Australian Capital Territory

Planning and Development (William Hovell Drive Duplication – Blocks 1385 and 1565, Belconnen) EIS Assessment Report 2024

Notifiable instrument NI2024–363

made under the

Planning and Development Act 2007, s 225A (EIS assessment report)

1 Name of instrument

This instrument is the *Planning and Development (William Hovell Drive Duplication – Blocks 1385 and 1565, Belconnen) EIS Assessment Report 2024.*

2 Commencement

This instrument commences on the day after its notification day.

3 Environmental Impact Statement assessment report

The planning and land authority has prepared the EIS assessment report for the William Hovell Drive Duplication as set out in the schedule.

Note 1 A copy of the assessment report can be obtained from the planning and land authority website at: http://www.planning.act.gov.au.

Note 2 Under the Act, s 225A (5) (repealed), the EIS assessment report expires 18 months after its notification day.

Craig Weller
Delegate of the territory planning authority
1 July 2024

Schedule

ACT Government

Environmental Impact Statement Assessment Report

William Hovell Drive Duplication

June 2024

Authorised by the ACT Parliamentary Counsel—also accessible at www.legislation.act.gov.au

Environmental Impact Statement

Assessment Report

FOR

William Hovell Drive Duplication

June 2024

Planning and land authority

Environment, Planning and Sustainable Development Directorate

Pursuant to Section 222 of the *Planning and Development Act 2007* (**PD Act**), this report evaluates the revised environmental impact statement for the following application:

Ref no: 202138722
Document no: 1-2020/62856
Project: William Hovell Drive Duplication
Date scoping document issued: 19 October 2020
Date draft EIS lodged: 8 June 2021
Date revised EIS lodged: 31 May 2022
Date s224 revised EIS lodged: 17 October 2023
Proponent: Infrastructure Delivery Partners – Major Projects Canberra on behalf of Transport Canberra and City Services (TCCS)
Applicant: SMEC Australia.
Location: Road reserve extending from John Gorton Drive to Drake-Brockman Drive, Belconnen ACT

As required by section 225A of PD Act, the planning and land authority (**the Authority**) has prepared this EIS Assessment Report (**the Report**) for the Minister for Planning. This report confirms that the Authority is satisfied that:

- each matter raised in the scoping document for this proposal is addressed;
- there is an account of timely representations;
- the EIS demonstrates how timely representations have been taken into account.

This report has also been prepared for the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in accordance with the assessment bilateral agreement between the ACT and Commonwealth governments (June 2014).

Table of Contents

Figures

Tables

Glossary and definitions

Term	Definition
ACT	Australian Capital Territory
Action	Action includes a project, a development, an undertaking, an activity or series of activities, and an alteration of any of the above.
AEC	Areas of Environmental Concern
AOS	Assessment of Significance
AS	Australian Standards
EPBC listed BGW	White box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland (listed under the Commonwealth EPBC Act)
NC listed BGW	Yellow Box –Blakely's Red Gum Grassy Woodland (listed under the ACT NC Act)
The Authority	The planning and land authority
CEMP	Construction Environmental Management Plan
Clear/cleared/clearing	Cutting down, felling, thinning, logging, burning or removing vegetation and doing anything else that kills, or is likely to kill vegetation
Commence action	The first instance of any specified activity associated with the action
The Conservator	The Conservator of Flora and Fauna
Construction boundary	The boundary of the total area to be impacted by construction activities
CMP	Conservation Management Plan
DA	Development Application
DAWE	The former Commonwealth Department of Agriculture, Water, and the Environment (now DCCEEW)
DBD	Drake Brockman Drive
DCCEEW	Commonwealth Department of Climate Change, Energy the Environment and Water
DoEE	The former Commonwealth Department of the Environment and Energy (now DCCEEW)
EIA	Environmental impact assessment: the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before major decisions and commitments are made.
EIS	Environmental impact statement: a document prepared to detail the expected environmental, social and economic effects of a development, and state commitments to avoid, mitigate or satisfactorily control and manage any potential adverse impacts of the development on the environment. In the ACT, an EIS is required for proposals in the impact track as per Section 127 of the *Planning and Development Act 2007*.
EOS	Environmental Offset Strategy
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EPSDD	Environment, Planning and Sustainable Development Directorate
ESA	Emergency Services Agency
ESO	Environmental Significance Opinion

Term	Definition
GHG	Greenhouse Gas
GSM	Golden Sun Moth
Ha	Hectare
JGD	John Gorton Drive
MNES	Matter of National Environmental Significance (as per the EPBC Act)
NC Act	Nature Conservation Act 2014
NCA	National Capital Authority
PCS	ACT Parks and Conservation Service
PD Act	*Planning and Development Act 2007* (ACT)
PD Regulation	*Planning and Development Regulation 2008* (ACT)
PTWL	Pink-tailed Worm-lizard
PTWL habitat	Areas which have been mapped as suitable for PTWL by a suitably qualified specialist
SLL	Striped Legless Lizard
SMEC	SMEC Australia Pty Ltd (the Applicant)
Study Area	The area investigated as identified in Figure 1
Suitably qualified specialist	An individual possessing the necessary qualifications and experience relevant to a specific activity or work being undertaken
TCCS	Transport Canberra and City Services
TEC	Threatened Ecological Community
The Project	William Hovell Drive Duplication
The Report	EIS Assessment Report
WHD	William Hovell Drive
WSUD	Water Sensitive Urban Design

1. Introduction

This report is to the ACT Minister for Planning on the assessment of the Environmental Impact Statement (EIS) in relation to the William Hovell Drive Duplication Project (the Project).

The Project is a development of a type that meets Section 123 of the *Planning and Development Act 2007* (PD Act) as it involves an activity mentioned in Schedule 4 of the PD Act, therefore requiring an Environmental Impact Statement to be prepared. The development application (DA) for this project is required to include a completed EIS under the PD Act.

1.1. Project description

SMEC Australia Pty Ltd (SMEC) has acted as the applicant for this Project on behalf of Infrastructure Delivery Partners Group, Transport Canberra and City Services (TCCS), who is the proponent for the Project.

The Project consists of the duplication of a 4.5km portion of William Hovell Drive (WHD), between John Gorton Drive (JGD) and Drake-Brockman Drive (DBD), in the Molonglo Valley and Belconnen in the Australian Capital Territory (ACT). This section of WHD is subject to traffic congestion which is anticipated to grow more with new developments taking place in and around the area. The Project aims to address the growing traffic congestion and is expected to generate significant safety benefits for road users along this stretch of road.

The duplication will include the development of 4.5kms of new road, signalising of the intersection at DBD, upgrade of access to Weetangera Cemetery, upgrade of the underpass for the Bicentennial National Trail and upgrade of the vehicular access for rangers to Kama Nature Reserve.

Key elements of the proposed development include:

- provision of two on-road cycle paths and a dedicated off-road shared path;
- signalisation of the intersection at DBD;
- tie in works to the existing road at both ends of the Project;
- upgrading the access road to Weetangera Cemetery from DBD;
- upgrading the underpass for the Bicentennial National trail;
- upgrading the vehicular access for Rangers to the Kama Nature Reserve;
- retention and upgrading work at three existing underpasses and other structures such as culverts;
- retaining wall structures;
- ancillary works such as batters, drainage and safety barriers;
- relocation of utilities such as water and sewer to accommodate new intersection at DBD;
- street lighting, median works and other road furniture;
- temporary construction of set down areas, compounds and stockpiles;
- landscaping works; and
- retention of 90km/h posted speed limit and 100km/h design speed.

1.2. Project background

The proposed section of the road for duplication between JGD and DRD is the only remaining unduplicated section of the WHD. As such, WHD is subject to traffic congestion with around 20,000 vehicles travelling per day along the alignment, particularly during both the AM and PM peaks. The EIS estimates that this expected to grow significantly in the future with residential developments taking place in the estate of Ginninderry (West Belconnen), adjoining regions of Molonglo Valley, and the new suburbs of Strathnairn and Macnamara.

A Signalised & unsignalised Intersection Design and Research Aid (SIDRA) analysis found that the intersection of WHD and DBD, in its current form, is expected to fail in 2031 and that the overall average performance of the intersection falls below the required level of service. This section of WHD is also associated with poor crash history records, with a relatively high number of serious crashes and safety issues identified along the alignment.

The duplication of the road and provision for future delivery of a safe active travel route is expected to reduce congestion and resulting crashes along this section of the road. In addition, increased arterial capacity is expected to reduce the likelihood of east-west rat-running through Hawker, Weetangera, Cook, and Aranda.

Prior to submitting an EIS, the Project was referred to Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW), and was determined to be a controlled action under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EIS therefore includes an assessment of the matters required by the Commonwealth to enable the Project to be assessed under the ACT Bilateral Agreement.

The EIS confirms that the Project will be delivered in conjunction with a Final Environmental Offset Strategy (EOS) to manage unavoidable impacts to matters of national environmental significance (MNES).

1.3. Project location

The EIS relates to the WHD road reserve extending from JGD to DBD, Belconnen, ACT. The entirety of the Project site is located on unleased Territory land, with TCCS - Roads ACT as the Land Custodian. The land is zoned TSZ1: Transport under the *Territory Plan 2008*, and runs adjacent to parcels of leased rural land, Kama Nature Reserve and The Pinnacle Nature Reserve Extension, and existing future urban areas. The location of the Project site is shown in Figure 1.

Proposed locations for site compounds and stockpile areas for the Project include:

- Site Compound 1: located adjacent JGD intersection, approximate size 19,000m^2
- Site Compound 2: located at DBD intersection, approximate size 10,000m^2
- Stockpile Site 1: located at Chainage 3500, approximate size 10,000m^2
- Stockpile Site 2: located at Chainage 2100, approximate size 6,000m^2

Figure 1. Map of the project location (*source: EIA Report*, SMEC 2023)

The preliminary footprint of the Project is approximately 31.9 hectares (ha) (including 8ha of existing road). This has been derived by adopting a 10m construction buffer for the majority of the Project, noting that in some areas, this buffer is reduced to approximately 5m. A general overview of the construction boundary for the Project is shown in Figure 2.

Figure 2. General overview of the WHD Duplication Project (source: EIA Report, SMEC 2023)

1.3.1. Legal land description and tenancy

Table 1 shows the legal land description for each block affected by the proposal and the details of tenancy type and tenant.

Table 1 - Legal land description and tenancy

Block	Section	District	Tenancy	Tenant
Directly affected lands				
Road reserve extending from John Gorton Drive to Drake-Brockman Drive, Belconnen ACT			Unleased Territory Land	Roads ACT, TCCS
Indirectly affected lands				
Blocks 1593 and 1596, Belconnen (the Old Weetangera Cemetery and the former location of the Weetangera Methodist Church)			Leased Territory Land	Private lessee
Blocks 1368, 1417, 13, 67, 1370, 1589, and 1628, Belconnen and Part of Block 1616, Belconnen (Pinnacle Nature Reserve & Extension)			Unleased Territory Land & Designated Area	EPSDD – ACT Parks and Conservation Service
Blocks 1386 and 1419, Belconnen (Kama Nature Reserve)			Unleased Territory Land	EPSDD – ACT Parks and Conservation Service
Proposed offset site				
1616	0	Belconnen	Unleased Territory Land	EPSDD – ACT Parks and Conservation

1.4. Alternatives to the project

The EIS states that the following four potential options were considered for the Project. These include various upgrade options to enable the existing three travel lanes to be converted to four lanes with a central median as follows:

- Option A – widening on right hand side of the carriageway (southwest side)
- Option B – widening on left hand side of the carriageway (northeast side)
- Option C - widening on the left-hand side (northeast side) except in the central section where the widening is on the right-hand side (southwest)
- Option D – widening on both sides of the carriageway.

