traffic lights and road signage would be seen within the view but would be visually recessive due to their slender forms. The mast arm traffic lights would ‘lean’ into the intersection and be seen within the corridor view along the road. The ‘sentinel’ trees at the corners of the intersection may be visible.

Table 24 continued

Criteria		Response				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint is likely to attract tourists and other visual receptors who would be using the park to walk through. The quality of the view would be important to the enjoyment of the recreational / tourist experience. The view from this location includes the view along a Main Avenue to Parliament House.		
	Would visual receptors be focussed on the view?	●		Tourists and local recreational walkers visiting this location are likely to be focussed on the view.		
	Are receptors likely to see views for long periods of time?	●		Most visitors are likely to pause to reflect on the view before moving on to experience the view from another part of the park, however, at this location a bench is supplied within the park which is positioned to allow the visual receptor to focus on this view to the south along Commonwealth Avenue, potentially lengthening the time they would spend contemplating this view.		
	Would the Project be visible within the view?	●		The Project would be visible from this location within a small portion of the middle to background of the view.		
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		View listed within the NCP and City Plan. City Hill is a precinct within the Central National Area (it is a Designated Area). The view corridors from City Hill are particularly mentioned. London Circuit is identified as a gateway between the avenues and the inner City Hill area, and is visible within this view. Commonwealth Avenue is a Main Avenue and comprises one side of the National Triangle.		
	Are there other planning or heritage assets within the view?	●		This location is important both in its heritage context and from a planning perspective as described in the viewpoint rationale. The view also includes the Parliament House Vista, which is listed in the CHL.		
	Are there other indicators of value attached to the view?	●		The planting within City Hill park focusses the attention of visitors along the avenues, including along Commonwealth Avenue. The park contains landmarks, including commemorative items such as the flagpole and the Centenary Column.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 8 is considered to be High. The viewpoint is positioned within an important area from a heritage and planning perspective. Visual receptors are given the opportunity to contemplate the view to Parliament House along a Main Avenue which comprises one side of the National Triangle.

CONSTRUCTION	
Anticipated change in view	Construction activity is anticipated to be seen in middle to background of the view, limited to the including: • Fencing, hoarding, signage, traffic safety equipment • Tree removal on either side of Commonwealth Avenue, south of the Parkes Way bridge • Construction of new drainage infrastructure and trackform within the median of Commonwealth Avenue • Construction of two light rail stops, one to the north of Parkes Way and one near the southern extent of the works • Resurfacing of the carriageways • Installation of lighting, signage and landscaping, including planting of street trees. Some road closures during construction would be required, however, some through traffic would typically be facilitated with alternating lane changes. The view to the construction activity would be seen framed between the row of Cypress trees that focus the view from this location along Commonwealth Avenue to a focal point at Parliament House on Capital Hill. Due to the fall in the road to the south towards Lake Burley Griffin, then the rise towards Capital Hill, it is likely that the view to Parliament House would still be visible during construction.

Table 24 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		Removal of existing trees would result in the loss of elements within the view. The construction activity would be a series of additional elements within the view.		
	Would the change result in a high degree of contrast to the existing situation?	●		While construction activity would have been experienced within the view due to RLC, this Project would require the extension of construction activity south along Commonwealth Avenue into areas that had not been affected by RLC previously.		
	Is the change prominent within the view?	●		The construction activity would primarily occur within the focal area of the view, seen between Cypress trees planted to frame the view along the Main Avenue to Parliament House. The view to the construction activity between breaks in the trees to the west would be less visually prominent within the view.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint, extending south along Commonwealth Avenue.		
	Is the viewpoint close to the Project?		●	The changes would be seen in the middle to background from a distance of approximately 200 m at its closest point.		
	Does the change encompass a large extent of the view?		●	The construction activity would be seen over a small horizontal portion of the view, extending along Commonwealth Avenue. It is noted that the construction would be seen within the focal point of the view.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term (up to two years).		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint during construction of the Project is considered to be High. The construction would be seen in the middle ground of the view, but framed between trees planted to focus the viewers attention on the view along Commonwealth Avenue to Parliament House. The works would occur within the focal point of the view, along a Main Avenue terminating in the view to Parliament House.
Significance of visual impacts during construction						
Overall impact rating		**High**		The overall impact of the Project during construction on the view from this viewpoint is considered to be High. The high sensitivity of visual receptors coupled with the visual prominence of the changes and the position of construction within the framed view but the small proportion of the view contribute to this rating. The changes would be temporary and seen over a short term.		
Qualitative rating		**Adverse**		The Project would result in an adverse effect on the view from this location during construction, introducing the visual clutter associated with construction activity to a key focal point in the view.		

OPERATION	
Anticipated change in view	At operation the changes to the view include: • The addition of the light rail within the median, including trackform, light rail vehicles and two light rail stops. Most of the trackform would be 'Green tracks' along Commonwealth Avenue • A row of street trees within the median, between the light rail tracks • New street trees on either side of Commonwealth Avenue, including a staggered arrangement of coniferous and deciduous trees on either side • New road infrastructure, including lighting, signage and traffic lights.

Table 24 continued

Criteria		Response				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of elements within the view, including light rail infrastructure (including trackform, two light rail stops and passing light rail vehicles) and changes to the verges including new street trees. New electrical infrastructure and signage would be seen, however, would be visually recessive due to distance of viewing.		
	Would the change result in a high degree of contrast to the existing situation?	●		While the key elements within the view remain unchanged (being the 'gun'-barrel' view along Commonwealth Avenue to Capital Hill and Parliament House), the addition of trees within the central median and the inclusion of coniferous trees on either side of Commonwealth Avenue would be in contrast to the existing view.		
	Is the change prominent within the view?	●		Changes to the trees (as listed above) would elevate the prominence of the Project within the landscape, particularly in winter, when the darker green canopy within the avenue would remain (the existing avenue trees are deciduous).		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint, framed between the Cypress trees in City Hill Park.		
	Is the viewpoint close to the Project?		●	The changes would be seen in the middle to background from a distance of approximately 200 m.		
	Does the change encompass a large extent of the view?		●	The changes are considered to encompass a moderate to small extent of the view. However, it is noted that the changes occur within the focal point of the view.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent and seen over the long term.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation is considered to be Moderate. The Project would result in the addition of elements within the view in the middle ground, framed by the Cypress trees within City Hill Park. The changes would be limited to a small but central proportion of the view, but would preserve the most important elements (e.g. the view of Parliament House along an avenue framed by street trees). The infrastructure elements within the view are typically visually recessive, with the exception of passing light rail vehicles, which would comprise a new element: vehicles within the central median of the avenue.
Significance of visual impacts at operation						
Overall impact rating		**High to Moderate**		The overall visual impact of the Project at operation on the view from this viewpoint is considered to be High to Moderate. This rating has resulted from the sensitivity of visual receptors seeing the culturally important view along a Main Avenue to Parliament House, coupled with the changes being located within a small but focal area of this view.		
Qualitative rating		**Neutral**		Overall the changes are considered to be Neutral as there are positive and negative aspects of the Project when viewed from this location: • The addition of light rail within the median of Commonwealth Avenue is a somewhat visually acceptable change given the identification of this avenue as appropriate for public transport. • The change in avenue tree species from only deciduous to a mix of coniferous and deciduous is a calculated one, identified in planning documents to emphasise the avenue affect of Commonwealth Avenue throughout the seasons. • The use of 'Green track' preserves the visual aesthetic of the turf median leading up to Parliament House. The placement of trees, while matching those planted in the median on the southern side of Lake Burley Griffin, also decrease the open 'runway' of turf within the median leading up to this focal point within the view. They also reduce the visual prominence of light rail infrastructure within the view, including passing light rail and light rail stops.		

Figure 67 Existing view from Viewpoint 8 looking south along Commonwealth Avenue

Figure 68 Detail of **Figure 67** showing the existing view from Viewpoint 8

Figure 69 Visual simulation showing changes to the view seen from Viewpoint 8 due to RLC

Figure 70 Detail of **Figure 69** showing proposed changes to the view seen from Viewpoint 8 due to RLC

6.2.10 Viewpoint 9: Commonwealth Avenue

Refer to **Table 25** for the assessment of impact of the Project on views from Viewpoint 9.

Table 25: Visual impact assessment of Viewpoint 9: Commonwealth Avenue

Criteria	Response
Viewpoint location	This viewpoint is located on Commonwealth Avenue at the intersection with Parkes Way, looking north towards London Circuit. The Project extends to the northern side of the bridge over Parkes Way, approximately 120 m north of the viewpoint.
Viewpoint rationale	This viewpoint has been chosen to represent the view along Commonwealth Avenue from close proximity to the Project. Views to and from City Hill are listed as important in the NCP and City Plan, particularly along the Main Avenues.
Visual receptors	A high number of visual receptors would experience the view from this viewpoint as they passed by on foot or in a vehicle, and include locals and tourists.
Existing view	The existing view from this location is shown in **Figure 71**. The view in the foreground includes the road and footpath of Commonwealth Avenue bridge over Parkes Way, including the bridge fencing and pedestrian safety infrastructure. The turfed verges, median and batters with scattered trees within the Parkes Way road corridor are seen to the west of Commonwealth Avenue, with the Parkes Way road pavement extending westwards towards Acton. In the background of the view City Hill is seen at the termination of Commonwealth Avenue. The distinctive plantings of Cypress pines are seen in relief against the sky. The tall city buildings fringing London Circuit and Marcus Clarke Street are seen to the west of City Hill behind the expanse of turfed batter associated with one of the cloverleaves between Parkes Way and London Circuit.
Baseline environment (view after RLC)	**Figure 72** shows the anticipated changes to the view from this viewpoint after RLC has been constructed. The intersection of London Circuit and Commonwealth Avenue would be seen within the background of the view, comprising the new raised London Circuit extending from the west (left of frame) next to the Breakfree Capital Tower to the intersection with Commonwealth Avenue, then continuing to the east at the proposed raised level. The turfed batter to the south of London Circuit would have been retained within the view, however, the road within the cloverleaf would have been removed. Street trees would be seen fringing London Circuit to the east and west of Commonwealth Avenue, visually unifying the road corridor within the landscape. Taller electrical infrastructure would be visible within the intersection, including traffic lights on mast arms and street lighting. The planted median to the north of the intersection would be seen in the background, providing a decorative vegetated end to the Commonwealth Avenue road corridor, seen below City Hill.

Sensitivity		Y	N	Comments
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?		●	A majority of passers-by on Commonwealth Avenue would comprise vehicular traffic comprising locals and tourists. The quality of the view is unlikely to be important to the enjoyment of passers-by at this location as it is taken from within the road corridor where receptors would be moving from one place to the next. While the quality of views are typically more important to the enjoyment of the tourist experience, visual receptors at this location would be predominantly passers-by and therefore would not have their attention focussed on views.
	Would visual receptors be focussed on the view?		●	While Commonwealth Avenue is a Main Avenue and has significance, particularly in the views along the corridor, the road narrows to cross over Parkes Way at this location resulting in a stretch of road that would be more dominated by road infrastructure and less picturesque than other points along the road. Visual receptors are therefore unlikely to be focussed on the view from this location.
	Are receptors likely to see views for long periods of time?		●	Visual receptors would experience the view for short periods of time as they travelled past the viewpoint.
	Would the Project be visible within the view?	●		The Project would be visible from this location within the view.

Table 25 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		The viewpoint is positioned on Commonwealth Avenue near City Hill. This view corridor is listed as important within the NCP and City Plan. City Hill is a precinct within the Central National Area (it is a Designated Area).		
	Are there other planning or heritage assets within the view?	●		This location is important both in its heritage context and from a planning perspective as described in the viewpoint rationale. The viewpoint lies within the Parliament House Vista, which is listed in the CHL. The view includes City Hill, which is listed in the ACT Heritage Register.		
	Are there other indicators of value attached to the view?		●	No, the view is still from within a main road corridor with a majority of visual receptors comprising motorists driving on the road.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 9 is considered to be Moderate. The viewpoint is positioned within an important area with views along the corridor having heritage and planning importance, however, the view would predominantly be seen by passers by for a short period of time.

CONSTRUCTION				
Anticipated change in view	From this viewpoint, the construction activity would include: • Approved temporary traffic management set-up implementation (seen on Commonwealth Avenue and Parkes Way) and installation of environmental controls • Enabling works, including removal of trees and temporary removal of street lighting on Parkes Way, protection or relocation of utilities and construction of temporary roads • Piling works to install 12 piles (although a majority of this would be limited to Parkes Way and out of site. Machinery may be seen) • Structural works, including the installation of pile caps, footings, abutment walls and piers • Earthworks, including the demolition of the top 2.5 m of existing abutment walls and backfilling • Steel box girders installation • Installation of deck and track slab, including deck slab reinforcement, CSR conduits, irrigation mains, light rail alignment, green track and trench drains. The construction of temporary roads allows for the continued movement of traffic during bridge construction activities.			
Magnitude		**Y**	**N**	**Comments**
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the removal of vegetation on Parkes Way within the view and the addition of construction activity and equipment.
	Would the change result in a high degree of contrast to the existing situation?	●		The change would be in contrast to the existing, established landscape.
	Is the change prominent within the view?	●		The construction activity would be visually prominent within the view, particularly due to the close proximity of the changes on Parkes Way and seen on Commonwealth Avenue and the scale of the equipment.
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint, extending west along Parkes Way. Some changes would also be seen in the median of Commonwealth Avenue.
	Is the viewpoint close to the Project?	●		Yes - the viewpoint lies within the delivery phase area at this location.
	Does the change encompass a large extent of the view?	●		The construction would be seen across the entire length of the view and be seen predominantly in the middle to background of the view.

