

Planning Report

National Capital Plan Works Approval (for Stage 1: Gungahlin to Civic – Federal Highway and Northbourne Avenue)

Table of Contents

Planning Report Introduction	5
Part A: Introduction to Project, Planning Context and Scope of Works Included Under this Application	6
1. INTRODUCTION	7
1.1 Overview	7
1.2 Justification and Objectives for the Project.....	7
1.2.1 Project Justification.....	7
1.2.2 Project Objectives.....	7
2. PROJECT DESCRIPTION	9
2.1 Project Overview.....	9
2.2 Project Staging.....	9
2.3 Stage 1 of the Light Rail Development	10
2.4 Stage 1 Project Locality	10
3. LEGISLATIVE PLANNING CONTEXT	12
3.1 Jurisdictional Planning Requirements.....	12
3.1.1 NCA Works Approval Requirements	12
3.2 Strategic Planning Policy Context.....	13
3.2.1 The National Capital Plan	13
3.2.2 Canberra Plan.....	14
3.2.3 ACT Planning Strategy	14
3.2.4 The Griffin Legacy	14
3.2.5 The City Plan	17
3.2.6 Transport for Canberra 2012	18
3.2.7 Light Rail Network Plan	18
3.2.8 City and Gateway Urban Renewal Strategy	19
3.2.9 Dickson Centre Master Plan.....	19
3.2.10 Gungahlin Town Centre Planning Report.....	19
3.3 Status of Environmental and Planning Approvals	20
4. PURPOSE AND SCOPE OF THIS REPORT.....	21
5. PROJECT SCOPE OF WORKS.....	22
6. CONSULTATION.....	25
Part B: Assessment of Project against the Applicable Requirements of the National Capital Plan	26
1. OVERVIEW.....	27

2. CENTRAL NATIONAL AREA	28
2.1 Overview of Works Proposed for the Construction Compound	28
2.2 City Hill Precinct	29
2.2.1 Objectives for the City Hill Precinct.....	30
2.2.2 Land Use for the City Hill Precinct	31
2.2.3 Detailed Conditions of Planning, Design and Development for the Central National Area	31
3. MAIN AVENUES AND APPROACH ROUTES	35
3.1 Overview of Works within the Main Avenues and Approach Routes.....	35
3.2 Landscape context of the Main Avenues and Approach Routes included under Stage 1.....	36
3.2.1 Existing features of the landscape	36
3.2.2 Landscape character and context.....	36
3.2.3 Summary of the design philosophy, urban and landscape design	36
3.2.4 Landscape treatments proposed	37
3.3 Objectives for Main Avenues and Approach Routes	38
3.4 Detailed Conditions of Planning, Design and Development	38
3.5 Special Requirements for Main Avenues and Approach Routes	40
3.5.1 Special Requirements for Main Avenues.....	40
3.5.2 Special Requirements for Approach Routes.....	44
4. URBAN AREAS	45
4.1 Principles for Urban Areas	45
4.2 Policies for Urban Areas	46
4.3 Special Requirements for Urban Areas	48
4.4 Principles for Civic.....	50
4.5 Policies for Civic.....	50
5. TRANSPORT	53
5.1 Principles for Transport.....	53
5.2 Policies for Transport	53
6. URBAN DESIGN	56
6.1 Principles for Urban Design	56
6.2 Policies for Urban Design.....	56
7. HERITAGE	58
7.1 Principles for Heritage.....	58
7.2 Policies for Heritage	58
8. ENVIRONMENT	60
8.1 Principles for the Environment	60
8.2 Policies for the Environment	60
9. INFRASTRUCTURE	62
9.1 Principles for Infrastructure	62
9.2 Policies for Infrastructure	62
10. DESIGN AND SITING CONDITIONS	64
11. DETAILED CONDITIONS OF PLANNING, DESIGN AND DEVELOPMENT: FEDERAL HIGHWAY	65
11.1 Design Principles	65
11.2 Policies.....	65
11.2.1 Future Roads	65
11.2.2 Border Identification and Marker.....	65
11.2.3 Road Design Characteristics	66

11.2.4	Visitor Information.....	67
11.2.5	Landscape Experience	67
12.	DEVELOPMENT CONTROL PLANS	71
13.	ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999	72
14.	COPYRIGHT AMENDMENT (MORAL RIGHTS) ACT 2000.....	73
Part C: Construction Management and Impact Mitigation Measures.....		74
1.	INTRODUCTION	75
2.	TREE MANAGEMENT	76
2.1	Background Information and Assessment.....	76
2.2	Proposed Mitigation Measures for Construction Activities	76
2.3	Reference Documents	78
3.	LANDSCAPE MANAGEMENT	79
3.1	Background Information and Assessment.....	79
3.2	Proposed Mitigation Measures for Construction Activities	79
3.3	Reference Documents	79
4.	HERITAGE MANAGEMENT.....	80
4.1	Background Information and Assessment.....	80
4.2	Proposed Mitigation Measures for Construction Activities	80
5.	NOISE AND VIBRATION.....	81
5.1	Background Information and Assessment.....	81
5.2	Proposed Mitigation Measures for Construction Activities	81
5.3	Reference Documents	81
6.	TRAFFIC MANAGEMENT	82
6.1	Background Information and Assessment.....	82
6.2	Proposed Mitigation Measures for Construction Activities	82
6.3	Reference Documents	83
7.	PUBLIC TRANSPORT	84
7.1	Background Information and Assessment.....	84
7.2	Proposed Mitigation Measures for Construction Activities	84
7.3	Reference Documents	84
8.	PEDESTRIAN AND CYCLE NETWORKS	85
8.1	Background Information and Assessment.....	85
8.2	Proposed Mitigation Measures for Construction Activities	85
8.3	Reference Documents	85
9.	CONTAMINATION.....	86
9.1	Background Information and Assessment.....	86
9.2	Proposed Mitigation Measures for Construction Activities	86
9.3	Reference Documents	87
10.	SPOIL MANAGEMENT	88
10.1	Background Information and Assessment.....	88
10.2	Proposed Mitigation Measures for Construction Activities	88
10.3	Reference Documents	88
11.	WASTE MANAGEMENT	89
11.1	Background Information and Assessment.....	89
11.2	Proposed Mitigation Measures for Construction Activities	89

11.3 Reference Documents	90
12. RESPONSE TO RECOMMENDATIONS OF RELATED APPROVALS	91
12.1 Background Information and Assessment	91
12.2 Proposed Response during Construction Activities	91
ATTACHMENTS	92
1. Initial Construction Management Plan	92
2. Tree Assessment Report (Block 13 Section 63 City)	92

Planning Report Introduction

Light rail is part of the ACT Government's strategy to transform Canberra into a truly sustainable city. Light rail will provide Canberrans with better public transport options, reduce car dependency, improve the urban environment and support Canberra's local economy. The Capital Metro Project (the Project) represents the most significant transportation infrastructure project ever undertaken by the Territory.

As the Project is planned to be undertaken within National Capital Authority (NCA) jurisdictions, all elements of the proposed works need to be consistent with the essential relationships between the Parliamentary Zone and its settings. Each of these essential relationships are required to be planned, developed and conserved in an integrated way, with NCA providing the requisite leadership of design and ensuring that construction and maintenance operations are carried out to the highest standards.

This Planning Report has been prepared to enable the NCA to assess the proposal against the provisions of the *ACT Planning and Land Management Act 1988*. The Planning Report:

- Provides an overview of whole project
- Includes a Works Approval application for works within designated areas of Stage 1, Gungahlin to Civic, in order to address the following scope elements:
 - Track alignment
 - Track form, and
 - Stop locations
- Establishes a framework for preparation and submission of future Works Approval applications to address all remaining light rail elements.

This Planning Report is provided in three Parts as follows:

Part A – provides an introduction and overview of Stage 1 of the project, and details the relevant project sections that fall within a Designated Area of the National Capital Plan (NCP).

Part B – provides a comprehensive assessment of Stage 1 of the project against the applicable and relevant requirements of the NCP. This assessment has been prepared to demonstrate that the Project is consistent with all provisions of the NCP.

Part C – This Part (Part C) provides an introduction and overview of management measures that will be implemented to mitigate potential environmental impacts resulting from project activities.

Part A: Introduction to Project, Planning Context and Scope of Works Included Under this Application

1. INTRODUCTION

1.1 Overview

The Capital Metro project is the first stage of a city-wide integrated transport network. Stage 1 represents the 12 km light rail route that will link Canberra's city centre with the fast growing suburbs of Gungahlin via Northbourne Avenue and Flemington Road.

1.2 Justification and Objectives for the Project

1.2.1 Project Justification

The ACT Government has identified Canberra's need for accessible, high capacity and high quality transport to increase the public transport mode share and reduce car dependence. In the Parliamentary Agreement for the 8th Legislative Assembly for the Australian Capital Territory (the Parliamentary Agreement), effective from November 2012, the ACT Government committed to:

- a) establishing a statutory independent authority to implement the light rail project and associated development in the corridor
- b) undertaking the necessary design studies, preparatory works, financing, procurement and tendering arrangements, with a target date for the laying of tracks for the first route commencing in 2016 and
- c) creating a Canberra wide light rail network master plan.

In order to achieve these goals, the Capital Metro Agency (CMA), a statutory independent authority, was established to manage the development and delivery of the Project.

The Capital Metro Project (the Project) is being developed to accommodate the predicted increase in Canberra's CBD and northern suburbs population over the next 20 years. This expected population growth means alternative transport modes will be needed over this time to reduce demand pressure on the existing transport network (i.e. road and bus) and improve transport network capacity, efficiency and reliability.

The goal to improve transport is consistent with the Transport for Canberra — Transport for a Sustainable City 2012–2031 Policy (Transport for Canberra) which aims to create a transport system that puts people first and links new development to investment in public transport.

Improvements to Canberra's transport network will ultimately assist in generating a number of economic and social benefits. Without improvements such as light rail, future development along the Project corridor would cause further decline in traffic speeds, increased travel times and therefore inhibit access to employment, community facilities, social and recreational activities. The Project will assist the CBD in realising its full potential as a vibrant, lively and attractive centre within a prosperous Canberra. Urban renewal and transformation along the transport corridor is expected to create new and different opportunities for Canberra as a whole, including new employment opportunities and increased investment.

1.2.2 Project Objectives

Capital Metro Agency's project objectives for the Project are to:

- increase the mode share of public transport
- optimise frequency and service reliability
- stimulate sustainable, urban re-development along the corridor
- grow a more diversified Canberra economy
- achieve affordable capital and operational costs
- revitalise the Northbourne Avenue corridor
- increase social and economic participation, and
- reduce carbon and other emissions.

Underpinning the approach to all activities on this project is Canberra Metro's commitment to ensuring health and safety above all else. Drawing on our Health and Safety Policy, our health and safety objectives are to:

- protect the workforce
- protect our commuters and the public
- protect the asset
- protect other vehicular and cyclist traffic, and
- maintain an exceptional health and safety record for the life of the Project.

Each strategy driving the Project management outcomes has been designed with clear consideration to both the Project Objectives and the identified health and safety objectives ensuring successful achievement of Capital Metro Agency's aspirations and principles.

The broad aims of the project are to provide an incentive for people to use public transport and to ease traffic congestion as the population of the city continues to grow.

2. PROJECT DESCRIPTION

2.1 Project Overview

The Project involves the development of a light rail system that will establish an Inter-town Public Transport Route (defined further below in Planning Context). At present, the Project is to develop the route to connect:

- the City to Gungahlin Town Centre, and
- the City to the Russell employment node along Constitution Avenue. The City to the Russell employment node along Constitution Avenue is an option that is presently being developed. Design for this option will be approved via a separate Works Approval Application.

Due to the large project scope and the multi-jurisdictional planning requirements (described in Section 3), The Project will be delivered in stages with associated staging of applications for planning approval. This staged approach will include preparation and submission of applications to separate planning authorities in accordance with planning requirements of ACT jurisdictions, as described further below.

An overview of the Project staging, as well as a detailed description of the works included under Stage 1 of the Project (the focus of this Planning Report) and associated application for Works Approval, is defined below.

2.2 Project Staging

The Project is to be delivered under two separate and distinct but connected stages as described in the summary table below:

Table 2-1. Overview of Project Stages

Project Area	Alignment Description	Alignment Details
Capital Metro Light Rail. Stage 1	Gungahlin to Civic Project	12 kilometre light rail service linking the fast-developing area of Gungahlin in the north, to the City.
Capital Metro Light Rail Stage 2	Russell Extension Project	3.5 kilometre light rail service linking proposed Civic terminus to a new terminus in Russell Drive, Russell

The CMA project planning objectives for the two stages are summarised as follows:

- *The City to Gungahlin corridor is an important part of the Transport for Canberra policy, which maps out ways to deliver faster, more convenient and sustainable transport options for Canberra over the next 20 years (CMA, Capital Metro Light Rail Stage 1 – Gungahlin to Civic, Environmental Impact Statement, June 2015).*
- *The aim of the Russell Extension Project is to provide an increased public transport catchment to the south east of the main centre of Civic and provide an improved public transport service to the anticipated future land uses within this precinct (CMA, Capital Metro Russell Extension Project, Environmental Scan and Risk Assessment, April 2015).*

This planning report and this overarching Works Approval application deals exclusively with the Stage 1 Gungahlin to Civic component of the Project. It involves areas of work that will take place within a Designated Area of the National Capital Plan as described further below in the Planning Context section of this report.

2.3 Stage 1 of the Light Rail Development

Stage 1 of the project is anticipated to include the following key features:

- the construction of approximately 12 kilometres of light rail track primarily within existing road medians
- 13 stops including major transport interchanges at Gungahlin, Dickson and Civic
- a light rail vehicle (LRV) only/pedestrian friendly zone in Hibberson Street, Gungahlin
- platforms at all stops designed to a minimum of 33 metres and be capable of extension to accommodate 45-metre long LRVs (allowing for extended LRVs as part of future operations)
- overhead line equipment providing traction power to the LRVs and electrical substation facilities for the provision of power to the overhead line along the route
- potential impacts to existing bridge structures and construction of a new bridge
- a series of crossovers and turnback facilities to allow light rail vehicles to turn back at certain points along the alignment
- the provision of new signals at up to nine existing unsignalised intersections
- passenger information systems at stops and on light rail vehicles
- a depot in Mitchell incorporating the Operations Control Centre and the operator's management and administrative teams as well as operations and maintenance staff, the LRV maintenance building and stabling for the fleet of LRVs
- changes to the road layout in some sections of the route (e.g. modifications to slip lanes, right/left turns, footpaths and kerbs, etc.)
- potential changes to existing utilities and new drainage infrastructure
- changes to some parking conditions along the route
- public domain improvements including paving, street trees, lighting and street furniture.

The project would initially operate at a weekday frequency of every 5 minutes during peak hours, and every 10 minutes at other times between 7am and 6pm. It would serve three main stops with interchange to the bus network (City, Dickson and Gungahlin), as well as other local stops.

2.4 Stage 1 Project Locality

The Project comprises a 12 kilometre light rail service linking the newly developed area of Gungahlin with the Civic area in Canberra. The alignment has been confirmed as commencing from the Gungahlin Marketplace at Hibberson Street, then following along Flemington Road, the Federal Highway and Northbourne Avenue, and terminating at the Alinga Street intersection.

The project locality is depicted in Figure 1 and the relevant planning jurisdiction governing approval of the project is described in the following section.

The majority of the works are located within the existing road corridors of the routes described above, however some supporting components of the Project would occur on adjacent or nearby blocks/land.

This report deals only with those elements proposed under Stage 1 of the Project (Civic to Gungahlin) which fall within a Designated Area of the National Capital Plan and for which Works Approval is required. A summary description of the planning context and those specific elements of the Project subject to this application for Works Approval is provided in the following section.

This Stage 1 application for Works Approval (WA1) includes detailed plans that detail the proposed route, including track alignments within the transport route corridor, as well as the location of stops (platforms).

All of the land subject to the development works is unleased land (road corridors) and not currently held under any registered private or government lease.



Figure 2-1 Stage 1 Route

3. LEGISLATIVE PLANNING CONTEXT

3.1 Jurisdictional Planning Requirements

The ACT operates under a two-tier legislative planning framework whereby planning approval for projects may fall under either or both local ACT Government or Commonwealth Government approval requirements.

The *Australian Capital Territory (Planning and Land Management) Act 1988* (ACT PALM Act) established the National Capital Planning Authority (NCA) as a Commonwealth Government agency with the role of (amongst other things) to prepare and administer a National Capital Plan (NCP).

The ACT PALM Act also stipulates that the NCP may specify areas of land that have the special characteristics of the National Capital as Designated Areas. Proposals to undertake “work¹” within a Designated Area of the National Capital Plan are required to be approved by the NCA and must be consistent with the requirements of the NCP (as defined further below).

The remaining parts of the ACT are Territory Land. Proposals to undertake work (or development) on Territory Land requires the approval of the ACT Planning and Land Authority (ACTPLA) within the Environment and Planning Directorate (EPD) of the ACT Government. The legislation governing this process is the *ACT Planning and Development Act 2007*, and development in these areas is guided by the ACT Territory Plan 2008 (as amended).

The proposed work areas of the Project fall across two jurisdictions. The Capital Metro Light Rail Project will ultimately require approval under both jurisdictions. A summary of the approval requirements in relation to those parts of the route under the NCA’s jurisdiction is provided below.

3.1.1 NCA Works Approval Requirements

As stated above, all parts of the proposed development works for the Project that are located within a Designated Area of the NCP are required to be approved by the NCA. Proposals for Works Approval (WA) must also be consistent with the requirements of the NCP. As per the provisions of the PALM Act, the NCP is to set out detailed conditions of planning, design and development, as well as special requirements for the development of any area, being requirements that are desirable in the interests of the National Capital. Proposals for works in designated areas are also required to be in accordance with any other applicable principles or policies relevant to the nature and location of the work being undertaken as specified in the NCP. There are no exemptions available to the requirement to obtain WA, irrespective of the nature of the development or individual elements of the project as either ancillary, minor or temporary works.

The assessment of proposals for works in designated areas is conducted against the principles, policies, special requirements, design and siting conditions and detailed conditions of planning design and development of the NCP as applicable. The NCA’s role is to assist applicants through a process of negotiation and design development to achieve outcomes appropriate to those areas which embody the special characteristics of the national capital.

The relevant sections of the NCP that are to be addressed in this Planning Report are described further in Section 4 (Purpose and Scope of this Report), below.

¹ Work is defined under the PALM Act as including:

- (a) the construction, alteration, extension or demolition of buildings or structures;
- (b) landscaping;
- (c) tree-felling; or
- (d) excavations;

but excludes anything done inside buildings or structures.

3.2 Strategic Planning Policy Context

There are a number of planning and policy documents that provide the strategic context for the Project. The following sections detail the main local, regional, site specific Master Plans, strategies and reports and the relevance of these to the Project. This section provides an overview of the applicable strategic planning policies that combined provide the policy framework under which this Project can be delivered. This planning and policy framework includes both commonwealth and local policies and strategic planning documents and is provided here for an understanding of the overall context of the Project against Canberra’s broader strategic planning.

3.2.1 The National Capital Plan

The National Capital Plan (NCP) sets the initial policy context for the Project through the “Elements of the Plan” and the broad policies for land use throughout the Territory, as reflected in Figure 1 of the NCP for the General Policy Plan – Metropolitan Canberra (adopted in Figure 3-1 below). Of relevance to the Project in this General Policy Plan is the identified Inter-town Public Transport System (Indicative Route – shown as the dotted lines in Figure 3-1 below).

A detailed assessment of the Project against the applicable principles, policies, special requirements and detailed condition of planning design and development is provided in Part B of this report. A summary of the applicable chapters of the NCP as they relate to the Project works is provided in Part A: Section 4, Purpose and Scope of this Report.