A multicriteria analysis identified Option B (the Project) to be the preferred option. The EIS describes that Option B was chosen because it would have the smallest construction footprint, minimum required haulage, the second lowest length of stormwater relocation and culvert extensions, the lowest impact on native vegetation and the environment, no impact on potential Molonglo 3 High Voltage alignment on the southern side of WHD, and the easiest to construct.

The decision to upgrade the existing roundabout with a signalised intersection was the subject of a separate design investigation. Three different layouts were tested to identify the most suitable option for upgrading the intersection. The option to signalise the intersection was found to be the most viable as it met the design criteria, would have the least environmental impact, and promote safe and active travel. Other factors such as the need for a new access point to Kama Nature reserve from Whitlam and protection of Kama and the Pinnacle nature reserves were also considered in finalising this option.

Following community consultation, a revised alignment of the proposed shared user path was developed to relocate the path (between DBD and the underpass near the Weetangera

Cemetery) to the western side of WHD, rather than the east. The EIS notes that the realignment was revised to help minimise environmental impacts and ensure greater safety for pedestrians and cyclists.

2. The environmental impact assessment process

Environmental impact assessment processes are used to identify, predict, plan for and manage the impacts of development proposals before a decision is made about the project going ahead. An environmental impact assessment process is required to be undertaken for projects in the impact track. Three options are available for environmental impact assessment – Environmental Impact Statement (EIS), EIS exemption and Environmental Significance Opinions (ESO), with the suitability of each option dependent on the type and scale of project.

An environmental impact assessment process is not an approval process. It ensures potential impacts and possible mitigation measures have been fully investigated and documented in accordance with the requirements of a scoping document.

The EIS is used as a key assessment tool for any development application lodged for the proposal. The EIS also recommends conditions to be imposed on a development application (if approved) for the proposal. Figure 3 outlines the Bilateral EIS process.

Under section 127 of the PD Act, a development application for a development proposal in the impact track must include a completed EIS in relation to the proposal (unless the application is exempted under section 211 of the Act).

Section 123 of the PD Act states that the impact track applies to a development if:

- the relevant development table states that the impact track applies;
- the proposal is of a kind mentioned in Schedule 4 of the PD Act;
- the Minister makes a declaration under section 124;
- section 125 or section 132 applies to the proposal; or
- the Commonwealth Minister responsible for the EPBC Act advises the Minister in writing that the development is a controlled action under the EPBC Act, section 76.

2.1. Impact track triggers

The Project in the impact track as it is a development of a kind mentioned in Schedule 4 of the PD Act. This proposal triggers the Schedule 4 items listed in Table 2**.**

Table 2 Impact track triggers per Schedule 4 of the PD Act

Item Number	Description	Project Component
Part 4.3, item 1	*Proposal that is likely to have a significant adverse environmental impact on 1 or more of the following, unless the conservator of flora and fauna provides an environmental significance opinion indicating that the proposal is not likely to have a significant adverse environmental impact:* *(a) a critically endangered species;* *(b) an endangered species;* *(c) a vulnerable species;* *(d) a conservation dependent species;* *(e) a regionally threatened species;*	The Project has the potential to impact on listed species. This has been confirmed through the referral of the project under the EPBC Act.

	(f) a regionally conservation dependent species; *(g) a provisionally listed threatened species;* *(h) a listed migratory species;* *(i) a threatened ecological community;* *(j) a protected native species;* *(k) a Ramsar wetland;* (l) *any other protected matter.*	
Part 4.3, Item 2	*Proposal involving –* *(a) the clearing of more than 0.5ha of native vegetation in a native vegetation area, other than on land that is designated as a future urban area under the territory plan, unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact; or* *(b) the clearing of more than 5.0ha of native vegetation in a native vegetation area, on land that is designated as a future urban area under the territory plan, unless the conservator of flora and fauna produces an environmental significance opinion that the clearing is not likely to have a significant adverse environmental impact*	The Project will require clearing of more than 0.5ha of native vegetation.

In addition, the Commonwealth Minister responsible for administering the EPBC Act advised the Minister for Planning in writing that the development proposal is a controlled action under section 76 of the EPBC Act (Appendix G of the revised EIS). The proposal does not require assessment under part 8 of the EPBC Act because a bilateral agreement between the Commonwealth and the Territory allows the proposal to be assessed under the PD Act.

2.2. Bilateral EIS process

The flowchart below outlines the bilateral EIS application process.

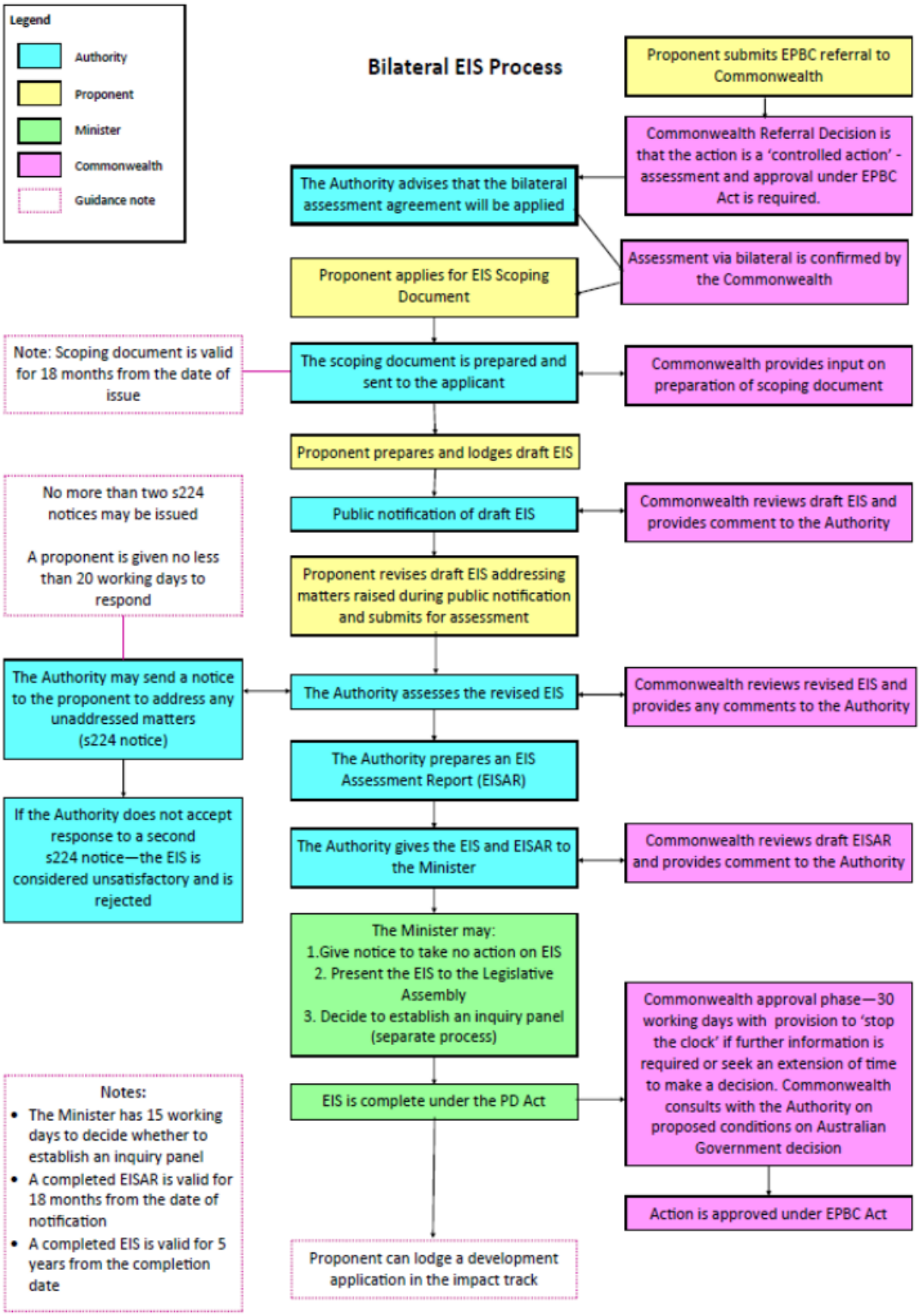


Figure 3. The bilateral EIS process

2.3. Scoping Document

To guide the content of an EIS and therefore the investigations and research required, a scoping document is prepared. The planning and land authority (the Authority) within EPSDD prepares a scoping document in response to an application made for the proposal.

On 26 August 2020, SMEC submitted a request for a scoping document for an EIS pursuant to section 212(1) of the PD Act.

The Authority must consult with entities prescribed in section 51 of the *Planning and Development Regulation 2008* (PD Regulation) about the scoping document application. The Authority may also seek advice from the ACT community and other entities. The Authority referred the scoping document application to the entities in Table 3, inviting written comments. Entities were given 15 working days to provide comment.

Table 3 Entity comments on scoping document application

Entity consulted	Entity response
Evoenergy	No comments
Icon Water	8 October 2020
Jemena	9 September 2020
Conservator of Flora and Fauna	2 October 2020
Emergency Services Commissioner	30 September 2020
Environment Protection Authority	6 October 2020
ACT Heritage Council	30 September2020
ACT Health	21 September 2020
TCCS	6 October 2020
NCA	28 September 2020
Suburban Land Agency	7 October 2020
Strategic Planning, EPSDD	29 September 2020
Commonwealth Department (DoAWE)	15 September 2020

On 19 October 2020 the scoping document was issued by the Authority to the proponent pursuant to section 212(2) of the PD Act (Appendix 1 of this Report). The scoping document set out the matters to be addressed in the EIS and contained, at a minimum, the requirements required in section 50 of the PD Act and section 54 of the PD Regulation. In developing the scoping document, a risk-based approach was used so that the EIS could focus on those matters that could potentially result in a significant environmental impact.

The scoping document was notified on the ACT Legislation Register on 23 October 2020.

Pursuant to section 214 of the PD Act, the scoping document was issued within 30 working days after the application was made.

Under section 215 of the PD Act, the scoping document is effective for 18 months from the day after the date on the scoping document. After receiving the scoping document and pursuant to section 216(2) of the Act, the proponent is required to:

a) prepare a draft EIS that addresses each matter raised in the final scoping document for the proposal, and

b) give the draft EIS to the Authority for public notification.

A cross-reference document is included at Table 1-1 of the EIS to cross reference the contents of the EIS to the contents required in the scoping document.

2.4. Draft EIS

The purpose of the draft EIS is to identify and describe the potential environmental, social and economic impacts of the proposal, including cumulative, regional, temporal and spatial considerations. The draft EIS is required to fulfil the requirements of the scoping document.

On 8 June 2021, SMEC gave the Authority a draft EIS, under section 216(2) of the PD Act.

2.4.1. Public notification of draft EIS

Pursuant to section 217 of the PD Act, the Authority publicly notified the draft EIS for 35 working days, from 5 July 2021 to 20 August 2021. The consultation period was extended and closed on 30 September. This exceeds the minimum requirement under section 218 of the PD Act, which states that the public consultation period of the draft EIS is no less than 20 working days. During this period, the public could view the Draft EIS and provide written comments (a representation) on the Project. Additional time was provided to allow the public more time to consider the application due to the volume of documentation and level of interest in the proposal.

Additional community consultation on the Project was undertaken from 8 November to 19 December 2021. Face to face stakeholder and community meetings occurred and feedback on the Project was encouraged via the ACT Government 'Your Say Conversation' online portal.

During the public consultation period, a copy of the draft EIS was made available on the Authority's website and at the EPSDD shopfront in Dickson. This public consultation process provided interested stakeholders and the community with the opportunity to make representations on the proposal or in respect to specific environmental issues of concern.