Table 25 continued

Criteria		Response				
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen within the two year construction period.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be High. The changes would be seen with a majority of the view in the middle and background and would be in stark contrast to the existing situation.
Significance of visual impacts during construction						
Overall impact rating		**High to Moderate**				The overall visual impact rating for the viewpoint during the construction period is High to Moderate, comprising a combination of the sensitivity of view and the substantial amount of change within the view seen within Parkes Way and along Commonwealth Avenue.
Qualitative rating		**Adverse**				The changes due to construction would result in an adverse affect on the quality of the view. The visual clutter of construction activity would become the dominant feature within the view, rather than the softer landscape within Parkes Way, which despite being a transport corridor, comprises a high proportion of turf and trees.

OPERATION				
Anticipated change in view		Within the foreground of the view to the left of frame, the embankment of the bridge would be altered, with planting of street trees along Commonwealth Avenue near Parkes Way. A single row of trees would be visible in the median to the right of frame, just visible within the view. The light rail would be seen within the existing median, including replacing the low safety fencing and gap between the two carriageways of Commonwealth Avenue as it passes over Parkes Way with trackform and passing light rail vehicles. Further north within the median, a light rail stop would be visible, comprising shelter, signage and landscaping. Taller elements at the light rail stop would be seen against City Hill, partly screening the lower area of the landform. The trackform to the north and south of Parkes Way would be 'Green track', comprising turf or a low groundcover within the median.			
Magnitude		**Y**	**N**	**Comments**
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of trackform, passing light rail vehicles, signage, lighting, street trees and lower planting near the light rail station to the north of Parkes Way.
	Would the change result in a high degree of contrast to the existing situation?	●		Changes within the median would be in contrast with the existing situation, even after RLC had been constructed. The addition of built form, light rail vehicles and trees within the median would comprise a considerable difference to the composition of the view.
	Is the change prominent within the view?	●		Yes. The changes would be seen from close proximity, extending into the middle ground. They include larger elements such as street trees and built form and introduce vehicles within a previously 'empty' median.
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint and from a slightly oblique angle to the west beyond Parkes Way to London Circuit.
	Is the viewpoint close to the Project?		●	Yes. Changes would be seen in the foreground within most of the view.
	Does the change encompass a large extent of the view?	●		The changes would be seen over approximately half of the extent of the view.
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, seen over the long term, although would change over time as the street trees matured, with built elements within the median reducing in visual prominence as the trees matured.

Figure 71 Existing view from Viewpoint 9 looking north along Commonwealth Avenue

Figure 72 Visual simulation showing changes to the view due to RLC seen from Viewpoint 9

Figure 73 Visual simulation showing changes to the view due to the Project seen from Viewpoint 9

Figure 74 Detail of **Figure 73** showing proposed changes to the view due to the Project

Criteria	Response				
Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation is considered to be High. The Project would result in the addition of elements within the view in the fore and middle ground, with the addition of structures, vehicles and street trees in the median changing the composition of the view. The changes would be seen in high amounts of detail and within a substantial portion of the view.
Significance of visual impacts at operation					
Overall impact rating	**High to Moderate**				The overall visual impact of the Project at operation on the view from this viewpoint is considered to be High to Moderate. The Project would be seen by a high number of passers-by on a Main Avenue, but not from a position where the view would be particularly valued by receptors. The changes include the addition of street trees to either side of Commonwealth Avenue, as well as within the median. While the median would be 'clear' of structures and planting as Commonwealth Avenue passed over Parkes Way, the gap between the carriageways would be filled in and light rail infrastructure placed within the median. This would visually increase the seen width of the road pavement locally within this area. Street trees and the light rail stop to the north would visually 'split' the carriageways in a more dominant fashion.
Qualitative rating	**Adverse**				Overall most of the changes would not be considered adverse, especially considering that adding trees to a road corridor tend to visually soften the landscape, making them shadier and more desirable. However, any built form (including shade structures) at the light rail stop to the north of Parkes Way would be viewed against the backdrop of City Hill, partly screening the lower area of the hillside. Considering the importance of City Hill as a visual focal point terminating Commonwealth Avenue, this outcome is considered adverse.

6.2.11 Viewpoint 10: Commonwealth Avenue

Refer **Table 26** for the assessment of impact of the Project on views from Viewpoint 10.

Table 26: Visual impact assessment of Viewpoint 10: Commonwealth Avenue

Criteria		Response		
Viewpoint location		This viewpoint is located on the eastern verge of Commonwealth Avenue near Corkhill Street, looking north from near a bus stop.		
Viewpoint rationale		This viewpoint has been chosen as it represents the view along a Main Avenue (Commonwealth Avenue) looking north towards City Hill. The viewpoint is a location of interest close to the operational changes. Views to and from City Hill are listed as important in the NCP, particularly along the Main Avenues. View corridor listed as key in the City Plan.		
Visual receptors		A high number of visual receptors would experience the view from this viewpoint and include those passing in vehicles and on foot on Commonwealth Avenue. It is likely that tourists would be amongst those seeing the view, as well as those going to and from the parklands to the east and west on the foreshores of Lake Burley Griffin. This location is positioned at a bus stop.		
Existing view		The existing view from this location is shown in **Figure 75**. The view comprises the southbound carriageway, eastern verge and footpath of Commonwealth Avenue extending north, with the road corridor fringed to the east by retaining walls, turf and trees within Commonwealth Park and to the west by trees within Acton park, Lake Burley Griffin and the Black Mountain ridgeline on the horizon beyond. Commonwealth Avenue road corridor dominates the foreground of the view, with the three lane carriageways, open, turf median and turf verges prominent within the view. A mix of unevenly spaced deciduous street trees are dotted on either side of the road, framing the view along the corridor. The view to the east terminates in the raised landform within Commonwealth Park, separating the road corridor from the parking areas to the east. To the west, the landform drops towards Lake Burley Griffin, with large areas of parking only just visible due to landform and planting. Taller elements to the west and north west, including Black Mountain and taller buildings within Acton, comprise the backdrop of the view against which Commonwealth Avenue is seen. The avenue terminates to the north in the silhouetted pointed cypress trees in City Hill, a gap in the trees through which the flagpole at the crest of the hill can be seen.		
Baseline environment (view after RLC)		There would be no changes to the view due to RLC as RLC would be screened from view from this location.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		While most of the visual receptors who would see this view would be passers-by, a proportion of these would be tourists who would be walking along Commonwealth Avenue between parks or landmarks due to their value as a destinations within Canberra. Other receptors seeing the view may have less of an overall focus on the landscape as they pass. Some receptors would be more focussed on the view for this reason, particularly as the view culminates in City Hill looking in one direction and Parliament House looking in the other.
	Would visual receptors be focussed on the view?	●		
	Are receptors likely to see views for long periods of time?		●	No, this is likely to be a view that is seen as receptors pass by, although some may see the view for longer periods of time if they were waiting for the bus.
	Would the Project be visible within the view?	●		Yes. The Project would be seen from close proximity within a high proportion of the view.

Table 26 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Views to and from City Hill are listed as important in the NCP, particularly along the Main Avenues. This view corridor is listed as key in the City Plan.		
	Are there other planning or heritage assets within the view?	●		There are several heritage aspects of this view, including Commonwealth Avenue comprising one side of the National Triangle. City Hill, Lake Burley Griffin and Black Mountain are both visible within the view.		
	Are there other indicators of value attached to the view?		●	No.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity of the view is considered to be High due to the importance of views along Main Avenues, but particularly Commonwealth Avenue, as one side of the National Triangle terminating in a landmark element at either side.

CONSTRUCTION				
Anticipated change in view	During construction, one lane travelling in each direction on Commonwealth Avenue would be maintained. Construction would occur within the entire width of the road corridor, with changes to the verges on either side of the road as well as within the median and carriageways. From this viewpoint, the construction activity would include: • Fencing, hoarding, signage, traffic safety equipment • Removal of trees, furniture and signage • Bulk earthworks and construction of trackform, drainage and utilities adjustments, adjustments to kerbs, construction of footpaths, re-sheeting of roads and lane markings • Installation of lighting, signage and landscaping, including planting of street trees within the median and both verges of Commonwealth Avenue. A construction compound would be positioned within the car park on the western side of Commonwealth Avenue. It is likely that this would be screened from view by the construction activity within the road corridor itself.			
Magnitude		**Y**	**N**	**Comments**
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the removal of street trees within the view and the addition of construction activity and equipment.
	Would the change result in a high degree of contrast to the existing situation?	●		The change would be in contrast to the existing, established landscape.
	Is the change prominent within the view?	●		The construction activity would be visually prominent within the view, particularly due to the close proximity of the changes and the scale of the equipment.
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint, extending both north and south from this point.
	Is the viewpoint close to the Project?	●		Yes - the viewpoint lies within the delivery phase area at this location.
	Does the change encompass a large extent of the view?	●		The construction would be seen across the entire length of the view and be seen in the fore, middle ground and background of the view to the north.
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen within the two year construction period.

Figure 75 Existing view from Viewpoint 10 looking north along Commonwealth Avenue

Figure 76 Visual simulation showing changes to the view seen from Viewpoint 10 due to the Project

Table 26 continued

Criteria	Response				
Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be High. The changes would be seen with a majority of the view in the foreground, middle and background and would be in stark contrast to the existing situation.
Significance of visual impacts during construction					
Overall impact rating	**High**				The overall visual impact rating for the viewpoint during the construction period is High, comprising a combination of the sensitivity of view (listed within the NCP and Territory Plan as a view along a Main Avenue comprising one side of the National Triangle), and the substantial amount of change within the view seen across the entire length of Commonwealth Avenue within the foreground, middle and background.
Qualitative rating	**Adverse**				The changes due to construction would result in an adverse affect on the quality of the view. The visual clutter of construction activity would become the dominant feature within the view, rather than the composition of the extended view along a Main Avenue towards a landmark feature.

Table 26 continued

Criteria		Response				
OPERATION						
Anticipated change in view		At completion, the Project would include: • The three lanes of traffic with an additional cycle lane in the north and southbound carriageways would be replaced. New kerb and gutters would be constructed. • The verge would include a new footpath with turf and a double avenue of street trees comprising coniferous trees (*Cedrus deodara*) between the kerb and the footpath and deciduous trees (*Ulmus parvifolia* 'Yarralumla') between the footpath and the boundary on either side of the road. Lighting and signage would be positioned within the view in the verges. • The light rail would be positioned within the median, comprising 'Green track' within the trackform. Other elements within the median would include signage, passing light rail vehicles and a single row of columnar, deciduous trees (*Quercus palustris* 'Freefall').				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of light rail infrastructure and a single row of trees within the median, a double avenue of trees on either side of the road.		
	Would the change result in a high degree of contrast to the existing situation?	●		The addition of passing light rail vehicles and trees within the median would result in a high degree of contrast to the existing condition, with the trees visually narrowing the road corridor by providing a vertical element which extends along the median into the distance. Vehicles within the median would also be in contrast to the existing condition.		
	Is the change prominent within the view?	●		Yes, the changes would be prominent, particularly the introduction of the vertical element (trees) and vehicles within the open, turfed median.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen directly in front of the viewpoint, extending both north and south from this point.		
	Is the viewpoint close to the Project?	●		Yes - the viewpoint lies within the delivery phase area at this location.		
	Does the change encompass a large extent of the view?	●		The changes would be seen across the entire length of the view and be seen in the fore, middle ground and background of the view to the north.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, although changing over the long term as the trees matured.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be High. The inclusion of trees and light rail vehicles within the view and the denser, continuous street tree planting on either side of the road would visually enclose the view along the corridor more than the existing view. While the turf groundplane of the central median would be preserved, the addition of light rail vehicles would increase the area of the road corridor in which passing traffic is seen.

Table 26 continued

Criteria	Response	
Significance of visual impacts at operation		
Overall impact rating	**High**	The changes within the view would comprise a High visual impact, with the open, wide view along the avenue replaced with a more visually compartmentalised one with the introduction of vertical elements within the median. The High sensitivity of the view stems from the view along a Main Avenue to landmark elements (including City Hill and Black Mountain) which would be seen by a large number of visual receptors.
Qualitative rating	**Beneficial**	Overall the changes are considered to be Beneficial to the view: • The addition of light rail within the median of Commonwealth Avenue is a somewhat visually acceptable change given the identification of this avenue as appropriate for public transport. • The use of 'Green track' preserves the visual aesthetic of the turf median within the road corridor, visually softening the road within the view. The planting of trees within the median further visually softens the road corridor, reducing the visual prominence of the opposite carriageways and reducing the visual prominence of the passing light rail vehicles (and light rail stops, although these would not be visible within this view) by providing a vertical element within the median. • The change in avenue tree species from only deciduous to a mix of coniferous and deciduous is identified in planning documents to emphasise the avenue affect of Commonwealth Avenue throughout the seasons. • The simultaneous replanting of the entire avenue would be a negative outcome at first opening, as the mature (if not somewhat unevenly spaced) avenue would be replaced with small trees. However, over time as the trees matured, they would visually compress the avenue, creating a green, continuous frame along the length of the corridor. The double avenue of different species would also reduce the visual impact of the replacement of trees as they matured into senescence, with a green fringing avenue maintained with the increased resilience of planting diversity.

6.2.12 Viewpoint 11: Commonwealth Park

Refer **Table 27** for the assessment of impact of the Project on views from Viewpoint 11.