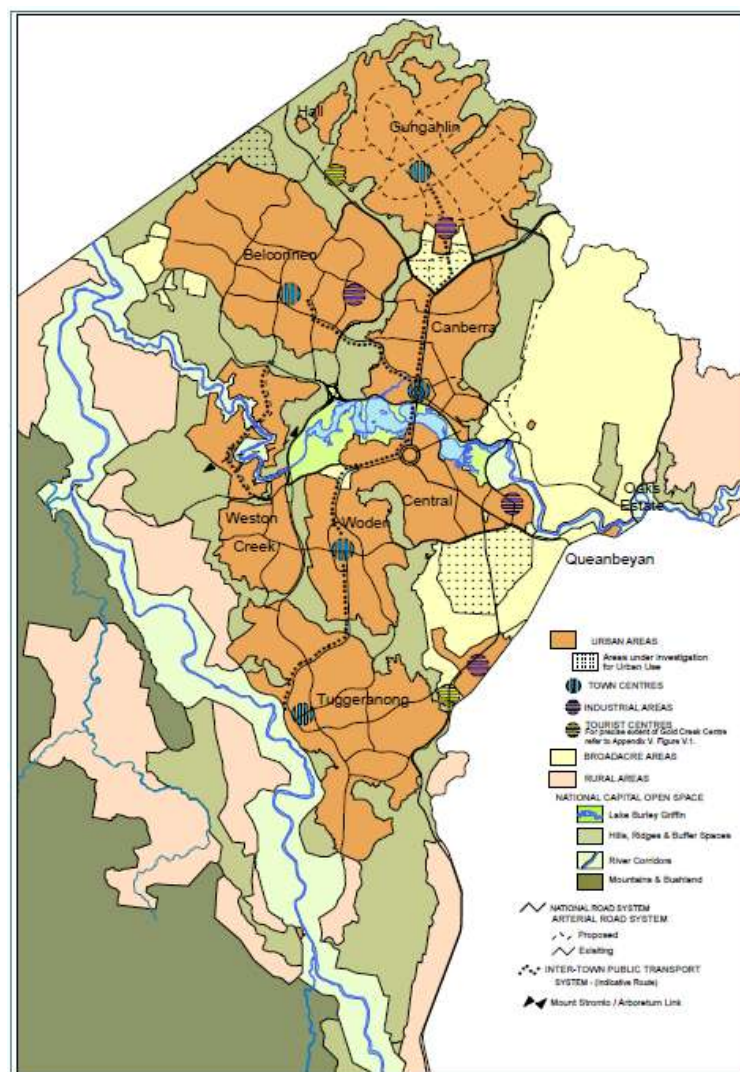


Figure 3-1 NCP General Policy Plan (adopted from Figure 1 of the NCP)

3.2.2 Canberra Plan

The Canberra Plan (ACT Government, 2008) was initially launched in 2004 to guide the growth and development of Canberra for this generation and beyond. It set out a strategy that reflected the views and values of Canberra's people and responded to the challenges facing the city. It articulates key directions for the city's continued prosperity and responds to new challenges, including climate change, water security, housing affordability and skills shortages.

Seven strategic themes reflect the ACT Government's priorities:

- quality health care
- a fair and safe community
- excellent education, quality teaching and skills development
- a strong, dynamic economy
- a vibrant city and great neighbourhoods
- a sustainable future
- high quality services.

The Project would specifically assist in the ongoing achievement of sustainable objectives through the provision of improved public transport options. The Project would also support the progression of other identified priorities including the development of a vibrant city and great neighbourhoods and a strong, dynamic economy

3.2.3 ACT Planning Strategy

The ACT Planning Strategy (ESDD, 2012a) is one of many ACT Government policies that aims to inform the future development of Canberra. The Strategy's purpose is to provide guidance to the future spatial planning, development and management of Canberra and the ACT to help achieve the economic, cultural and environmental aspirations of its people. It gives people a better understanding of how change in the ACT will be managed. The ACT Planning Strategy aims to:

- outline where more specific planning and investigation is required
- inform statutory planning policy to deliver change and the outcomes identified in the Strategy
- help prioritise investment in social and utility infrastructure
- identify where regional collaboration is important.

One of the key targets of the strategy is to achieve 50 per cent of new housing within the urban area of Canberra to support other ACT Government policy outcomes, including the legislated greenhouse gas emissions target for 2060. The Project would support the creation of opportunities for increased density and dispersed employment by leveraging existing residential and other centres (such as Gungahlin, Mitchell and Dickson) and inter-town transport connections. It would also alleviate mobility concerns and create more choices for travel by integrating investment in Canberra's transport networks with the land uses it services.

3.2.4 The Griffin Legacy

'The Griffin Legacy' (Australian Federal Government 2004), is Canberra's most recent review and strategic policy document for planning within the nation's capital and central area. It is an important document, providing the comprehensive history behind the development of the 'bush' capital, as well as the development of the plan from the competition winning entry by Sir Walter Burley Griffin, through to the present day. The introduction of light rail to Canberra aligns well with the overall Griffin plan, as illustrated by the extracts from The Griffin Legacy – Canberra, The Nation's Capital in the 21st Century document included below.

The Griffin Legacy document includes a number of specific references to tramways such as:

'The Main Avenues.....were intended to be leafy boulevards with generous landscaped medians carrying tramways' (Main Avenues Element, pp 137 *The Griffin Legacy – Canberra, The Nation's Capital in the 21st Century*)

The main avenues and approach routes, including the Federal Highway and Northbourne Avenue alignments were designed for some form of 'rapid transit' (Griffin's term) that would be lined with social and

economic activity. The original Griffin drawings clearly show a proposed railway/tramway to service the city centre.

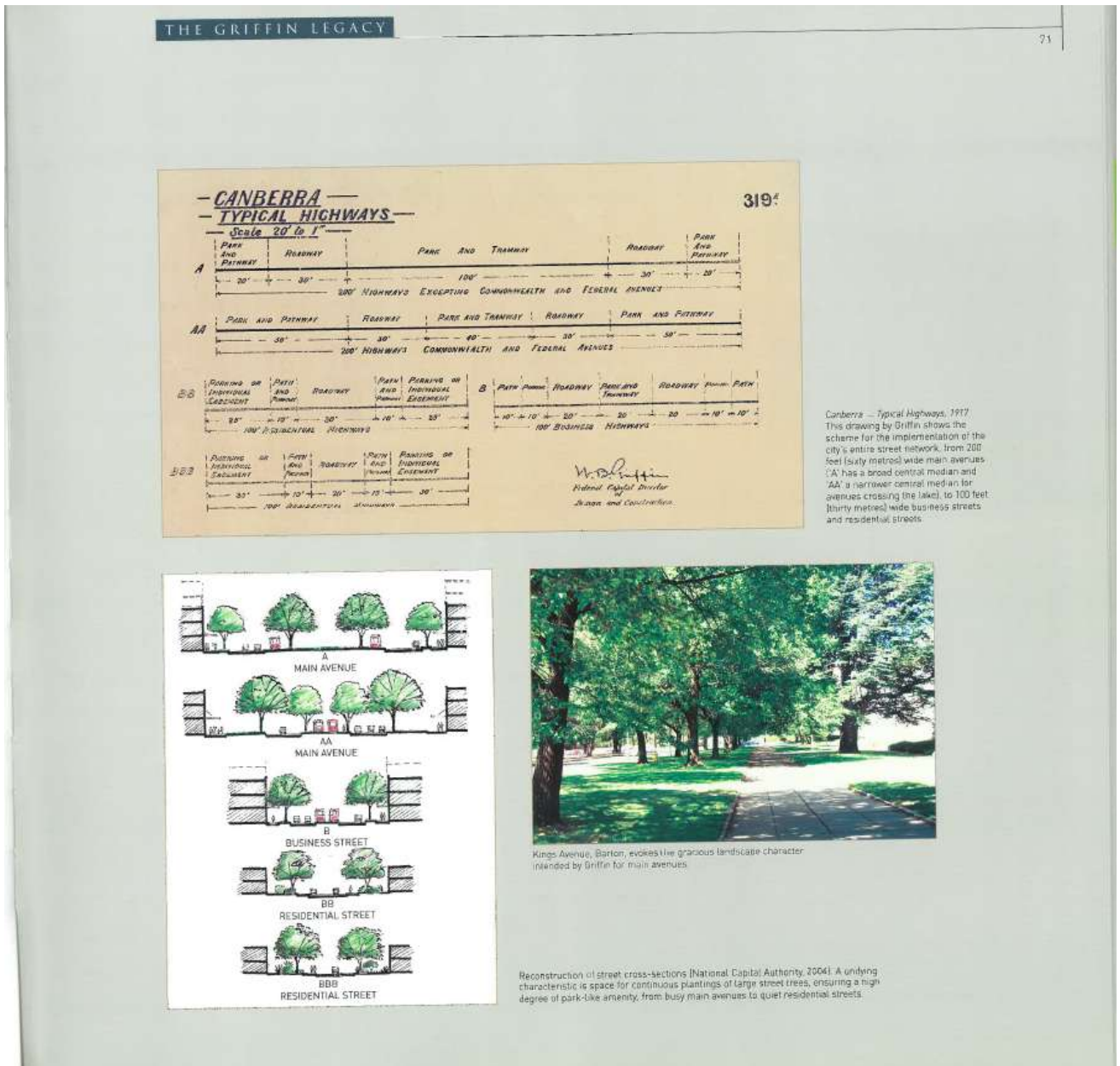


Figure 3-2 'Canberra Typical Highways' cross section showing park and tramway (extract from *The Griffin Legacy – Canberra, The Nation's Capital in the 21st Century*)

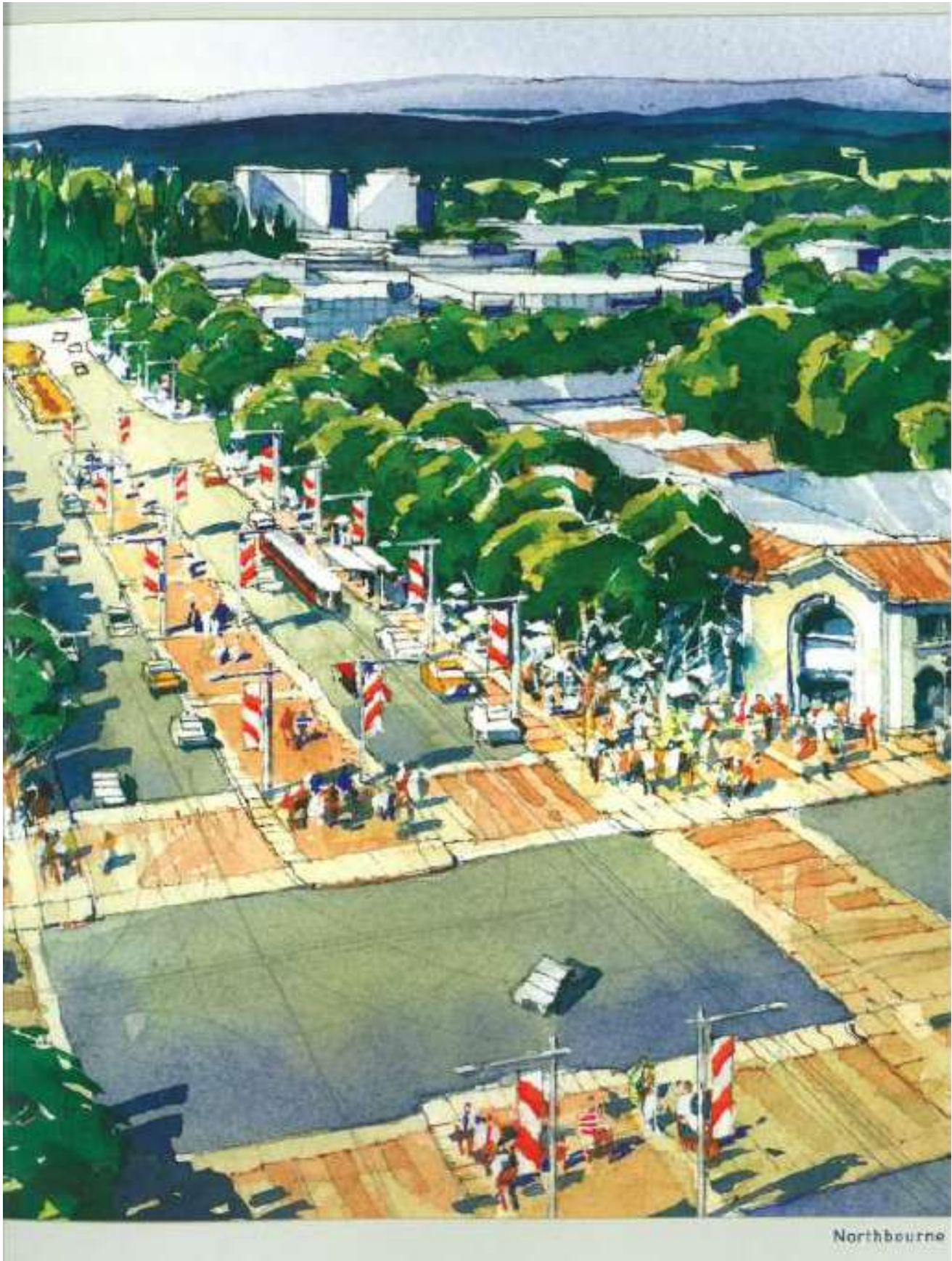


Figure 3-3 Indicative artwork showing tramway in Civic (extract from *The Griffin Legacy – Canberra, The Nation's Capital in the 21st Century*)

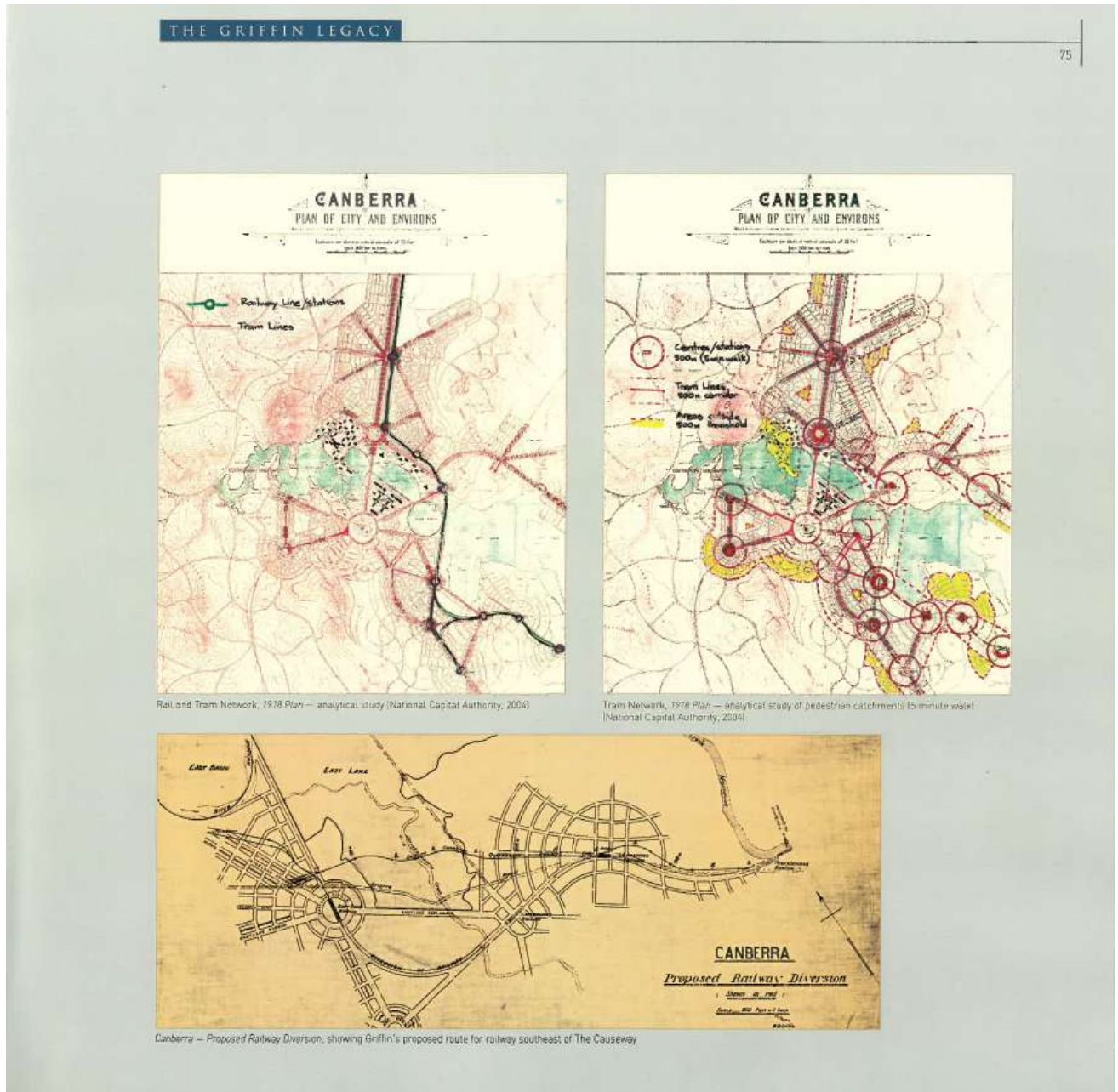


Figure 3-4 Plans of City and surrounds showing tramway corridors (extract from *The Griffin Legacy – Canberra, The Nation's Capital in the 21st Century*)

3.2.5 The City Plan

The City Plan (Act Government, 2014x) provides a single, overarching framework for the city centre's spatial planning and development in the short to medium term as a foundation to take it to 2030 and beyond. It places Civic and the immediate surrounding area at the heart of the ACT as the predominant town centre, while recognising its local, regional and national roles. It also provides the urban planning policy framework for the city centre and establishes directions that can inform public and private investment decision-making to support its cohesive and long-term viability, vibrancy and relevance.

One of the six identified parts of the framework for the implementation of The City Plan is 'Transport and movement', with the aim of developing the city as the transport hub with a range of transport and movement options. The Project alignment along Northbourne Avenue is identified as a future city development. In addition, the plan notes the following with respect to the Project:

'Capital Metro will be the core of an integrated public transport network that:

- focuses around a transit hub in the City Hill area that gives people travel mode options, and connects people with the city centre and beyond' (Act Government, 2014x, 88).

3.2.6 Transport for Canberra 2012

Transport for Canberra — Transport for a sustainable city 2012–2031 (Transport for Canberra) was published in March 2012 (ESDD, 2012b). Transport for Canberra is the ACT Government's strategy for a more effective and efficient transport system to meet the needs of the community while reducing the environmental impacts of transport. It is the Territory's transport planning policy document and replaces the 2004 Sustainable Transport Plan (ACT Government, 2004) and is aligned with the land use plans and policies outlined in the ACT Planning Strategy (ESDD, 2012a).

The Strategy addresses four broad categories including public transport, active travel, managing roads and vehicles, and managing travel demand. One of the cornerstones of the Transport for Canberra Plan is the establishment of an improved public transport system for Canberra. This includes the development of a public rapid transit system capable of operating services at 15 minute (or better) intervals all day through main corridors based on the 2031 Strategic Public Transport Plan Network.

Light rail is specifically identified to be introduced over time on the current 'Frequent Network' of the city's public transport system. The Gungahlin to City corridor incorporating Northbourne Avenue was identified by Transport for Canberra to be the initial focus for the implementation of new rapid mass transit in the city for the medium to long term. The Project would represent part of the first stage of a wider rapid transit system identified by Transport for Canberra that proposes to connect major activity centres such as Belconnen, Barton, and Woden with the City. These rapid transit routes would be critical in achieving a metropolitan-wide public transport network.

3.2.7 Light Rail Network Plan

In October 2015 the ACT Government released its light rail master plan as the Light Rail Network, for community consultation (ACT Government, October 2015). Consultation on the draft Light Rail Network closed on 11 December 2015. The Light Rail Network Plan shows future stages of the light rail network with a 25 year vision. It also explains some of the opportunities and drivers for building on our transport network in a manner that supports future conversion to light rail. The Light Rail Network Plan highlights the following, with respect to the Gungahlin to the City corridor, as the first stage of light rail being delivered:

TRANSPORT Canberra's growing car dependency has led to traffic congestion and slow travel times, in particular along the Northbourne Avenue and Federal Highway corridor. Congestion is expected to worsen in coming years with the rapid growth of Gungahlin and other areas in northern Canberra. By 2031 the peak hour commute from Gungahlin to the City is estimated to take more than 50 minutes if the light rail is not built.

LAND USE AND DEVELOPMENT Light rail is expected to accelerate urban densification within the light rail corridor, supporting Canberra's continued population growth within the Territory's constrained boundaries. Benefits of densification within the light rail corridor include more cost efficient delivery of public infrastructure and services, increased economic productivity, reduced carbon emissions and changing the utilisation of land along the corridor to higher value uses.

TRANSFORMATION AND DEMAND-DRIVING OPPORTUNITIES Capital Metro will provide business and investment certainty along the corridor, stimulating significant economic activity as land surrounding the light rail increases in value and is used more efficiently. This investment will stimulate a much needed transformation to the entrance of the nation's capital. In addition, the light rail will act as a catalyst for urban renewal in the rail corridor helping to make Northbourne Avenue a more active and socially connected precinct, and a more fitting gateway to the nation's capital.

3.2.8 City and Gateway Urban Renewal Strategy

The ACT Government is currently preparing an urban renewal strategy that will look at the future of the City Centre and its premier gateway, Northbourne Avenue. The urban renewal strategy will be an integrated and community supported vision for the corridor that will guide future development as community needs and market demands change over time. It will recognise the City and Gateway Corridor as a unique, vibrant and diverse part of Canberra that is well placed to accommodate growth while maintaining a strong sense of community.