A total of six (6) representations were received during the public consultation period. Five of the representation were from organisations and one was from an individual. Copies of public representations received during the public consultation period are provided at Appendix 4 of this Report. The key issues raised during public consultation are summarised as follows:

- *noise monitoring methodology;*
- *details of traffic impacts on the wider road network as a result of duplicating WHD;*
- *concerns about the alignment and location of the shared path;*
- *consultation with local residents;*
- *concerns regarding the impacts of the development on threatened species, biodiversity loss, and offset strategy process;*
- *the need to minimise the project footprint, specifically around areas of potential connectivity between nature reserves on both sides of the road;*
- *weed management;*
- *revegetation monitoring timeframes; and*
- *concerns regarding the access and parking conditions for nearby public areas such as the Weetangera Cementry, Bicentennial National Trail, Pinnace and Kama Nature Reserves.*

An overview of those comments received and the proponent's response to those comments during the public consultation process were provided by the proponent and is detailed in Appendix J of the revised EIS.

As required by section 220 of the PD Act, copies of all public representations were provided to the proponent and made available on the Authority's website. The representations will remain on the website until either the EIS is completed, or the representations are withdrawn.

Some issues raised during the public consultation process related to the design and siting of the project and are not considered under the EIS process.

2.4.2. Entity referral of EIS

On 28 June 2021 the draft EIS was referred to each of the entities who provided comments on the scoping document. The referral took place at the draft EIS stage so that the proponent could address entity comments in revising their EIS. Additional comments were sought on the revised EIS where the entity had requested further information from the proponent. Final comments received from entities are summarised in Table 4.

Table 4 - Summary of entity comments on the draft EIS

Referred entity	Entity response	Response date
ACT Health	The Health Protection Service (HPS) supported the implementation of measures detailed under section 5.6.4 of the draft EIS document.	25 August 2021
Evoenergy	Evoenergy requested the installation of 6 x 150mm and 1 x 63mm conduits along the road verge, preferably on the eastern side of the road.	26 August 2021
Icon Water	Icon Water advised that recommendations provided on contamination issues need to be followed during construction. Any contaminating activity that occurs over/adjacent to Icon Water infrastructure will be the responsibility of the polluter to clean up and not of Icon Water; any spills of chemicals near or over Icon Water assets should be reported to Icon Water; and any work(s) that is likely to impact on the Icon Water Infrastructure must have Icon Water acceptance prior to any work being undertaken.	16 August 2021
Jemena	No comments.	7 July 2021
Conservator of Flora and Fauna (the Conservator)	The Conservator advised that the draft EIS did not sufficiently demonstrate, with supporting evidence, that the duplication of the road achieves the best environmental outcome for biodiversity corridors and movement, nature reserve/offset management and water quality and stormwater management and further information is required. While some of the comments provided on the Draft EIS were satisfactorily addressed in the Revised EIS, the Conservator advised that several items had not yet been sufficiently considered. In particular, the proposed	19 August 2021; 27 July 2023; and 29 November 2023

	measures for mitigating impacts to connectivity were not sufficient and not well justified. The Revised EIS was subsequently updated to address the Conservator's feedback. However, further consideration of environmental impacts relating to mature native trees, land management considerations, and the design of fauna crossings is still required. It is the Conservator's view that these can be addressed during the Development Application process should the EIS be accepted. Recommended conditions are included in section 7 of this Report.	
Emergency Services Commissioner	No comments.	11 August 2021
Environment Protection Authority (EPA)	EPA advised that their records indicate that parts of the proposed works site may be impacted by contamination and unexploded ordinance. Recommended conditions are included in section 7 of this Report to address EPA's concerns.	16 August 2021 & 22 November 2023
ACT Heritage Council (the Council)	At the draft EIS stage the Council provided advice that it was unclear if the proposal would cause damage to Aboriginal places WDH1 and PAD1, and/or diminish the significance of the Weetangera Cemetery. Additionally, the assessment of potential impacts to the Kama Woodland/Grassland within the EIS was also found to be inconsistent. The revised EIS and Cultural Heritage Assessment was updated to adequately identify the heritage values of the Study Area as they relate to Aboriginal heritage and the registered heritage place 'the Weetangera Cemetery' and provided an assessment of the likely heritage impacts. However, further information was required to adequately address the requirements of the EIS scoping document and previous Council advice on the draft EIS as it relates to the Kama Woodland/Grassland. The Revised EIS was subsequently updated to address this requirement of the Scoping Document and the Council provided further advice confirming that the documentation adequately describes the anticipated heritage impacts of the development, and how these will be avoided, minimised and mitigated, subject to conditions to be adhered to as the project progresses. Recommended conditions are included in section 7 of this Report.	16 August 2021; 29 July 2022; and 24 November 2023

National Capital Authority (NCA)	The NCA advised that the National Capital Plan and NCA interests have been addressed in the EIS.	7 July 2021
Suburban Land Agency	No comments.	27 August 2021
Transport Canberra and City Services (TCCS)	At the Draft EIS stage, TCCS advised the proponent to have further discussions with the Road Maintenance team on the accuracy of the noise modelling employed in the EIS. It was recommended to consider analysis on the use of noise walls solution to save future road maintenance costs. These comments were addressed by the proponent and TCCS provided updated advice at the Revised EIS stage confirming that the proposal is supported.	16 August 2021; 29 July 2022; and 24 November 2023
Utilities, Technical Regulator (UTR)	UTR advised the proponent to undertake consultation to ensure that the design complies with Icon Water and Evoenergy's requirements, prior to the DA approval. This is because both entities have assessed the design as failing to comply with their asset network requirements. Recommended conditions are included in section 7 of this Report.	26 July 2021
Climate Change Policy Division, EPSDD	At the Draft EIS stage, EPSDD's Climate Change Policy Division advised the proponent to address the contribution the proposal will make to reducing greenhouse gas emissions and meeting the legislated target for a net zero emissions Territory (by 2045 at the latest). Given the value of the project being more than $10 million the proponent was asked/needs to indicate how *Action 5 of the Climate Change Strategy 2019-25,* will be achieved. The Climate Change Division recommended requiring the proponent to use the Division's internal modelling of low emissions vehicle uptake to inform the estimates used to quantify the operational greenhouse gas emissions in section 5.10.3.1 of the EIS. These comments were addressed by the proponent and following review of the revised EIS, the Division considered the changes to have largely addressed their earlier comments. However, noted that some information had not been provided and, as such, the Division was unable to verify the information in the EIS is correct.	23 September 2021; 29 July 2022; and 4 December 2023

	Clarification was sought from the proponent and provided to the Division who confirmed that they were satisfied with the information provided.	
Infrastructure Projects, Strategic Planning, EPSDD	Advice from Strategic Planning at the Draft EIS stage noted that the project needs to comply with the requirements specified in R7 of the WSUD code, as they were not convinced that that Deep Creek Pond has been designed to cater for water quality requirements from the WHD duplication project. These comments were addressed by the proponent in the Revised EIS and Strategic Planning had no further comments.	2 July 2021 & 15 July 2022
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	DCCEEW completed a review of the revised EIS against the EPBC requirements set out in the scoping document, and further information was required regarding direct impacts on threatened fauna, including Golden Sun Moth; the Project's consistency with relevant Threat Abatement Plans; and a request for an Offset Strategy. Further advice from DCCEEW following the proponent's response to a request to address unaddressed matters under section 224 of the PD Act, noted that the Revised EIS had addressed most of their concerns, however, still needed to indicate how the project will actively engage with certain Threat Abatement Plans, where relevant, or if not relevant, explain why not. Further detail has since been provided by the proponent about the Project's engagement with the identified Threat Abatement Plans.	29 July 2022 & 21 November 2023

The entity comments are included in this Report where they relate to each potential impact. Any matters to be considered or conditions that have been recommended by a referral entity have been included in Section 7 of this Report.

2.4.3. Request for revision of draft EIS

On 15 October 2021, the Authority provided their preliminary review of the draft EIS, entity comments and public representations to the proponent. The proponent was required to revise the draft EIS, to take into consideration all matters raised in representations made during public consultation, comments from EPSDD and to demonstrate how the matters have been taken into account in the revised EIS.

2.5. Revised EIS

On 31 May 2022, SMEC submitted a revised EIS to the Authority pursuant to section 221 of the PD Act. A brief adequacy review was undertaken to confirm that all appropriate sections and appendices had been included. The revised application was circulated to selected entities to confirm that their matters raised in earlier referrals has been addressed. Following this, the Authority commenced assessment of the EIS in accordance with section 222 of the Act. The Authority reviewed the revised EIS for:

- adherence to the final scoping document and legislative requirements;
- consideration and incorporation of the Authority's and entity comments provided on the draft EIS; and
- consideration and response to public representations received during notification of the draft and other consultation processes.

Matters to be considered during the assessment include possible conditions of approval for any subsequent DAs for this proposal, as identified in Section 7 of this Report.

After assessing the revised EIS and discussions with referral entities, the Authority determined that there were a number of items that were deemed 'unaddressed matters'. Therefore, a notice under section 224 of the PD Act was issued to SMEC.

2.5.1. Section 224 notice – request for further information

On 16 September 2022, a notice pursuant to section 224 of the PD Act requesting additional information, was issued by the Authority to SMEC (Appendix 3 of this Report).

After seeking an extension of time, on 17 October 2023, the proponent provided a response to the Authority (Appendix 4 of this Report) and the Authority deemed the response to address the unaddressed matters of the notice.

2.6. Additional public consultation

The proponent conducted community and stakeholder consultation in line with the requirements of the scoping document. In addition to the statutory notification performed by the Authority at draft EIS stage, the following consultation activities took place. This has been described in Appendix J of the revised EIS:

- **Public exhibition** - the EIS was made available on the EPSDD website and was available upon request through the Access Canberra Land, Planning and Building Services Shopfront (8 Darling Street, Mitchell, ACT, 2911), for the public to review, ask questions and provide feedback.

- **Community information and drop-in sessions -** a series of community information drop-in sessions were held to allow the community to clarify the information presented in the EIS, as well as discuss other aspects of the Project with members of the project team. The information sessions provided information and graphic displays about the Draft EIS and also included other communication materials related to the project.

- **Project information lines and websites -** a free call (1800) number and project email were established in June 2019 and have been maintained to assist the community to provide their thoughts and comments on the project, to make enquiries and discuss details of the Project. Apart from the dedicated project website- William Hovell Drive Duplication Project - City Services (act.gov.au), an additional website to enable

community and stakeholder feedback, named, 'YourSay Website', was created. This website not only provided project details but also provided an option, where interested parties can nominate to receive email update son the Project - https://yoursayconversations.act.gov.au/WHDupgrade.

- **Targeted Consultation -** targeted consultation occurred after representations started to identify trends in the issues and concerns from impacted stakeholders. The main Project concerns and issues and responses are discussed in further detail in the Stakeholder Engagement Report at Appendix J of the revised EIS.

- **Meetings with relevant stakeholders** - stakeholders (government authorities and agencies, neighbouring land holders, and community groups) were consulted through meetings as plans were developed.

The proponent provided details of these activities in the revised EIS. The additional public consultation led to identification of key items of concern for the community and stakeholders, including concerns of inadequate information on the impacts of the Project activities on sites of Heritage significance, habitat loss of threatened species, and inadequate information on their offset strategy and the need for further investigations on proposed noise control measures.

The revised EIS states that this feedback helped inform the updated proposal, which has since been reviewed and the Project design revised to reduce impacts on Heritage sites and conservation values of the affected areas.

2.7. Giving the EIS to the Minister for Planning

Following the proponent's response to the section 224 notice, the Authority has accepted the EIS under section 222 of the PD Act. The findings and outcomes of the review of the EIS are included in this Report, which is provided to the Minister for Planning with the EIS in accordance with section 225.

Once the Minister has received the EIS, he may:

- under section 226 – choose to take no action on the EIS; or
- under section 227 – present the EIS to the Legislative Assembly; or
- under section 228 – establish an inquiry panel to inquire about the EIS. The Minister must make this decision within 15 workings day of receiving the EIS from the Authority. The requirements for establishing an inquiry panel are detailed under Part 8.3 of the PD Act.