Table 27: Visual impact assessment of Viewpoint 11: Commonwealth Park

Criteria		Response		
Viewpoint location		This viewpoint is located within Commonwealth Park looking north west towards Commonwealth Avenue.		
Viewpoint rationale		This viewpoint has been chosen to represent views from within the park, with views from within the park considered important from a recreational and heritage perspective as the location lies within the National Triangle.		
Visual receptors		A large number of visual receptors would experience the view from this viewpoint, with visual receptors comprising those using the lake foreshore for recreational purposes such as running, walking or sight seeing.		
Existing view		The existing view from this location is shown in **Figure 77**. The view comprises a wide, open expanse of turf, with Lake Burley Griffin extending south to the left of frame and Commonwealth Avenue providing a horizontal landform behind which Black Mountain and the taller buildings of Acton can be seen. The foreground of the view includes a gently rising area of turf with wide concrete pedestrian footpaths extending into the distance. The surface of Lake Burley Griffin extends west out of view to the left of frame. Barrine Drive and a car park are visible in the middle ground of the view, the car park being almost empty at the time of taking the photo but likely to be filled with cars during peak park usage times. A row of deciduous trees are seen in the middle ground beyond the car park, extending along the eastern edge of Commonwealth Avenue, which is visible as a turf batter topped with passing cars in the centre and right of frame, and with the Commonwealth Bridge extending south (left of frame) over the lake and out of frame. The background of the view includes Black Mountain near the centre of the view, dipping and then rising to meet the taller buildings within Acton to the north west (to the right of frame).		
Baseline environment (view after RLC)		There would be no changes to the view due to RLC.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint is likely to attract tourists and other visual receptors who would be using the park for recreational purposes. The quality of the view would be important to the enjoyment of the recreational / tourist experience.
	Would visual receptors be focussed on the view?	●		Tourists and local recreational walkers / runners visiting this location are likely to be focussed on the view.
	Are receptors likely to see views for long periods of time?		●	While some visitors may pause to reflect on the view before moving on to experience the view from another part of the park, there are no reasons why they would spend a long period of time doing so. While the view contains elements of interest, the 'primary' view from this location would be to the south, across Lake Burley Griffin and to landmark building such as the National Library.
	Would the Project be visible within the view?	●		The Project would be visible from this location within a small portion of the middle ground of the view, as illustrated in **Figure 77** and **Figure 78**.
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Views and vistas are protected by the NCA within the Parliament House Vista, including views to the surrounding hills, especially Mount Ainslie, Black Mountain and Mount Pleasant. Views within the foreshore parklands of Lake Burley Griffin are also listed.
	Are there other planning or heritage assets within the view?	●		The view contains Black Mountain on the horizon, as well as one side of the National Triangle.
	Are there other indicators of value attached to the view?	●		While there are no pieces of signage or artworks within the view, views within the much-loved recreational open space around Lake Burley Griffin is considered an additional sensitivity to the viewpoint for both local and tourist users of the space.

Figure 77 Existing view from Viewpoint 11 looking north west towards Commonwealth Avenue

Figure 78 Aerial photo showing the Project in relation to the viewpoint (Base imagery: Google Earth Pro 7.3.3.7721 (2020) [4])

Table 27 continued

Criteria	Response				
Overall sensitivity rating	**H**	**M**	**L**	**Neg**	The sensitivity of the view is considered to be High. The viewpoint is positioned within an important area from a heritage and planning perspective. Visual receptors are given the opportunity to contemplate a view which includes heritage items while within a highly valued parkland setting. However, the Project would only be visible within a small proportion of the overall view.

CONSTRUCTION					
Anticipated change in view	Views to construction may be visible within the background of the view and include only the larger construction elements along Commonwealth Avenue, including cranes, if used, which would potentially seen against the horizon. The removal of street trees may be seen, but would be difficult to discern in any detail due to the distance of viewing and the screening vegetation in the middle ground.				
Magnitude	**Y**	**N**	**Comments**		
Size / scale Would the Project result in the addition or removal of elements within the view?	●		It is likely that only taller elements (e.g. cranes) would be seen within the view, but from a distance of approximately 200m at its closest point.		
Size / scale Would the change result in a high degree of contrast to the existing situation?		●	While cranes may be seen against the sky, it is unlikely that this would be in contrast to the existing view as they would be viewed through the visual clutter of deciduous tree canopies in winter and would be predominantly be screened during summer when the trees are in leaf.		
Size / scale Is the change prominent within the view?		●	The change would not be prominent within the view. Construction would be placed below the horizon line and partially screened by built form and trees.		
Extent What is the angle of the view in relation to the receptor?			The changes would be seen at an oblique viewing angle and in the background of the view		
Extent Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 200m away.		
Extent Does the change encompass a large extent of the view?		●	The changes would occur over a very small proportion of the overall view. Other construction activity to the north would be screened by landform within the park to the north of the viewpoint.		
Duration Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term during the construction period.		
Overall magnitude rating	**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be Low. Changes would be seen, however, would be mostly screened by tree canopy, particularly in summer, and seen against a dark backdrop and from a long viewing distance.
Significance of visual impacts during construction					
Overall impact rating	**Moderate**		The overall visual impact rating for the viewpoint during the construction period is Moderate. This rating is dependant on the High sensitivity of the view, with the viewpoint within the National Triangle, on the shore of Lake Burley Griffin and within a highly valued recreational space visited by locals and tourists alike. The changes would be difficult to discern within the view.		
Qualitative rating	**Adverse**		The Project would result in an very slight adverse affect on the view, if they were noticed by visual receptors.		

Table 26 continued

Criteria		Response				
OPERATION						
Anticipated change in view		At completion, the only elements of the Project that may be seen would be the southern most three street trees on the eastern side of Commonwealth Avenue, which would be likely to screen the view to the shade structure of the light rail stop in the median at the southern extent of the Project. The light rail stop and light rail vehicles may be seen when the Project was newly constructed, but over time the only visible change is likely to be the addition of these three street trees.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		Yes. Street trees, light rail vehicles and possibly any taller elements of the light rail stop near Albert Street on Commonwealth Avenue.		
	Would the change result in a high degree of contrast to the existing situation?		●	No. Street trees would be in keeping with existing trees within the corridor, light rail vehicles would resemble buses travelling on the avenue, and the light rail stop would be difficult to discern in any detail.		
	Is the change prominent within the view?		●	No, most of the changes are screened from view by trees in the middle ground of the view.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen at an oblique viewing angle and in the background of the view		
	Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 200m away.		
	Does the change encompass a large extent of the view?		●	The changes would occur over a very small proportion of the overall view. Other construction activity to the north would be screened by landform within the park to the north of the viewpoint.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, although would be less visually prominent over the long term. As the trees grow they would be likely to screen built form and light rail vehicles.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	Similar to that experienced during construction, the magnitude of change is considered to be Low. Changes would be seen, however, would be mostly screened by tree canopy, particularly in summer, and seen against a dark backdrop and from a long viewing distance.
Significance of visual impacts at operation						
Overall impact rating		**Moderate**		Overall there would be a Moderate visual impact from this location, however, similar to that seen during construction, this rating is due to the High sensitivity of the viewpoint, as described. The changes would be less prominent than that seen during construction, reducing over time as the trees matured.		
Qualitative rating		**Neutral**		The addition of street trees and some visually recessive light rail infrastructure within the background of the view and mostly screened by existing street trees (particularly in summer when the trees are in leaf) would not affect the quality of the existing view.		

6.2.13 Viewpoint 12: National Museum of Australia

Refer **Table 28** for the assessment of impact of the Project on views from Viewpoint 12.

Table 28: Visual impact assessment of Viewpoint 12: National Museum of Australia

Criteria		Response				
Viewpoint location		This viewpoint is located at the wharf outside the National Museum looking to the northeast and east across Lake Burley Griffin.				
Viewpoint rationale		This viewpoint has been chosen to illustrate views to the Project from this position as it represents several views that are important due to cultural, heritage and tourism factors, including: • The location lies near the Water Axis, which is important within the Griffin Plan where views along this axis have historic and cultural significance • Lake Burley Griffin and foreshores are listed in both the CHL and the NHL • This location is a major tourist location with high visitation rates.				
Visual receptors		A high number of visual receptors would see the view from this location, including tourists and local visitors to the National Museum of Australia or the recreational park along the foreshore of the lake. The viewpoint is located on a wharf on the lake from which views to Mount Ainslie, the Commonwealth Bridge and the city can be seen.				
Existing view		The existing view from this location is shown in **Figure 79**. This view comprises an expansive view across Lake Burley Griffin to the north, north east and east. The foreground of the view is the lake surface, with Henry Rolland Park visible on the opposite shoreline of the lake seen in the middle ground from a distance of 430 m at its closest point. The Commonwealth Bride is visible spanning the distance between the northern and southern shorelines of the lake. The horizon is dominated by the large buildings within the city to the left of frame, Mount Ainslie in the middle of the view, and the lower landforms associated with the Mount Pleasant to the east, seen above the Commonwealth Bridge.				
Baseline environment (view after RLC)		There would be no changes to the view due to RLC as RLC would be screened from view from this location.				
Sensitivity		**Y**	**N**	**Comments**		
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint would be a popular tourist destination where a visitors attention would be focussed on the landscape. The quality of the view is paramount to the tourist experience.		
	Would visual receptors be focussed on the view?	●		Yes. The view is very important from this location on Lake Burley Griffin where views to landmark elements would be available.		
	Are receptors likely to see views for long periods of time?		●	Most visitors are likely to pause to reflect on the view before moving on to experience the view from another part of the waterfront, however, are unlikely to be for a long period of time.		
	Would the Project be visible within the view?	●		The Project would be visible within the view, but difficult to see due to viewing distance.		
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Not specifically, although views across Lake Burley Griffin near the water axis is important, as well as other visual markers within the landscape which are integral to the setout of the city within the Griffin Plan.		
	Are there other planning or heritage assets within the view?	●		Yes. These include Mount Ainslie and Commonwealth Avenue (which comprises a side of the National Triangle).		
	Are there other indicators of value attached to the view?	●		Seating and signage are positioned within the recreational park along the foreshore of the lake near this viewpoint.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The viewpoint contains multiple indicators of importance, including views across Lake Burley Griffin to Mount Ainslie near the water axis. The viewpoint is likely to be a popular tourist spot given the close proximity to the National Museum of Australia and the recreational value of the foreshore.

Figure 79 Existing view from Viewpoint 12 looking north east towards Commonwealth Avenue and Mount Ainslie

Table 28 continued

Criteria	Response

CONSTRUCTION						
Anticipated change in view		Views to construction may be visible within the middle to background of the view and include the construction compounds located within the car parking areas on the opposite shore and larger construction elements along Commonwealth Avenue, including cranes, if used, which would potentially seen against the horizon. The removal of street trees may be seen, but would be difficult to discern in any detail.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		It is likely that cranes would be seen within the view, but from a distance of approximately 600m at its closest point. Some other large elements may also be seen, such as stop erection works.		
	Would the change result in a high degree of contrast to the existing situation?		●	Cranes may be seen against the sky, while other construction activity would be seen against the visual clutter due to the backdrop of land (and therefore be difficult to see).		
	Is the change prominent within the view?		●	The change would not be prominent within the view. Construction would be placed below the horizon line and partially screened by built form and trees.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen within the centre of the background of the view.		
	Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 430m away.		
	Does the change encompass a large extent of the view?		●	The changes comprise a moderate portion of the overall view and would be viewed against a dark backdrop which includes Mount Ainslie.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term during the construction period.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be Low. Changes would be seen, however, against a dark backdrop and from a long viewing distance.

Table 28 continued

Criteria	Response	
Significance of visual impacts during construction		
Overall impact rating	**Moderate**	While the viewpoint is considered sensitive due to important items within the view (including Mount Ainslie, Lake Burley Griffin and part of the National Triangle), the construction would be difficult to see, with the exception of the larger elements such as cranes, which may be seen against the sky when extended.
Qualitative rating	**Adverse**	The Project would result in an Adverse affect on the view during construction due to the taller elements (e.g. cranes) that may be visible against Mount Ainslie or the sky when extended.

OPERATION					
Anticipated change in view	At completion elements of the Project that would be visible would include trees planted in the median along Commonwealth Avenue and passing light rail. The shelters for the light rail stop on the southern end of Commonwealth Avenue may also be seen.				
Magnitude		**Y**	**N**	**Comments**	
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the addition of elements within the view, including trees, passing light rail vehicles and potentially the shelter for the southern most stop on Commonwealth Avenue.	
Size / scale	Would the change result in a high degree of contrast to the existing situation?		●	No, they would be similar in character to other elements within the view. They would also be seen below the horizon line in front of a dark backdrop, including Mount Ainslie on the horizon.	
Size / scale	Is the change prominent within the view?		●	No, the changes would be difficult to see due to the distance of viewing and the dark, cluttered backdrop in front of which the Project would be seen.	
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen within the centre of the middle to background of the view.	
Extent	Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 600m away.	
Extent	Does the change encompass a large extent of the view?		●	The changes comprise a moderate portion of the overall view but would be limited to the narrow strip of land associated with Commonwealth Avenue to the north of the lake and would be viewed against the backdrop of Mount Ainslie.	
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, seen over the long term.	
Overall magnitude rating		**H**	**M**	**L**	**Neg**
Significance of visual impacts at operation					
Overall impact rating	**Moderate**	It would be difficult to see detailed elements of the Project from this viewpoint, with the Project elements blending into the visual clutter of the background and seen from a distance. The moderate impact rating is heightened due to the sensitivity of the viewpoint, which is situated on the shores of Lake Burley Griffin and near a tourist destination.			
Qualitative rating	**Neutral**	There would be no change in the quality of the view due to the Project. The largest element seen would be street trees, which would visually comprise a replacement of trees removed to construct the Project.			

6.2.14 Viewpoint 13: Lake Burley Griffin / Land Axis

Refer to **Table 29** for the assessment of impact of the Project on views from Viewpoint 13.