The urban renewal strategy is a key implementation initiative of the City Plan, and is designed to capitalise on the light rail and the City to the Lake project. The light rail will be a catalyst for redevelopment and investment, presenting the opportunity to transform and re-imagine the city. The Strategy will prioritise development around light rail stations with public realm improvements and active travel links.

The vision of the City and Gateway Urban Renewal will be achieved progressively over the next 50 years and beyond. However, the Strategy initially focuses on actions over the next five years that will contribute to the achievement of this long-term vision.

The City and Gateway Urban Renewal Strategy is currently open for community feedback until 14th March 2016.

3.2.9 Dickson Centre Master Plan

The purpose of the Dickson Centre Master Plan (ACT Planning and Land Authority, 2011) is:

- to present a framework which guides development and redevelopment of the Dickson Centre in the coming decades
- to ensure what works in the Dickson Centre is retained and enhanced and to seize and create opportunities to further improve the centre
- to provide certainty for the community, lessees and tenants about how the Dickson Centre can develop and redevelop.

The Dickson Centre Master Plan intends to enhance the essential characteristics of the centre, including the café area in Dickson Place and the multicultural area around Woolley Street. It would also assist with the revitalisation of the centre with a range of other opportunities for new services and facilities.

The Project, through the provision of a new transport system and interchanges would provide improved access to this important and developing precinct. The provision of an improved transport system would meet the transport access needs for future employment and residential populations.

3.2.10 Gungahlin Town Centre Planning Report

Gungahlin Town Centre has developed rapidly over the last seven years with about half the land in the town centre already developed or committed to development. This planning report reviews the overall design of the town centre and considers requirements for shops, offices, community facilities, transport, structure of the town centre and building design. Its focus is to ensure there is enough land for commercial and community purposes for a centre serving a town that will ultimately have a population of about 100,000 people. The report's objectives are:

- to identify key planning, transport and urban design issues
- to review existing planning frameworks and planning controls, including zoning and building heights
- recommend actions that address the key issues identified and guide future development, such as a strategy for land use and transport.

The Project, through the provision of a new transport system and interchanges, would provide improved access to this important and developing growth centre. The provision of an improved transport system would meet the transport access needs for future employment and residential populations.

3.3 Status of Environmental and Planning Approvals

The planning approvals context as it applies to the Project is summarised below.

Table 3-1 Summary of Environment and Planning Approvals for the Project

Project Stage	Project Area	Planning Jurisdiction	Approval Status
Stage 1 (City to Gungahlin)	Hibberson Street, Gungahlin Marketplace to Federal Highway	ACT DA Approval	DA Approval obtained for the EDD* (DA201528511)- 21 December 2015 s197 DA Amendment currently in preparation
	Federal Highway to City (Northbourne Avenue and Alinga Street intersection)	NCA Works Approval (WA)	This Application for WA1
Stage 2 (City to Russell Extension)	London Circuit	ACT DA Approval	DA Approval obtained for the EDD* (DA201528508) - 21 December 2015 s197 DA Amendment currently in preparation
	City to Russell (Constitution Avenue, and, London Circuit (at Ainslie Place))	NCA Works Approval (WA)	Separate Application for WA2

*EDD- Enhanced Definition Design that was submitted with the initial application for DA approval

4. PURPOSE AND SCOPE OF THIS REPORT

This document has been prepared by Canberra Metro Consortium on behalf of CMA (as the “Applicant” for Works Approval) to provide information to enable the NCA to assess and determine Works Approval for construction of light rail infrastructure within the Designated Areas described within this report.

This report has been divided in three main parts as follows:

- Part A (this Part): provides a background and overview of the proposed works, as well as sets the planning framework governing the approval requirements
- Part B: provides responses and information on how the project complies with (i.e. is consistent, or not otherwise inconsistent with) the objectives, principles, policies, special requirements and design and siting conditions as well as other requirements of the National Capital Plan.
- Part C: provides (preliminary) information on the Construction Management and Impact Mitigation Measures that have been (or will be) developed in accordance to the EIS Recommendations, DA Approval Conditions, and any other applicable government agency requirement.

This planning report addresses the Stage 1 alignment where it falls within a Designated Area of the National Capital Plan, and under the planning jurisdiction of the National Capital Authority, and is commonly referred to in this document as WA1. As defined above, it covers the section of the Project from where it enters the Federal Highway, and through to the Alinga Street Intersection at Northbourne Avenue. A summary of the applicable Chapters, and Appendices of the National Capital Plan, including relevant Development Control Plans are listed in the table below:

Table 4-1 Summary of Applicable NCP Chapters

NCP Reference	Chapter Title
Chapter 1	Central National Area
Chapter 2	Main Avenues and Approach Routes
Chapter 4	Urban Areas
Chapter 6	Transport
Chapter 7	Urban Design
Chapter 10	Heritage
Chapter 11	Environment
Chapter 12	Infrastructure
APPENDIX X	Detailed Conditions of Planning, Design and Development: Federal Highway

5. PROJECT SCOPE OF WORKS

Canberra Metro’s proposed approach towards seeking works approval by the NCA takes into consideration the need for two distinct WA applications. Given the preliminary status of certain design elements, the intent is to seek approval only for those design elements considered complete. Upon the completion of design elements, Canberra Metro proposes to submit a revised WA application in consultation with the both the NCA and CMA. The proposed schedule is shown below.

Table 5-1 Overview of Submission Strategy

NCA WA PROPOSED SUBMISSION SCHEDULE	FEB 16	MAR 16	APR 16	MAY 16	JUN 16	JUL 16	AUG 16
WA 1 –FEDERAL HIGHWAY AND NORTHBOURNE AVE							
Initial Submission	▲						
Anticipated NCA Approval			▲				
Revision 1					▲		
Revision 2							

As the design in being progressed, design packages will become available for review by the NCA and CMA. The tables below represent the anticipated completion times for specific design packages relating to both WA 1 and WA 2.

As this report relates specifically to WA 1, for Federal Highway and Northbourne Avenue (between Alinga Street and Flemington Road), the intention of the submission is to provide sufficient information to the NCA so that approval may be gained for key elements such as:

- The light rail alignment
- Platform / Stop locations
- Track form
- Tree removal / Landscaping
- Retaining structures, and
- Architectural finishes
- Demolition

Each of these work elements is described in detail in the drawing package submitted with this application. Refer also to the CMA website for further general information on the project elements and works proposed.

Further WA applications will be submitted for works such as the stop detail and associated infrastructure, driver’s facilities and construction management.

Table 5-2 NCA WA 1 Submission – Civic to Federal Highway/Flemington Road

DESIGN ELEMENTS	WA 1	WA 1 (REVISION 1)	WA 1 (REVISION 2 – IF REQUIRED)
DELIVERY DATE TO CMA	10 FEB 16	JUNE / JULY 16	AUGUST 16
1. Site Plans			
General Arrangements	●		
Drainage	●		
2. Indicative Floor Plans			
Platforms	●		
Driver facilities		●	
Canopies		●	
3. Indicative Road & Traffic General Arrangements			
Alignment Plans (including intersections)	●		
Sections	●		
Traffic signals		●	
Pavements		●	
4. Elevations			
Platforms	●		
Drivers Facility		●	
Canopies		●	
Retaining Structures	●		
5. Sections			
Platforms		●	
Retaining Structures		●	
6. Indicative Demolition Plans			
Tree removal	●		
7. Indicative Earthworks			
Track form	●		

General arrangements		•	
8. Landscape Plans			
Indicative landscape plans	•		
Precinct plans		•	
Finishes schedule	•		

6. CONSULTATION

A detailed summary of the Public and Agency Consultation undertaken to date in relation to the Project is being submitted as a separate document.

Part B: Assessment of Project against the Applicable Requirements of the National Capital Plan

1. OVERVIEW

The planning context of the land subject to the NCA Works Approval application for Stage 1 of the project is all land situated within a Designated Area of the National Capital Plan, and includes the Central National Area, including the City Hill Precinct, and the Main Avenues and Approach Routes of the National Capital, as well as being located more broadly within the “Urban Areas” of the National Capital.

This Part (Part B) provides an assessment of those aspects of Stage 1 of the project that fall within a Designated Area of the National Capital Plan (NCP) against the applicable/relevant requirements of the NCP. In providing the assessment of the project against the requirements of the NCP, the project is taken to be a **Transport Facility** in accordance with the listed Land Use at Appendix A of the NCP. Under these definitions, a Transport Facility is defined as: “The use of land or a building for or associated with the movement of goods and people by road, rail and air”.

2. CENTRAL NATIONAL AREA

The Central National Area (Figure 4 of the NCP) is specified as a Designated Area and includes the Parliamentary Zone and its setting; Lake Burley Griffin and Foreshores; the Australian National University; the Australian Defence Force Academy; Duntroon; Campbell Park and Canberra Airport/RAAF Base Fairbairn. Also included are diplomatic lands at Yarralumla, O'Malley, West Deakin and Red Hill.

Of relevance to Stage 1 of the project that forms the basis of this Works Approval application (WA1), the works proposed to take place within the Central National Area of the NCP is only for the use of the eastern side of the Magistrates Court Carpark (west of Northbourne Avenue) for a temporary construction compound for the offices and site facilities required for the delivery of the light rail project, as described below. No other works are proposed in this area under this WA1, and so the assessment below is only in relation to how the construction compound complies, or is otherwise not inconsistent with, the requirements for the Central National Area

2.1 Overview of Works Proposed for the Construction Compound

The current Magistrates Court Car Park contains 271 car spaces. 112 car spaces will be lost as a result of the construction compound. The Theatre Car Park (east of Northbourne Avenue) contains 205 spaces. Thus the total number of existing spaces between the two car parks is 476. Minister Corbell has committed to reinstating approximately 500 spaces across the two carparks, so that the total number of parking spaces available to the community within the City Hill carparks will actually be increased by 26 spaces. The works required to upgrade the Theatre Car Park does not form part of this Works Approval (WA1) application and is being assessed under a separate WA application currently with the NCA for assessment.

The proposed carpark works are detailed in the accompanying plans (refer to Drawing Schedule), and a brief summary of the scope of works includes:

- 205 car spaces to be provided
- A temporary driveway access into the proposed construction compound site will be required to maintain access to those parks during the construction on the remainder of the site. This will involve minor reconfiguration of the existing kerbs at the end of the cul-de-sac for entrance into the compound site, as well as
- Resurfacing works and new pavements
- Minor modifications to drainage
- New light fittings (to be installed as accepted by TAMS and NCA)
- Parking meters to be supplied and installed (by others – not part of this application)
- The compound will be completely fenced off with 2.4m high temporary construction fencing
- Provision of office and staff amenities within portable/demountable structures that will be white in colour and a total of 3m in height, and will include the following provisions:
 - Site Offices (12m x 18m)
 - Lunch and changing facility (12m x 12m)
 - Toilets (12m x 6m)

The proposed compound would require the removal of a total of 12 of the existing trees located within this eastern portion of the carpark area. A summary of these trees (i.e. height, species and condition) is included with the submission package in the Tree Assessment Report. These trees are not protected under the Tree Protection Act as either Registered or Regulated Trees. Their value is primarily in relation to the streetscape and the provision of shade to the carpark. They are otherwise not of any conservation significance.

In addition, there are a number of trees located along the footpaths and road verges that are located primarily outside of the compound hoarding, but have branches that overhang into the compound area (as

defined by the compound fencing alignment). Some of these trees will require a light prune to remove overhanging branches that might interfere with the establishment of the fencing.

Restoration of the site once the construction compound has been decommissioned will be subject to a separate Works Approval application in the future.

An assessment of the Construction Compound works component against the applicable objectives, permissible land uses, principles and policies is provided below.

2.2 City Hill Precinct

The City Hill Precinct is defined in the figure below (adopted from Chapter 1.3 of the NCP). The area within which the construction compound will be located is defined as the “City Centre”. The permitted land uses within this area are defined further below with relevance to the works proposed.

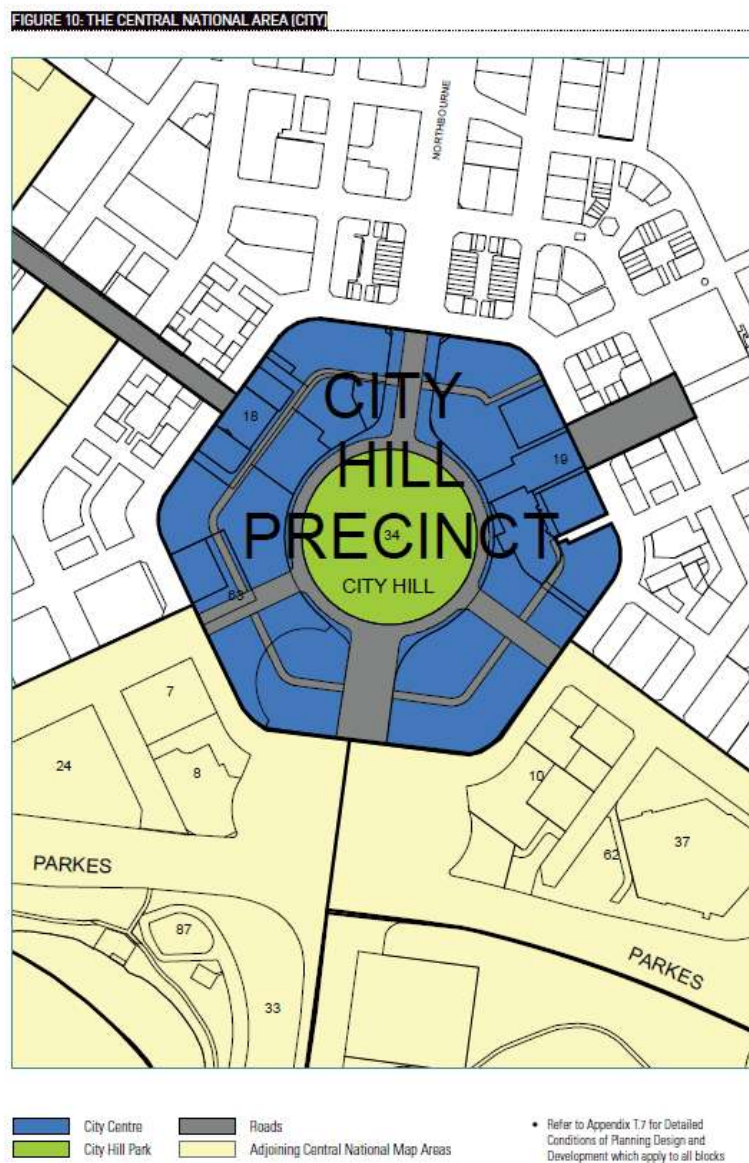


Figure 2-1 Extract of Figure 10 of the NCP that defines the City Hill Precinct and intended Land Uses

2.2.1 Objectives for the City Hill Precinct

The Objectives for the City Hill Precinct and the Project's consistency or compliance with these are set out in Table 1 below. Note that this part of the NCP applies only to the Construction Compound within the Magistrates Carpark.

Table 2-1 Assessment of the Project against the Objectives for the City Hill Precinct

Objective	Project Response
1. Vitalise City so that it becomes first amongst equals in the hierarchy of town centres within Canberra – with the City Hill Precinct as the pre-eminent heart of City.	<p>The proposed works under this WA1 application within the City Hill Precinct involves the construction of a construction compound to support the Capital Metro Project which will assist in vitalising the city by introducing a modernised and world-class public transport system to connect the City to Canberra's Towns (commencing with Gungahlin Town Centre).</p> <p>The construction compound will be removed upon completion of works (circa 2.5 years) after which, it is envisaged that this areas would be revitalised as part of the broader City to Lake vision for Canberra Central.</p>
2. Recognition that vitalisation will make City a genuine City Centre; attracting people to live, work, play and stay – with City Hill Precinct self-evidently the focus of public and private life and activity.	<p>The proposal to construct a construction compound is not inconsistent with this principle. Upon completion of the Project that the compound is designed to support, the compound will be decommissioned at which point is expected that other projects in this space will be commenced as part of the future City to Lake vision for the City which will deliver the vitalising expected of this area.</p>
3. The planning and development of the City Hill Precinct must stimulate high levels of human activity, including accessibility, density and variety of use.	<p>The Light Rail Project is consistent with this Objective and will assist in stimulating use of the City Hill Precinct by facilitating visitation and an easy comfortable and safe manner through the provision of a reliable public transport system.</p> <p>In the context of this current WA1 application for the construction compound, there will be some minor disruptions to the use of the eastern end of the Magistrates Court Carpark for the construction compound, however pedestrian access around and past this area will be maintained, and the loss of car spaces will be offset by the additional car spaces to be provided at the Theatre Carpark (under a separate application), resulting in a net increase in the total number of car spaces available within the east and west London Circuit carparks.</p>
4. Development must command the highest standards of urban design, sustainability, exemplary architecture and social inclusion reflecting the character of the National Capital and providing a model for city development in Australia in the 21st century.	<p>The construction compound is not a permanent building. Therefore this objective is not applicable to this WA1.</p>
5. The development of the City Hill Precinct must complement and actively relate to and integrate with the existing and committed structure of the rest of City.	<p>This objective is not directly applicable to the proposed construction compound, although the location of the compound within the existing carpark, coupled with the planned increase in overall car spaces in the Magistrates and Theatre Carparks, will relate sensibly to the existing features and uses of this area.</p>
6. The planning of the City Hill Precinct must be primarily directed to those demographics of the population most likely to be attracted to city living – the	<p>This objective is not directly applicable to the proposal to construct a temporary works compound.</p>

Objective	Project Response
purpose being to maximise population and diversity of activity in City.	
7. The planning approach to the City Hill Precinct should be guided by and extend the legacy of the Griffin Plan for a vital and urban city heart by embracing contemporary realities.	This objective is not directly applicable to the proposal to construct a temporary works compound.
8. The development of the City Hill Precinct and City must produce an asset for the community, not a burden for taxpayers – this requires economic viability and the creation of a positive climate for private sector investment and appropriate public sector investment.	This objective is not directly applicable to the proposal to construct a temporary works compound.
9. Flexibility to allow for future social and technological change must be a basic tenet of planning for the future development of the City Hill Precinct and City.	Objective met. The temporary construction compound will be decommissioned once the associated light rail project has been completed and will enable future redevelopment of the carpark.

2.2.2 Land Use for the City Hill Precinct

The Primary and Permitted Land Uses for the City Hill Precinct are listed under Section 1.3.2 of the NCP. The construction compound is regarded as an Ancillary Use (being a temporary construction compound to support the light rail project as a Transport Facility)

Ancillary Uses are not specifically listed under either of the Primary or Permitted Uses for the City Hill Precinct, however as the works are regarded as being in accordance with the Detailed Conditions of Planning Design and Development set out in Appendix T7: City Hill Precinct, the construction compound is regarded as being able to be permitted in this area. In summarising these works against the applicable Detailed Conditions of Planning Design and Development, it is noted that under Appendix T7, any redevelopment of the City Hill Precinct should take place in the context of an integrated public transport plan and that mechanisms should be introduced to give priority to public transport.

The National Capital Plan sets out a wide range of permitted uses for each Land Use Category. The use of land for a purpose not included in a specified range may be permitted where the NCA has been consulted, and after satisfying itself that a particular proposal is not inconsistent with the relevant Principles and Policies of the Plan and the Griffin Legacy has given its agreement in writing.

2.2.3 Detailed Conditions of Planning, Design and Development for the Central National Area

The table below provides an assessment of the works against the Detailed Conditions of Planning, Design and Development for the Central National Area under Section 1.7 of the NCP.

Table 2-2 Assessment of the works against the Detailed Conditions of Planning, Design and Development for the Central National Area.

Condition	Project Response
i. In the Parliamentary Zone (the area bounded by the southern edge of Lake Burley Griffin, Kings Avenue, State Circle and Commonwealth Avenue): a. land uses will comprise:	Not Applicable to the works. No works will occur within the Parliamentary Zone.