Under section 209 of the PD Act, an EIS is completed if the Minister:

a. gives the Authority a notice of no action under section 226;
b. has not decided to establish an inquiry panel to inquire about the EIS;
c. has established an inquiry panel for the EIS and:
    i) the Panel has reported the results of the inquiry; or
    ii) the time for reporting under section 230 has ended.

The Authority's recommendation to the Minister can be found in Section 8 of this Report.

2.8. Lodging a development application

Once the EIS has been completed the development application, which has been concurrently submitted with the EIS in the impact track can be determined. Any subsequent development application related to the EIS must include the completed EIS. The EIS expires five years after the day it is completed.

2.9. Commonwealth environmental impact assessment requirements

Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on a matter of national environmental significance (MNES) without approval from the Commonwealth Minister for the Environment. It is the responsibility of the person proposing the action to refer the project to the Commonwealth Minister if the action proposed is likely to have a significant impact on MNES, the environment in general (for actions on Commonwealth land) or the environment on Commonwealth land (for actions outside Commonwealth land).

Under Part 5 of the EPBC Act, the Commonwealth Government has accredited the ACT's assessment process through the assessment bilateral agreement between the ACT and Commonwealth governments (June2014) as meeting the environmental assessment requirements of the EPBC Act.

TCCS on behalf of Infrastructure Delivery partners- Major Projects Canberra, referred the William Hovell Drive Duplication Project, Molonglo Valley and Belconnen, ACT (EPBC 2020/8703) to the Commonwealth Minister as required under the EPBC Act.

In the referral documentation, TCCS advised the project was likely to have significant impacts on MNES (White Box-Yellow Box-Blakely's red Gum grassy Woodland, Derived Native Grassland and threatened species including Hoary Sunray, Pink-tailed Worm-lizard, Superb Parrot and Striped Legless Lizard) (Appendix D of the revised EIS).

On 1 July 2020, the delegate for the Minister for Planning was invited to comment on the referral by the Commonwealth Department of Agriculture, Water and Environment (DoAWE). On 15 July 2020, the delegate for the Minister for Planning responded to DoAWE that if a controlled action decision was made in relation to the proposal, the bilateral assessment agreement would apply.

On 28 July 2020, a delegate for the Commonwealth Minister for the Environment determined the William Hovell Drive Duplication Project required approval under the EPBC Act as significant impacts were likely on the following matters of national environmental significance:

- *listed threatened species and communities (sections 18 & 18A).*

The EPBC decision notice can be found at Appendix G of the revised EIS.

On 10 June 2022, the Authority referred the revised EIS to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (previously known as DoAWE) for their feedback and advice on the impact of the project activities on the threatened species and communities considered under the MNES. The Commonwealth responded on 29 July 2022.

On 13 November 2023, the Authority referred the second version of the revised EIS to DCCEEW, for their expert advice particularly relating to whether their concerns on the impacts of the identified MNES has been addressed. The Commonwealth responded on 21 November 2023.

Once finalised by the ACT Minister for Planning, this Report and supporting documentation will be provided to the Commonwealth minister (or their delegate) to determine whether or not to approve the project under the EPBC Act.

2.10. Documentation referenced in this report

The documentation referenced in the Authority's assessment report is summarised as follows:

- EPBC Referral documentation and attachments;
- revised EIS and supporting documentation;
- entity comments and public representations on revised EIS;
- correspondence or additional information received from proponent; and
- statutory documents.

3. Assessment of impacts

This section summarises issues identified in the scoping document that were required to be assessed in the EIS. For each set of identified issues, the results of the proponent's assessment are summarised under the following headings:

- Impacts;
- Public consultation (where relevant);
- Key findings;
- Section 224 Notice and response (where relevant);
- Mitigation; and
- Scoping document requirements.

3.1. Flora and Fauna, including Matters of National Environmental Significance (MNES)

The Project Study Area consists predominantly of existing road infrastructure, and native and exotic vegetation and is surrounded by residential areas and conservation reserves including Kama Nature Reserve, The Pinnacle Nature Reserve and The Pinnacle Extension Nature Reserve. While the majority of the Study Area has been previously modified, there are significant local habitat values, including threatened ecological communities (TEC), threatened and non-threatened flora, fauna, and connectivity values, that have the potential to be impacted by the Project.

A Biodiversity Impact Assessment Report (BIA) was prepared by SMEC (Appendix D of the revised EIS) to identify and assess potential impacts of the Project on flora and fauna, including matters protected under both the *Nature Conservation Act 2014* (NC Act) and the EPBC Act, that have been recorded within a 10km buffer around the Study Area.

The BIA was undertaken to identify and assess the potential biodiversity and ecological impacts from construction and operation of the Project, consistent with the requirements of the scoping document (Appendix 1 of this Report) and advise the likely avoidance and mitigation measures and potential offset requirements for the Project.

3.1.1. Impacts

The potential impacts identified in the EIS are:

- presence or extent of threatened species and ecological communities not identified prior to development design, resulting in unanticipated impacts;
- project activities facilitate spread of exotic flora into adjacent areas, leading to weed establishment;
- project attracts additional vermin and pest species, which result in greater competition for resources with native species;
- incursion of vehicles and workers into areas of environmental significance, causing damage to or destruction of habitat;
- removal of native vegetation and threatened species habitat;
- clearing of protected trees that have not been approved to be cleared;
- direct impacts on threatened flora and fauna, TECs and nonthreatened flora and fauna from clearing and other construction works;
- clearing of trees and other vegetation causing impacts including loss of amenity, loss of habitat, increased erosion and water runoff;

- edge effects;
- weeds and exotic flora;
- invasion and spread of pests, pathogens and disease;
- changes in hydrology;
- noise, light and vibration impact on fauna;
- fauna injury or mortality;
- increased habitat fragmentation impacting species movement;
- clearing of vegetation results in a loss of connectivity through fragmentation in the landscape, or obstructing local movement corridors;
- clearing of protected trees that have not been approved to be cleared; and
- impacts to adjoining nature reserves during construction and operation.

3.1.2. Public consultation

During the public notification process, eight representations were received. Of these, several concerns were raised about impacts to flora and fauna. The main concerns included:

- wildlife corridors - the importance of wildlife corridors so wildlife can move freely and safely between the Kama and Pinnacle nature reserves;
- tree planting – request for new trees to include a variety of local and endemic native trees with a focus on wildlife and pollinators;
- biodiversity loss - ensure the alignment of the road and the shared path minimises impact to and loss of trees and native vegetation. Concerns about construction impacts to Kama and Pinnacle nature reserves and their flora and fauna were also raised; and
- offsets - further detail on the amount of vegetation removal, and whether offsets have been confirmed.

The issues raised during public consultation were considered by the proponent and a response is provided in Appendix J of the revised EIS. In summary, the proponent responded to these concerns by provided the following further information:

- **Wildlife corridors** - liaison with the Office of the Conservator for Flora and Fauna has identified measures to reduce impacts on wildlife corridors between the Kama and Pinnacle nature reserves.

  A range of measures have been proposed in the EIS and include keeping the overall road width as narrow as possible between the two nature reserves; incorporating a number of fauna crossings for arboreal and avifauna; designing road batters to allow kangaroos and wallabies to escape the roadway and back into the nature reserves; using fencing to direct wildlife to the underpass; and providing three culverts to be used by turtles and other wildlife.

- **Tree planting** - there is a landscaping plan detailed for this Project, especially in areas where there is currently minimal vegetation. Proposed trees are native, and will either be Casuarina Cunninghamiana, or one of 6 different species of Eucalyptus.

- **Biodiversity loss** - the road alignment and widening has been designed to have the least impact on adjacent trees, particularly mature and significant trees that provide fauna shelter and habitat. The alignment of the shared path has also been adjusted to minimise the impact on vegetation, particularly mature trees, where possible.

  Protection of the two nature reserves during construction and minimising any ongoing

impacts was identified early as a key priority of the Project.

The project team has had meetings with the Office of the Conservator for Flora and Fauna and EPSDD environmental officers to incorporate design measures to maintain the wildlife corridor.

Prior to construction a Construction Environment Management Plan (CEMP) will need be submitted to and endorsed by the planning and land authority and other Government agencies.

Protection measures for the two nature reserves will include the erection of man proof fencing, treatment of drainage lines with sediment control, installation of sediment basins and a strict 'No Entry' during construction. Any other requirements from Government agencies will also be implemented.

- **Offsets** - the amount of vegetation which will be impacted has been mapped and categorised. Generally, for native species, there will be an impact to 6.49ha of Grassy Woodland and 4.5ha of planted natives. The project will also remove 9haof exotic grasslands. Full details of this are available in the Biodiversity Impact Report. The development of a biodiversity offset strategy is being undertaken in parallel to the completion of the EIS. The proposed offset site is discussed in further detail in section 3.2 of this Report.

3.1.3. Key findings

The EIS has described the ecological values of the Study Area and determined that the Project will require 19.85ha of unavoidable vegetation and habitat clearing, of which 6.49ha is considered to be consistent with remnant native vegetation, with 6.41ha of this being consistent with Yellow Box–Blakely's Red Gum Grassy Woodland critically endangered under the NC Act (NC listed BGW) and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland critically endangered under the EPBC Act (EPBC listed BGW). The EIS has confirmed that all occurrences of the NC listed BGW identified in the Study Area conform to the occurrence of EPBC listed BGW. Total areas of vegetation communities located within the Study Area and exact areas that would be directly impacted by the Project are included at Table 5-10 of the EIS and are summarised below in Table 5.

Table 5 – Vegetation communities impacted by the Project

Vegetation Community	ACT Vegetation Type	Relationship to NC Act	Relationship to EPBC Act	Total vegetation within Study Area	Total Impacted
Grassy Woodland	ACT16: Eucalyptus melliodora – E. blakelyi Tableland Grassy Woodland	Yellow Box–Blakely's Red Gum Grassy Woodland (critically endangered) - Moderate condition only	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (critically endangered) - Moderate condition only	Low condition (Not TEC): 0.14 Moderate condition (TEC): 12.60 Total: 12.74	Low condition (Not TEC): 0.08 Moderate condition (TEC): 6.38 Total: 6.46

Native Grassland	ACTxx: Derived Native Grasslands	Yellow Box–Blakely's Red Gum Grassy Woodland (critically endangered)	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (critically endangered)	Total: 0.76ha	0.03ha
Planted River She-oak Riparian Forest	N/A	N/A	N/A	Total: 0.27	0.01ha
Planted Native	N/A	N/A	N/A	Total: 7.06ha	4.41ha
Exotic Riparian Woodland	ACT25: Eucalyptus Macrorhyncha Tableland Grass/Shrub Forest	N/A	N/A	Total: 0.63ha	0.01ha
Exotic Grassland	N/A	N/A	N/A	Total: 18.59ha	8.94ha

The EIS notes that one other vegetation community was identified in the Study Area, being Native Riparian Sedgeland. However, no areas of this community will be directly impacted by the Project.

Approximately 0.7ha of Native Grassland across the Study Area has been identified as Natural Temperate Grassland. However, the location of mapped native grassland in the Study Area was assessed as comprising from derived Grassy Woodland through clearing of woody species rather than a naturally occurring temperate grassland. Given that Grassy Woodland likely originally occupied these areas of the Study Area, the areas of native grassland are not considered natural and have been assessed in the BIA as secondary and derived from Grassy Woodland. As such, the BIA has determined that the critically endangered Natural Temperate Grassland TEC does not occur within the Study Area.

Approximately 69 *L. albicans* var. *tricolor* (Hoary Sunray) individuals were recorded within the Study Area. The BIA identified that up to 13 individuals occur within the clearing boundary and will be directly impacted by the Project. Additionally, 20.56ha of Grassy Woodland, Native Grassland and Planted Native within the Study Area has been assessed as potential habitat for Hoary Sunray. Approximately 10.9ha of this habitat will be cleared by works associated with the Project. The EIS notes that this would be an irreversible impact. An Assessment of Significance was conducted for impacts to Hoary Sunray and it was determined that a residual impact on this species is unlikely, therefore offsetting is not required.