Table 29: Visual impact assessment of Viewpoint 13: Lake Burley Griffin / Land Axis

Criteria		Response		
Viewpoint location		This viewpoint is located on the board walk on the southern edge of Lake Burley Griffin. This location is also positioned on the Land Axis where the , City Hill within City Hill Park on the southern side of the hill between the avenue of Cypress trees looking south along Commonwealth Avenue. The viewpoint is positioned approximately 50 m north of Vernon Circle and 200 m from the intersection of London Circuit and Commonwealth Avenue.		
Viewpoint rationale		This viewpoint has been chosen to illustrate views to the Project from this position as it represents several views that are important due to cultural, heritage and tourism factors, including: • The location lies within the Parliament House Vista, listed within the CHL • The location lies on both the Water and the Land Axes, both important elements within the Griffin Plan where views along these axes have historic and cultural significance • Lake Burley Griffin and foreshores are listed in both the CHL and the NHL • This location is a major tourist location with high visitation rates.		
Visual receptors		A high number of visual receptors would see the view from this location, including tourists and local visitors. The viewpoint is located on a small protrusion onto the lake from which views along the Water Axis to Black Mountain, and along the Land Axis to the Australian War Memorial.		
Existing view		The existing view from this location is shown in **Figure 80** and **Figure 81**. The view from this location comprises sweeping views across the expanse of Lake Burley Griffin, including the southern foreshore walkway with an avenue of pear trees to the west (to the left of frame), leading the eye to the Commonwealth Avenue bridge over the lake and Black Mountain in the background, silhouetted against the sky. The northern bank of the lake is seen to the east (right) of the water jet, comprising the undulating green turf of the parkland punctuated with groups of trees and occasional built form. The city skyline is seen behind the parkland, with the landform of Mount Ainslie on the horizon rising to the north east. The Project would be positioned behind the parkland in the middle ground of the view as shown in **Figure 81** and **Figure 82**. It would be completely screened from view at this viewpoint, therefore a detailed assessment of the sensitivity and magnitude has not been completed.		
Baseline environment (view after RLC)		There would be no changes to the view due to RLC as RLC would be screened from view from this location.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint would be a popular tourist destination where a visitors attention would be focussed on the landscape. The quality of the view is paramount to the tourist experience.
	Would visual receptors be focussed on the view?	●		Yes. The view is very important from this location on Lake Burley Griffin where views along the land and water axes would be available.
	Are receptors likely to see views for long periods of time?		●	Most visitors are likely to pause to reflect on the view before moving on to experience the view from another part of the waterfront, however, it is unlikely to be for a long period of time.
	Would the Project be visible within the view?		●	The Project would be visible within the view, but difficult to see due to viewing distance.

Figure 80 Existing view from Viewpoint 13 looking north west towards the Project

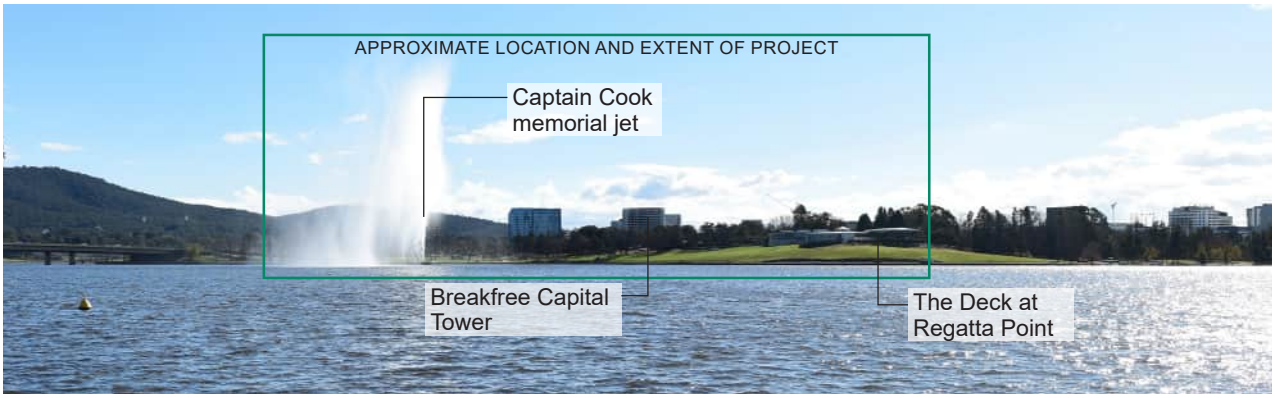

Figure 81 Detail of **Figure 80** showing the view looking north west towards the Project

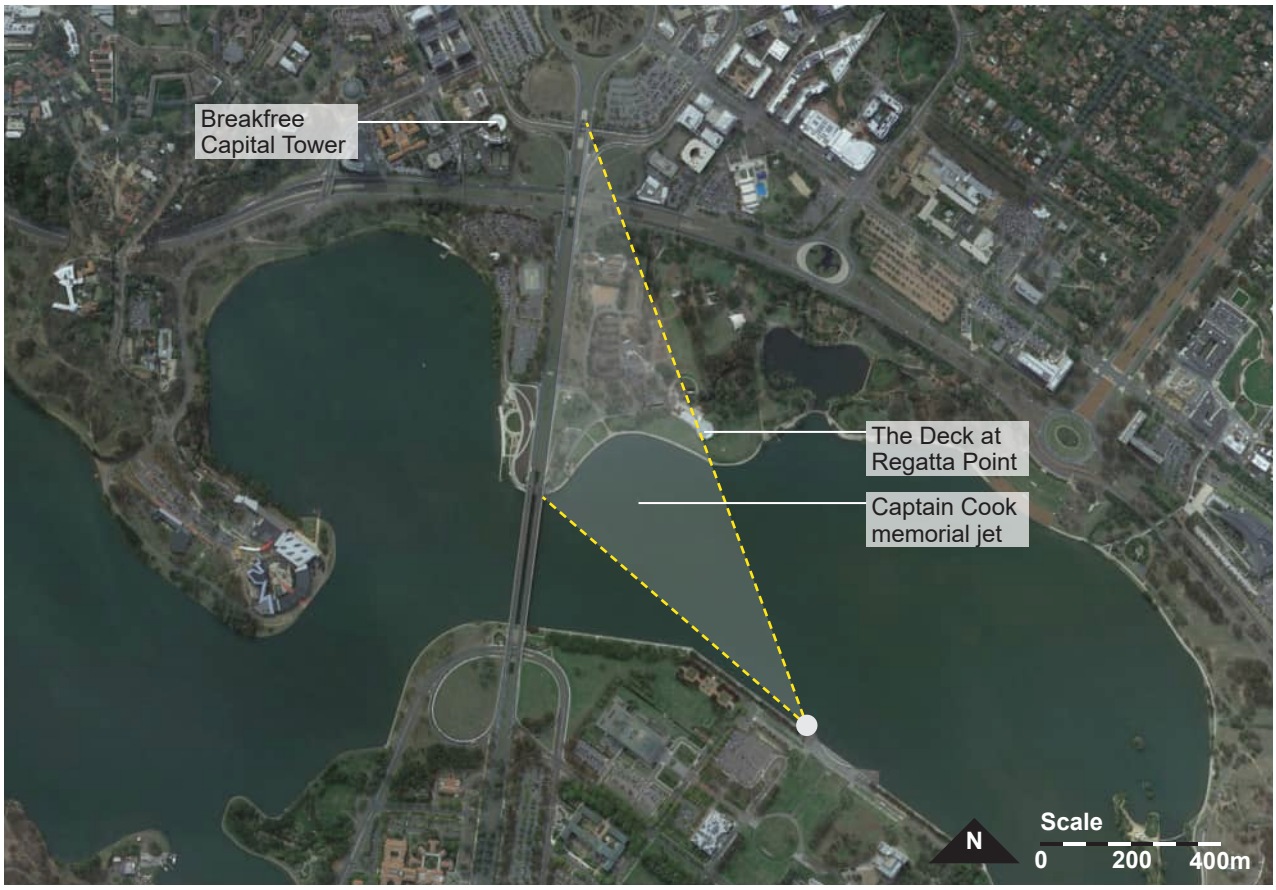

Figure 82 Aerial photo showing the Project in relation to the viewpoint (Base imagery: Google Earth Pro 7.3.3.7721 (2020) [4])

Table 29 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Yes. The land and water axes are important visual markers within the landscape and are integral to the setout of the city within the Griffin Plan.		
	Are there other planning or heritage assets within the view?	●		Yes - this viewpoint is within the National Triangle and includes views to Black Mountain, Mount Ainslie and Lake Burley Griffin.		
	Are there other indicators of value attached to the view?	●		Yes, there is signage at and around the viewpoint, including Australians of the Year listed along the board walk and the Captain Cook memorial jet within the lake.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The viewpoint contains multiple indicators of importance, including views along the land and water axes as listed in the Griffin Plan, however, the distance and potential screening of the Project would result in a low susceptibility to change due to the Project and therefore lower the sensitivity to Moderate.

CONSTRUCTION						
Anticipated change in view		As shown in **Figure 81** and **Figure 82**, the Project would be mostly screened from view by built form and vegetation within Commonwealth Park. Taller construction elements, such as cranes, may be seen within a small portion of the view.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		It is likely that cranes would be seen within the view, but from a distance of approximately 1 km at its closest point.		
	Would the change result in a high degree of contrast to the existing situation?		●	Cranes may be seen against the sky, while other construction activity would be seen against the visual clutter due to the backdrop of land (and therefore be difficult to see).		
	Is the change prominent within the view?		●	The change would not be prominent within the view. Construction would be placed below the horizon line and partially screened by built form and trees.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen within the centre of the background of the view.		
	Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 1 km away.		
	Does the change encompass a large extent of the view?		●	The changes comprise a small portion of the overall view.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term during the construction period.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint is considered to be Low. Changes would be seen, however, within a small portion of the view and from a long viewing distance.

Table 29 continued

Criteria	Response	
Significance of visual impacts during construction		
Overall impact rating	**Moderate to Low**	While the viewpoint is considered substantially sensitive due to its position within the National Triangle and near the intersection of the land and water axes, the construction would be difficult to see, with the exception of the larger elements such as cranes, which may be seen against the sky when extended.
Qualitative rating	**Adverse**	The Project would result in an Adverse affect on the view during construction due to the taller elements (e.g. cranes) that may be visible against the sky when extended.

OPERATION						
Anticipated change in view		At completion it is unlikely that the changes would be discernible from this viewing distance and with the visual clutter of the background, as well as the Captain Cook memorial jet in the middle ground.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project may result in the addition of some elements, however, these would be visually recessive within the clutter along Commonwealth Avenue seen from this location and from this distance. This area is also partly screened by the Captain Cook memorial jet when it is in operation.		
	Would the change result in a high degree of contrast to the existing situation?		●	The changes would not result in a high degree of contrast. It would be difficult to see passing light rail (which would be similar to passing cars along Commonwealth Ave, albeit longer vehicles) and trees and smaller built structures would be in keeping with the character of the road corridor within the existing view.		
	Is the change prominent within the view?		●	The change would not be prominent within the view, most of the Project would be screened by built form and vegetation, and only changes nearing the southern end of the Project may just be visible.		
Extent	What is the angle of the view in relation to the receptor?			The changes would be seen within the centre of the background of the view.		
	Is the viewpoint close to the Project?		●	The closest changes would be seen from approximately 1 km away.		
	Does the change encompass a large extent of the view?		●	The changes comprise a small portion of the overall view.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent, seen over the long term.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint at operation of the Project is considered to be Negligible. It would be difficult to discern the detailed elements of the Project from this distance and against the visual clutter of the backdrop of the view.
Significance of visual impacts at operation						
Overall impact rating		**Negligible**		It would be difficult to see the Project from this viewpoint, with the Project elements blending into the visual clutter of the background.		
Qualitative rating		**Neutral**		There would be no change in the quality of the view due to the Project.		

6.2.15 Viewpoint 14: Parliament House

Refer to **Table 30** for the assessment of impact of the Project on views from Viewpoint 14.

Table 30: Visual impact assessment of Viewpoint 14: Parliament House

Criteria		Response		
Viewpoint location		This viewpoint is located on the lawn at the northern corner of Parliament House looking north along Commonwealth Avenue towards City Hill, approximately 2.4 km from the Project.		
Viewpoint rationale		This viewpoint has been chosen to represent views along Commonwealth Avenue between the two major landmarks bookending this vista. This stretch of road comprises the western edge of the National Triangle and Parliament House Vista and is one of the culturally important views within the city, linking the civic centre from the centre of government. Views from this location are listed as important in the NCP and City Plan, illustrating the geometric layout of the Griffin Plan. Parliament House is a tourist destination from which views along Commonwealth Avenue to City Hill can be enjoyed.		
Visual receptors		A moderate to high number of visual receptors would experience the view from this viewpoint and include tourists and locals.		
Existing view		The existing view from this location is shown in **Figure 83** and **Figure 84**. The foreground of the view is dominated by the manicured green lawn of Parliament House, sloping down to Parliament Drive. A band of landscaped land between Parliament Drive and State Circle provide a dark band of trees (predominantly eucalypts) which partially screen views to built form within State Circle and Lake Burley Griffin. The mix of dark, evergreen trees with deciduous canopy scattered throughout is characteristic of Canberra. Glimpses of Lake Burley Griffin can be seen just above and between small gaps in the canopy of trees, particularly to the west (left of frame) of Commonwealth Avenue. The water jet can be clearly seen to the east (right) of Commonwealth Avenue, marking the position of the lake within the vista. In the background both Black Mountain and Mount Ainslie can be seen against the horizon, although Black Mountain is partially screened by taller trees in the foreground. The city is seen in the middle ground, with some of the taller buildings seen against the sky as they rise above the horizon beyond. The view along Commonwealth Avenue is visually prominent within the view. The view corridor is clear, with the exception of a patch of evergreen trees planted in the central median of the road at its lowest point to the south of the Commonwealth Bridge over Lake Burley Griffin. City Hill is seen clearly as the focal point within the road corridor, with its central flagpole and dark, fastigiate trees seen clearly against the pale green turf within City Hill Park. While not clear, the view continues past City Hill along Northbourne Street until distance makes it impossible to see the termination of the corridor.		
Baseline environment (view after RLC)		Changes due to RLC may be seen, it is unlikely that it would be noticeable as a change within the landscape due to the considerable distance of viewing.		
Sensitivity		**Y**	**N**	**Comments**
Susceptibility	Does the occupation / activity of the visual receptor add to their sensitivity to the view?	●		This viewpoint would be a popular tourist destination whose attention would be focussed on the landscape at this location. The quality of the view is paramount to the tourist experience.
	Would visual receptors be focussed on the view?	●		Yes. The view is very important from this location and the visitor to this point within the Parliament House grounds would be specifically enjoy the view along Commonwealth Avenue to City Hill.
	Are receptors likely to see views for long periods of time?		●	Most visitors are likely to pause to reflect on the view before moving on to experience the view from another part of the site, however, it is unlikely to be for a long period of time.
	Would the Project be visible within the view?	●		The Project would be visible within a small portion of the view in the background.