Condition	Project Response
<ul style="list-style-type: none"> Parliamentary Uses and National Capital Uses, including national legislative, judicial and executive functions, and Commonwealth cultural institutions such other uses, including a limited range of commercial uses and tourism facilities, as may be approved by Parliament, which will complement and enhance the function and character of the Area. <p>b. development shall be guided by the principles, policies and Indicative Development Plan for the Parliamentary Zone set out in the Master Plan for the Parliamentary Zone at Appendix T6.</p>	
<p>ii. Other parts of the Designated Area will be used in accordance with detailed conditions of planning, design and development shown at Figures 5–17 and, where applicable, to the provisions of a Master Plan set out in Appendix T.</p>	<p>As stated in Section 2.2.3 the land use is regarded as being permissible within the City Hill Precinct.</p>
<p>iii. Land uses will relate primarily to national functions. This should not, however, preclude the establishment of appropriate ACT Government functions, suitably located.</p>	<p>The proposed construction compound is not inconsistent with this requirement in that the area of land to be used for the compound is within an existing carpark and would not preclude National Functions or Uses to be undertaken in other areas of the Central National Area or the City Hill Precinct.</p>
<p>iv. Consideration of commercial uses in those parts of the Designated Area that lie in the City Division will have regard to the planning effects on Civic Centre as well as on the Central National Area.</p>	<p>Not applicable to the works. No commercial uses are proposed which would require having specific regard to the planning effects on the City Centre or the Central National Area.</p>
<p>v. Special consideration will be given to community, cultural, residential, tourism, entertainment and leisure uses which complement and enhance the function and character of the Designated Area.</p>	<p>Not applicable to the works. No community, cultural, residential, tourism, entertainment or leisure uses are proposed which would require having specific regard to how they would complement or enhance the function and character of the Designated Area.</p>
<p>vi. Traffic capacity and traffic arrangements on major routes in the Designated Area will be planned to ensure safe and dignified access for all ceremonial occasions, and for residents, staff, tourists and visitors.</p>	<p>The proposed construction compound is not inconsistent with this condition as it will not affect the operation of the major routes in the Central National Area in regards to current traffic capacity or will it require an alteration to traffic arrangements on a major route. There may be some disruption to local traffic on London Circuit, however this will be managed through a Traffic Management Plan (to be finalised and endorsed by Roads ACT).</p>
<p>vii. The transport system within the Designated Area will be planned and managed for volumes of traffic and parking consistent with the significance and use of the Area. Transport infrastructure should foster the use of transport systems which minimise adverse effects from vehicular traffic.</p>	<p>The proposed construction compound is to be developed in order to support the delivery of the Capital Metro Project which aims to reduce reliance on cars to minimise adverse effects from vehicular traffic.</p>

Condition	Project Response
viii. The urban design of the Area is to achieve an integrated design of the highest quality by managing building height and bulk, and by encouraging building forms and layouts on consistent building alignments which enhance the structure of Griffin's plan.	Not applicable to the works. No (permanent) buildings are proposed which would require consideration against this condition.
ix. New development should seek to respect the design and character of adjacent buildings in terms of scale, colour, materials, massing and frontage alignment.	Not applicable to the works. The proposed construction compound is not a permanent building or other form of development that would require consideration against this condition.
x. Individual development proposals will be assessed on their merits in respect to sunlight penetration, amenity, pedestrian and vehicle access. No buildings taller than RL 617m will be permitted in the Designated Area, but the general building height will be 3–4 storeys except where the Authority determines otherwise.	Not applicable to the works. No buildings are proposed which would require consideration against this condition.
xi. Buildings in the Area must show an appropriate quality of architectural design consistent with their location in this area of special national concern.	Not applicable to the works. No buildings are proposed which would require consideration against this condition.
xii. Direct access to and from major roads will be permitted where practicable and not inconsistent with traffic safety requirements. The design and maintenance of all roadways and parking areas, including their associated landscaping, signs and lighting, will be of a consistently high quality.	Not applicable to this proposal. The construction compound does not have direct access to a major road.
xiii. Commonwealth, Kings and Constitution Avenues, the avenues connecting the nodal points of the National Triangle, are of critical significance in delineating the geometric form of Griffin's plan. They are not only the primary movement routes, but they are powerful generators of structure and urban form. Their formal expression is paramount and is to be achieved by strong avenue planting, consistent road design, special lighting and detailing. Building heights and setbacks will be planned to ensure consistency and continuity.	Not applicable to this proposal. The construction compound is not located on land adjacent to the major avenues listed under this condition.
xiv. Landscaping is to enhance the visual setting of the Designated Area and integrate the buildings with their landscape setting. This will be carried out in accordance with a landscape master plan to be prepared by the Authority which particularly emphasises the following landscape themes: <ul style="list-style-type: none"> • the formal and consistent landscaping of main avenues and mall spaces • the combination of formal and informal landscaping which occurs around the lake edge and is the setting for Parliament 	Not applicable to this proposal. The construction compound development does not propose any landscape treatments for the carpark area that would require consideration against a master plan document. Furthermore, the compound is not located along a Main Avenue or adjacent to the lake, or any other area visible from or within the general landscape setting of Parliament House.

Condition	Project Response
House and its adjacent areas.	
xv. Residential blocks shall not be subdivided for separate occupation.	<p>Not Applicable to the works.</p> <p>The works does not involve any subdivision of residential blocks.</p>
xvi. As soon as practicable after this Plan comes into operation, building, road and landscape maintenance is to conform with Management Plans prepared by the Authority in consultation with the Department of Arts, Sport, Environment, Tourism and Territories and the ACT Government, which will consider traffic and parking operations, temporary uses and ceremonial events. The Management Plans will also establish levels of maintenance for land, water and infrastructure appropriate to the principles and policies for the Area and shall take into account the Technical and Management Guidelines for Lake Burley Griffin at Appendix J.	<p>Not applicable to this proposal. The construction compound development does not propose any landscape treatments that would require preparation of a landscape maintenance program or associated Landscape Management Plan.</p>
xvii. Any proposal to subdivide land within the Central National Area will require the approval of the Authority.	<p>Not Applicable to the works.</p> <p>The works does not involve any subdivision of land within the Central National Area.</p>

3. MAIN AVENUES AND APPROACH ROUTES

The NCP states that Canberra's main avenues and approach routes have historically been subject to rigorous planning scrutiny and care has been taken to ensure that suitably high standards of development and landscaping have been observed. Design policies for the National Capital are concerned with achieving awareness of this special significance through the following:

- marking the boundary of the ACT
- establishing a clear and identifiable route from the boundary to the symbolic centre of the city, by providing visual cues and strong structural links eg. avenue planting
- building up expectations by progressively formalising the design character as travellers approach the Central National Area
- enhancing views to recognisable and popular images of the National Capital so as to further build expectation and define the approach, and
- ensuring that the structure, detailing and signage is consistent along each approach route into the National Capital.

To create an identifiable approach, which increases in formality as the Central National Area is neared, and which clearly signifies the symbolic and functional roles of the National Capital:

- buildings which enhance the approach route function should front these roadways, and
- the main avenues are to be enhanced in their formal character and maintained to the highest standards.

3.1 Overview of Works within the Main Avenues and Approach Routes

Of relevance to this component of the works approval application (WA1), the identified Main Avenue of the National Capital within which works would occur is Northbourne Avenue, and the identified Approach Route within which works would occur is the Federal Highway.

The works proposed in these areas under this WA1 are described in the Scope of Works section of this report and are brief summarised as including the construction of the light rail tracks, road and intersection alterations, including the location of stops and their general layout (i.e. as either side or island platforms) as well as the hard and soft landscape elements. As stated previously in Part A, other above-ground elements such as the stop designs, catenary detailed designs and other street furniture, will be the subject of a future detailed design Works Approval application.

In broadly summarising the broader design matters for the works in relation to the Main Avenues and Approach Routes of the National Capital, it is acknowledged that the Northbourne Avenue corridor is one of national significance and the presence of up to four distinct rows of trees adds the urban quality of the entrance to Canberra. The introduction of the light rail into this corridor necessitates the removal of those trees and the planting of new replacements trees on a similar pattern.

The tree spacing across the width of Northbourne Avenue is a function of and response to:

- The position of the light rail tracks within the median (typically central within the median)
- The presence of existing and diverted utilities, and
- Road safety issues such as clearance to non-frangible objects such as large mature trees.

The proposed landscape design included with this WA1 positions the trees within the median based on the following criteria:

- A utility trench (typically 2.0m wide) will be located close to the median kerb. In order to maintain the integrity of the median kerb infrastructure and provide safe access to maintainers of the utilities this trench has been located 1.2m from the face of the kerb.

- A row of trees will be planted approximately 1.0m from this trench. This will allow sufficient room for the roots to grow as the tree matures without affecting the utilities.
- A review of the road safety guidelines has been undertaken. At this stage of project development the evidence suggests that a clearance from the traffic running lane of approximately 4.0m is appropriate given the guidance contained within local and national standards, the traffic speed, the traffic volume, the available space, the number of lanes and lane changing movements etc.
- The light rail tracks are typically located in the centre of the median.
- A row of trees will be planted approximately 2.5m from the concrete track support slab. This allows sufficient room for trackside infrastructure such as buried cable routes or drainage pipes.

These criteria result in various scenarios which provide for two, three or four rows of trees within the median as follows

- Almost all of the 'standard' (100 foot) median which makes up majority of the Northbourne Avenue median has four rows of trees comprising two pairs of trees each side of the light rail corridor. The spacing of trees within each pair is typically 3.0m.
- In locations where a vehicle turning lane or other feature reduces the median width a single row of trees is left out.
- Occasionally, such as at stops and complex junctions there is room for only one tree on each side of the light rail corridor.

These outcomes are detailed on the Landscape drawings included with this submission for WA1.

A detailed review and summary of the landscape character and context of the Main Avenues and Approach Routes, including the landscape treatments proposed, is provided below.

3.2 Landscape context of the Main Avenues and Approach Routes included under Stage 1

3.2.1 Existing features of the landscape

The Federal Highway and the approach to Canberra is defined by a series of distinct landscape patterns which define a change in landscape character from an informal planting, open, rolling landscape towards a more structured landscape boulevard.

3.2.2 Landscape character and context

Federal Highway and Northbourne Avenue are key contributors to the bush capital character of Canberra and have the special characteristics of the National Capital. The Federal Highway and Northbourne Avenue to Antill Street marks a gateway and entry to the city defined by an exotic planting threshold and a distinctive progression from rural to semi-urban and the city centre. Northbourne Avenue creates the grand avenue of Canberra with a more regular planted, dense canopy pattern and boulevard of semi-urban landscape character.

3.2.3 Summary of the design philosophy, urban and landscape design

The Canberra Metro design philosophy is centred upon design for Canberra, and the provision of an urban and landscape design which provides amenity and environmental quality in accordance with the national significance of the gateway to the National Capital. The design proposes a clear and identifiable gateway and a route which becomes a more structured landscape approach to the city centre.

The urban and landscape design has been designed to reinforce the landscape character and features of Canberra and to provide a high level of amenity and quality of public space. The landscape and urban design improves the overall aesthetic by applying carefully considered tree and planting selections and high quality urban elements.

The urban and landscape design responds to existing conditions by setting a priority in designing for Canberra and the bush capital. The urban and landscape design provides a safe, secure and easily accessible environment. Our approach considers the broader walk-up spaces and pedestrian desire lines, and the continuation of the adjacent streetscape character into new public domain, stop and termini

environments. Local material palettes established by design manuals and guides have been incorporated into the design. This has resulted in a balanced design that fits with local context.

Canberra Metro provides a landscape planting strategy that achieves the project landscape performance criteria for the corridor.

The Canberra Metro landscape has been configured to mimic the existing landscape of staggered native trees. This new Canberra Metro landscape provides a boulevard landscape character with native tree planting in a staggered arrangement of two rows where possible. The location of the stagger is adjacent to the trackform (2.5m offset) and adjacent to the kerb (4.2m offset) to achieve an offset distance between the rows similar to the current landscape.

Tree planting detailing for the corridor follows Canberra best horticultural practice with large planting holes, enhanced backfill materials and additives, subsurface cultivation, stormwater harvesting from adjacent hard surfaces (where possible) and subsoil drainage. Tree spacing is generally 10m longitudinally.

Tree spacing alignments in both single row and staggered rows is configured to the available soil volume, offsets to kerb (4.2m) and trackform (2.5m), underground services and landscape design strategy for the particular precinct. Tree spacing along the alignments similarly provides for achieving a continuous canopy in accordance with the corridor landscape strategy and project requirements.

3.2.4 Landscape treatments proposed

The landscape design treatments at the Federal Highway reflect an exotic tree planting design character and a distinct landscape experience.

Northbourne Avenue landscape design treatments demonstrate a shift to indigenous trees progressively more formalised and structured avenue with staggered rows of, the urban meadow of more structured plantings, wide paved promenades and a distinctively native boulevard. The continuous tree canopy reinforces the boulevard character and provide a bold landscape gesture which emphasises a sense of arrival to the National Capital.

Species selections

The Canberra Metro landscape will build resilience into the landscape treatments and achieve an iconic and legacy landscape character that will thrive into the next 50-100 years. The landscape works will be implemented with Canberra best horticultural practice for optimal performance and amenity and value for money in both capital infrastructure cost and O&M period resources.

Quercus robur fastigata at the Federal Highway will reach a typical mature height of 17-22m. *Eucalyptus mannifera* at Northbourne Avenue will reach a typical mature height of 20m. *Eucalyptus mannifera* and *Quercus robur fastigata* trees are supplied in 200l containers at 4m height. Extensive investigations have been undertaken with the nursery supply industry to plan for a production process that ensures 200l container *E. mannifera* trees are Natspec quality compliant and capable of providing immediate amenity to the corridor and a persistent landscape asset. The nursery production process for *Quercus robur fastigata* is similarly configured for Natspec quality compliance and the capacity to provide immediate amenity to the corridor and a persistent landscape asset.

Northbourne Avenue tree planting at Alinga Street is supported by subsurface vaulted planting systems of sufficient root volume to support the trees to maturity. Stormwater harvesting infrastructure and irrigation systems ensure the ongoing viability of these trees. High quality tree grate systems from the vaulted planting system supplier provide an integrated product and a positive contribution to urban design outcomes. These systems and tree grates are utilised in pavement planting locations elsewhere in the project.

The Urban Meadow concept will be fully delivered, but with improved and higher density enviro-cell plantings. This higher density solution has improved planting aesthetics, removes the space and opportunity for weed establishment and has lower maintenance requirements. This approach provides a concept design which is more suited to the challenges of the Canberra environment while delivering affordability benefits.

Removal of existing trees from the corridor presents the opportunity for resource recovery for the landscape installation. Tree canopies, foliage and small branches provide organic compost for topsoil enhancement. Tree logs provide chipped mulch for the landscape treatments.

Best practice Canberra landscape installation procedures and process are used for implementation of the native grassland median treatment at Haig Park. Specialist native grass seed supplier's installation recommendations and tried and tested native grass supply and installation by turf rolls contributes to a quality landscape outcome.

Tree removal and new tree planting

The overall quantity of trees requiring removal for the Federal Highway project area is 211 trees. The overall number of new trees planted to the Federal Highway project area is 157 trees. The overall quantity of trees requiring removal for the Northbourne Avenue project area is 444 trees. The overall number of new trees planted to the Northbourne Avenue project area is 671 trees.

The overall total quantity of trees requiring removal for the Federal Highway and Northbourne Avenue project area is 655 trees. The overall number of new trees planted to the Federal Highway and Northbourne Avenue project area is 828 trees.

3.3 Objectives for Main Avenues and Approach Routes

The NCP objective for planning and development is to establish and enhance the identity of the approaches to the Central National Area as roads of national significance and, where relevant, as frontage roads for buildings which enhance the National Capital function and as corridors for a possible future inter-town public transport system.

This will be achieved by ensuring that works within the reservations are carried out to the highest standards, by maintaining and enhancing landscaping, and by facilitating the flow of traffic as far as may be possible in consistency with this principle.

The Project will meet this objective by providing a light rail development consistent with the identified inter-town public transport routes, and will be delivered to the highest possible standard with appropriate landscaping design as well as the architectural design, including the use of high quality materials and finishes, for all aspects of the development (mainly the stations/stops). The Project will also facilitate the flow of traffic in the long-term by reducing the number of vehicles on the road per person travelling along these routes. Short term impacts to traffic are expected, but will be managed in accordance with a Traffic Management Plan to be prepared in consultation with and submitted for endorsement by Roads ACT.

The potential impacts, including positive impacts or benefits of the Project, on traffic are detailed in the completed EIS. A summary of the proposed mitigation measure for managing potential environmental impacts is provided at Part C of this Planning Report.

3.4 Detailed Conditions of Planning, Design and Development

The table below provides an assessment of the works against the Detailed Conditions of Planning, Design and Development under Section 2.2 of the NCP for Works in Main Avenues or Approach Routes of the National Capital Plan.

Table 3-1 Assessment of The works against the Detailed Conditions of Planning, Design and Development for Main Avenues and Approach Routes

Condition	Project Response
<p>i). Road pavements, medians, footpaths and verges will be developed to consistently high standards. Signs will generally comprise traffic, directional and visitor information signs, and unnecessary repetition will be avoided. Commercial roadside signs, are not permitted in road reservations, except on bus shelters. Non-commercial signs may be permitted where they comply with the Design and Siting Conditions for signs as set out in Appendix H.</p>	<p>Condition met.</p> <p>All hard landscaping elements will be developed to a consistently high standard and in accordance with all applicable requirements, including AUSTRROADS Standards, TaMS Asset Acceptance requirements, as well as any other applicable Australian Standard. Detailed information on the design standards is provided in the accompanying engineering and landscape plans submitted with this WA1 application.</p> <p>No signage or other wayfinding elements are included under this WA1 proposal.</p>
<p>ii). The Main Avenues and Approach Routes will be developed and maintained as high quality landscaped corridors. In built-up areas, the established design theme of irrigated grass verges and medians and formal tree plantings will be maintained. In areas of intensive pedestrian use, high quality paving is to be used. The Authority will prepare landscape plans for Approach Routes beyond the built-up areas.</p>	<p>Condition met.</p> <p>The Project’s landscape planting strategy is based around the creation of three distinct and high quality landscape precincts that respond to the existing landscape character of Federal Highway and Northbourne Avenue. The strategy aims to achieve an iconic and legacy landscape character that will thrive for into the next 50-100 years. The strategy builds upon the principles outlined in the Enhanced Definition Design along with responding to the Griffin legacy</p> <p>The Federal Highway Precinct (Flemington Street to Antill Street) is the primary entry to Canberra from the North. It consists of a mass planting gateway mix within the median. The verge will be planted with native grasses. New <i>Quercus robur fastigata</i> will be planted forming an avenue. This approach is detailed in drawings 10-600-LD-2250 to 10-600-LD-2264</p> <p>The Northbourne Avenue Precinct (Antill Street to Cooyong Street) provides the opportunity to create a grand boulevard planted with <i>Eucalyptus mannifera</i>. The urban meadow understorey planting provides seasonal colour and change. The concept is detailed in drawings 10-600-LD-2265 to 10-600-LD-2288</p> <p>The Civic Precinct (Cooyong Street to Aligna Street) creates an urban area suitable for a mix of uses that is part of a vibrant and viable city centre. The landscape concept is detailed in drawings 10-600-LD-2289 to 10-600-LD-2291.</p> <p>From each of the light rail station/stops high quality paving will be provided to formalise the pedestrian access pathways from the stops to the existing pedestrian pathways situated within the road verges. Stops will be easily identifiable</p>

	by the use of coloured concrete with an exposed aggregate finish. The Indicative Colour Schedule provides information about all finishes and materials.
iii). Traffic is to be managed to ensure the continued effective function of the Main Avenues and Approach Routes. The Main Avenues will provide access to fronting buildings where practicable, and where traffic safety and flows are not adversely affected.	Condition met. It is likely that there will be some temporary disruption to traffic flows during the construction phase of this project. Traffic impacts during the construction phase will be managed in accordance with a Traffic Management Plan to be endorsed by Roads ACT to minimise disruption to flows and to ensure adequate traffic safety is maintained.
iv). As soon as practicable after the coming into operation of this Plan, all road and landscaping maintenance is to be programmed and scheduled in accordance with a Management Plan approved by the NCPA, which will set the standards for maintaining medians and verges, including landscaping, lighting and street furniture. Pending the preparation of the Management Plan, maintenance works shall be the subject of liaison with the Authority, and the Authority will identify those works or classes of work which require more formal approval.	Indicative Landscape Management Plans have been prepared, that provide an indicative maintenance strategy for the rail corridor (refer to drawings 10.700.LD.0005; 10.700.LD.0006; 10.700.LD.0010 and 10.700.LD.0011). An initial establishment period will be identified along with a regular maintenance schedule. Landscape works will be installed to minimise ongoing maintenance requirements. Landscape works will be maintained in a healthy and vigorous condition reflective of the seasons and climatic conditions. Key issues that will be considered as part of the maintenance plan include formative pruning of new trees to avoid conflict with the Developed Kinetic Envelope (DKE) and Overhead Wiring Structures; and weed removal.
v). Development within the Federal Highway Approach Route from its intersection with Stirling Avenue to the ACT border is to comply with the detailed conditions at Appendix X.	Not applicable to this component of the works. No works under the Civic to Gungahlin component of the Project would occur within this section of the Federal Highway.

3.5 Special Requirements for Main Avenues and Approach Routes

3.5.1 Special Requirements for Main Avenues

The NCP states that “It is in the interests of the National Capital that development flanking main avenues in the city is of a type and quality that will enhance the role and status of the city.”