The EIS states that no other threatened flora species were recorded in the Study Area and that it is unlikely to support suitable habitat for any other plant species targeted in the site investigations.

One registered tree was identified as occurring wholly within the Study Area, with much of its canopy extending into the construction boundary. In the ACT Tree Register, this tree is identified as Nomination 81, Tree Number PTR081, and is located in the road reserve of Kingsford Smith Drive, Higgins, at the rear of 35 O'Sullivan Street. The EIS states that the Project's design has been updated so that works in this vicinity only impact the existing pavement area. The EIS notes that the roots of registered tree PTR081 may be affected by temporary and minor actions, e.g. construction vehicle movements in the vicinity, however, the tree will not be significantly impacted.

The Study Area was also found to support a number of hollow-bearing trees that may provide breeding habitat for arboreal mammals and birds including the Superb Parrot. Thirty-three hollow-bearing trees containing around 133 hollows were recorded in the Study Area. The EIS states that the Project would result in the removal of 132 mature trees, including seven hollow bearing trees. In accordance with advice received from the Conservator of Flora and Fauna, as part of the concurrent DA, the proponent will be required to demonstrate efforts to retain native trees including seedlings, juvenile and mature trees within the construction alignment where they are not being directly impacted by design features. Recommended conditions have been included in section 7 of this Report.

The BIA identified 34 fauna species likely to occur within the Study Area listed as threatened or migratory under the NC Act and/or EPBC Act. A likelihood of occurrence assessment was undertaken for these species after the site visit was performed, in order to determine whether suitable habitat for each species occurs within the Study Area. Of the 34 species assessed for likelihood of occurrence, only 13 were identified as having a moderate or higher likelihood of occurrence in the Study Area, based on the availability of suitable habitat and recent nearby sightings. Potential GSM habitat was also identified within the Study Area. However, the BIA determined that it is unlikely to be occupied by the GSM due to the infrequent mowing and absence of grazing to control growth of grasses. The nearest known population of GSM was found to occur approximately 750 metres west of the Study Area. One species listed as vulnerable under the NC Act and EPBC Act was recorded during the survey period, being the Superb Parrot.

Total areas of potential threatened species habitat located within the Study Area and exact areas that would be directly impacted by the Project are provided at Table 5-12 of the EIS and are summarised below in Table 6. Removal of habitat is irreversible. However, mitigation measures have been proposed to minimise impacts and replace habitat for some threatened species.

Table 6 – Threatened fauna habitat impacted by the Project

Threatened fauna species	Relationship to NC Act	Relationship to EPBC Act	Total habitat within Study Area	Total habitat Impacted
Brown-treecreeper	Vulnerable	N/A	Total: 20.07	10.88ha
Little Eagle	Vulnerable	N/A	Total: 39.41	19.85ha
Perunga Grasshopper	Endangered	N/A	Total: 13.56	6.49ha
Scarlet Robin	Vulnerable	N/A	Total: 39.14ha	19.84ha
Varied Sittella	Vulnerable	N/A	Total: 20.07ha	10.88ha
White-winged Triller	Vulnerable	N/A	Total: 19.80ha	10.87ha

Grey headed Flying Fox	Vulnerable	Vulnerable	Total: 19.80ha	10.87ha
Golden Sun Moth	Vulnerable	Vulnerable	Total: 0.76ha	0.03ha
Pink-tailed Worm-lizard	Endangered	Vulnerable	Total: 0.27ha	0.16ha
Regent Honeyeater	Critically endangered	Critically endangered	Total: 20.07ha	10.88ha
Striped Legless Lizard	Vulnerable	Vulnerable	Total: 32.35ha	15.43ha
Superb Parrot	Vulnerable	Vulnerable	Total: 19.80ha	10.87ha
Swift Parrot	Critically endangered	Critically endangered	Total:19.80ha	10.87ha
White-throated Needletail	Vulnerable	Vulnerable	Total: 39.41ha	19.85ha

The Assessment of Significance determined that the Project will not have a significant impact on any matters which are protected in the ACT and which are not also MNES.

The EIS found that direct impacts as a result of the Project are in relation to vegetation clearing, removal of threatened species habitat, fauna injury and mortality and key threatening processes. Removal of fauna habitat may result in the injury or mortality of species using this habitat for shelter. Habitat features that may shelter fauna include vegetation, hollow-bearing trees, burrows, logs, rocks, and leaf litter. Nocturnal animals are particularly susceptible to vegetation clearing as they would be sheltering during the day when works are being undertaken.

Mitigation measures are proposed in the EIS in relation to pre-clearing surveys and processes for the removal of hollow-bearing trees to provide opportunities for fauna to vacate the vegetation to be cleared or be relocated to a safe location outside the Project's footprint.

During construction, animals may be injured or killed by collisions with vehicles if they enter the road corridor or construction area. The EIS proposed a number of safeguards to discourage fauna from accessing work zones during construction and ensuring they do not get trapped in any areas that are to be closed up overnight.

Indirect impacts identified in the EIS are in relation to habitat fragmentation, animal strike, edge effects, weeds and exotic flora, changes in hydrology, invasion and spread of pests, pathogens and disease, light spill, noise and vibration and cumulative impacts.

A traffic noise assessment and a light spill assessment are included in the EIS (Appendix F and I in the revised EIS). The traffic noise assessment found that, with the introduction of noise-reducing pavement, the predicted increase in noise as a result of the Project will be a small percentage (less than two percent) of the current noise levels. Therefore, impacts on noise-sensitive species are considered to be low.

The light spill assessment found that the additional lighting introduced into the locality as a result of the Project will not generate significant impacts for species. Mitigation measures have been proposed to minimise impacts, including the use of warm amber (non-sensor) based lighting in certain areas for light-sensitive species. However, advice from the Conservator of Flora and Fauna has requested further consideration of how light spill pollution can be avoided and mitigated, noting that the area is currently unlit. Recommendations

consistent with the Conservator's advice have been included in section 7 of this Report and will be required to be addressed through the concurrent DA.

Other mitigation measures, including crossing structures across the WHD road reserve: three box culverts; and two rope bridges along with associated fauna fencing and escape ramps, have been proposed in the EIS and are expected to minimise habitat fragmentation impacts and animal strike. A revegetation plan has also been prepared that would guide the remediation and revegetation of the study area following construction. Detailed mitigation measures are also proposed to be incorporated into a Flora and Fauna Management Plan which would be prepared and implemented as part the CEMP to further minimise impacts to biodiversity such as tree management measures, pre-clearing survey requirements, establishment of exclusion zones and protocols to manage changes in hydrology and the spread of weeds, pests and pathogens. Further details about proposed mitigation measures can be found in Table 7 of this Report.

Even with the implementation of appropriate mitigation measures, the BIA has determined that the Project is likely to have a residual significant impact to NC and EPBC listed BGW.

An Environmental Offset Strategy (EOS) has been prepared at Appendix L of the revised EIS, which outlines how a proposed offset site can provide appropriate direct offsets associated with the Project. The offset area would adjoin The Pinnacle Nature Reserve and would offset impacts to NC and EPBC listed BGW.

The proposed offset site is discussed in further detail in section 3.2 of this Report.

3.1.4. Matters on National Environmental Significance

A referral under the EPBC Act was lodged prior to final design based on the anticipated unavoidable clearing of BGW within the easement and the presence of habitat or likely occurrence of MNES.

The referral decision was determined to be a controlled action based on the level of potential impacts to threatened species and communities, specifically including:

- Superb Parrot (*Polytelis swainsonii*) – listed as vulnerable under the EPBC Act
- Swift Parrot (*Lathamus discolor*) – listed as critically endangered under the EPBC Act
- Golden Sun Moth (*Synemon plana*) – listed as critically endangered under the EPBC Act (listing changed to vulnerable in 2021).

An Assessment of Significance (AOS) under the EPBC Act was prepared as part of the EIS, and is included at Appendix C of the BIA, for threatened ecological communities and species listed under the EPBC Act with a higher than moderate likelihood of occurring in the Study Area. The following MNES were considered in the Assessment of Significance:

- White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland – listed as critically endangered under the EPBC Act;
- Hoary Sunray (*Leucochrysum albicans* var. *tricolor*) – listed as endangered under the EPBC Act;
- Superb Parrot (*Polytelis swainsonii*) – listed as vulnerable under the EPBC Act;
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – listed as vulnerable under the EPBC Act;
- Pink-tailed Worm-lizard (*Aprasia parapulchella*) – listed as vulnerable under the EPBC Act;

- Regent Honeyeater (*Anthochaera phrygia*) – listed as critically endangered under the EPBC Act;
- Striped legless lizard (*Delma impar*) – listed as vulnerable under the EPBC Act;
- Swift Parrot (*Lathamus discolor*) – listed as critically endangered under the EPBC Act;
- White-throated Needletail (*Hirundapus caudacutus*) – listed as vulnerable under the EPBC Act; and
- Golden Sun Moth (*Synemon plana*) – listed as vulnerable under the EPBC Act.

A Protected Matters Database search identified 14 species listed as migratory under the EPBC Act likely to occur within the Study Area. Of these species, three were identified as having a moderate or higher likelihood of occurrence in the Study Area based on the availability of suitable habitat and recent nearby sightings: the Fork-tailed Swift, White-throated Needletail and Satin Flycatcher. The EIS notes that none of these species were recorded during field surveys.

Although the Fork-tailed Swift may occur on occasion above the Study Area, the EIS has concluded that the Project is unlikely to affect their life cycle or behaviour. The Satin Flycatcher may occur in parts of the Study Area and cross WHD during migration between larger areas of suitable habitat in nearby nature reserves and the Molonglo River corridor, the Project is also unlikely to affect their life cycle or behaviour. An AOS has been completed for the White-throated Needletail.

The EIS draws on several sources of information in determining the potential impacts of the development on the identified MNES. Sources of information include the Commonwealth Government's Species Profile and Threats (SPRAT) Database, EPBC Act Protected Matters Search, ACTmapi, the ACT Threatened Species and Ecological Communities website, threat abatement plans, the ACT Environmental offsets policy, ACT threatened species factsheets and action plans, the Offset Management Plan for the extension of The Pinnacle Nature Reserve (Parks and Conservation Service 2016), in support of the field investigations performed in the preparation of the EIS.

Significant impact assessments were undertaken for each MNES that were considered to be at risk of impact by the proposal, in accordance with the *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (DoE, 2013).

In accordance with section 8.2.13 of the scoping document for this Project, the EIS includes a detailed assessment of known threats, potential impacts, including the nature, extent and consequence of relevant impacts, for all MNES that were found to have a higher than moderate likelihood of occurring within the Study Area. A summary of the assessment is provided below.

3.1.4.1. EPBC protected matter – White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands

White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands (EPBC listed BGW) is a relevant item from Schedule 4, Part 4.3, Item 1 and Item 2 of the PD Act as it is listed as a critically endangered ecological community in the ACT and under the EPBC Act.

3.1.4.1.1. Known threats

Threats to EPBC listed BGW include historical and continued clearing. The remaining extent of the ecological community is highly fragmented, occurring in small, isolated patches within a

cleared environment, or within a landscape of other disturbed woodlands. Weeds, fire, urbanisation, inappropriate disturbance regimes, invasive plants, pest animals, eucalypt dieback, climate change and salinity are also identified as additional or associated threats.

3.1.4.1.2. Potential impacts

The Project will permanently clear 6.41ha of EPBC listed BGW.