Figure 83 Existing view from Viewpoint 14 looking north along Commonwealth Avenue

Figure 84 Detail of **Figure 83** showing the existing view from Viewpoint 14 north along Commonwealth Avenue

Table 30 continued

Criteria		Response				
Value	Is the view from this viewpoint listed as important in the NCP or Territory Plan?	●		Yes, the view is listed as a key view corridor in the NCP and City Plan.		
	Are there other planning or heritage assets within the view?	●		This location is important both in its heritage context and from a planning perspective as described in the viewpoint rationale. The view also includes the Parliament House Vista, which is listed in the CHL.		
	Are there other indicators of value attached to the view?		●	There are no signs or other indicators of value at the location.		
Overall sensitivity rating		**H**	**M**	**L**	**Neg**	The sensitivity to change of Viewpoint 14 is considered to be High. The viewpoint is positioned within an important area from a heritage and planning perspective.

Table 30 continued

Criteria		Response				
CONSTRUCTION						
Anticipated change in view		While the viewing distance between the viewpoint and the Project is almost 2.5 kms, it is likely that construction activity would be seen from this location. While the detail of the construction would not be seen (i.e. it would be unlikely to be able to identify what was happening on the Project site), the construction would result in the visual shortening of the elongated view along Commonwealth Avenue. The Commonwealth Avenue Pavement is viewed as a pale, vertical extrusion from Parliament House, punctuated by the dark trees in the median to the south of Lake Burley Griffin. It is likely that the construction activity would create a dark patch of 'activity' seen beyond this band of central trees, visually linking the dark patch of vegetation with City Hill and resulting in the visual termination of the avenue south of Lake Burley Griffin.				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		The Project would result in the construction activity being seen as a darker 'blob' on Commonwealth Avenue south of City Hill.		
	Would the change result in a high degree of contrast to the existing situation?		●	No, due to the distance of viewing.		
	Is the change prominent within the view?		●	No, also due to the distance of viewing.		
Extent	What is the angle of the view in relation to the receptor?			The change in the view would be seen within the centre of the view and within a focal point.		
	Is the viewpoint close to the Project?		●	No, the Project would be seen from 2.4 km away.		
	Does the change encompass a large extent of the view?		●	The changes would only be seen within a very small proportion of the overall view.		
Duration	Would the changes be seen over the long term or be permanent?		●	The changes would be temporary, seen over the short term (up to 2 years).		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint during construction is considered to be Moderate. While limited construction activity is likely to be seen in enough detail to discern what was happening, the activity is likely to result in the visual shortening of the view along Commonwealth Avenue, with a disruption in the continuity of the avenue leading up to City Hill.
Significance of visual impacts during construction						
Overall impact rating		**High to Moderate**		The overall impact of the Project during construction on the view from this viewpoint is considered to be High to Moderate. This rating stems primarily from the high sensitivity of the visual receptors than from the magnitude of change, as the change would only affect a very small proportion of the overall view during construction. The changes would only be temporary and seen over a short term.		
Qualitative rating		**Adverse**		The Project would result in an adverse effect on the view from this location during construction, with a visual shortening of the view along Commonwealth Avenue.		

Table 30 continued

Criteria		Response				
OPERATION						
Anticipated change in view		At operation, light rail infrastructure and street trees in the central median would replace the short green strip of landscaping seen in the median of Commonwealth Avenue between the intersection with London Circuit and the Commonwealth Bridge. From the viewing distance of over 2 kms away larger elements would be seen, such as changes to street trees, passing light rail and any built form associated with light rail stops (e.g. shelters).				
Magnitude		**Y**	**N**	**Comments**		
Size / scale	Would the Project result in the addition or removal of elements within the view?	●		It is likely that the detailed elements of the Project would be seen. The proposed light rail would be viewed as an increase in visual clutter at the northern end of Commonwealth Avenue. Light rail vehicles, built form at stops and changes to street trees in the median would be the most discernible elements within the view but would be seen from a distance.		
	Would the change result in a high degree of contrast to the existing situation?		●	No, due to the distance of viewing and the similarity of the proposed changes to the existing landscape within the Project site.		
	Is the change prominent within the view?		●	No, as above.		
Extent	What is the angle of the view in relation to the receptor?			The change in the view would be seen within the centre of the view and within a focal point.		
	Is the viewpoint close to the Project?		●	No, the Project would be seen from over 2 km away.		
	Does the change encompass a large extent of the view?		●	The changes would only be seen within a very small proportion of the overall view.		
Duration	Would the changes be seen over the long term or be permanent?	●		The changes would be permanent and seen over the long term.		
Overall magnitude rating		**H**	**M**	**L**	**Neg**	The magnitude of change experienced at this viewpoint during operation is considered to be Low. The Project at operation would be seen but would not be visually prominent within the view.
Significance of visual impacts at operation						
Overall impact rating		**Moderate**		While the viewing distance would limit the detail seen from this viewpoint, the high sensitivity of the viewpoint would result in the overall visual impact of the Project during construction being Moderate.		
Qualitative rating		**Neutral**		The quality of the view would not be affected by the Project as the construction activity would not be seen in any detail.		

6.3 Summary of impact on views

6.3.1 Impact on views during construction

The visual impact on views from surrounding viewpoints range from Moderate to Low to High (refer **Table 31**), with the highest ratings experienced from viewpoints close to the Project with direct views to the changes.

During construction, 10 out of 14 viewpoints returned a High or High to Moderate impact rating. These viewpoints were all either positioned close to the changes (on Northbourne Avenue, London Circuit or Commonwealth Avenue) and / or had high sensitivities due to heritage or cultural aspects of the viewpoints (views to or from City Hill or Parliament House).

Four viewpoints returned a Moderate or Moderate to Low rating. These viewpoints were typically positioned further from the construction, where the works could be seen but would not affect a large proportion of the view.

Construction activity resulted in adverse affect on the quality of the views from all of the viewpoints, however, construction activity is a temporary change within the landscape.

Overall, the visual impact of the Project on views is considered to be High to Moderate (Adverse). Construction of the Project would be seen predominantly from closer locations rather than distant ones, however, these locations include some which are highly sensitive due to heritage and planning importance. The construction would typically comprise the addition of the 'visual clutter' of equipment, activity and changes to traffic that would result in an adverse affect on views.

Table 31: Summary of impact of the Project on views from viewpoints during construction

Viewpoint	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
Viewpoint 1: Northbourne Avenue	High	High	High	High	High	Adverse
Viewpoint 2: Sydney Building	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 3: Intersection of London Cct and University Ave	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 4: Law Court	Moderate	Low	Moderate to Low	Low	Moderate to Low	Adverse
Viewpoint 5: 7 London Circuit	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 6: 1 London Circuit	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 7: City Hill North	High	Moderate	High to Moderate	Moderate	High to Moderate	Adverse
Viewpoint 8: City Hill South	High	High	High	High	High	Adverse
Viewpoint 9: Commonwealth Avenue	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 10: Commonwealth Avenue	High	High	High	High	High	Adverse
Viewpoint 11: Commonwealth Park	High	Low	Moderate	Low	Moderate	Adverse
Viewpoint 12: National Museum of Australia	High	Low	Moderate	Low	Moderate	Adverse
Viewpoint 13: Lake Burley Griffin / Land Axis	Moderate	Low	Moderate to Low	Low	Moderate to Low	Adverse
Viewpoint 14: Parliament House	High	Moderate	High to Moderate	Moderate	High to Moderate	Adverse

6.3.2 Mitigation and assessment of residual risk during construction

The following mitigation measures attempt to address visual impact due to the Project at the eight viewpoints that returned a High or High to Moderate overall impact rating during construction (refer **Table 32**). After recommendations responding to adverse visual impacts outlined in **Table 31** have been assumed to have been adopted, the visual impact at each of these locations were reconsidered.

While the mitigation measures listed below would not lower the level of impact on the views, they would result in a slight 'tidying up' of the view, even though the rating would be remain the same.

Table 32: Mitigation measures

Ref	Issue / observation	Recommendation
LV1	Minimise the visual impacts of construction activities	Wherever possible, high quality construction hoarding would be used with consideration given to the potential for local public art or heritage interpretation, subject to all other necessary approvals. The design of the hoarding should consider visually recessive, natural colours and images, and where possible be developed with input from local schools or artists.
LV2		Storage of materials and equipment at worksites and compounds would be planned to reduce visual impacts

6.3.3 Impact on views at operation

The visual impact on views from surrounding viewpoints range from Negligible to High (refer to **Table 33**), with the highest ratings experienced from viewpoints close to the Project with direct views to the changes.

At operation, the Project resulted in a High or High to Moderate impact ratings from five viewpoints, four of which were positioned on the footpaths next to the proposed light rail (i.e. directly adjacent to or within areas that had been changed due to the Project) and the other from within City Hill looking south along the Main Avenue of Commonwealth Avenue. Other locations within City Park were not affected to the same degree.

Of the locations along the proposed light rail route, those on London Circuit returned lower visual impact ratings than seen on Commonwealth and Northbourne Avenues. This was typically due to the lower sensitivity of views from roads that were not Main Avenues, or that had undergone changes due to RLC previously.

Overall, there were only five viewpoints where the Project affected the quality of the views. Of these, four were beneficial changes to the view and one was an adverse change. The beneficial aspects of the changes were typically related to the 'tidying up' of built elements and groundplane design (e.g. signage, lighting, paving details) within the views and the planting of continuous street trees, which would visually strengthen the views along the road corridors. The one adverse rating was where a shade structure for a light rail stop would be seen against a backdrop of City Hill. This rating is likely to reduce as street trees within the median mature and reduce the visual prominence of the structure within the view.

Overall, the Project would have a High to Moderate (beneficial) effect on views from close to the Project, and a Low impact on more distant views.

Table 33: Summary of impact of the Project on views from viewpoints at operation

Viewpoint	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
Viewpoint 1: Northbourne Avenue	High	High	High	High	High	Beneficial
Viewpoint 2: Sydney Building	Moderate	High	High to Moderate	High	High to Moderate	Neutral
Viewpoint 3: Intersection of London Cct and University Ave	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial

Table 33 continued

Viewpoint	Sensitivity	Unmitigated impact		Mitigated (residual) impact		Qualitative rating
		Magnitude	Overall rating	Magnitude	Overall rating	
Viewpoint 4: Law Court	Moderate	Low	Moderate to Low	Low	Moderate to Low	Neutral
Viewpoint 5: 7 London Circuit	Moderate	Moderate	Moderate	Moderate	Moderate	Beneficial
Viewpoint 6: 1 London Circuit	Moderate	Moderate	Moderate	Moderate	Moderate	Neutral
Viewpoint 7: City Hill North	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 8: City Hill South	High	Moderate	High to Moderate	Moderate	High to Moderate	Neutral
Viewpoint 9: Commonwealth Avenue	Moderate	High	High to Moderate	High	High to Moderate	Adverse
Viewpoint 10: Commonwealth Avenue	High	High	High	High	High	Beneficial
Viewpoint 11: Commonwealth Park	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 12: National Museum of Australia	High	Low	Moderate	Low	Moderate	Neutral
Viewpoint 13: Lake Burley Griffin / Land Axis	Moderate	Negligible	Negligible	Negligible	Negligible	Neutral
Viewpoint 14: Parliament House	High	Low	Moderate	Low	Moderate	Neutral

6.3.4 Mitigation and assessment of residual risk at operation

The following mitigation measures attempt to address visual impact due to the Project at the five viewpoints that returned a High or High to Moderate overall impact rating (refer to **Table 34**). It is worthwhile noting that only one of these viewpoints returned an adverse impact on the quality of the change in the view, while the other four returned a beneficial or neutral change in the quality of the view. No mitigation measures are required for a beneficial change to the views from these locations.

Table 34: Mitigation measures

Ref	Issue / observation	Recommendation
LV3	Enhance visual amenity within the Project area	Lighting associated with the Project would be designed to limit spill into non-target areas and up-lighting would be capped by structures. Light colour would be designed to complement the adjacent area and public safety cameras would be selected to function without unnecessary lighting.
LV7		Within the Project area, green track areas would be monitored by an active irrigation system with an appropriate control system to monitor and provide optimum growing conditions for planted and turf grass areas , without unnecessarily overusing water
LV8		In consultation with relevant authorities, the ‘Queen Elizabeth II’ commemorative plaque and the public artwork ‘Dream Lens to the Future’ would be relocated to an appropriate location

7.0 Conclusion

7.1 Conclusion

While many LCZs have a heightened sensitivity due to cultural or heritage importance, particularly related to the location within the Nation's capital, the susceptibility of these areas to the Project is relatively low (with the exception of LCZ 4: London Circuit) effectively lowering the overall sensitivity of these LCZs to the Project. The magnitude of change was assessed at operation and was typically found to be low, predominantly due to the Project being in keeping with the character of the LCZs within which it lies. Overall, the highest impact rating returned for landscape character was High to Moderate Beneficial, which occurred within LCZ 4: London Circuit.

Overall, the Project is considered to have a Moderate to Low impact on local landscape character (i.e. the character of the landscape directly surrounding the Project). There would be no impact on the greater landscape character of the area due to the Project. The Project, while comprising a series of changes within the existing landscape, fits within the surrounding existing and proposed landscape character as described by strategic planning documents.

The visual impact of the Project was considered during construction and at operation.

During construction, the Project typically impacted views close to the construction activity, including views seen on Northbourne and Commonwealth Avenue, London Circuit and within City Hill Park. One more distant viewpoint was found to be impacted during construction: Viewpoint 14: Parliament House. The High to Moderate rating returned from this viewpoint was more dependent on the high sensitivity of visual receptors at that location rather than the magnitude of change seen, as construction activity would be viewed from a considerable distance.