For the purposes of Special Requirements the Main Avenues that are applicable to the works are:

- Northbourne Avenue, between Antill/Mouat Streets and Barry Drive/ Cooyong Street
- Constitution Avenue

The Special Requirements under this section of the NCP apply to development on land (not included within any Designated Area) adjacent to the Main Avenues. The majority of the works proposed under the Civic to Gungahlin and Russell Extension components of the Project are located within the road corridors of Northbourne Avenue and Constitution Avenue which are Designated Areas. As such, the Special Requirements listed below will apply only to those specific sections of the project route that lie outside of the road corridor and encroach into adjacent land.

The table below provides an assessment of The works against the Special Requirements for Main Avenues of the National Capital under Section 2.3 of the NCP.

Table 3-2 Assessment of The works against the Special Requirements for Main Avenues

Special Requirement	Project Response
Development, except in relation to Northbourne Avenue, is to conform to Development Control Plans (agreed by the Authority) which seek to secure the integrity of the Main Avenues as approaches to the Parliamentary Zone and ensure that the setting, buildings and purposes of development enhance that function.	Not Applicable to this WA1 for the Project.
For Northbourne Avenue, the requirement for a Development Control Plan has been met by the passage of Variation No. 96 to the Territory Plan. The integrity of the approach to the Parliamentary Zone remains an objective, however, and Special Requirements for development continue to be necessary.	<p>Not Applicable to this WA1 for the Project.</p> <p>Under this component of the Project, the works are wholly located within the road corridor and no development will occur within any approved DCP.</p> <p>The access arrangements for a revised entry into the Yowani Golf Club and Lyneham Netball Centre have been previously approved under DA201528511.</p>
Development Controls Plans and (in relation to Northbourne Avenue) development, shall:	
i). make provision for national uses, offices for national associations, tourist accommodation and residential development	<p>Not Applicable to this WA1 for the Project.</p> <p>Under this component of the Project, the works are wholly located within the road corridor and no development will occur within any approved DCP.</p> <p>The access arrangements for a revised entry into the Yowani Golf Club and Lyneham Netball Centre have been previously approved under DA201528511.</p>
ii). seek high standards of building design and finish. External materials should be predominantly light in tone and require little maintenance. Continuous glass facades should be avoided. Criteria for controlling the use of reflective glass should be incorporated	Not applicable to WA1 for the Project. No buildings are proposed within any land adjoining Northbourne Avenue.

<p>iii). incorporate the following where Main Avenues are the final approaches to the Parliamentary Zone:</p>	
<ul style="list-style-type: none"> building height controls, to ensure that buildings are at least 3 storeys in height unless specifically shown otherwise in an agreed Development Control Plan. Plant rooms to be additional to these heights 	<p>Not Applicable to the Civic to Gungahlin Component of the Project.</p>
<ul style="list-style-type: none"> building lines, to be 10 metres unless specifically shown otherwise in an agreed Development Control Plan. The area in front of the building line is to be landscaped, and exclusive of parking. Minor encroachment of basement parking into this area may be considered where this would not detract from the quality of the landscape treatment and where the parking is located beneath a driveway or other paved area. Canopies may cover set-down areas forward of the building line. Minor encroachment by balconies, awnings and porticos may be considered if the materials and designs are such that the visual integrity of the building line is retained 	<p>Not Applicable to this WA1 application for the Project.</p>
<p>iv). for Main Avenues having predominantly commercial frontages:</p>	
<p><i>Building Height:</i></p> <ul style="list-style-type: none"> ensure that buildings adjacent to Northbourne Avenue are not less than 3 storeys plus plant rooms in height, provided that for special non-commercial uses such as a tourist information centre exceptions to this requirement may be considered ensure that the parapets of buildings adjacent to Northbourne Avenue are not higher than 25 metres above natural ground level except for the two 'landmark nodes' at the intersections of Mouat/Antill Streets and Macarthur/Wakefield Avenues with Northbourne Avenue where parapets may be up to 32 metres above natural ground level provide that buildings adjacent to Main Avenues other than Northbourne Avenue may be up to 4 storeys, plus plantrooms, in height. <p>Note: Where these maximum heights are already exceeded by existing buildings, extensions or rebuilding up to the height of the existing building may be permitted.</p>	<p>Not Applicable to this WA1 application for the Project.</p> <p>No buildings are proposed in these areas.</p>

<p><i>Building Lines:</i></p> <ul style="list-style-type: none"> for Northbourne Avenue, ensure building lines are 10 metres except for the east side of the Avenue between Wakefield Avenue and Ipima Street and for the “landmark nodes” where Northbourne Avenue is crossed by Mouat/Antill Streets and Macarthur/Wakefield Avenues, where increased building lines may be permitted for Main Avenues other than Northbourne Avenue, ensure building lines are 10 metres except within the City Division or unless specifically shown otherwise in an agreed Development Control Plan <p>Note: The area in front of the building line is to be landscaped, and exclusive of parking. Minor encroachment of basement parking into this area may be considered where this would not detract from the quality of the landscape treatment and where the parking is located beneath a driveway or other paved area. Canopies may cover set-down areas forward of the building line. Minor encroachment by balconies, awnings and porticos may be considered if the materials and designs are such that the visual integrity of the building line is retained.</p>	<p>Not Applicable to this WA1 application for the Project.</p> <p>No buildings are proposed in these areas.</p>
<p>v). for Main Avenues having predominantly landscaped frontages, generally provide for buildings to not exceed the height of the established tree canopy (typically 3–4 storeys)</p>	<p>Not Applicable to this WA1 application for the Project.</p> <p>No buildings are proposed in these areas.</p>
<p>vi). consider parking, vehicle access, and the traffic impacts of development. Access from and to the Avenues shall be permitted where practicable and where traffic safety will not be affected adversely.</p>	<p>This section is primarily in relation to the development of frontages to commercial buildings along Main Avenues. It is not regarded as being applicable to the works under this WA1 as the works are located wholly within the road corridor.</p> <p>The existing access to the Yowani Golf Club has been proposed to be relocated south to the Swinden Street/Northbourne Avenue Intersection. The relocated access was included in the Enhanced Definition Design and was approved under DA201528511.</p> <p>There are no parking requirements included in this proposal.</p> <p>This application is seeking approval for those parts of the new access road which are within the Designated Area.</p>

3.5.2 Special Requirements for Approach Routes

The NCP states that “It is in the interests of the National Capital that development flanking Approach Routes to the city is of a type and quality complimentary to the role and status of the city.” For the purposes of Special Requirements that are applicable to this application for WA1 of the Gungahlin to City component of the Project, the relevant Approach Routes are:

- the Barton and Federal Highways from the ACT borders to their junction with Northbourne Avenue, and extending to include Northbourne Avenue north of Antill Street/Mouat Street

The Special Requirements under this section of the NCP apply to development on all land (not included within any Designated Area) which front directly onto the Approach Routes AND is not more than 200 metres from their middle lines. As such, the Special Requirements listed below will apply only to those specific sections of the Project route that lie outside of the road corridor (as the Designated Area) and encroach into adjacent land.

The table below provides an assessment of the Project against the Special Requirements for Approach Routes of the National Capital under Section 2.4 of the NCP.

Table 3-3 Assessment of the Project against the Special Requirements for Approach Routes

Special Requirement	Project Response
Development is to conform to Development Control Plans agreed by the Authority, which seek to enhance the surrounding predominantly rural character and landscape outside the urban areas. As the Approach Routes enter the built up areas, the emphasis shall shift to a more formal character.	Not applicable to the Project. There is no development that falls within an area defined under any approved DCP fronting onto an Approach Route.

4. URBAN AREAS

This part of the NCP covers the General Planning Principles and Policies that will apply to urban areas in the Territory, and sets out the special requirements for development of areas, being requirements that are desirable in the interests of the National Capital.

The NCP states that urban land in the Territory should continue to be organised as a series of distinct and relatively self-contained towns separated from adjacent towns by hills, ridges and other major open spaces. Therefore the continuation of urban development in the Territory should occur within and as separate and distinct towns set in broad landscaped valleys, with the immediate hills, ridges and other major open space providing separation between towns, with the distant mountains providing a natural landscape backdrop.

The NCP further states that for the foreseeable future, urban land in Metropolitan Canberra will comprise:

- the existing towns
- the new town of Gungahlin
- the existing villages of Hall, Oaks Estate and Tharwa
- and those industrial areas not yet within towns; Mitchell and Hume
- Molonglo and North Weston.

Additional urban development in the Districts of Canberra Central, Woden–Weston Creek and Belconnen is anticipated and controlled through procedures of the Territory Plan.

4.1 Principles for Urban Areas

The table below provides an assessment of the Project against the Principles for Urban Areas of the National Capital under Section 4.3 of the NCP.

Table 4-1 Assessment of the Project against the Principles for Urban Areas

Principle	Project Response
1. Canberra's future growth is to be accommodated by continuing the development of distinct and relatively self-contained towns.	<p>This Principle is not directly applicable to the Project, and is mainly in relation to the development of townships, including Town Centres.</p> <p>Notwithstanding this, the Project is considered to generally support this Principle by providing an important Inter-town Public Transport linkage, commencing with the linkage of the Canberra City Centre to the Gungahlin township, and with the aim of eventually linking all (or most) of Canberra's town centres.</p>

<p>2. A hierarchy of centres will be maintained, with each town having a centre acting as a focal point for higher order retail functions, commercial services, offices and community facilities.</p>	<p>As stated above, this Principle is not directly applicable to the Project, and is mainly in relation to the development of townships, including Town Centres.</p> <p>The Project is otherwise not inconsistent with this Principle and supports the Principle by providing an important Inter-town Public Transport linkage, commencing with the linkage of the Canberra City Centre to the Gungahlin township, with the aim of eventually linking all (or most) of Canberra's town centres to the City via a light rail system.</p>
<p>3. Industrial estates will continue to be located on the edge of the urban areas in locations which conveniently serve the workforce of the towns and have good accessibility for long-distance freight movements.</p>	<p>Not Applicable. the Project does not involve works within and does not directly support any development or use of the industrial estates of Canberra.</p> <p>The Project is otherwise not inconsistent with this Principle.</p>

4.2 Policies for Urban Areas

The table below provides an assessment of The project against the Policies for Urban Areas of the National Capital under Section 4.4 of the NCP.

Table 4-2 Assessment of the Project against the Policies for Urban Areas

Policy	Project Response
<p>a). The urban area of Canberra will comprise:</p> <ul style="list-style-type: none"> • the towns of Canberra Central, Woden/Weston Creek, Belconnen and Tuggeranong • the villages of Hall, Oaks Estate and Tharwa • the new town of Gungahlin • Molonglo and North Weston • land at Hume and Mitchell. 	<p>This Policy is not directly applicable to the Project, and is mainly in relation to the development of townships, including Town Centres.</p> <p>The Project is otherwise not inconsistent with this Policy and supports this Policy by providing an important linkage from the Canberra City Centre to the town of Gungahlin (and forming an important first stage in the eventual future linkages to other towns).</p>
<p>b). The planning of urban areas should seek to introduce measures through which urban consolidation may occur.</p>	<p>This Policy is not directly applicable to the Project, and is mainly in relation to a broad-scale approach to the planning of Canberra's townships.</p>
<p>c). The hills, ridges and other major open space will form the separation between towns and will be kept largely free of urban development, to act as a backdrop and setting for the City.</p>	<p>Not Applicable. This component of the Project does not involve works within and will not otherwise diminish the importance of the hills, ridges and other major open space areas of the national capital.</p>

<p>d). Except where the boundaries are aligned with an existing leasehold, the detailed planning of urban development by the Territory planning authority will determine the boundary between Urban Areas and other land use categories. Before detailed plans are approved, certification shall be obtained from the National Capital Authority that the proposals are not inconsistent with the National Capital Plan.</p>	<p>Not applicable to the Project.</p>
<p>e). Industrial development shall be located in the main industrial areas of Fyshwick, Mitchell and Hume and in the Fern Hill Technology Park at Bruce and the Advanced Technology Park at Symonston.</p>	<p>Not Applicable. This component of the Project does not involve works identified as being of an industrial nature that should otherwise be located within one of the identified industrial estates of Canberra.</p> <p>The Project is otherwise not inconsistent with this Principle.</p>
<p>f). The Authority will co-operate with the Territory planning authority to investigate and define appropriate areas for new industrial development.</p>	<p>Not Applicable. The Project does not involve works within and does not directly support any development or use of the industrial estates of Canberra.</p> <p>The Project is otherwise not inconsistent with this Principle.</p>
<p>g). Within 5km of Mount Stromlo, development or installations which may, through night time illumination or significant vibration, adversely affect the operation of the Mount Stromlo Observatory or the associated seismological vault at Mount Stromlo, shall be referred to the Australian National University for examination and comment and reasonable steps shall be taken to mitigate adverse impacts.</p>	<p>Not Applicable. This component of the Project is not located within 5km of Mount Stromlo.</p>
<p>h). Development proposals for National Land, including subdivision, and proposals to lease National Land, shall be referred to the National Capital Planning Authority. The Authority will assess proposals to ensure they are not inconsistent with the provisions of the National Capital Plan.</p>	<p>Not Applicable. This component of the Project (WA1) is for works (predominantly) along and within the boundaries of the Federal Highway and Northbourne Avenue road corridor. It does not involve any proposal for work of any nature on National Land.</p>

<p>i). The range and nature of uses permitted in Urban Areas includes those uses generally compatible with residential, commercial, community, cultural, recreational and industrial activity, other than uses not permitted in the Territory Plan. In particular, however, the range of permitted uses includes:</p> <ul style="list-style-type: none"> • Parliamentary Use, National Capital Use and Diplomatic Missions, within Designated Areas • other Commonwealth purposes, on National Land. 	<p>Condition Met. The land uses associated with this project (i.e. public transport and associated infrastructure) are typical of an urban area and are permitted land uses in the respective areas/zones of the ACT.</p>
<p>j. 'Hazardous Industry' and 'Offensive Industry' are not permitted uses on Block 8 Section 1 and Sections 112, 113, 115, 116 and 117 Symonston. Environmental protection measures are required to ensure sensitive elements of the site, including the environment of Jerrabomberra Creek, are protected.</p>	<p>Not Applicable. This component of the Project is not an "Offensive Industry" or "Hazardous Industry" and is not located within or near to the listed blocks under this Policy item.</p>
<p>k. Any areas potentially affected by Scrivener Dam flood inundation may only be developed where it is demonstrated that Scrivener Dam meets flood safety and operational requirements, based on the applicable Australian National Committee on Large Dams (ANCOLD) guidelines.</p>	<p>Not Applicable. This component of the Project is not located within or near to Scrivener Dam or the Scrivener Dam flood inundation zone.</p>
<p>l. Planning of urban areas in Molonglo should make provision for a distinct, accessible and legible link, of a minimum width of seventy (70) metres between Stromlo Forest Park and Canberra International Arboretum and Gardens.</p>	<p>Not Applicable. This component of the Project is not located within the Molonglo urban area.</p>

4.3 Special Requirements for Urban Areas

Section 4.5.1 of the NCP applies to National Land not included within a Designated Area of the NCP. This section is not relevant to either the Civic to Gungahlin component of the Project as no works will occur in this area.

Section 4.5.2 of the NCP applies to the Australian Institute of Sport (AIS). This section is not relevant to either the Civic to Gungahlin component of the Project as no works will occur in this area.

Section 4.5.3 of the NCP applies to Haig Park and Telopea Park. This section is not relevant to either the Civic to Gungahlin component of the Project as no works will occur within the open space areas of these places.

Section 4.5.4 of the NCP applies to Civic. The NCP states that "the commonwealth's interest in Civic is related to:

- Maintaining the geometry and intent of the plan for Civic which is integral to the integrity of the Griffin Plan as a work of national and international significance and the role of the Griffin Plan as the principal organising framework for Civic and the Central National Area.

- Its location at the apex of the National Triangle, the centrepiece of Griffin’s Plan. The point of the apex is City Hill which will ultimately become the symbolic and geographical centre of Civic as it develops to the south and west.
- Its position as a visible and identifiable element within the “amphitheatre” i.e. the central basin, which contains Canberra Central. It is a major component of the vista north from Parliament House and other parts of the Parliamentary Zone. Consequently, it cannot be considered separate or isolated in a visual sense from these key national capital elements. Existing policies on height and colour have also ensured that Civic is seen as a cohesive and homogeneous mass when viewed from various vantage points within and on the edge of this amphitheatre.
- Its location straddling the most important entrance route to Canberra (ie. Northbourne Avenue) in general and the Parliamentary Zone in particular.
- The nature of the topography surrounding Canberra Central (rolling hills and sweeping horizontals) the predominance of the landscaping, and the comparatively low profiles or silhouettes of the majority of the features of the Central Basin, which demands that development in Civic does not overwhelm or detract from key national capital features (the Parliament House in particular) in terms of height, bulk, colours and materials.
- The Main Avenues converging on Civic provide important strategic corridors linking major centres of Commonwealth and municipal activity in the Central National Area – eg Government, University, Defence and Civic administration. These Main Avenues are suitable for the development of higher densities of retail, employment and residential activity to support key public transport corridors and provide the principal visual and symbolic connections between the city and the landscape.

The National Capital interests in Civic can be summarised as:

- Overall consideration of height, colour, materials, and architectural and environmental quality, aimed at ensuring that Civic’s continued development is of a harmonious and high quality nature, consistent with its role and its location within the Central Basin in general, and its relationship with the Central National Area in particular.
- Specific interest in areas within London Circuit because of their critical importance at the apex of the National Triangle
- Specific interest in the avenues which form axes terminating on City Hill. They have symbolic importance on Griffin’s Plan in visually connecting the city to its natural setting, and their treatment and their landscaping should be of a high standard
- Particular interest in ensuring that Civic’s future development conforms with the metropolitan strategies for a decentralised distribution of employment to Defined Office Employment Centres as set out in the Office Employment Location policies in Chapter 3 of the Plan.

Civic Centre has a multi-faceted role as the most important metropolitan centre, as the apex of the National Triangle, a location astride an important entrance route to Canberra and the Parliamentary Zone, and a significant element in the physical structure of central Canberra.

It is in the interests of the National Capital that the development of Civic Centre balances these roles.”

The Project is not inconsistent with any of the commonwealth’s or the National Capital’s interests in Civic. The Project delivers a public transport system within the identified public transport route of the Central National Area as defined above. It maintains the existing geometry of Civic, and respects City Hill as the symbolic apex of the Central National Area, and does not unduly interrupt any important vistas. The Project is also seen to support these interests by providing a world-class public transport system down the main avenue corridor of Northbourne Avenue that will support the vitalisation of the city centre, including supporting the city centre as an important employment centre by facilitating the safe and efficient transit of people from town centres (initially being Gungahlin for WA1) to the Civic area for both work and leisure activities.

4.4 Principles for Civic

Section 4.5.4.1 of the NCP provides the development Principles for Civic, which in general apply to the continued development of Civic needing to recognise its metropolitan significance and role, achievement of a satisfactory relationship between Civic and other development and features of the Central area, and to meet the following Principles in the table below:

Table 4-3 Assessment of the Project against the Special Requirement Principles for Civic

Special Requirement Principle	Project Response
a. Future development and redevelopment in Civic should aim both to reinforce Civic's role as the prime metropolitan centre, and contribute to a diverse, lively and attractive character.	Principle met. The development of a light rail project that connects Canberra's newest, and fastest growing town with the highest population density of Canberra to the city centre (followed by subsequent project stages/routes to connect to the city) will reinforce Civic's role as the prime metropolitan centre of Canberra, and will undoubtedly invigorate Civic, contributing to a more diverse, lively and attractive character.
b. The design of buildings and the amenity and environmental quality of the main public spaces should result in an accessible, attractive, high quality and distinctive centre consistent with Civic's role as the major metropolitan centre and its location at one point of the National Triangle, Griffin's major organizing element of the Central National Area.	The National Capital interests in Civic are supported by the proposed concept design, which includes urban design, landscaping and streetscape design. The concept design is accessible, attractive, high quality and distinctive. The design facilitates the creation of a new public space and hub for Canberra. Designs for Civic are illustrated on drawings (10-600-LD-2289 to 10-600-LD-2291)

4.5 Policies for Civic

Section 4.5.4.2 of the NCP provides the development Policies for Civic. The Project's compliance with these policies is set out in the table below.