3.1.4.1.3. Conclusion

The AOS has determined that the project will have a significant impact on EPBC listed BGW. The EIS has included mitigations such as clear demarcation of BGW areas to be retained and further investigation to reduce the construction footprint and avoid impacts where possible. An offset for the unavoidable loss of 6.41ha of EPBC listed BGW has been proposed, see section 3.2 of this Report. Further details of the proponent's assessment that the Project will have a significant impact on EPBC listed BGW can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.2. EPBC Protected matter - Hoary Sunray (*Leucochrysum albicans* var. *tricolor*)

Hoary Sunray is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as an endangered species under the EPBC Act.

3.1.4.2.1. Known threats

The greatest threat to Hoary Sunray is considered to be habitat clearance associated with agriculture. In the ACT, habitat clearance is still a large threat, however now it is usually associated with private and public development. Weeds are also a threat in the ACT as populations are usually restricted to small habitat fragments adjacent to development or in reserves with existing weed infestations. In such reserves, Hoary Sunray can struggle to persist if biomass (often weeds) is not cleared to allow seed to germinate.

3.1.4.2.2. Potential impacts

The Project will directly clear 13 individuals and 10.9ha of potential habitat for the Hoary Sunray, comprising 6.46ha of Grassy Woodland, 0.03ha of native grassland and 4.41ha of planted native habitat.

3.1.4.2.3. Conclusion

The AOS has determined that the Project will not have a significant impact on Hoary Sunray. The AOS found that the 10.9ha of habitat (area of occupancy) within the study area, and the 13 individuals to be removed as part of the Project, are unlikely to be critical to the survival of the species or the population. 56 other individuals were counted in the Study Area outside the clearing boundary. While this will affect the size of the population in the Study Area, a larger number of plants were observed in the adjacent Kama Nature Reserve and will not be cleared. The number of individuals occurring in the adjacent nature reserve were not counted, but field observations estimated that approximately 1ha contained several thousand individuals, or at least 300 times more than within the clearing boundary. The individuals in Kama Nature Reserve also appeared to be larger and more mature, perhaps indicating that the individuals observed in the road reserve were their offspring from windblown seed. Currently, those individuals occurring on different sides of William Hovell Drive are able to interact with each other as pollinators and the dispersal of seed is likely able to cross the existing alignment. The widening of the road corridor is unlikely to completely prevent seed dispersal and pollinators crossing the road. As such, the Project is unlikely to fragment the existing population in to two or more smaller populations or disrupt the breeding cycle of the population. Further details

of the proponent's assessment that the Project will not have a significant impact on the Hoary Sunray can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.3. EPBC protected matter - Superb Parrot (*Polytelis swainsonii*)

The Superb Parrot is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a vulnerable species in the ACT and under the EPBC Act.

3.1.4.3.1. Known threats

The main threats to the survival of the Superb Parrot are limited nesting sites as a result of habitat loss, and increased competition for hollows with native and non-native species, which may be exacerbated by climate change. Other known or potential threats identified include collision with vehicles, illegal removal of wild birds, diseases, predation, and exposure to agricultural pesticides.

3.1.4.3.2. Potential impacts

The Project will require the removal of 10.87ha of potential foraging habitat for the Superb Parrot, comprising 6.41ha of foraging habitat and seven hollow-bearing trees as potential breeding habitat.

3.1.4.3.3. Conclusion

The AOS has determined that the Project will not have a significant impact on Superb Parrot. The AOS notes that Superb Parrots were observed flying over the Study Area, and are likely to be part of the important population that occurs in the ACT. However, no individuals were observed utilising the Study Area for foraging, although suitable habitat is present in areas of Grassy Woodland and planted woodland. The removal of this habitat is not expected to reduce the area of occupancy of the ACT population of Superb Parrots. Despite the presence of hollow-bearing trees, some of which may have suitably sized hollows, the EIS has found that the Superb Parrot is unlikely to breed within the Study Area due to its proximity to a major road. The widening of William Hovell Drive may increase collision risk, however, it is unlikely to fragment any important population of the species and revegetation will be used to encourage Superb Parrots to cross the roads at locations that are above the height of the traffic. Further details of the proponent's assessment that the Project will not have a significant impact on the Superb Parrot can be found at Appendix C of the BIA (Appendix D of the EIS).

Whilst the Project is not expected to have a significant impact on the Superb Parrot, the AOS recommends that the size of tree hollow entrances in the Study Area which could potentially support Superb Parrot breeding be confirmed. Consideration can then be given to whether the addition of nest boxes would provide additional benefit for the species within the surrounding area. A condition has been included in section 7 of this Report consistent with this recommendation.

3.1.4.4. EPBC protected matter - Grey-headed Flying-fox (*Pteropus poliocephalus*)

The Grey-headed Flying-fox is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a vulnerable species in the ACT and under the EPBC Act.

3.1.4.4.1. Known threats

The primary known threat to the survival of the Grey-headed Flying-fox is loss and degradation of foraging and roosting habitat. Conflict with people, including disturbance in camps and

mortality from actions to manage commercial fruit crops, is considered to be a moderate threat, but is increasing in urban areas. The level of threat caused by electrocution on power lines and entanglement in netting and barbed-wire fences is unknown. The impact of climate change on Grey-headed Flying-foxes is also unknown but increasing temperatures, storms, bushfires and floods and drought conditions are likely to degrade foraging and roosting habitat, influence the frequency of foraging in commercial orchards, cause heat stress and increase heat related mortality.

3.1.4.4.2. Potential impacts

The Project will require the removal of 10.87ha of potential foraging habitat for the Grey-headed Flying-fox..

3.1.4.4.3. Conclusion

The AOS has determined that the Project will not have a significant impact on the Grey-headed Flying-fox. The AOS found that the Project Study Area, or the locality in general, is not critical habitat for the Grey-headed Flying-fox because it is not highly productive during winter and spring, and there are not more than 30,000 individuals within a 50km radius. The Grey-headed Flying-fox will only be present in the locality during flowering events. Important foraging resources in the Project study area are likely to include Blakely's Red Gum (*Eucalyptus blakelyi*) and Yellow Box (*E. melliodora*) typical of Box-Gum Grassy Woodlands. There are 12.7ha of this habitat type in the Project study area and the Project will entail the loss of 6.4ha of this habitat in an area of generally low tree density. This area of habitat will only support a small number (less than10) individuals even during significant flowering events. Therefore, the Project is unlikely to result in the long-term decrease in the size of an important population of the Grey-headed Flying-fox. Further details of the proponent's assessment that the Project will not have a significant impact on the Grey-headed Flying-fox can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.5. EPBC protected matter - Pink-tailed Worm-lizard (*Aprasia parapulchella*)

The Pink-tailed Worm-lizard (PTWL) is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as an endangered species in the ACT and a vulnerable species under the EPBC Act.

3.1.4.5.1. Known threats

Threats to the species include habitat loss and fragmentation, habitat degradation, removal of rocks, inappropriate fire regimes and predation.

3.1.4.5.2. Potential impacts

The Project will require the removal of 0.16ha of potential PTWL rocky habitat.

3.1.4.5.3. Conclusion

The AOS has determined that the project will not have a significant impact on the PTWL and is unlikely to interrupt breeding or result in a species decline. The Project will require the removal of 0.16ha of potential habitat on the southern boundary of The Pinnacle Nature Reserve within an overall area of patchy species distribution and limited mobility. The AOS found that this area is unlikely to be important to the survival of the PTWL, due to the existing WHD barrier to movement and lack of connectivity to other nearby areas. Culverts to be installed as part of the Project may provide additional opportunities to connect areas of suitable PTWL habitat. Further details of the proponent's assessment that the Project will not

have a significant impact on the PTWL can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.6. EPBC protected matter - Regent Honeyeater (*Anthochaera phrygia*)

The Regent Honeyeater is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a critically endangered species in the ACT and under the EPBC Act.

3.1.4.6.1. Known threats

The major cause for the decline in the Regent Honeyeater population has been the clearing and fragmentation of woodland and forest containing the bird's preferred eucalypt species. Whilst clearing directly reduces the amount of available habitat, it can also make remaining remnants unsuitable as they become too small or isolated. The major continuing threat is further degradation of habitat, particularly on-going reductions in habitat quality and lack of regeneration. Noisy Miners (*Manorina melanocephala*) become more common in fragmented and degraded habitat, due to their preference for open areas adjoining woodland, and exclude birds, including Regent Honeyeaters, from many native vegetation remnants.

3.1.4.6.2. Potential impacts

The Project will require the removal of 10.88ha of potential foraging habitat for the Regent Honeyeater.

3.1.4.6.3. Conclusion

The AOS has determined that the project will not have a significant impact on the Regent Honeyeater. The AOS found that the Project Study Area supports known foraging resources for the Regent Honeyeater. However, the extent of non-breeding habitat clearing in a marginal part of the species range will not cause the Regent Honeyeater population to decline. While the Regent Honeyeater is known to occasionally breed in the ACT, it is unlikely that the species would breed in this location due to current levels of disturbance arising from the operation of the existing road. Further details of the proponent's assessment that the Project will not have a significant impact on the Regent Honeyeater can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.7. EPBC protected matter - Striped legless lizard (*Delma impar*)

The Striped Legless Lizard (SLL) is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a vulnerable species in the ACT and under the EPBC Act.

3.1.4.7.1. Known threats

Habitat loss, degradation and fragmentation are the major threats to SLL. It is estimated that 99.5% of its former habitat is no longer suitable for occupancy. While it has some tolerance to disturbance, grazing, pasture improvement, ploughing and drought and other significant disturbance can cause local extinction. Fire may cause direct mortality and reduce cover, making habitat temporarily suitable and recovery dependent on nearby colonising sources. Predation is also likely to be a threat, but its impact is not clearly established.

3.1.4.7.2. Potential impacts

The Project will require the removal of 15.43ha of potential SLL habitat..

3.1.4.7.3. Conclusion

The AOS has determined that the project will not have a significant impact on the SLL. The Project will require the removal of 15.43ha of potential SLL habitat and increase the intensity

of the existing habitat fragmentation through widening of the existing road corridor. However, the Project will provide additional opportunities to connect potential habitat on either side of the road that was not previously available to the species. The area of potential SLL habitat is located within a marginal part of its range and removal of this habitat along a major road is unlikely to result in a decline of the species. Further details of the proponent's assessment that the Project will not have a significant impact on the Striped Legless Lizard can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.8. EPBC protected matter - Swift Parrot (*Lathamus discolor*)

The Swift Parrot is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a critically endangered species in the ACT and under the EPBC Act.

3.1.4.8.1. Known threats

Major threats to the survival of the Swift Parrot population include the loss and alteration of foraging and nesting habitat through forestry activities, including firewood harvesting, and residential, industrial and agricultural development. Other identified threats include climate change impacts, competition for foraging and nesting resources, mortality from collisions with human-made objects, Psittacine beak and feather disease, and illegal bird capture and trade.

3.1.4.8.2. Potential impacts

The Project will require the removal of a 10.87ha of potential foraging habitat for the Swift Parrot.

3.1.4.8.3. Conclusion

The AOS has determined that the project will not have a significant impact on the Swift Parrot. The AOS found that the Project Study Area supports known foraging resources at a low tree density due to previous partial clearing. However, the Project study area is not recognised as priority habitat for the species. The Project will result in the loss of a relatively small area of low quality (i.e. low tree density) foraging habitat (10.87 ha). This extent of non-breeding habitat clearing in a marginal part of its range will not cause the Swift Parrot population to decline. Habitat critical to the survival of the Swift Parrot is not present in the Project study area. Further details of the proponent's assessment that the Project will not have a significant impact on the Swift Parrot can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.9. EPBC protected matter - White-throated Needletail (*Hirundapus caudacutus*)

The White-throated Needletail is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a vulnerable species in the ACT and under the EPBC Act.

3.1.4.9.1. Known threats

In Australia there is evidence of collision with wind turbines, overhead wires, windows and lighthouses, but the scale of impact at the population level requires further investigation.