During construction, changes to views from surrounding areas due to the Project is considered acceptable due to the temporary nature of the changes and the anticipated ongoing development of the surrounding area as described by strategic planning documents.

At operation, changes due to the Project would only impact views close to the Project. Distant viewpoints would not be impacted either due to the distance of viewing, screening by landform, vegetation and built form, or the low visual prominence of the operational changes.

The Project is considered to have a positive influence on visual amenity. The proposed street trees, creating continuous avenues, and 'tidying up' of the groundplane (paving and road surfaces), signage and other structures seen within the road corridors are considered beneficial outcomes to views from surrounding areas. The addition of light rail within highly sensitive Main Avenues would be seen as a considerable change from the existing situation, however, is considered visually acceptable within the context of the provision of public transport as outlined in strategic planning documents. Changes to street trees along Commonwealth Avenue are also considered acceptable, particularly given these changes are either listed as desirable outcomes in the NCP or would reduce the visual prominence of infrastructure within the medians.

Overall, the Project is considered to have a High to Moderate (beneficial) effect on views from close to the Project, and a Negligible impact on more distant views.

Changes to landscape character and views due to the Project are considered acceptable within the context described in this report.

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Appendix A

Sustainability

The Infrastructure Sustainability Council (ISC) Infrastructure Sustainability (IS) rating scheme is Australia's only comprehensive rating scheme for evaluating sustainability for infrastructure. The Project is registered to pursue an Infrastructure Sustainability (IS) rating. As part of this process, alignment with the Urb-1 credit is required. This report seeks to align with the IS criteria and additional guidance where relevant to the scope of the assessment.

Table v outlines specific requirements as part of Urb-1 to demonstrate achievement of the required target levels and where these are addressed in this report.

Table v: ISC requirements

ISC Requirement	Where addressed in this report
An urban and landscape design plan is developed and installed that includes the following: • Site analysis • Visions and objectives for the infrastructure • Site planning Strategies that respond to: • The relevant people and place principles outlined in the Australian Urban Design Protocol (AUDP) or • Other ISC approved guidelines	• An urban and landscape design plan has been developed for this Project. This design has responded to relevant People and Place principles, including that it (particularly as a public transport project) enhances and connects the local economy, creates a diversity of experiences that respond to the local character, and is visually and aesthetically pleasing as well as practical. • Site analysis has been outlined in **Chapter 4.0** of this report. • Visions and objectives for infrastructure have been summarised in a review of background documents in **Appendix B** of this report. • Project visions and objectives have been summarised in **Section 2.1.3**, along with site planning information. • Mitigation measures outlined in **Sections 6.3** and **7.3**, to be applied during detailed design, construction or operational phases.
The urban and landscape design plan has been internally reviewed	A summary and analysis of urban design and landscaping plans in **Section 2.1.3** of this report. The urban design and landscape plan has been developed and individually, internally reviewed by AECOM. This Report is authored by Gabi Parke [B LArch (Hons 1), B Sci (Env. & Urb Hort), B Sci (Env. Sci, Hons 1), 16 years experience] and Giulia Vignaroli [B Arch (Hons), M Arch (Hons), LEEP AP Green Associate, 10 years experience], and reviewed by Frank Ciancio [B LArch, 20 years experience].

Appendix B

Legislation and strategic context

The following policy, planning and review documents were used to determine assessment criteria and requirements particular to this project:

- Australian Capital Territory (Planning and Land Management) Act 1988
- Heritage Act 2004
- National Capital Plan (2016)
- Griffin Plan
- Griffin Legacy (2004)
- Canberra's Living Infrastructure Plan: Cooling the City
- ACT Climate Change Strategy 2019-25
- ACT Transport Strategy 2020
- ACT Planning Strategy
- The City Plan
- Canberra Central Design Manual
- Heritage Principles and Historic Research Outline for Commonwealth Avenue Master Plan.

Information from these documents relating to this assessment has been summarised below.

Australian Capital Territory (Planning and Land Management) Act 1988

The *Australian Capital Territory (Planning and Land Management) Act 1988* (PALM Act) establishes the statutory planning context for the ACT (the Territory) including the National Capital Authority (NCA), National Capital Plan (NCP) and the Territory Plan, which is administered through the *Planning and Development Act 2007*. The PALM Act assigns responsibility for land management between the Territory and NCA.

This LVIA will be used as part of statutory planning applications both in the Works Approval process through the NCA and the Development Application process through the Territory to demonstrate (through the respective objectives of these instruments) that a proposal is consistent with, and does not detract from, the landscape character of the ACT.

National Capital Plan

The NCP protects the Commonwealth's interests and intentions for planning, designing and developing Canberra and the Territory without having to involve the Commonwealth in matters that should be the prerogative of the Canberra community. The NCP has a single statutory object:

…to ensure that Canberra and the Territory are planned and developed in accordance with their national significance.

The NCP acknowledges and captures the intent of the Griffin Plan and Legacy, therefore these documents have been reviewed as part of this document rather than on their own.

Key objectives of the NCP are to:

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 Avenues and Approach Routes
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 for 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 fulfil its functions
8. Support and promote environmentally responsible urban development practices.

General Planning Principles

The NCP has determined broad planning principles for areas within the Territory, divided into:

- National Capital Open Space System (NCOSS)
  - Lake Burley Griffin and foreshores
  - Hills, ridges and buffer spaces
  - River corridors
  - Mountains and bushland.
- Urban areas, featuring a hierarchy of centres
- Employment locations
- Broad acre areas
- Rural areas.

Within the NCP, general planning principles that relate to landscape character and visual impact include:

- The hills, ridges and major open space which form the separation between towns will be kept largely free of urban development
- Minimise the visual impact of electricity and telecommunication facility, particularly along major vistas, corridors and open space
- Development in all forms, including landscaping in urban and non-urban areas, compliments and enriches its surroundings
- Within Canberra Central, roads, bridges, waterways and public landscaping projects should reinforce and complement the geometric lines of the Main Avenues
- Vistas to major landscape features must be protected from and enhanced by development.

Designated Areas

The NCP defines Designated Areas (land that has been identified as having the special characteristics of the National Capital under the PALM Act) and development which requires Works Approval from the NCA, and uses the NCP to assess Works Approval applications. The special characteristics used to define Designated Areas include the following factors: national functions that occur in Canberra as the capital; the Griffins' strong symbolic design; and Canberra's landscape setting and layout within the Territory that contribute to the garden city image.

Designated Areas comprise (refer to **Figure 85**):

- Lake Burley Griffin and its foreshores
- The National Triangle and adjacent sites
- The balance of the Central National Area adjoining the Lake and the Triangle, and extending from the foot of Black Mountain to the airport
- Sites set aside solely for diplomatic use
- The Inner Hills which form the setting of the Central National Area
- The Main Avenues and Approach Routes between the ACT border and the Central National Area.

Within the Central National Area, Designated Areas have been split into a series of precincts (refer to **Figure 85**), each subject to a set of general and targeted codes on planning, design and development:

1. Parliamentary Zone
2. Barton
3. Deakin/Forrest Residential Area
4. City Hill
5. West Basin
6. Constitution Avenue and ANZAC Parade
7. Australian Defence Force Academy, Royal Military College Duntroon, and Campbell Park Precinct
8. Australian National Botanic Gardens
9. Jerrabomberra Wetlands
10. Lake Burley Griffin and foreshores
11. Acton Peninsula
12. Diplomatic Precinct (Yarralumla, Deakin, O'Malley and Curtin)
13. Australian Institute of Sport
14. Australian National University
15. CSIRO Black Mountain
16. Canberra Airport (within the Central National Area however not within Designated Areas).

Main Avenues and Approach Routes are subject to a Precinct Code as they are within Designated Areas, but are not part of the Central National Area.

Planning Principles for the Central National Area and associated precincts

General policies for the Central National Area applicable to this project and assessment include:

1. Protect the Griffins' vision by:
   a. Fostering recognition of the 1918 Griffin Plan as a work of national and international cultural significance, and conserve those elements that contribute to this significance in a sustainable manner whilst allowing for the evolution of the city in contemporary terms
2. Building on the Griffins' vision by:
   e. Continuing to reinforce and, where possible, express the integrity of the Griffins' visual structure by strengthening the geometry and form of Main Avenues, vistas and public spaces
   h. Strengthening the landscape framework from the natural setting of the hills, water courses and parks to the character of its streets as generously scaled corridors for formal plantings of broad canopy trees
   i. Maintaining the metropolitan structure principles of Canberra's planning legacy of environmentally balanced urban extensions: design with nature; undeveloped hills and valleys; landscape containment and greenbelts; low traffic congestion; long-term public transport reservations; provision for walking and cycling; and protection of the Central National Area
   j. Maintaining a mix of tree species which enriches the landscape by providing beauty, shade, shelter and wildlife habitats and enhances the built environment.
3. Revitalise the vision with growth in the Central National Area by:
   e. Managing change, particularly in terms of traffic and development, to preserve the historic landscapes, and City Beautiful values (refer to Section **4.1**), and the dignity of the Central National Area.
6. Reinforce the Main Avenues by:

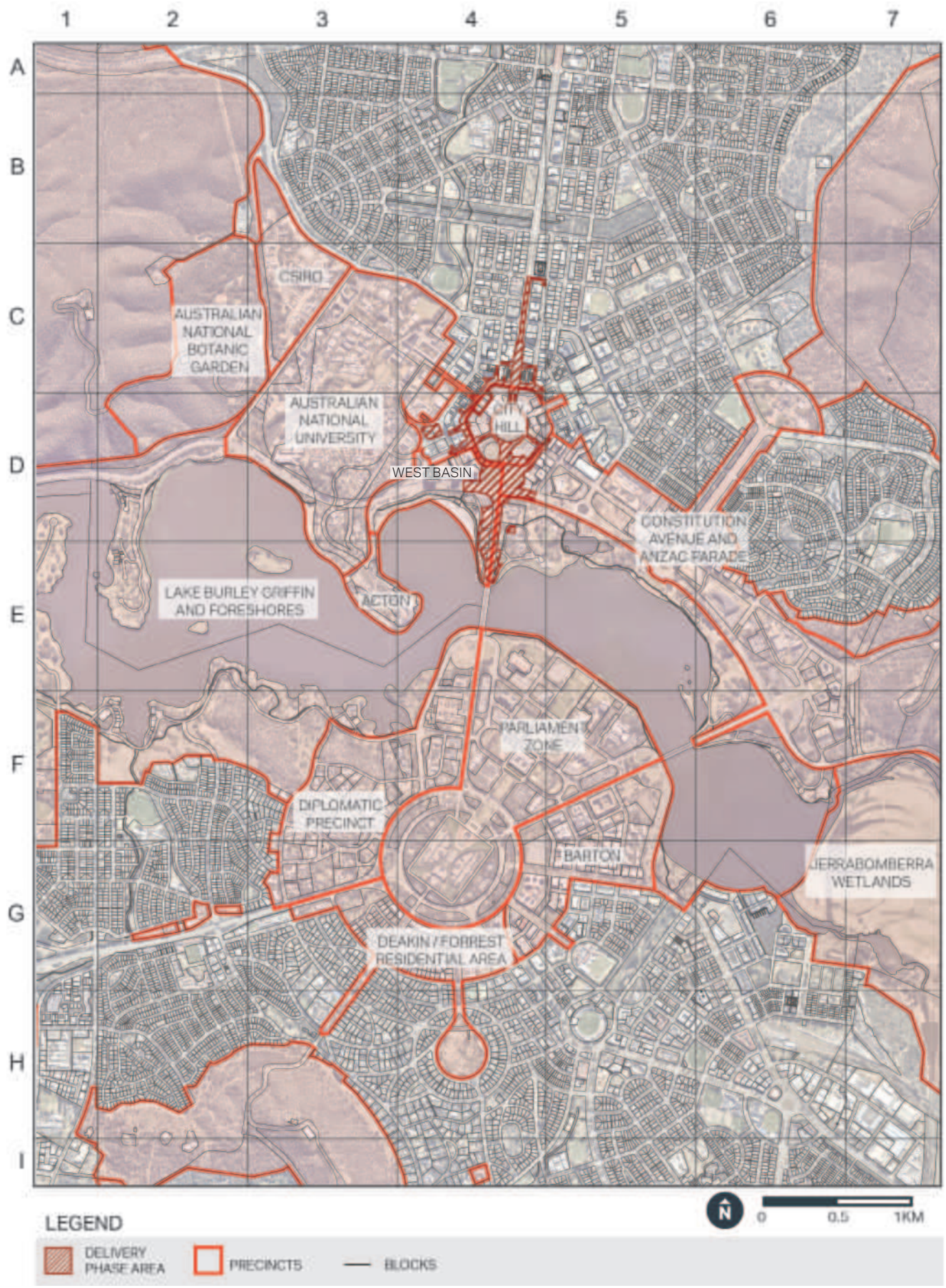

Figure 85 Precincts identified within Designated Areas in the Central National Area (NCA, 2016)

a. Realising the identified Main Avenues of Constitution, Northbourne, Commonwealth, Kings, University, Sydney, Brisbane, and part of Canberra Avenue as multi-use boulevards providing corridors of higher-density mixed-use development, public transport, broad tree-lined footpaths with potential for outdoor dining and street parking

d. Improving the urban design and streetscape qualities of the Main Avenues as approaches to the Central National Area

7. Link national attractions by:

j. Enhancing the sense of arrival for visitors to the National Capital by improving the quality of the Approach Routes and by progressively formalising the gateway experiences at key city thresholds, culminating in arrival at the Central National Area

k. Enhancing the vistas to the national attractions and icons.