Table 4-4 Assessment of the Project against the Special Requirement Policies for Civic

Special Requirement Policy	Project Response
<p><i>a. Transport and movement</i></p> <p>Long term impacts of development shall be taken into account. Measures for discouraging through traffic from using the Civic road network in peak periods must be considered. Future demand for car parking should be met by the construction of structured car parks in locations that service needs throughout Civic while aiming to minimise congestion, and/or by on-site provision of parking spaces. Vehicle access and traffic management throughout the area should seek to maintain the ease and comfort of moving around the city, catering to a diversity of pedestrian, cycle, vehicular and public transport modes.</p>	<p>The Project is not inconsistent with these policies. Whilst it will directly discourage through traffic (which requires a broader approach to the road and traffic network of the Central National Area), it may reduce traffic flows into the city over time, particularly as additional stages to other town centres are brought online. A greater uptake in patronage of the public transport system will also reduce car parking requirements over time (with no short term loss of car parking spaces available as described in Section 1 of Part B above).</p>

<i>b. Urban Design</i>	
i. The symbolic importance of the Main Avenues radiating from City Hill (Northbourne, Ainslie, Constitution, Edinburgh and University Avenues) and their role as the main public transport corridors should be complimented through the landscape and architectural treatment <u>on abutting blocks</u> .	Not applicable to the Project. The Project does not involve any landscape treatments <u>on blocks abutting</u> a Main Avenue.
ii. The design and development of Civic should continue to reflect the geometry and fine grain pattern of streets and blocks of the Griffin Plan.	The Project is not inconsistent with this Policy. It does not involve development that would affect the geometry and pattern of streets or blocks in Civic.
iii. The design and development of streets should provide a continuous planting of large scale street trees and high quality landscape character that fosters a compact, connective and pedestrian-friendly environment for central city living.	The proposed design provides for <i>Eucalyptus mannifera</i> (Brittle Gum) to be planted to form a continuous canopy. High quality pavement and street furniture is provided compliant with the City Plan. Civic Stop includes a high quality granite paved ground plane, extending over a central median, walk-up space and platform spaces. It represents a high quality solution that is attractive, legible and accessible.
iv. The massing, height, colours and materials used for buildings in Civic should result in a harmonious and high quality urban design outcome with a recognisable city edge.	Not applicable to this component of the Project. No buildings are proposed in these areas under this WA1. With regard to the other proposed above-ground structures (to be included in a subsequent WA Application), these have been designed to complement and integrate with the existing Civic urban precinct. The stop and associated streetscape has been designed as a flexible space that is suitable for a mix of uses and will go on to play an important role in creating and maintaining a vibrant and viable city centre. Key views towards the Sydney and Melbourne buildings are maintained.
v. Buildings in Civic must be of permanent construction.	Not applicable to this component of the Project. No permanent buildings are proposed in these areas under this WA1. The construction compound at the Magistrates Carpark site is intentionally to be of a temporary nature to be decommissioned upon completion of the works.

vi. The height of buildings in Civic may be less than but not more than 9 storeys provided that:

- plant rooms and other service elements may be allowed above this height subject to being set back from the building edges and screened from street level view.
- one or more taller building(s) per section up to a maximum height of RL 617m shall be considered only in accordance with an approved comprehensive design for the whole section. Comprehensive section designs shall seek to use building height to emphasise and reinforce the geometry of the Griffin Plan and the symbolic Main Avenues radiating out from City Hill. and
- where an existing building exceeds the height limitations set out above it shall be permissible to consider rebuilding to the same height as the existing building or lower.

Not applicable to this component of the Project. No permanent buildings are proposed in these areas under this WA1.

The temporary construction compound at the Magistrates Carpark is below 9 storeys in height.

Section 4.5.6 of the NCP applies to the Kingston Foreshore. This section is not relevant to the either component of the Project as no works will occur in this area.

5. TRANSPORT

This part of the NCP covers the general principles and policies to be implemented throughout the Territory, for planning national and arterial road systems. The interaction between land use activities and transport is important. The disposition and size of the centres for major employment and other uses places different demands and stresses on the transport system and the physical fabric of the City.

The hierarchical system of roads, developed successfully in the new towns of Canberra, provides a high standard of safety and service to all road users.

The overall transport system comprises the road network, car parking facilities and public transport. The efficiency of the road system depends, not only on the physical provision of infrastructure, but also on the operational policies adopted for the use and control of facilities including public transport.

5.1 Principles for Transport

The table below provides an assessment of the Project against the Principles for Transport of the National Capital under Section 6.2 of the NCP.

Table 5-1 Assessment of the Project against the Principles for Transport

Principle	Project Response
Transport planning and provision will reserve a route for the development of a public transport service to link major employment nodes as far as practicable the service will be segregated from other transport systems and will operate with priority of right-of-way	<p>This project is the implementation phase for construction of a segregated public transport system that is planned to operate with priority right of way.</p> <p>Refer to the Traffic Assessment Report for the detailed traffic modelling.</p>
Transport planning and provision will incorporate nationally recognised practices and standards consistent with the role and function of each road, or additional standards set out for the Designated Areas of this Plan.	<p>The transport provision has incorporated nationally recognised practices and standards consistent with the role and function of each road such as:</p> <ol style="list-style-type: none"> 1. Road Safety Audit of proposed design 2. Austroads Design Standard – Part 6 3. Roads and Maritime Services (RMS) design standards 4. Review of design criteria in accordance with local, interstate and international design standards 5. Case studies for interstate and international light rail systems. <p>Refer to the EDD Design Report Volume 5, Appendix O and Appendix P.</p>

5.2 Policies for Transport

The table below provides an assessment of the Project against the Policies for Transport of the National Capital under Section 6.3 of the NCP

Table 5-2 Assessment of the Project against the Policies for Transport

Policy	Project Response
a. The National and Arterial Roads System will:	
<ul style="list-style-type: none"> generally not provide frontage access to development except where such access will meet appropriate design standards and road safety needs 	<p>This project does not provide new frontage access to development.</p>
<ul style="list-style-type: none"> generally intersect with the local road network through distributor roads. 	<p>Not Applicable to the Project.</p> <p>This component of the Project does not propose to construct any new roads (of any level/type) that require consideration of how National or Arterial roads would intersect with local roads.</p> <p>Details of the treatments at intersection of the new light rail system is provided in the detailed design drawings, and the functioning of these new intersection arrangements/treatments is detailed in the Traffic Impact Analysis and associated Traffic Management Plans prepared for The project.</p>
b. A corridor between Civic, the town centres and major employment nodes, suitable for priority or segregated right-of-way for use by public transport services will be reserved against a possible future need to develop a system of inter town and express routes suitable for buses or other technologies as appropriate.	<p>Not Applicable to the Project.</p> <p>The Project supports the fulfilment and realisation of this policy by developing and implementing a world class light rail public transport system to connect the City Centre to the Gungahlin Town Centre via Northbourne Avenue.</p>
c. Transport strategies should promote the convenience and efficiency of public transport use.	<p>Policy met.</p> <p>The Project supports the fulfilment and realisation of this policy by developing and implementing a world class light rail public transport system to connect the City Centre to the Gungahlin Town Centre via Northbourne Avenue. It will provide a convenient and efficient mode of public transport that will promote uptake and use of the system by members of the public travelling to and from these destinations.</p> <p>The associated upgrades to intersections and traffic signals will give priority to the light rail trams so that its efficiency over that of private car use is likely to promote a greater uptake in patronage.</p>

d. The final alignment of proposed arterial roads shall be subject to consultation with the Authority and to a determination by the Authority that proposals are not inconsistent with the Plan.

Not Applicable to the Project.

This component of the Project does not propose to construct any new arterial roads (or involve changes to the alignment of any existing arterial roads) that would otherwise require consultation with the Authority.

6. URBAN DESIGN

This part of the NCP ensures that the development of Canberra results in an urban environment of a high quality compared with other Australian and overseas cities, and that the quality of appearance of development emphasises and complements Canberra’s natural landscape character as a “garden city”.

This chapter deals primarily with works within Canberra’s residential areas to ensure there is an emphasis on space for landscape treatment in front of buildings on detached and semi-detached housing blocks which adds to the “garden city” character of the residential streets. In other areas it is considered that their continuation is properly a matter for the Territory Plan rather than the subject of the National Capital Plan.

As such, this chapter is of limited relevance to the Project; however consideration of the Urban Design principles and policies below should be provided for all developments, and is provided below.

6.1 Principles for Urban Design

The table below provides an assessment of the Project against the Principles for Urban Design of the National Capital under Section 7.2 of the NCP.

Table 6-1 Assessment of the Project against the Principles for Urban Design

Principle	Project Response
1. The National Capital role requires that planning and development in Canberra Central in particular and generally throughout the Territory, should have a high aesthetic and environmental quality. Planning controls should seek to ensure that development in all forms, including landscaping in urban and non-urban areas, complements and enriches its surroundings.	The overall landscape strategy for the Project continues and enhances Canberra’s existing landscape character as the bush capital. Local endemic species are used throughout including native grasses, wildflowers and trees. This approach will establish an iconic and legacy landscape character for the light rail corridor.
2. Substantial works of architecture, engineering and landscape within Canberra Central should be designed to contribute positively to the overall composition and symbolism and dignity of the National Capital.	The urban design, architecture and landscape strategy for the project responds to the Griffin legacy. New landscaping to Federal Highway and Northbourne Avenue reinforces these roads as the main northern approach to the National Capital. The Project will establish an iconic landscape legacy for the city.

6.2 Policies for Urban Design

The table below provides an assessment of the Project against the Policies for Urban Design of the National Capital under Section 7.3 of the NCP.

Table 6-2 Assessment of the Project against the Policies for Urban Design

Policy	Project Response
<p>a. Management of both public and private development in the National Capital should, wherever practicable, seek to achieve harmony between buildings and landscaping to give continuing effect to the garden character of the city.</p>	<p>The urban design and landscape strategy contributes the garden city character of Canberra. Landscape works to Federal Highway and Northbourne Avenue enhance the tree urban boulevard character of the approach roads. The proposed approach is illustrated on the landscape drawings included with this submission.</p>
<p>b. Within Canberra Central, roads, bridges, waterways and public landscaping projects should reinforce and complement the geometric lines of the Main Avenues.</p>	<p>The formal avenue planting to Federal Highway and the staggered rows of trees to Northbourne Avenue reinforce and complement the geometric lines of these main approaches.</p>
<p>c. Buildings in Canberra Central should be of a height generally not greater than the height of the mature tree canopy (typically 3–4 storeys), with the exception of the buildings in the Parliamentary Zone, Civic Centre, Russell and Campbell Park, and on sites adjoining Northbourne Avenue and Constitution Avenue. In Canberra Central no building or structure which protrudes substantially above the tree canopy shall exceed a height of RL 617m.</p>	<p>Not Applicable to this component of the Project. No buildings are proposed in these areas.</p>
<p>d. The siting, bulk, landscaping and external treatment (including materials, colours and the quality of finish) of development in Canberra Central should seek to ensure that buildings, ancillary structures and other works are appropriate to and not discordant with the general development and amenity of the locality.</p>	<p>The design provides a high quality solution that complements and enhances the existing amenity of Federal Highway and Northbourne Avenue.</p>
<p>e. The conditions for the Siting of Satellite Dishes and Other Telecommunications Equipment, set out in Section 12.4, shall have application where relevant within areas to which Special Requirements of the Plan apply.</p>	<p>Not Applicable to the Civic to Gungahlin Component of the Project. No Satellite Dishes or other Telecommunications Equipment buildings are proposed.</p>

7. HERITAGE

This part of the NCP covers the Commonwealth and the ACT Government’s continuing interest in protecting heritage sites in the ACT. The NCP notes that “In the Commonwealth sphere, the Australian Heritage Commission maintains the Register of the National Estate which includes places of aesthetic, historic, scientific or social significance or other special value, being components of the natural or cultural environment.

It is considered necessary that the Commonwealth and ACT Governments should, as a matter of course, respect each other’s register. In any case, where either wishes to depart from the other’s register, any differences should be subject to consultation between the two and with the public.”

7.1 Principles for Heritage

The table below provides an assessment of the Project against the Principle for Heritage of the National Capital under Section 10.2 of the NCP.

Table 7-1 Assessment of the Project against the Principles for Heritage

Principle	Project Response
The Territory’s natural and cultural heritage should be identified, preserved, protected and conserved in accordance with internationally accepted principles, and in order to enhance the character of Canberra and the Territory as the National Capital.	Heritage matters in relation to the WA1 component of the Project are summarised in the completed EIS and are mainly in relation to some buildings located on lands fronting Northbourne Avenue. These features have been identified, and will not be affected by the proposed works under WA1. There are no natural heritage features of significance likely to be impacted by the proposed works under WA1.

7.2 Policies for Heritage

The table below provides an assessment of the Project against the Policies for Heritage of the National Capital under Section 10.3 of the NCP.

Table 7-2 Assessment of the Project against the Policies for Heritage

Policy	Project Response
a. Planning and development should give due protection to any natural or cultural heritage place in the ACT included on the Register of the National Estate and/or heritage register of the ACT Government.	The heritage features within and adjacent to the light rail route under this WA1 proposal has identified heritage matters within and adjacent to the route. These matters will not be impacted by the works.

<p>b. Within Designated Areas the Authority will require Conservation Plans for listed heritage places. The Conservation Plans for cultural heritage sites will follow the principles of the Australia ICOMOS Guidelines for the Conservation of Places of Cultural Significance (Burra Charter).</p>	<p>Not applicable to this proposal for WA1 along the Federal Highway and Northbourne Avenue. As stated above, there are no identified heritage places within the works area likely to be affected by the works and for which a conservation plan would be required.</p>
<p>c. Planning policies and the applicable development conditions should conform with the requirements of any such Conservation Plan.</p>	<p>Not applicable to this proposal for WA1 along the Federal Highway and Northbourne Avenue. As stated above, there are no identified heritage places within the works area likely to be affected by the works and for which a conservation plan would be required, or where there are requirements under any existing conservation plans that the works would be in conflict with.</p>

8. ENVIRONMENT

This part of the NCP covers the Commonwealth and the ACT Government's continuing interest in protecting the environment of the ACT. The NCP states that planning and development of Canberra and the ACT has provided for growth of the National Capital while maintaining a distinctive environmental setting and protecting key national and cultural resources for future generations to enjoy. The challenge facing the ACT is that of maintaining and enhancing its environmental qualities under the pressures of population growth and associated urban development.

In order to achieve this, long term planning must incorporate recognised guidelines for protecting the environment and must reflect national goals for both sustainable development and regional needs. This part of the NCP seeks to achieve this through the administration of the planning requirements under this chapter.

8.1 Principles for the Environment

The table below provides an assessment of the Project against the Principle for the Environment of the National Capital under Section 11.2 of the NCP.

Table 8-1 Assessment of the Project against the Principles for the Environment

Principle	Project Response
The environmental quality of the National Capital and the Territory should be maintained and improved.	<p>There are no Matters of National Environmental Significance or areas of significant environmental value within the section of the light rail route covered under this WA1 application.</p> <p>The existing trees along Northbourne Avenue are of high landscape value, and the impacts of The Project on these trees has been dealt with elsewhere in this report and detailed in the accompanying landscape plans.</p>

8.2 Policies for the Environment

The table below provides an assessment of the Project against the Policies for the Environment of the National Capital under Section 11.3 of the NCP.

Table 8-2 Assessment of the Project against the Policies for the Environment

Policy	Project Response
a. Action will be taken by the Authority in accordance with the <i>Environment Protection (Impact of Proposals) Act 1974</i> where the scale or nature of a development proposal under its jurisdiction is likely to have a significant impact on the environment of the ACT and the adjoining region.	<p>The Environment Protection (Impact of Proposals) Act 1974 has been replaced by the EPBC Act. Stage 1 of the Project has been referred to the commonwealth under the provisions of the EPBC Act and the decision on the referral was that the proposal was Not a Controlled Action.</p> <p>Further to this, an EIS has been completed for Stage 1 of the Project which identified potential impacts of the proposed works and provided recommendations in order to mitigate these impacts. These recommendations will be met by the Project through the delivery of a</p>

	<p>comprehensive set of Construction and Environmental Management Plans to be submitted under a future/separate WA application for the NCA's assessment.</p> <p>In addition to this, an EIS Assessment Report was prepared by EPD as an attachment to the EIS (September 2015) which further clarified the impacts of the Project on environmental values.</p> <p>The assessments undertaken are considered sufficient to satisfy this requirement.</p>
<p>b. Nationally recognised guidelines and standards will be the minimum basis for assessing environmental quality in relation to the Authority's policies and in the approval of projects by the Authority.</p>	<p>The EIS was completed in accordance with the accepted standards for assessing potential impacts on the environment. The scope of the EIS was determined by the ACT Government through the comprehensive scoping process established under ACT legislation.</p> <p>The level of detail, methodologies for assessing impacts, and scoping of the EIS is considered sufficient to meet this requirement.</p>
<p>c. The ecological resources of the ACT shall be planned and managed in an integrated manner to maintain or enhance the overall quality and stability of the environment of the National Capital, having regard to such issues as soil conservation, nutrient recycling, water balance regulation, salinity control and protection of water quality.</p>	<p>The works to be undertaken under this WA1 proposal are exclusively within previously developed areas (i.e. road corridors, including verges and median strips, and existing paved carparks). Within these previously disturbed areas, there are no matters of ecological significance, or otherwise, of outstanding natural value that would be affected by this proposal. Notwithstanding this, the local environment, including notably soil and water quality, will be projected and managed through a comprehensive set of Construction and Environmental Management Plans (as described in Part C of this report).</p>
<p>d. As wide a range as possible of the naturally occurring plant and animal communities and species of the ACT should be protected in situations where their long-term survival can be expected and the propagation of rare or vulnerable species in suitable protected habitats will be encouraged.</p>	<p>The proposed works will only impact upon highly modified and managed grasslands of the verges and median strips, as well as impacts to planted trees. There are no naturally occurring plant or animal communities that would be affected by the works.</p> <p>The landscape plantings proposed will ultimately increase the natural value of the medians and verges by re-introducing a greater variety of native species than what currently occurs within the works areas.</p>

9. INFRASTRUCTURE

This part of the NCP deals with infrastructure projects primarily related to water treatment, water supply and reticulation, sewage treatment and dispersal, stormwater control, solid waste disposal, and electricity, gas and communications installations, facilities and services. Whilst public transport is not specifically mentioned here, it still represents an infrastructure project and should be considered against the planning requirements of this chapter.

In assessing the Project against the requirements of this chapter, the Authority will seek to ensure that, in the provision of these basic services in the ACT, the orderly development of the National Capital is assured and the visual and physical environments are protected, as well as ensuring that the provision of infrastructure keeps pace with residential and other development.

9.1 Principles for Infrastructure

The table below provides an assessment of the Project against the Principle for Infrastructure of the National Capital under Section 12.2 of the NCP.

Table 9-1 Assessment of the Project against the Principles for Infrastructure

Principle	Project Response
The public infrastructure of Canberra and the Territory shall be planned and provided in an integrated and timely manner to facilitate the continued development of the National Capital and ensure safety and security of supply and operation.	Principle met. The Project is being delivered in stages as described in Part A of this report to ensure that it is delivered in a timely manner, with the initial focus to provide an efficient public transport system from Canberra's fastest growing and most densely populated town of Gungahlin to the city centre. This will ultimately assist in the continued development of Gungahlin, as well as eventually other towns of Canberra, by linking these towns to the city with a 21 st Century mode of public transport. The development will also provide jobs as well as attract visitors to the city to further invigorate the city centre and the city as a whole.

9.2 Policies for Infrastructure

The table below provides an assessment of the Project against the Policies for Infrastructure of the National Capital under Section 12.3 of the NCP.

Table 9-2 Assessment of the Project against the Policies for Infrastructure

Policy	Project Response
a. Existing and proposed water catchment areas should be protected from development and other activities likely to adversely affect water quality, to ensure the safe supply of high quality water to the National Capital.	Not applicable to the Project. This component of the Project is not located within and would not result in any impacts to any water catchments required for supply of water to the National Capital.

<p>b. Stormwater and sewage treatment facilities should minimise the effects of stormwater runoff and wastewater on the lake and river systems of the ACT and in particular the Murrumbidgee River.</p>	<p>The stormwater drainage for the Project will be designed in accordance with the TaMS Design Standards for Urban Infrastructure. The design standards are based on the ACT Water Strategy and the principles of ecologically sustainable development.</p> <p>The objectives are based on broad and holistic principles for effective stormwater environment management within a catchment and its receiving waters including minimising the amount of pollution entering the stormwater system.</p>
<p>c. The planning and provision of electricity and telecommunications facilities should be undertaken in a manner which takes all reasonable steps to minimise the visual effects of transmission lines, substations and telecommunications facilities on the natural and built environments of the National Capital. Detailed policies for the installation of telecommunications facilities are set out at 12.4.</p>	<p>Not applicable to the Project.</p> <p>This component of the Project does not involve any electricity or telecommunications facilities.</p>
<p>d. Subject to any future Commonwealth Government policy decisions on the matter, waters over which the Commonwealth has paramount rights shall be supplied only to users within the ACT and the presently gazetted area of Queanbeyan.</p>	<p>Not applicable to the Project.</p> <p>This component of the Project does not involve the supply or use of water outside of the ACT or presently gazetted areas of Queanbeyan, and would not affect in any way the paramount rights of the Commonwealth over water.</p>
<p>e. Public utilities infrastructure and facilities for Commonwealth needs and activities, including those on National Land, shall be established and maintained at adequate capacity.</p>	<p>Not Applicable to the Project. The light rail is not consistent with definition of public utility (under the Land Use Definitions at Appendix A of the NCP).</p> <p>Notwithstanding this, the Project does represent a significant public infrastructure project, and it will operate at an appropriate capacity to meet the needs of travellers to and from the City to Gungahlin.</p>

10. DESIGN AND SITING CONDITIONS

This part of the NCP is currently not applicable to the Project under WA1. The Project does not, and will, involve any proposals for detached houses or buildings other than detached houses within the Designated Areas of the NCP (as per Parts 1 and 2 of Appendix H respectively).