Insecticides, particularly organochlorines, as another possible cause of decline of White-throated Needletails, either through a decrease in the abundance of invertebrates from wide use of insecticides or from secondary poisoning by insecticides accumulated as sublethal doses in the prey.

The loss of roosting sites in Australia may also be contributing to the decline of the species. Loss of forest and woodland habitats may have also resulted in the reduction of invertebrate

prey. It is thought that logging of taiga forests in Siberia, where most of the population breeds, poses the greatest risk by removing old trees and stumps that contain hollows which this species uses to breed. On the species' breeding grounds it was formerly hunted with nets placed near their breeding sites.

3.1.4.9.2. Potential impacts

The Project will require the removal of 19.85ha of potential foraging habitat for the White-throated Needletail.

3.1.4.9.3. Conclusion

The AOS has determined that the Project will not have a significant impact on the White-throated Needletail. The Project will require the removal of a relatively small area of habitat that will provide a limited source of flying insects consumed by the White-throated Needletail. The AOS found that this is unlikely to reduce the size of the White-throated Needletail population or its area of occupancy and there will be no habitat fragmentation. Habitat critical to the survival of the White-throated Needletail is not present in the Project Study Area. Further details of the proponent's assessment that the Project will not have a significant impact on the Whit-throated Needletail can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.10. EPBC protected matter - Golden Sun Moth (*Synemon plana*)

The Golden Sun Moth (GSM) is a relevant item from Schedule 4, Part 4.3, Item 1 of the PD Act as it is listed as a vulnerable species in the ACT and under the EPBC Act.

3.1.4.10.1. Known threats

GSM has a number of threats, the most notable being habitat loss, fragmentation and degradation. Further, the effects of climate change on the species may be significant, and inappropriate fire regimes are likely to be impacting on the species.

In regard to revegetation practices, some concern has been raised regarding the genetic effects of introducing plants or seeds of the same species from another area. The limited dispersal ability of the Golden Sun Moth means that sites where the species has gone extinct are unlikely to be recolonised. Fragmentation between sites also reduces gene flow between subpopulations which could have additional consequences for small, isolated subpopulations.

3.1.4.10.2. Potential impacts

The Project will result in the removal of 0.03ha of marginal GSM habitat immediately adjacent to the existing road.

3.1.4.10.3. Conclusion

The AOS has determined that the Project will not have a significant impact on GSM given that no areas of occupied habitat will be directly or indirectly impacted by the Project. The AOS found that the 0.76ha of potential habitat within the Study Area is unlikely to be occupied by the GSM due to the infrequent mowing and absence of grazing to control growth of grasses. The nearest known population of GSM occurs approximately 750m west of the Study Area. The Project is unlikely to have any indirect impacts on this population due to the distance between the sites. Given that no areas of known habitat will be removed as a result of the proposal, and GSM are considered not likely to occur within the small areas of marginal habitat adjacent to the existing road, the Project is considered unlikely to lead to a long-term decrease in the size of a population. Further details of the proponent's assessment that the Project will

not have a significant impact on the Golden Sun Moth can be found at Appendix C of the BIA (Appendix D of the EIS).

3.1.4.11. Australia's International obligations

The EIS states that the Project will not interfere with any objectives of the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The Convention on Biological Diversity has the objectives of "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources". The recommendations provided in this Report are not considered inconsistent with the Convention, which has the general aim of conservation of biodiversity.

The Apia Convention encourages the creation of protected areas which together with existing protected areas will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations, and regions and objects of aesthetic interest or historic, cultural or scientific value. The Apia Convention requires the protection of threatened species (species threatened with extinction) as completely as possible. While the Apia Convention was suspended with effect from 13 September 2006, Australia's obligations under the Convention have been taken into consideration. The recommendations provided in this Report are not considered inconsistent with the Convention, which has the general aim of conservation of biodiversity.

The CITES is an international agreement between governments which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. The recommendations provided in this Report are not inconsistent with CITES as the development does not involve international trade.

The Project is not considered to be inconsistent with Australia's international obligations.

3.1.4.12. Threat Abatement Plans and Recovery Plans

Threat abatement plans have been prepared to reduce the impact of external threats on MNES. The following Threat Abatement Plans are considered relevant to the Project and threatened species that may occupy the Study Area or surrounding habitat:

- Threat abatement plan for competition and land degradation by rabbits (2015).
- Threat abatement plan for predation by feral cats (2010).
- Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (2011).
- Threat abatement plan for predation, habitat degradation, competition, and disease transmission by feral pigs (Sus scrofa) (2017).
- Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi (2018).
- Threat abatement plan for predation by European red fox (2008).

The EIS states that the Project will not interfere with any of the objectives of these Threat Abatement Plans. Objectives for all plans relate to activities undertaken outside the scope of the Project and involve input from topic experts and coordination of large-scale research or communication of information. Mitigation measures have been proposed to avoid the

introduction or spread of any species related to these abatement plans within the study area. The EIS confirms that any observations of any of the threatening species associated with these plans will be reported to the appropriate government department.

The EIS has considered National Recovery Plans for MNES that were found to have a higher than moderate likelihood of occurring within the Study Area. The AOS has determined that the Project will not substantially interfere with the recovery of the following species:

Hoary Sunray (*Leucochrysum albicans* var. *tricolor*): the AOS states that the National Recovery Plan for the Hoary Sunray (*Leucochrysum albicans* var. *tricolor*) - October 2011 recognises that more information is needed on this species, and 'critical' habitat is yet to be determined. Clearing 13 individuals and 10.9ha of potential habitat may not align with the recovery of the species, however the AOS has determined that this area is unlikely to be critical to the survival of the species or this specific population. 56 other individuals were counted in the Study Area outside the clearing boundary. A significantly larger number of plants were also observed in the adjacent Kama Nature Reserve and will not be impacted by the Project. The Recovery Plan also acknowledges that some disturbance is required for successful establishment and seedlings often appear on areas that have been scraped. The AOS notes that the species has been observed recruiting on scraped road edges in the ACT. Monitoring of newly created road verges as created by the Project and adaptive management to limit mowing or encourage recruiting specimens could have the potential to align with Recovery Plan if implemented.

Superb Parrot (*Polytelis swainsonii*): the AOS states that the Project is not expected to interfere with any objectives of the National Recovery Plan for the Superb Parrot (*Polytelis swainsonii*) - 8 June 2022 because it will not affect outcomes of any research into the species, decrease knowledge, impede implementation of threat abatement strategies or reduce community involvement in the recovery of the Superb Parrot.

Grey-headed Flying-fox (*Pteropus poliocephalus*): the AOS states that the Project is not inconsistent with the National Recovery Plan for the Grey-headed Flying-fox (*Pteropus poliocephalus*) - 19 March 2021 because it does not affect critical foraging or roosting habitat and does not affect community involvement and interactions with the species. Fencing that has barbed-wire on the top strand will not be used on fauna fencing for the Project.

Pink-tailed Worm-lizard (*Aprasia parapulchella*): there is no draft or current adopted National Recovery Plan for the Pink-tailed Worm-lizard.

The ACT Government has prepared Conservation Advice - 4 September 2020 for the species. The conservation priorities as given in that advice include to:

- "conserve all populations in medium to large habitat areas and in defined landscape corridors that comprise important linking habitat;
- protect all other sites from unintended impacts;
- manage the species and its habitats to maintain and foster genetic diversity; and
- enhance the long-term viability of populations through management of buffer zones that surround occupied habitat and through rehabilitation of habitat in corridor areas that will increase connectivity between populations."

The Project will impact on the edge of an area of 0.16ha that has been identified as suitable habitat for the PTWL. As such, the Project may interfere with the stated objectives for the conservation of the species in both the ACT Conservation Advice and the EPBC approved

Conservation Advice - 1 October 2015. However, the AOS determined that this area is unlikely to be important to the survival of the PTWL due to the existing WHD barrier limiting movement and its lack of connectivity to other nearby areas. Therefore, the Project is unlikely to interrupt breeding or result in a species decline.

Regent Honeyeater (*Anthochaera phrygia*): the AOS found that the Project is not likely to interfere with the recovery of the Regent Honeyeater and is not inconsistent with the National Recovery Plan for the Regent Honeyeater (*Anthochaera phrygia*) - 3 May 2016 because it will only require the clearing of a relatively small amount (10.88 ha) of low quality (reduced tree density) habitat along an existing road. Therefore, the Project will not cause the population size to decline and it will not prevent improvements in the quantity and quality of foraging habitat.

Striped legless lizard (*Delma impar*): many of the recovery objectives within the National Recovery Plan for the Striped Legless Lizard (Delma impar) - June 1999 focus on finding basic ecological information on the Striped Legless Lizard, undertaking population monitoring, translocation and captive populations. The AOS states that none of these objectives are relevant to the Project and the Project will not interfere with their implementation.

Swift Parrot (*Lathamus discolor*): the AOS considers that the Project is not inconsistent with the National Recovery Plan for the Swift Parrot (*Lathamus discolor*) - 16 October 2018 and is not likely to interfere with the recovery of the Swift Parrot because it does not affect Priority Habitat, it will not cause the population size to decline and it will not prevent improvements in the quantity and quality of foraging habitat.

White-throated Needletail (*Hirundapus caudacutus*): there is no National Recovery Plan for the White-throated Needletail. The Species Profile and Threats (SPRAT) Database on DECCEW's website states that "Due to the limited nature of any threats to the species and its mobility, there are no threat abatement or recovery actions either underway or proposed." Therefore, the AOS has determined that the Project is not likely to interfere with the recovery of the White-throated Needletail.

Golden Sun Moth (*Synemon plana*): no Recovery Plan has been prepared for the GSM and the site is not subject to any targeted recovery actions. The AOS states that Project is unlikely to interfere with the recovery of the species.

The AOS has determined that the Project may interfere with the recovery of the following MNES:

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland: the AOS has determined that the direct clearing of 6.41haof EPBC listed BGW and replacing it with a widened road and associated road infrastructure will interfere with the recovery of the community in the Study Area and more generally nationally given the currently highly fragmented and degraded state of this ecological community.

The first aim of the National Recovery Plan for White Box–Yellow Box–Blakely's Red Gum Grassy Woodland and Derived Native Grassland - May 2011 is "achieving no net loss in extent and condition of the ecological community throughout its geographic distribution". In addition, the recovery plan also states, "degraded woodland areas not considered part of the listed ecological community, may also be essential to the long-term conservation of Box-Gum Grassy Woodland, by virtue of their landscape setting (e.g. providing connectivity) or

remaining flora/fauna habitat features (e.g. occurrence of rare or threatened species, tree hollows), and should also be considered as potential habitat critical to the survival of this ecological community".

As such, clearing of remnants of derived grassland, particularly those containing habitat features such as rocks for PTWL, would be inconsistent with the recovery plan if a suitable offset was not provided. The impacts associated with the Project will also interfere with the recovery of the ecological community in the locality, particularly across Kama and The Pinnacle nature reserves. Conditions have been included in Table 31 to limit the amount of BGW that can be cleared for the project.

A Final Environmental Offset Strategy: William Hovell Drive Duplication (Umwelt, October 2023) has been prepared and is included at Appendix L of the revised EIS. The offset area will adjoin The Pinnacle Nature Reserve would offset unavoidable impacts to EPBC listed BGW habitat. The proposed offset will protect and improve 16.78ha of moderate quality box gum woodland (13.30 ha ACT16.2; 3.48 ha ACT16.4) and 14.78ha of low quality box gum woodland (ACT16.5). By improving more than the impacted area of lower quality box gum woodland, to a higher quality, in addition to the protection and long term improvement of the entire patch, a no net loss can be achieved. The proposal will offset 123% of the impact.

Overall, it is considered that the proposed offset meets the objectives and requirements of the Commonwealth Offset Policy, and the proposed improvement actions are consistent with the National Recovery Plan for EPBC listed BGW.