Planning principles relating to landscape character, views and visual amenity for design, planning and development within the precincts of the Central National Area affected by the Project are outlined below:

- Within the Parliamentary Zone precinct the following relate to landscape character, views and visual amenity:
  - The Land Axis and Commonwealth and Kings Avenues are important elements in making the Parliamentary Zone legible (refer to **Figure 86**). To maintain the definition of the geometry of the Zone, there must be a long-term strategy for the replacement of trees.
  - With its central location, length, width and the stark contrast between the turf and the eucalypts, the Land Axis has a powerful presence in the Parliamentary Zone. Trees should be replaced and the planting extended where appropriate to preserve the visual strength of the Land Axis.

Figure 86 Artists impression of City Hill looking towards the Parliamentary Zone (NCA, 2016)

  - The tree planting on Commonwealth and Kings Avenues reflects different attitudes to avenue planting over the generations. There is an assortment of native, coniferous and deciduous species that requires rationalisation. The original design intent of the avenue planting – to provide a backdrop of coniferous evergreen trees contrasting with the deciduous in a staggered planting – made the avenues legible in the broader landscape and distinctive throughout the seasons. A consistent approach to replacement tree planting should be undertaken to reinstate this intent.
  - A consistent approach to replacement planting should be adopted to conserve the clarity and character of these spaces. For example, red autumn foliage along the avenues, with accents of yellow at intersection points, will help to define special routes and places of interest. The brighter foliage of deciduous trees will also emphasise the major groupings of buildings and offer sun and shade control at various times of the year.
- Within the City Hill precinct the following relate to landscape character, views and visual amenity:
  - The symbolic importance of the City Hill Precinct should be reinforced in the design treatment of the streetscape and public places.
  - View corridors must be retained from radiating avenues to City Hill Park (refer to **Figure 87**). No buildings should bridge these avenues.
  - A limited palette of high-quality pedestrian pavement materials, street furniture and lighting will be used. Pavement and landscape design should have an elegant, simple and bold design emphasising the geometry and formality of the Main Avenues.
  - London Circuit should serve as a gateway, providing a transition between the boulevard character of the avenues and the urban scale of the inner City Hill Precinct. The transition should be achieved through the use of urban design and traffic engineering treatments that serve to physically and psychologically divert traffic from the avenues onto London Circuit, thereby limiting access to the inner City Hill Precinct to predominantly local traffic. London Circuit should operate as the main public transport circuit for Canberra Central.
- Within the West Basin precinct the following relate to landscape character, views and visual amenity:
  - Landscape planting should reinforce the urban structure of West Basin and its integration with the setting of the Central National Area and the Lake Burley Griffin parklands.

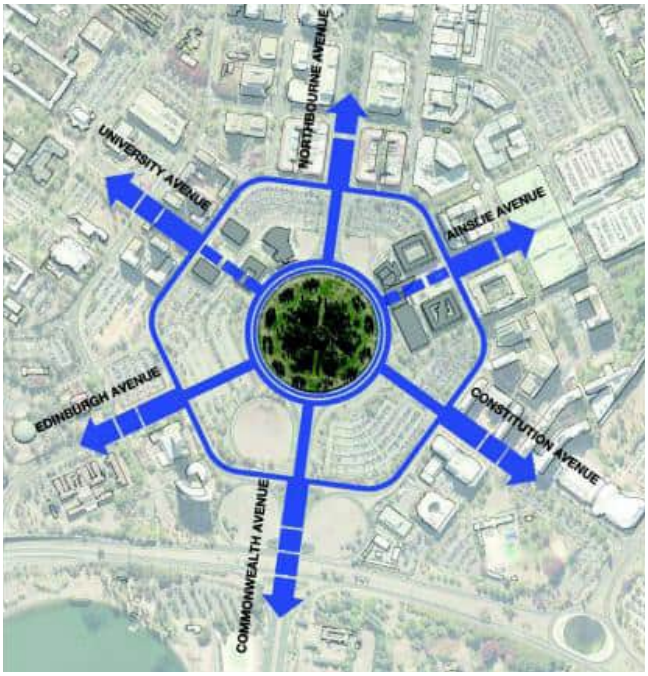

Figure 87 Views and vistas from City Hill (NCA, 2016)

  - A formal treatment should be applied to the Main Avenues, major streets and the waterfront promenade, and continuous street trees should define the pattern of city streets extending to the lake.
  - The visual impact of parking on the public domain should be minimised by integrating parking layouts with street tree plantings and pavement design.
  - A limited palette of high quality pedestrian pavement materials, street furniture and lighting should be used. Pavement and landscape design should have an elegant, simple and bold design emphasising the geometry and formality of the Main Avenues.

Canberra's Living Infrastructure Plan

The purpose on the Canberra's Living Infrastructure Plan: Cooling the City (LIP) is to provide direction for growing metropolitan areas within Canberra to address the challenges related to climate change, including:

- Reducing the urban heat island effect
- Retaining water in the landscape
- Improving water penetration
- Improving access to nature in the city
- Maintaining ecosystem services and biodiversity in the city's landscape.

Living infrastructure comprises a city's natural assets. Within the urban environment this includes street trees, public and private open spaces, green roofs and balconies and green walls. The LIP aims to integrate living infrastructure into the urban form and to support ecologically sustainable development.

Key actions identified by the LIP to address the climate change challenges are:

1. To expand existing asset management system - with a complete survey and mapping of the existing living infrastructure and urban living infrastructure
2. Living infrastructure target – 30% tree canopy cover and 30% permeable surfaces in Canberra's urban footprint by 2045
3. Microclimate Assessment Guide – to inform a city cooling works program across centres, urban renewal projects and urban intensification precincts
4. Microclimate Assessment Program – to introduce requirements to be implemented across centres, urban renewal projects and intensification precincts
5. Climate-wise Landscape Guide – to support effective landscape plans
6. Landscape Plans – required into Development Approval (DA) process to meet tree canopy targets
7. Actsmarts Programs – to improve sustainability outcomes across communities
8. Tree Protection Act Review – to update ACT *Tree Protection Act 2005*
9. Develop Urban Forest Strategy – to outline how to maintain and enhance public urban forest
10. City Cooling Program – identify cooling measures in areas considered to be more impacted by urban heat island effect
11. Oasis Program – identify key open space to be upgraded
12. Shadeways Program – to promote active travel along urban green corridors
13. Demonstration Projects - to showcase best practice clime-wise design through display houses and exhibitions
14. Water Sensitive Urban Design (WSUD) – to introduce WSUD in selected open space
15. Public and private investments – to explore initiatives for incentives and funding for the implementation of living infrastructure.

Within the LIP no specific recommendations for landscape, views and visual amenity have been made, however, in assessing the impact of the Project on landscape character, views and visual amenity, changes to tree cover as per the key actions to address climate change will be considered.

ACT Climate Change Strategy 2019-25

The ACT Climate Change Strategy 2019-25 (the Strategy) provides a framework for achieving a smart, sustainable and net zero emissions Territory by 2045.

The Strategy sets out the steps to be adopted to transition toward a Territory more resilient to climate change, while supporting the most vulnerable in our community and embedding climate change considerations into community decision making. Current targets are to reduce emissions (from 1990 levels) by 40% by 2020; 50-60% by 2025; 65-75% by 2030; 90-95% by 2040; 100% by 2045, and to achieve 100% renewable electricity by 2020.

Transport was the sector carrying 34% of the ACT emission in 2017-2018, and 62% in 2019-20. Promoting public and active transport will positively impact on the transport emission sector and it will support the target of reducing emissions to net zero by 2045.

The management of land use and biodiversity affects greenhouse gas emissions. Maintaining and improving landscape connectivity and resiliency is considered paramount for the preservation of natural habitat and biodiversity from the future effects of the climate change within a growing urbanised area.

Goals and actions relating to active transport are:

- GOAL 3B - Support sustainable travel choices
- GOAL 3F - Smarter use of roads
- GOAL 4I - Reduce urban heat and improve liveability.

Goals and actions related to land use and biodiversity are:

- GOAL 7A - Protect local species and habitats
- GOAL 7B - Sequester carbon in the landscape
- GOAL 7C - Encourage sustainable and resilient farming.

While the Strategy has no specific recommendations with regards to landscape character, views and visual amenity, impacts on landscape connectivity and trees with regards to the above will be considered. These elements have value as criteria in the identification of Landscape Character Zones (LCZs) and subsequent assessment of impact on these LCZs.

ACT Planning Strategy 2018

The vision of the ACT Planning Strategy 2018 is to be a sustainable, competitive and equitable city that respects Canberra as a city in the landscape and the National Capital while being responsive to the future and resilient to change. It aims for the city to be compact and efficient, diverse, sustainable and resilient, liveable and accessible.

The ACT Planning Strategy outlines directions under each of the overall aims and draws upon those policy and planning documents that help to achieve those directions.

ACT Transport Strategy 2020

Key transport outcomes have been identified: to manage congestion; reduce emissions; and support a compact and efficient city. The transport strategy must address these objectives and provide a response that offers attractive transport options but maintains the benefits of the city.

While the ACT Transport Strategy 2020 does not particularly consider landscape character, views and visual amenity, it references other policy documents that relate to these issues including Canberra's Living Infrastructure, the ACT Climate Change Strategy and ACT Infrastructure Plan.

City Plan

The City Plan (2014) provides an over-arching strategic framework that sets a plan for development within the city centre. Detailed analysis of the landscape, both physical and functional, has resulted in the identification of five 'character types' that typify the character and activities within the city (refer to **Figure 88** and **Figure 89**, comprising:

- West Basin: area on the lake foreshore connecting Acton Peninsula with central basin of Lake Burley Griffin. Open space along lake foreshore includes large car parking areas, reducing the quality of the open space. Contains large educational precinct and commercial activity.
- City North-East: predominantly retail and commercial activities, also the central entertainment area of the city centre. High amount of pedestrian areas, low scale buildings with large floor areas.
- City Hill: a largely undeveloped area with opportunity to establish a positive character. Geographically the centre of the city but disconnected and underutilised. Some cultural and civic uses but also a large amount of car parking or vacant land.
- City North-West: include development resulting from collaboration between the ANU and ACT Government, with commercial, education and residential land use.
- City South-East: includes two large parks, some commercial and mixed use development, but also large areas of car parking or vacant land. Larger block sizes with some larger buildings but also an inconsistency of grain and scale. Tourism and recreation comprise 20% of the floor area in this zone.

The City Plan sets out a series of challenges and opportunities for development with the overall emphasis on urban intensification, increasing the mix of uses and the diversity of development types, sustainable transport use and emphasising the city centre pre-eminence in Canberra.

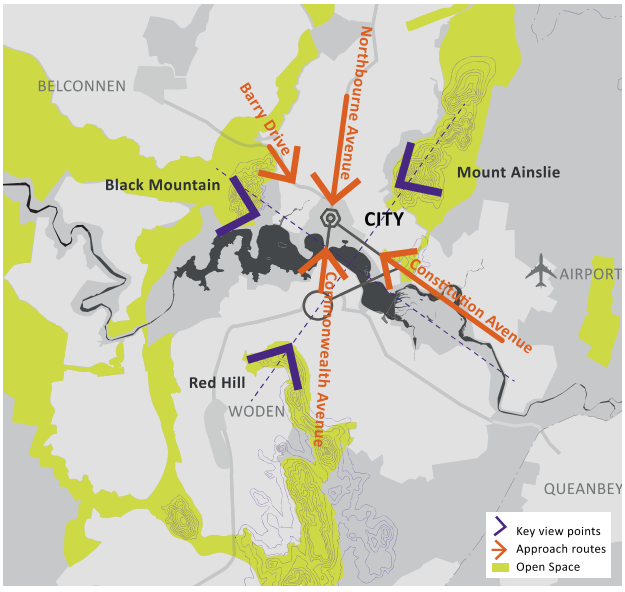

Figure 88 Views and approaches to the city (ACT Government, 2014)

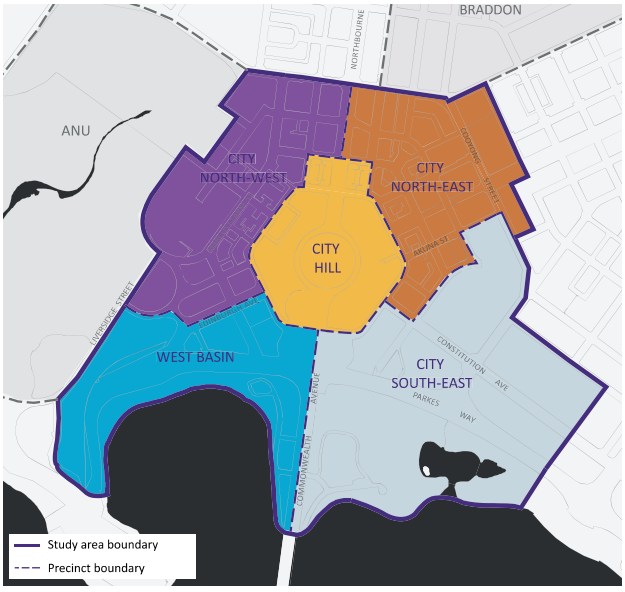

Figure 89 Character types within the City Plan study area (ACT Government, 2014)

Canberra Central Design Manual

The Canberra Central Design Manual is the approved standards and guidelines for all public realm development in the City. Its aims to ensure consistency for paving, signage, street furniture, street trees, lighting and public art within the central area of Canberra (refer to **Figure 90**).

It builds on the strategic framework of the City Plan to provide information on the materiality and detailed design of urban design elements within the city centre.

Among the recommendations in the document, a street tree master plan has been developed. The city was divided into seven precincts related to their primary function and relationships to adjoining areas (refer to **Figure 91**). Each precinct has been allocated a list of tree species based on detailed analysis.

Tree species for areas within or adjacent to the Project include:

- City Hill precinct: a palette of *Platanus* sp. have been selected for London Circuit and *Ulnus* sp. for Vernon Circle.
- National Triangle precinct: *Quercus* sp. have been selected for Constitution Avenue and internal road networks, and *Eucalyptus* sp. and *Liquidamber styraciflua* for Parkes Way.
- West Basin precinct: a mix of *Eucalyptus* sp. and *Platanus* sp. have been selected for Edinburgh Avenue, and *Eucalyptus* sp. and *Liquidamber styraciflua* for Parkes Way.