Signage and other wayfinding information will be included in a subsequent application for Works Approval when these design details have been fully rationalised (and which are largely dependent on ensuring that the route is finalised with respect to design and approvals). The subsequent application for Works Approval that will include signage and wayfinding information will address Part 3 of these Design and Siting Conditions accordingly.

11.DETAILED CONDITIONS OF PLANNING, DESIGN AND DEVELOPMENT: FEDERAL HIGHWAY

Appendix X of the NCP provides the Detailed Conditions of Planning, Design and Development for the Federal Highway. Consideration of how the Project responds to these conditions and guidelines is provided below.

11.1 Design Principles

The objective of this section of the NCP is to heighten the traveller's first perception of approach and arrival in order to enhance recognition of the special symbolic and functional significance of the National Capital.

The detailed conditions of this part of the NCP are concerned with achieving awareness of this special significance through the following:

- marking the boundary of the ACT;
- establishing a clear and identifiable route from the border to the Central National Area, the symbolic centre of the city, by providing visual cues and strong structural links;
- building up expectations by progressively formalising the design character as travellers approach the Central National Area;
- enhancing views to recognisable and popular images of the National Capital so as to further build expectation and define the approach; and,
- ensuring that the structure, detailing and signage is consistent along each approach route into the National Capital.

The Project is not inconsistent with any of the design principles listed above. Specifically, the Project will build up expectations by introducing travellers arriving into the city with a landmark development of a light rail within the median of the Federal Highway and subsequently Northbourne Avenue as originally envisaged by the early designs of the National Capital, including those under the Griffin Plan which resulted in Northbourne Avenue in particular, having a very wide median strip to cater for this future use.

The structural elements of the Project along this part of the route will remain consistent along its entire length through to Northbourne Avenue and its ultimate destination at the City Centre with the design of structures and signage remaining consistent, or otherwise not inconsistent with, the principles of the NCP as assessed elsewhere in this planning report. Aspects of these design features are provided in the landscape plans included with this submission for Works Approval, while other structural design elements will form part of future Works Approval application(s).

11.2 Policies

11.2.1 Future Roads

This section of the NCP is not applicable to the Project as no new/future roads are included in this WA1 proposal.

11.2.2 Border Identification and Marker

This section of the NCP is not applicable to the Project as no new/future border identification marker is proposed, and there are no changes or amendments to the existing border identification markers to be made.

11.2.3 Road Design Characteristics

The NCP requirements in relation to road design characteristics are addressed in the table below:

Table 11-1 Assessment of the Project against the Road Design Requirements for the Federal Highway

Policy	Project Response
<p>Access Limitations</p> <p>For the section from Stirling Avenue to Antill Street, direct access to individual leases will be permitted only on the southern side at one point serving Blocks 1 and 8, Section 61 Watson and one point serving Block 1, Section 64 Watson. From Antill Street to the intersection with the realigned Majura Road, access will not be permitted on the southern side of the highway except to Apex Park. From the intersection with the realigned Majura Road to the ACT border, no access will be permitted except to a visitor lay-by.</p> <p>On the northern side of the Federal Highway, access will only be permitted in the short term to 'Arnold Grove', 'Bendora Riding School', the AGL lease, and 'Canberra Park' while longer term access is expected to be provided from within Gungahlin.</p>	<p>Not Applicable to the Project. No works will take place along the identified sections of the Federal Highway for Access Limitations requirements.</p>
<p>Intersection Design</p> <p>The continuity of the north/south carriageway driver experience should be reinforced. The Majura Road/Horse Park Drive grade separated intersection should reinforce the visual dominance of the Federal Highway, to maximise views and ensure the least disruption to the landform.</p> <p>Medians and Verges</p> <p>Medians and verges are to provide the opportunity for reinforcement of landscape themes and realms. Medians should be of a sufficient width to accommodate the appropriate landscape treatments for each landscape realm and pattern and generally be not less than 20 metres wide.</p>	<p>Not Applicable to the Project. No works will take place at the identified section of the Federal Highway for Intersection Design requirements.</p> <p>The median width on the Federal Highway is generally wide enough to accommodate the light rail.</p> <p>Refer Sections 05 and 06, 20152811-Sheet 5-0205-02 and Sheet 6 – 0206-02</p> <p>The existing median widths will be retained and widened where necessary at Phillip Avenue intersection.</p> <p>There will be widening of approximately 4m into the existing verge at Phillip Avenue intersection. However the existing verge is 30m wide and the existing landscape treatment can be maintained in the reduced verge width.</p>

<p>Carriageways</p> <p>Roadworks are to minimise the impact on the existing topography. Cuts and fills associated with the design and construction of the highway and associated roadworks are to be kept to a minimum. The highway is to be designed to ‘fit’ within the landscape and topography.</p> <p>Where possible, the two carriageways are to be designed independently and separated both vertically and horizontally so as to ensure integration into the topography.</p> <p>Road surfaces should be of asphaltic concrete with a clean edge, unless other materials are shown to be more appropriate.</p> <p>Lighting</p> <p>Where provided, lighting should reinforce the design intent of the Federal Highway as a ‘rural’ highway road. Further, the colour temperature of the lights should be such that the true colours and features of the landscape are perceived. Light spillage is to be minimised to prevent unnecessary night sky illumination.</p>	<p>The design for the light rail is predominantly at grade within the existing median with minimum cut and fill to fit within the existing topography.</p> <p>There are some fill batters into the verges at the Phillip Avenue and Swinden Street intersections. Refer Earthworks-201528511-Sheet 44-1244-02 and Sheet 52-1252-02.</p> <p>Not applicable to this current application for WA1. Approval for these features will be sought, and supporting information included in the subsequent application stage.,</p>
<p>Equestrian Trails</p> <p>The policy is:</p> <ul style="list-style-type: none"> to ensure the design of the highway incorporates appropriately located and connected underpasses for equestrian use and facilitates the continuation of existing equestrian trails; and to enhance where possible, the trail concept with provisions for additional facilities at appropriate locations. 	<p>Not applicable to the Project. The Project will not intersect or otherwise interrupt any existing equestrian trails.</p>

11.2.4 Visitor Information

This section of the NCP is not applicable to the Project as no new/future visitor information is proposed.

11.2.5 Landscape Experience

The NCP requirements in relation to landscape experience are addressed in the table below.

Table 11-2 Assessment of the Project against the NCP policies for Landscape Experience of the Federal Highway

Policy	Project Response
<p>General</p> <p>The policy is:</p> <ul style="list-style-type: none"> to ensure Canberra's unique setting within the natural landscape is reflected in the sensitive design and landscape treatment for the highway which reinforces the perception of the National Capital; and to recognise the significance of views to the surrounding hills and ensure engineering structures respect the landform and landscape patterns. 	<p>The Canberra Metro landscape strategy concept builds upon the National Approach routes strategy to ultimately provide a landscape strategy plan that reinforces the perception of the National Capital. It responds to the unique landscape setting of Canberra respecting the landform and landscape patterns.</p>
<p>Major Landscape Realms</p> <p>The Federal Highway is divided into two broad realms for the purposes of detailing landscape patterns. They are a Rural Realm and an Open Parkland Realm (see Figure 2 Landscape Realms and Patterns for the Federal Highway).</p> <p>Rural Realm: identifies the location of Canberra and establishes the setting of the “bush capital”. The pastoral setting is a cultural and historical reminder and recognises that the colour and scale of the landscape are important in creating an identifiable and memorable image. Views to the Gungahlin ranges and Black Mountain should be maintained and enhanced.</p> <p>Open Parkland Realm: emphasises reflection of the rural landscape, (but with a designed park-like landscape quality), and introduces the visitor to the planned “garden city” image. Planting and development patterns are to allow filtered horizontal views.</p>	<p>The landscape strategy establishes landscape realms that progressively transition from the rural realm through to the urban centre of Civic. This is illustrated within the landscape documentation.</p>

Landscape Patterns

Driver experience shall be modulated through a series of distinct landscape patterns which identifies a change in landscape character from an informal planting, open, rolling, rural landscape to a regular planted, closed, dense canopy pattern of the semi-urban landscape. Landscape patterns apply as set out in Figure 2 – Landscape Realms and Patterns for the Federal Highway.

To assist the understanding of the landscape patterns and where they apply, the highway has been broken into sections starting at the ACT border.

Plantation Gateway (0.0–0.4 km): creates an introduction and announces the imminent arrival of the visitor in Canberra by establishing appropriately designed tree planting that relates to the rural landscape, but is distinct in character. Within the road reserve, the policy is to develop a formal plantation in the verge and median of the highway.

Savannah Woodland (0.4–0.8 km): reinforces the existing woodland character by maintaining and enhancing the indigenous eucalypts in small groups and individual specimens in the median and verges, and ensures the character is of an open canopy giving a parkland appearance.

Tussock Grassland (0.8–1.4 km): establishes a grassland community and complements the savannah woodland character of adjacent sections of the highway. It does this through broad scale planting of road verges with native grasses and herbaceous plants with low grasses in medians.

Savannah Woodland (1.4–2.8 km): reinforces the rural pastoral character by planting and protecting indigenous eucalypts in small groups and individual specimens in the median and verges, generally widely spaced, leaving an open canopy and giving a parkland appearance. Residential views are to be screened and views opened up along open space corridors.

Open Forest/Woodland (2.8–4.0 km): reinforces the open forest character of this part of the highway. The policy is to resolve secondary access to rural properties while maintaining continuity of the approach route, and to allow short, filtered horizontal views. Median planting is to be informal and should reinforce existing native planting as well as introducing grouped accent planting.

Not applicable – this policy applies to areas outside of the Project locality.

Filtered Semi-Urban (4.0–5.4 km): creates a transition from woodland to the contrasting closed corridor section of Northbourne Avenue and develops a ‘secondary’ gateway with designed avenue planting to create a strong contrast with the rural landscape as the introduction to urban Canberra. Direct views should focus along the approach route. The built form should be screened through the use of plant material.

Cultural Landscape Features

The policy is to maintain the significance of the Remembrance Parks through enhancement of their location and access in association with a visitor lay-by, by providing interpretative material, and by the possible extension of areas for planting.

Not applicable – this policy applies to areas outside of the Project locality.

12. DEVELOPMENT CONTROL PLANS

The route alignment and proposed works under this Stage 1 Works Approval (WA1) lies adjacent to a number of Development Control Plans as follows:

- Development Control Plan DCP No: 171/00/0005 - Lyneham, Block 2 Section 67 (Yowani Country Club). This DCP has since been replaced by the following DCP's:
 - Development Control Plan 15/05 - Yowani Country Club (replaces DCP 171/00/0005)
 - Development Control Plan 15/06 - Lyneham Sports Precinct (replaces DCP 171/09/0005)
- Development Control Plan DCP No: 171/09/0004 – Lyneham, Blocks 19, 25, 36 & 37 Section 59, Part Blocks 34, 35 & 38 Section 59 and Part Blocks 1 & 2 Section 63
- Development Control Plan DCP No: 10/02 – Block 8 Section 69 Lyneham, part Blocks 18 and 19 Section 71 Lyneham, Block 20 Section 71 Lyneham, Block 4 Section 72 Lyneham, part Block 5 Section 72 Lyneham, Block 1 Section 75 Lyneham, Blocks 429, 444 and 445 Gungahlin

The actual physical works proposed within the areas of land covered by these DCP's is located outside of the Designated Areas of the NCP. As such, the assessment and approval requirements in relation to these works lies with the ACT Government, and is dealt with through the corresponding Development Application (DA) approvals requirements for Stage 1 of the Project (as described in Part A of this Planning Report).

Given the above, further detailed assessment of the Project against the Development Controls provided under these DCP's is not provided in this Planning Report for Works Approval. To summarise, an assessment of the Project against the Design Controls of these DCP's has confirmed that the Project works are consistent with these requirements.

13. ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The proposed action for Russell Extension has been referred (Referral Number 2015/7576) to the Department of Environment as 'Not a Controlled Action'.

The status of EPBC Approvals for Capital Metro Light Rail project areas is summarised in the table below:

Table 13-1 Summary of EPBC Referrals relevant to the Project

Project Area	EPBC Referral Number	Status	Date of Notice
Civic to Gungahlin	2014/7379	Referral Decision – Not a Controlled Action	23/12/14
Russell Extension	2015/7576	Invitation for Public Comment on Referral	9/10/15

All EPBC approval requirements for the Project will be addressed and evidence of compliance will be submitted as part of the final NCA Works Approval Application.

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), approval from the Commonwealth Minister for the Department of the Environment is required for an action that is:

- Likely to have a significant impact on a matter of national environmental significance (MNES).
- Carried out on Commonwealth land and is likely to have a significant impact on the environment.
- Carried on outside of Commonwealth land but is likely to have a significant impact on the environment on Commonwealth land.

The Environmental Impact Statement (EIS) identified no MNES that would be either directly or indirectly impacted by the proposed works within the Designated Areas subject to this WA. No EPBC Act Referral to the Commonwealth Minister for the Department of Environment is required, as per the findings of the EIS.

14. COPYRIGHT AMENDMENT (MORAL RIGHTS) ACT 2000.

The Project does not contain any design features that might be subject to future design changes and for which Moral Rights would apply requiring approval from the original designers to make amendments to. This Act is therefore considered to be not applicable to the Project.

Part C: Construction Management and Impact Mitigation Measures

1. INTRODUCTION

A large suite of management and mitigation measures will be implemented to reduce the potential adverse impacts of the Project. These mitigation measures have been identified within:

- Capital Metro Light Rail Stage 1 – Gungahlin to Civic Environmental Impact Statement and all supporting Technical Reports
- Canberra Metro Initial Construction Management Plan
- Canberra Metro Plans and Reports for specific project aspects, and
- Canberra Metro Management Plans for specific environmental aspects.

All mitigation measures identified within these documents, in addition to any project approvals, will be fully adopted and implemented via the Project EMS.

The key elements of the Project EMS are to be established as follows:

- A project specific Construction Environmental Management Plan (CEMP) will be prepared and endorsed prior to the construction phase.
- The CEMP will be prepared to be consistent with the environmental management measures documented in the EIS and identified in the Development Application and Works Approval, planning approval conditions from the Development Application and the NCA Works Approval, and any other requirements or conditions within any licences or permits or as issued by government authorities.
- The project specific CEMP will comply the documentation requirements of AS ISO 14001 Environmental Management Systems and will be prepared in accordance with the EPA *Environmental guidelines for preparation of an Environment Management Plan* (May, 2013) and all other relevant policies and guidelines
- Measures for mitigating potential impacts on individual environmental aspects (e.g. noise and vibration) will also be described in project specific Environmental Management Sub Plans and Checklists.
- Mitigation measures identified within Sub Plans will subsequently be developed into site specific Site Environmental Plans (SEP's) to communicate site management requirements to all site staff during construction.
- All site-specific environmental management constraints and risks will be addressed using John Holland's "Managing SQE Risk" procedure, including Workplace Risk Assessments (WRA's), Activity Method Statements (AMS's) and Task Risk Assessments (TRA's) prior to commencement of works on site, and
- The CEMP and SQE Risk Management documents will be used by the Project Team to:
 - Facilitate induction of staff and subcontractors
 - Document specific site controls, and
 - Undertake regular environmental compliance audits throughout the project.

Provided the specified measures and commitments are applied and effectively implemented during the design, construction and operational phases, the identified environmental impacts are considered to be acceptable and manageable.

2. TREE MANAGEMENT

2.1 Background Information and Assessment

There are a number of existing planted trees along the Project alignment including ACT Registered Trees identified under the ACT *Tree Protection Act 2005*. The group planted within the Vernon Circle road reserve are the only protected trees (reference number PTR032) within the NCA areas of the Project.

2.2 Proposed Mitigation Measures for Construction Activities

The proposed management measures that will be implemented to mitigate impacts on trees within and adjacent to construction are as follows:

- ACT Registered trees and provisionally registered trees will be identified prior to construction of the Project. No trees listed on the ACT Registered Trees list (as registered or as provisionally registered) would be removed as part of the Project. Where these trees exist within the Project impact footprint, the tree(s) would be marked with a tree potential root zone using exclusion fencing during construction
- If protected trees are identified to be impacted by the Project (as a result of ongoing refinement or design changes proposed following approval of the EIS or DA), a replacement strategy for the affected trees would be devised and agreed between Project and TAMS. The process for removing or impacting any protected trees would also be undertaken to meet the requirements of the Tree Protection Act
- Trees not directly impacted by the proposed permanent works or that do not significantly impinge on required clearances to Project infrastructure would be retained
- Where pruning is required, for example pruning of low branches that would interfere with the overhead wiring, a qualified arborist would be engaged to assess the health and condition of the tree prior to any pruning works
- Exclusion fencing would be established around the drip lines of each tree within the Project footprint that is to be protected, or, where encroachment into the drip line area cannot be avoided, consider raising construction facilities (e.g. demountable) above the ground level to minimise the footprint impacting on the underlying tree roots, in accordance with Australian Standard AS 4970 Protection of Trees on Development Sites
- The use of low impact construction techniques (on existing tree roots) for installation of new services would be considered, where appropriate and feasible, and
- Where the loss of trees is unable to be mitigated through the above measures, the Project would replace trees removed, in accordance with a tree replacement strategy to be developed during detailed design.

Canberra Metro has developed a strategy which has fewer trees being removed during initial stages along Northbourne Avenue without significantly impacting construction activities. This will minimise the visual impact of tree removal during construction.

Canberra Metro proposes to undertake construction activities in four stages with the existing trees remaining in place. The construction period between the last tree removal and the re-instatement of the trees is currently anticipated to be a maximum of just over three months.

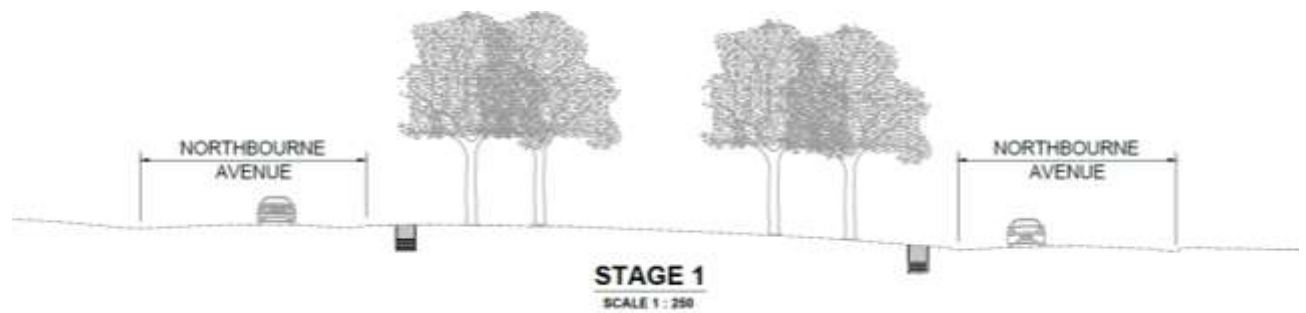
Table 2-1 Tree Management and Mitigation Measures

Stage 1

- During the utility services relocation, conduits will be installed into shared trenches on either side of the median. The existing trees will not be impacted. Canberra Metro has conducted an initial study with a qualified arborist who confirmed that such works could be undertaken without impacting the existing trees current arrangement or stability

- Methods of trenching near the trees will include sucker truck around the existing tree roots and then excavating carefully around the trees roots. Pending arborist advice, some minor tree roots might be cut when it is deemed safe and acceptable without impact on the existing tree, and
- Trees will be protected from accidental damage by installing barriers around the main trunk and using excavators with height not impacting the tree canopy, along with planned access and manoeuvring for plant to avoid impact. No stockpiles will be placed within the canopy of the existing tree.