No street trees have been recommended for Commonwealth Avenue north of the Commonwealth Avenue bridge.

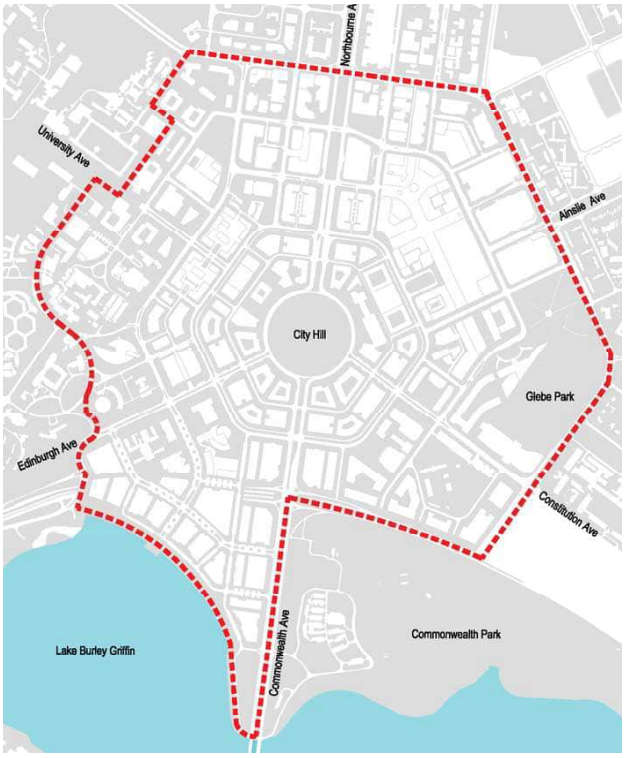

Figure 90 Area within which the Canberra Central Design Manual applies (ACT Planning and Land Authority, 2008)

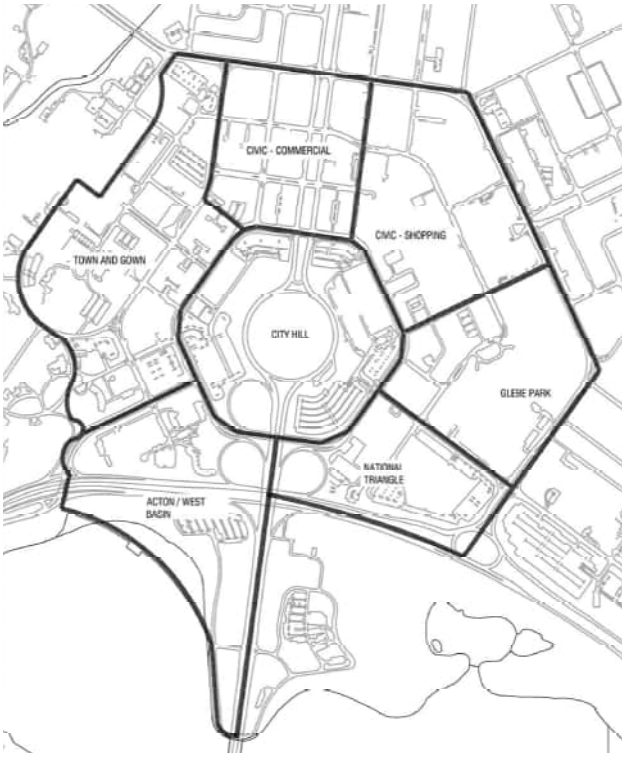

Figure 91 Street tree precincts (ACT Planning and Land Authority, 2008)

Heritage Principles for Commonwealth Avenue Master Plan

GML Heritage Pty Ltd (GML) were engaged by MPC to provide heritage advice for the Commonwealth Avenue Master Plan developed by Hassell (GML, 2020), and was used to inform the Light Rail Commonwealth Avenue Masterplan (AECOM, 2022).

Commonwealth Avenue is an integral component of the Central National Area of Canberra, a place of cultural importance. Commonwealth Avenue Bridge also contributes to the Lake Burley Griffin landscape, a nominated CHL and NHL place.

Commonwealth Avenue is significant as an integral and major part of Walter Burley Griffins' 1911 plan for the city. It is one of the three sides of the National Triangle, comprising a wide, tree lined avenue with plantings a mix of native and exotic trees, which is an important feature in Canberra's planning and landscape. The following heritage principles have been recommended to provide guidance for future development of the avenue:

- Retain and enhance the formality of Commonwealth Avenue through appropriate design, aesthetic, scale and materials.
- Retain Commonwealth Avenue as a wide tree-lined boulevard, an important feature in Canberra's planning and landscape, through continuous tree planting along both the eastern and western verges.
- Retain and enhance the landscaped character of Commonwealth Avenue through a balance of soft and hard landscaping that is sustainable.
- Retain and complement the existing symmetry of the two avenues forming the two sides of the triangle—Commonwealth Avenue and Kings Avenue.
- Reinforce and draw from the underlying geometry and symbolism of the Central National Area, and the National Triangle, ensuring that Commonwealth Avenue is complementary with the two other avenues that define the National Triangle (Kings Avenue and Constitution Avenue) and reinforce a sense of place.
- Retain and draw from Commonwealth Avenue's ceremonial and symbolic importance as an entrance to the Parliamentary Zone and integral link connecting the Federal and Territory functions of Canberra.
- Maintain and support Commonwealth Avenue's function as a major and active boulevard within Canberra.
- Retain and enhance ready public access to Commonwealth Avenue.
- Retain significant views and vistas including:
  - View south to Parliament House
  - View north to City Hill
  - Views to Lake Burley Griffin and other national buildings
  - Distant and close views to and through Commonwealth Avenue Bridge in its lake setting
  - Views to and from buildings fronting Commonwealth Avenue, such as West Block and Albert Hall.
- The dominant scale along Commonwealth Avenue, including the scale of any new structures should be well below the mature height of any trees. Any new structures should not overshadow the verticality of the historic City Hill plantings, or its ability to be read as a high point within the landscape.
- Any new development should retain and complement the design aesthetic, scale, character and form of Commonwealth Avenue Bridge.
- Retain, reinforce and complement the symmetry of Commonwealth Avenue Bridge.
- Consider and incorporate lighting which is complementary to the setting and does not compete with or distract from the prominence of Commonwealth Avenue Bridge.
- Any new structures along Commonwealth Avenue should be high quality, with durable materials and finishes in sympathetic and neutral colours.
- Retain and enhance the existing visual relationship between Commonwealth Avenue and heritage

places located in the vicinity (e.g.: City Hill, which should remain visible as a hill, green space with dominant vertical plantings).

- Respect the setting of heritage places located in the vicinity ensuring that Commonwealth Avenue contributes appropriately to Canberra's ensemble of designed urban landscapes and settings that display the National Capital and projects its status, function and significance as the National Capital.
- Draw from and interpret important associations with the Griffins' and Charles Weston as part of the interpretation of heritage values.
- Interpret the heritage values of Commonwealth Avenue and include reference to its broader setting.

Historic research outline - Commonwealth Avenue Landscape Master Plan

This Plan was prepared and applied to the Light Rail Commonwealth Avenue Masterplan (AECOM, 2022) to better understand:

- The significance of the trees (and road layout/geometry) - historic, aesthetic, associative, social.
- The fabric of the landscape, e.g. form, function, materiality, character, strength of species mix, colour, road geometry, special qualities, structural integrity.

Key dates and plantings include:

- 1921: Thomas Weston was appointed as Director of City Planning and Superintendent of Parks and Gardens and oversaw the planting of the following trees:
  - City Hill: *Cupressus sempervirens var. stricta* (Italian Cypress), *Pinus radiata (*Radiata Pine) and *Robinia pseudoacacia* (Black Locust)
  - London Circuit: *Cupressus sempervirens var. stricta* (Italian Cypress), *Cedrus atlantica* (Atlas Cedar), *Castanea sativa* (Spanish Chestnut), *Platanus orientalis* (Oriental Plane), *Platanus acerifolia* (London Plane) and *Prunus blireiana* (Blireiana Plum).
- Historic photographs of Commonwealth Avenue show that south of the Molonglo River was planted either side of the road and in the median as early as 1928 (although probably earlier) (refer to **Figure 92**). The northern side of the River (heading to City Hill) was not treated to the same double avenues of trees.
- During the 1940s John Peace Hobday served as Superintendent of Parks and Gardens and began the progressive removal of the cedars to make for new deciduous trees (*Ulmus carpinifolia* (Smooth-leaved Elm) to the verges.
- After the construction of Lake Burley Griffin, double avenues of deciduous trees were planted in the verges of the road north of the Commonwealth Avenue Bridge, but not within the central median (refer to **Figure 93**).

Figure 92 View south along Commonwealth Avenue to Capital Hill, 1929 (GML, 2021)

Figure 93 View south from City Hill, taken in 1975 (GML, 2021)

Heritage impact assessment for Light Rail Stage 2a

Table 35 lists the historic heritage places (refer **Figure 94**) registered or nominated to statutory heritage registers, including the National Heritage List, Commonwealth Heritage List and ACT Heritage Register, that are located either within or immediately adjacent to the study area for the Heritage Impact Assessment (HIA, GML Heritage, 2022).

Table 35: Heritage places within or adjacent to the HIA study area (modified from GML, August 2022)

Place name	Register
Lake Burley Griffin and Lakeshore Landscape / Lake Burley Griffin and Adjacent Lands	National Heritage List / Commonwealth Heritage List
Australian Academy of Science Building	National Heritage List
Parliament House Vista	Commonwealth Heritage List
Reserve Bank of Australia	Commonwealth Heritage List
City Hill	ACT Heritage Register
Sydney and Melbourne Buildings	ACT Heritage Register
ANZ Bank Building	ACT Heritage Register
The Civic Square Precinct	ACT Heritage Register
Law Courts Precinct	ACT Heritage Register
Hotel Acton (Acton House)	ACT Heritage Register
Ian Potter House (Beauchamp House)	ACT Heritage Register

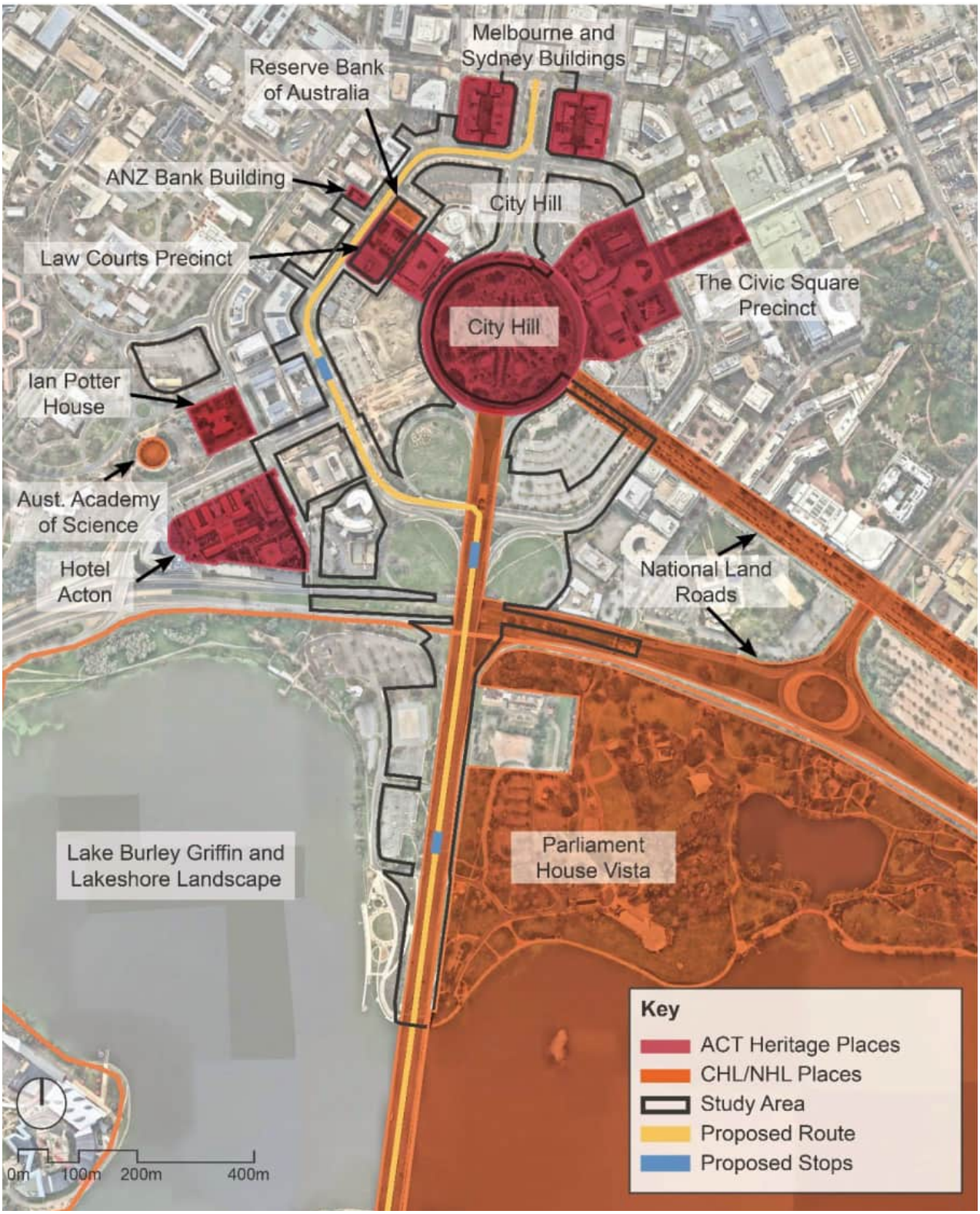

Figure 94 Heritage places within or adjacent to the HIA study area for the Project (Source: GML Heritage)