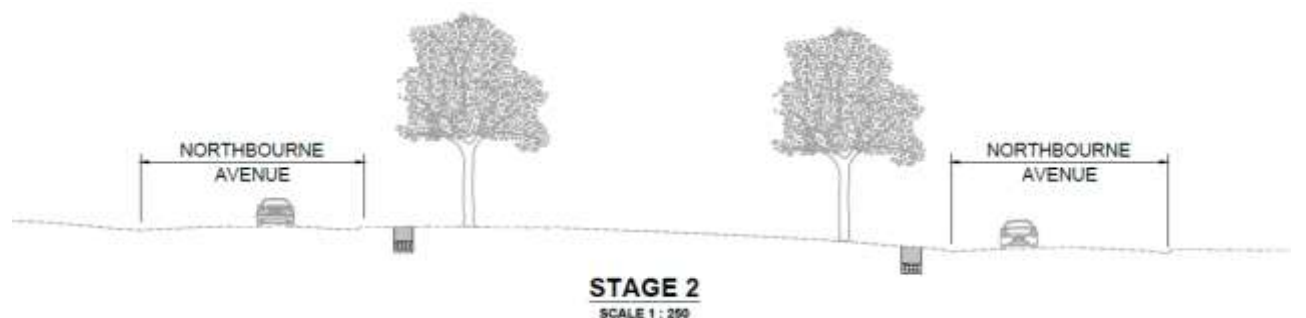
Stage one – installation of shared trench without impact to trees



Stage 2

- Upon completion of the utilities relocation works, the first stage of tree clearing will commence. The clearing in this stage will only impact the inner row of trees. The trees will only be removed to stump level close to existing ground level. This will ensure that the tree removal will not impact on the existing underground live utilities as existing underground utilities relocation and cut-over will not have been completed, and
- The inner row tree clearing works would occur after October 2016. This work will be undertaken during daytime off-peak hours, with minimal impact on existing traffic. The median lane will be closed under temporary traffic control during the off peak and normal working hours to ensure the safety of work crews and road users.

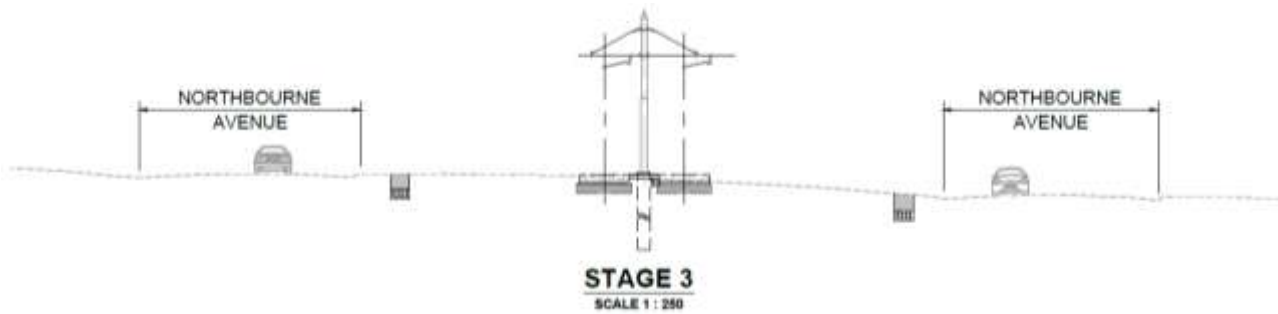
Stage two – inner row tree clearing works occur during daytime off-peak hours



Stage 3

- The second phase of tree removal for the remaining outer row of trees will take effect in the period commencing from the middle of 2017. It will start from the south end and proceed towards the north, as the work fronts open up. This will allow the remaining trees to remain in place as long as possible prior to the planned commencement of each work front, as highlighted in the base case program, and
- The tree removal in this stage will follow the same method of minimising impact on traffic as adopted in Stage Two above.

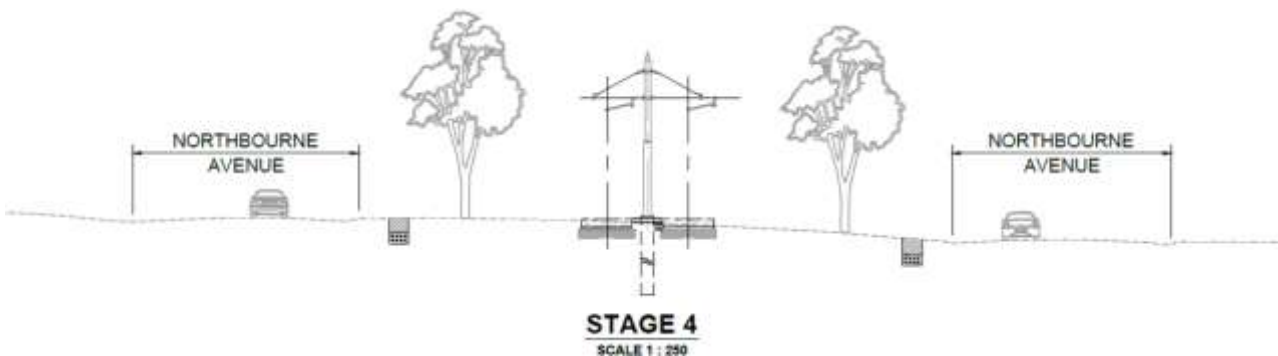
Stage 3 – Second phase of tree removal for the remaining outer row of trees



Stage 4

- The construction period between the tree removal in Stage Three and the re-instatement of the trees as per the landscape design is currently anticipated to be a maximum of 3-4 months. The landscaping works, including tree planting, is scheduled to commence as construction works in each area come to a close, and
- The construction activities for Gungahlin to Civic works will be undertaken in accordance with the tree management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

Stage 4 – Re-instatement of the trees as per the landscape design



2.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

3. LANDSCAPE MANAGEMENT

3.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro Environmental Impact Statement Landscape Character & Visual Impact Assessment, Hassell, 11 June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

3.2 Proposed Mitigation Measures for Construction Activities

- During detailed design, consideration of opportunities to incorporate proposed substations into the existing environment to reduce their visual prominence (such as through the provision of façade treatments, potential landscaping etc.) would be undertaken in consultation with relevant stakeholders
- High quality construction hoarding would be used with the consideration given to the potential for public art integration/inspiration from the avenue planting to soften the visual impact of the hoarding. Opportunities for the use of interpretative designs on hoardings during construction to visually display the history and significance of heritage items along the Project route would also be investigated. The final finish of hoardings would be determined prior to construction commencing following agreement between CMA, Canberra Metro, TAMS and NCA
- Access to existing retail developments, residential and commercial properties would be maintained or alternative access would be provided
- Access would be maintained or alternative routes provided for pedestrians crossing at signalised intersections
- Where possible materials and machinery within the construction site would be located to minimise visual impacts
- The planting of mature trees, shrubs, smaller stock and turf will be completed as areas are made available and are no longer subject to construction traffic or materials laydown. The placement of larger growing understorey planting species adjacent to the trackform will provide a deterrent to unregulated pedestrian movement across the light rail corridor, and
- Replacement of soils will be limited to those areas where soft landscape performance is required i.e. high visibility areas and in close proximity to high traffic pedestrian areas. Existing soils and salvaged green waste from corridor tree removal for mulches and soil organic additives will be used wherever possible. Topsoils for will be prepared as weed free for reuse in the new landscape works.

3.3 Reference Documents

- Canberra Metro Landscape Management Plan

4. HERITAGE MANAGEMENT

4.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro, ACT Light Rail Stage 1—City to Gungahlin, Heritage Impact Assessment, Report prepared for Parsons Brinckerhoff on behalf of Capital Metro Agency, GML Heritage, June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

4.2 Proposed Mitigation Measures for Construction Activities

Section 22 of the Gungahlin to Civic Environmental Impact Statement includes the following management measures for identified heritage sites:

- Detailed design of the light rail stops would aim to minimise impacts on heritage items in terms of form, scale and materials. This would include retention of the open, lightweight and low profile structures of proposed design, maximising the balance of glazing to opaque materials and avoidance of highly reflective materials
- A general photographic archival recording of Northbourne Avenue from City Hill to Antill/Mouat Street would be undertaken to record the current landscape of the avenue prior to works commencing
- During the construction phase opportunities to integrate the history and heritage values of Canberra through the provision of interpretive signage into temporary construction hoardings would be considered for the following locations:
 - + interpretation of Northbourne Avenue and its contribution to the Canberra plan on construction hoardings along Northbourne Avenue
 - + the history and heritage values of the Melbourne and Sydney Buildings and their contribution to the significance of Canberra on construction hoardings around the Alinga Street stop construction worksite
 - + interpretation of City Hill, as part of the Griffin Plan for Canberra, on construction hoardings around the London Circuit construction compounds, and
 - + interpretation of the history and heritage values of the CS & IR Experiment Station on construction hoardings at the Swinden Street stop construction worksite.
- All permanent Project infrastructure would be designed to avoid any substantial impacts on the view to City Hill from Northbourne Avenue

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the heritage management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

5. NOISE AND VIBRATION

5.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro Environmental Impact Statement Noise and Vibration Impact Assessment Report Number 670.10453-R4, SLR Global Environmental Solutions, 12 June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

5.2 Proposed Mitigation Measures for Construction Activities

Section 22 of the Gungahlin to Civic Environmental Impact Statement includes the following management measures for mitigating noise and vibration impacts from construction activities:

- Where construction is concentrated in a single area temporary acoustic barriers around the site perimeter would be considered where feasible and reasonable to mitigate off-site noise levels
- Night works would be programmed to minimise the number of consecutive nights work impacting the same receivers
- Avoid the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receivers to reduce noise emissions
- Equipment which is used intermittently is to be shut down when not in use where possible, the offset distance between noisy plant items and nearby noise sensitive receivers would be as great as possible
- Where possible heavy vehicle movements would be limited to daytime hours
- Reversing of equipment would be minimised so as to prevent nuisance caused by reversing alarms
- Minimise consecutive works in the same locality (if applicable)
- Use dampened rock breakers and/or 'city' rock breakers to minimise the impacts associated with rock breaking works, and
- Building condition surveys would be completed both before and after the works to identify existing damage and any damage due to the works.

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the noise and vibration management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

5.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

6. TRAFFIC MANAGEMENT

6.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro Environmental Impact Assessment – Capital Metro Traffic and Transport Impact Assessment, Parsons Brinckerhoff, 12 June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

6.2 Proposed Mitigation Measures for Construction Activities

The measures that will be used for effective traffic management and planning include:

- Directional signage and line marking to guide drivers and pedestrians through or around worksites
- Variable message signs to advise drivers of potential delays, traffic detours, speed restrictions or alternative routes
- Notification of proposed traffic changes via newspaper, radio, internet and community briefing sessions
- Active on-site management by traffic controllers, physical barriers or temporary traffic signals to facilitate
- Access and egress around and through work sites
- Maintenance of the implemented traffic management scheme, and
- Ensuring access to existing business premises and residents for pedestrians.

Additional mitigation measures listed in the Environmental Impact Statement include:

- Construction Traffic Control Plans (TCP) would be prepared for all worksites to manage traffic around worksites in a safe manner including directional signage related to any detours
- To reduce the impact on public parking facilities, particularly in the Civic region, site workers parking would be provided at construction compounds to minimise the use of on-street parking. Consideration would be given to providing shuttle services to transport site workers. If shuttle buses are not provided as part of the Project, parking restrictions around work zones should be considered to prevent potential impacts due to the Project use of on- or off-street parking, this must be included in the relevant TMP and approved by TAMS
- Where disabled parking spaces are impacted as a result of the London Circuit construction compound (existing west car park), provisions would be made to convert regular parking bays within the eastern car park into those suitable for an equivalent number of disabled parking spaces, in consultation with TAMS
- Where intersections are to be closed or part closed for construction activities, the following would apply:
 - + A construction staging/program in consultation with key stakeholders to ensure that critical intersection closures are scheduled to minimise risk and potential impacts
 - + Where practicable, critical intersections would be scheduled during typical 'non-busy' weekends avoiding major events and seasonal demands such as ski season activities. Project Co would complete a construction staging/program in consultation with key stakeholders to ensure that critical intersection closures are scheduled to minimise risk and potential impacts prior to construction activities being undertaken at these intersections

- + Where intersections are required to be closed for greater than a weekend period, this would be limited to up to four weeks and northbound/southbound traffic movement would be maintained
- + Critical intersections that would be closed for all traffic for up to 54 hours during construction include:
 - Federal Highway/Flemington Road (partial)
 - Barton Highway/Northbourne Avenue
 - Macathur Avenue/Northbourne Avenue/Wakefield Avenue
 - Mouat Street/Northbourne Avenue/Antill Street
 - Barry Drive/Northbourne Avenue/Cooyong Street intersection
- + Management of intersection closures would be detailed in the Project CTMP for these intersections. The CTMP would be developed for the Project prior to construction.
 - The reliance of interstate freight operations would be minimised with preference given to locally sourced materials, where feasible, and
 - Heavy vehicles and plant and materials deliveries would use designated haulage routes.

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the traffic management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

6.3 Reference Documents

- Canberra Metro Construction Management Plan

7. PUBLIC TRANSPORT

7.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro Environmental Impact Assessment – Capital Metro Traffic and Transport Impact Assessment, Parsons Brinckerhoff, 12 June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

7.2 Proposed Mitigation Measures for Construction Activities

Proposed mitigation measures include:

- Regular interaction with TAMS on changes to bus routes, communication requirements
- Signage on bus route changes
- Digital communication strategy
- Construction staging to minimise impact on existing road networks
- Works on Northbourne Ave is constrained to median with minimal impact on road network and bus stops
- Intersection work will be carried out over weekends. This work will require detailed planning with the Territory, TAMS and Action buses to minimise disruption to services

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the public transport management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

7.3 Reference Documents

- Canberra Metro Construction Management Plan

8. PEDESTRIAN AND CYCLE NETWORKS

8.1 Background Information and Assessment

The following assessment report has been prepared as part of the Environmental Impact Statement for Gungahlin to Civic:

- *Capital Metro Environmental Impact Assessment – Capital Metro Traffic and Transport Impact Assessment, Parsons Brinckerhoff, 12 June 2015*

This assessment report includes recommendations to mitigate potential impacts, and these recommendations are listed below.

8.2 Proposed Mitigation Measures for Construction Activities

It is a project requirement to maintain pedestrian and cycle networks throughout construction. Where routes change, clear signage and communication will be implemented to ensure that networks remain legible. Safety barriers and fencing will also be implemented appropriately to maintain public safety and accessibility.

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the pedestrian and cycle network management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

8.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

9. CONTAMINATION

9.1 Background Information and Assessment

The following documents have been prepared as part of project planning for Gungahlin to Civic:

- *CMA – Phase 2 Environmental Assessment – Contamination Confidential, Parsons Brinckerhoff, 13 February 2015, and*
- *CMA – Contamination Management Plan – Commercial in Confidence, Parsons Brinckerhoff, 27 March 2015.*

These documents, in addition to the Environmental Impact Statement, include recommendations to mitigate potential impacts, and these recommendations are listed below.

9.2 Proposed Mitigation Measures for Construction Activities

- Sampling and analysis of potentially contaminated materials would be undertaken during construction activities, including for the following:
 - + Contaminated soils and groundwater (e.g. TPHs, metals, etc.)
 - + Acid sulphate soils
 - + Potentially asbestos containing materials, and
 - + Hazardous or chemical wastes generated during construction.

Sampling would be conducted where there is a potential for exposure to these materials by site workers or the public, where contaminated materials may be liberated and migrate offsite or impact soils, receiving surface waters, or groundwater, or where they require classification prior to disposal.

- In the event that previously unidentified contamination is uncovered during construction works, the Unexpected Finds Protocol (Contamination Management Plan, Section 6) will be implemented. The primary steps in this Protocol are as follows:
 - + All works in the immediate area will cease
 - + Notifications to all relevant supervisors and managers will be made
 - + Area will be assessed by a suitably qualified and experienced environmental consultant
 - + Sampling, analysis and classification of material will be carried out as per relevant guidelines, and
 - + Material will be appropriately protected and managed on site prior to disposal to an approved facility.
- All contaminated materials disturbed during construction would be managed and either re-used or disposed of appropriately in accordance with all relevant legislation and ACT EPA guidelines including:
 - + *ACT's Environmental Standards: Assessment & Classification of Liquid and Non-liquid Wastes*
 - + *Information Sheet 4 – Requirements for the reuse and disposal of contaminated soil in the ACT*
 - + *Work Health and Safety (Asbestos) Amendment Regulation 2014*
 - + *Safe Work Australia 2011, How to manage and Control Asbestos in the Workplace, and*
 - + *Code of Practise for the Safe Removal of Asbestos 2nd Edition (NOHSC, 2005).*

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the contamination management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

9.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

10. SPOIL MANAGEMENT

10.1 Background Information and Assessment

Spoil management during construction projects within ACT is to be undertaken in accordance with the following guidelines:

- *Environmental Protection Guidelines for Construction and Land Development in the ACT* (ACT EPA, 2011)
- *Volume 1 of Managing Urban Stormwater: Soils and Construction* (Landcom 2004), the “Blue Book” ACT EPA guidelines and information sheets:
 - + *Minimum standards for submission of pollution control plans* (ACT Government, 2013), and
 - + *Discharge from sediment control ponds* (ACT Government, 2015)

These documents, in addition to the Environmental Impact Statement, include recommendations to mitigate potential impacts, and these recommendations are listed below.

10.2 Proposed Mitigation Measures for Construction Activities

The following key strategies will be implemented to mitigate spoil management impacts during construction activities:

- Minimising the area of soil disturbed and exposed to erosion
- Separating clean water runoff produced by undisturbed catchments from dirty (sediment-laden) and contaminated water from disturbed catchments
- Reducing water runoff velocity
- Controlling water flow-path and volume
- Implement controls to trap sediment and allow for filtering/treatment of water prior to discharge from the site
- Implementing control structures that promote stable landforms, and
- Maintaining appropriate erosion and sediment controls until site rehabilitation is achieved

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the spoil management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

10.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

11. WASTE MANAGEMENT

11.1 Background Information and Assessment

The waste management objectives for the project are to establish a framework for managing resources and waste according to the waste hierarchy as follows:

- Avoidance of unnecessary resource consumption
- Resource recovery (including reuse, reprocessing, recycling and energy recovery), and disposal of materials
- Diversion rates from landfill for following waste streams
 - + Spoil (>95%)
 - + Inert & non-hazardous waste (>50%), and
 - + Office waste (>40%).

To achieve these objectives, the following strategies will be implemented during construction:

- Minimise waste from construction activities and ancillary facilities
- Manage resource demand to reduce impacts on resource availability for local community and industry, and
- Implement energy consumption efficiency strategies.

11.2 Proposed Mitigation Measures for Construction Activities

Management measures that will be implemented to mitigate waste impacts during construction activities will include the following measures:

- Treat any wastewater collected prior to discharge, in accordance with current standards
- Chipping of leaf material and small branches of native vegetation for use as mulch in revegetation or landscaping works
- Dispose all other green waste from vegetation removal to a green waste recycling facility
- Maintain work sites in a tidy state, and appropriately disposing of all general litter (including food scraps, plastics, glass bottle)
- Provide reuse and recycling training and infrastructure at construction sites set construction reuse and recycling targets and monitoring waste generated to manage and classify waste for disposal in accordance with the relevant ACT EPA Guidelines
- Use a licensed contractor to remove contaminated waste, under current ACT EPA Guidelines where appropriate, source of materials would be undertaken using locally available resources and materials, and
- Transport of all waste generated and surplus spoil from the construction of the Project to the West Belconnen Resource Management Centre or another appropriate facility. Ongoing consultation with ACT NoWaste and the West Belconnen Resource Management Centre (or other waste management facility operators as required) will be undertaken by Project Co to confirm the facilities suitability of this facility for the disposal of waste throughout the Project.

The construction activities for Gungahlin to Civic works will be undertaken in accordance with the waste management recommendations listed above, in addition to any future approvals and/or the outcomes of consultation with regulatory agencies.

11.3 Reference Documents

- Canberra Metro Initial Construction Management Plan

12. RESPONSE TO RECOMMENDATIONS OF RELATED APPROVALS

12.1 Background Information and Assessment

The additional statutory approval processes have been addressed as part of project planning for the works are as follows:

- Environmental Impact Statement (prepared to fulfil requirements of *Planning and Development Act 2007*)
- Development Approval and Conditions of Consent for DA201528511, applicable to Capital Metro Light Rail – Civic to Gungahlin Project (Impact Track application)
- Matters of National Environmental Significance assessment to fulfil requirements of *Environmental Protection and Biodiversity Conservation Act 1999*

12.2 Proposed Response during Construction Activities

All construction activities will be undertaken as per statutory approvals obtained for the project, including adherence to:

- All Environmental Impact Statement Recommendations (Section 22)
- All DA Conditions of Consent
- Management measures specified within the EPBC Act self-assessment (determined as Not a Controlled Action for Gungahlin to Civic), and
- All additional regulatory approvals and permits obtained during the project.

ATTACHMENTS

1. Initial Construction Management Plan
2. Tree Assessment Report (Block 13 Section 63 City)