3.1.5. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- offset requirements for Hoary Sunray;
- inconsistencies found between the EIS main report and the Biodiversity Assessment report;
- further information on habitat fragmentation with regards to the development width (including wildlife crossing structures, road, shared path, drainage infrastructure);
- further detail on mitigation measures to reduce wildlife vehicle strike;
- further detail on stormwater overland flow impacts on nature reserves;
- further information regarding noise impacts on fauna;
- assessment of GSM habitat to be directly impacted by the project;
- information on whether impacts are expected to be unknown, irreversible, or unpredictable for each MNES;
- information on how the proposal is consistent with the relevant threat abatement plans;
- reference to the National Recovery Plan for the Swift Parrot;
- provision of an offset strategy detailing the proposed offset to be approved prior to commencing the action; and
- details on how the 7 hollow bearing trees will be offset.

After considering SMEC's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.1.6. Mitigation and avoidance

Table 7 summarises the avoidance measures associated with flora and fauna, including matters of national environmental significance as proposed in the EIS. A complete table of mitigation measures is available at Table 5-18 within the Revised EIS.

Table 7 Avoidance and mitigation measures (flora and fauna, including matters of national environmental significance)

Proposed mitigation measures	Stage of implementation
To reduce the impacts on loss of native vegetation, loss of threatened species habitat and protected trees and direct impacts on threatened flora and fauna, a Flora and Fauna Management Plan (FFMP) will be prepared and implemented as part of the CEMP. It will include, but not be limited to a Tree Management Plan, demarcation of areas to be cleared and those to be protected, pre-clearing survey requirements, unexpected finds procedures, weed and pathogen protocols and soil stockpiling procedures.	Prior to construction
Rubbish removal is to be undertaken prior to and throughout construction in retained areas of vegetation in the road reserve.	Prior to and during construction
Revegetation and offset plantings proposed as part of the Project will assist in supporting habitats which are favoured by native species, such that the Project will not result in feral species colonising land within the Study Area over the long-term.	Prior to and during construction
Mandatory site inductions for all personnel working and visiting the study area which will include information on threatened species and ecological communities, identify exclusion zones and the unexpected finds procedure for threatened species. All personnel working on site will also receive training to ensure awareness of the potential for the threatened flora species listed in Appendix B of the Biodiversity Assessment Report within the construction boundary. Training will include photographs of the species, key identification features, flowering times and protocols if any are identified during clearing or construction.	Prior to and during construction
Provide an offset against the loss of EPBC listed BGW by protection of land adjoining the Pinnacle Nature Reserve (Block 1616, Belconnen), which will preserve nesting habitat for Superb Parrot and retain old growth trees and native grassland understorey. The recommendations within the Final Environmental Offset Strategy are to be followed.	Prior to construction
Establish and clearly demarcate exclusion zones.	Prior to construction
Establish pre-clearance protocols, including: • demarcation of habitat trees indicating which of these are to be cleared and which of these are to be retained; • pre-clearing and daily surveys;	Prior to construction

• a two-staged tree clearing procedure including designated areas for release of any rescued fauna; and • presence of a qualified ecologist/fauna rescue person throughout clearing.	
Measures to further avoid and minimise the construction footprint and native vegetation or habitat removal will be investigated during detailed design and implemented where possible throughout pre-construction and construction. Proposed measures currently include avoidance wherever possible and retention of removed trees as coarse woody debris.	During detailed design and construction
Revegetation and rehabilitation to be undertaken during the Project with processes to maximise stability and revegetation success.	During construction
Areas of BGW TEC to be retained will be clearly marked on maps and provided to construction supervisors. Any direct or indirect impact to BGW TECs outside of the designated clearing area will be immediately reported to the Conservator and DCCEEW. Non-weedy BGW topsoil to be stockpiled for use in revegetation areas.	During construction
Measures to avoid and minimise impacts to PTWL habitat will include clear demarcation of exclusion zones, pre-clearance surveys and relocation of suitable rock using endorsed methodologies, unexpected finds protocols, open trench inspection protocols and additional weed hygiene measures. Upon completion of the construction works, the extent and location of disturbance within the encountered PTWL habitat will be measured and recorded. The total area of disturbance will be indicated (in ha) on a map, or by GPS locations. Results will be reported to the ACT Government. Disturbed areas within identified PTWL habitat will be rehabilitated in accordance with a PTWL Rehabilitation Plan (if required) in consultation with Parks ACT, and PTWL habitat restoration will be undertaken, including to improve connectivity from Kama Nature Reserve to the Molonglo River Reserve.	Prior to, during and post construction
Where feasible, at least 80 % of hollows from hollow-bearing trees that are removed will be salvaged and re-used as habitat for ground-dwelling fauna or made into a natural hollow nest box and reattached to a suitable trees or otherwise these cleared hollow bearing trees will be "stood up." These salvaged hollows are to be relocated to suitable locations within the Pinnacle or Kama Nature Reserves, or within the Offset Site Installation of nest boxes will be undertaken by a suitably qualified ecologist, and logs will be relocated to suitable nearby habitat.	Prior to, during and post construction
To reduce edge effects, weed extent in the adjoining nature reserves will be documented before construction and monitored monthly during construction. If weed presence and/or extent has increased the construction contractor is to engage a suitably qualified regeneration	Prior to, during and post construction

specialist to undertake weed removal of these areas in line with the management plan for the reserve. Removal of African Lovegrass will be undertaken prior to and during construction. Care will be taken for this species to not spread to the adjoining land and reserve. Dense Lomandra longifolia and native shrub plantings will be strategically located along the boundary of Kama Nature Reserve and The Pinnacle Nature Reserve (and their buffers). Protection measures for the two nature reserves will include the erection of fencing to unwarranted access, a strict 'No Entry' during construction, treatment of drainage lines with sediment control and installation of sediment basins. ESCPs would be lodged with the DA and best practice erosion and sediment controls would be followed by the construction contractor as per the Blue Book. Any other reasonable requirements from the EPA and other Government agencies will also be implemented.	
Weeds will be generally managed by implementing pre commencement and ongoing weed control, hygiene measures, and revegetation activities as soon as possible. Hygiene protocols will also be implemented to prevent the introduction or spread of pathogens from outside the Project Site, as well as a chytrid protocol in line with the latest national guidelines.	Prior to, during and post construction
The Project will be designed so that it does not change the existing hydrology of the adjoining properties and nature reserves, and prevent any sediment or vegetation from the site from entering waterways.	Design and construction
Noise, light and vibration impacts on fauna will be managed by avoiding lighting in key wildlife linkage areas, use of directional lighting, minimal light use in pedestrian underpasses, shading around compounds, and use of low noise road pavement.	Detailed design, construction and operation
Animal-vehicle collision and roadkill impacts will be managed by ensuring fauna are not funnelled into the road corridor because of barriers to movement, measures to encourage flying wildlife above the level of traffic, use of fences/barriers to direct wildlife to underpasses or safer crossing points, inclusion of escape routes for road trapped wildlife, management of roadside verges to deter herbivores and monitoring of roadkill incidents during construction to allow for adaptive management.	Detailed design, construction and operation
Wildlife crossing structures are proposed and will be finalised. Two main biodiversity corridors have been identified and installation of two rope bridges and three box culvert underpasses in areas of connectivity will be employed to benefit a range of ground-dwelling and arboreal/avifauna species. exclusion fencing (1.8 m tall chainmesh fence with floppy top or similar) to be included on each side of WHD in the vicinity of the Nature Reserves, extending at least 200m past the fauna crossings. The	Detailed design, construction and operation

effectiveness of this exclusion fencing will be monitored during the operational stage of the Project. Where possible, culverts will be designed to facilitate fauna movement. This will include consideration of the size of the culvert, revegetation at the entrances to the culvert and no artificial lighting. Existing fencing blocking the culvert locations will be removed. Appropriate habitat structures will also be installed in underpasses where possible, such as poles, logs, rocks, woody debris at ground/mid-level or other habitat structures to enable small fauna to safely pass through. Any connectivity structures will be monitored by remote sensor cameras for a period of three years after construction. TCCS will work in consultation with Parks ACT to implement a program, approved by Conservator, for monitoring the crossing structures.	
To minimise fauna injury or mortality, the road design will include fauna exclusion fencing to prevent access to the road, fauna friendly fencing and gates to allow fauna access to underpasses and culverts, and design of medians to reduce the risk of fauna entrapment. Barbed wire will not be used on any fences.	Detailed design and prior to construction
Revegetation of biodiversity corridors will include revegetation in wildlife flight path areas and near fauna crossing structures, planting to close vegetation gaps and use of BGW TEC species. Areas of revegetation will be maintained for a minimum of two years, with additional maintenance undertaken for a period of five years where required. Weed control will also be undertaken in revegetation areas.	Design and construction and operation

3.1.7. Scoping document requirements

Table 8 below details the risks associated with flora and fauna, including matters of national environmental significance as defined in the EIS.

Table 8 Scoping document requirements (flora and fauna, including matters of national environmental significance)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	Likelihood (after mitigation)	Consequence (after mitigation)	Residual risk
Presence or extent of threatened species and ecological communities not identified prior to development design, resulting in unanticipated impacts.	High	Possible	Minor	Low
Incursion of vehicles, light, noise, invasive species and increased recreational use caused by greater human access into areas of environmental significance, causing damage to or destruction of habitat.	High	Almost certain	Minor	Medium

Clearing of trees and other vegetation causing impacts including loss of amenity, loss of habitat, increased erosion and water runoff.	High	Possible	Moderate	Medium
Vegetation clearing activities during construction disturb native animals and increase the potential for vehicle strike.	High	Possible	Moderate	Medium
Project activities facilitate spread of exotic flora into adjacent areas, leading to weed establishment.	High	Possible	Moderate	Medium
Project attracts additional vermin and pest species, which results in greater competition for resources with native species	High	Unlikely	Moderate	Low
Clearing of vegetation results in a loss of connectivity through fragmentation in the landscape, or obstructing local movement corridors.	Significant	Possible	Moderate	Medium
Clearing of protected trees that have not been approved to be cleared.	High	Unlikely	Minor	Very Low
Intrusive site investigations (e.g. geotechnical, contamination test pitting) are undertaken prior to P&D Act and EPBC Act Approval resulting in impacts to MNES and potential noncompliance with either Act.	Significant	Unlikely	Moderate	Low
Direct impacts on threatened flora and fauna, TECs and non-threatened flora and fauna from clearing and other construction works.	High	Possible	Moderate	Medium
Increased habitat fragmentation impacting species movement.	High	Possible	Moderate	Medium
Loss of fauna from vehicle strikes and roadkill.	High	Possible	Moderate	Medium
Impacts to adjoining nature reserves during construction and operation.	High	Unlikely	Moderate	Low
Construction and operation impacts on EPBC Act listed threatened species and communities and any other Matters of national environmental significance (MNES).	High	Possible	Moderate	Medium

Project fails to comply with Commonwealth recovery plans or threat abatement plans.	High	Possible	Moderate	Medium
Addition of construction of barriers to movement, including safety railings, wider paved roads, more lighting, noise and disrupted water courses.	Significant	Possible	Moderate	Medium
Inadequate investigation of contaminated sites proposed for remediation resulting in significant unexpected contamination finds leading to inability to remediate and use site as an offset to mitigate identified impacts on vulnerable species.	Medium	Possible	Moderate	Medium
Proposed remediation action plan is ineffective in remediating the identified contaminated site potentially leading to additional works, delays to works, and contractor claims to remediate and use site as an offset to mitigate identified impacts on vulnerable species.	Medium	Possible	Moderate	Medium

3.2. Offsets

The revised EIS includes an Environmental Offset Strategy (EOS), which has been prepared by Umwelt, to compensate for the residual impacts to EPBC listed BGW from the proposal (Appendix L of the revised EIS). Investigations undertaken in preparation of the EIS found that the Project will not impact on any matters which are protected in the ACT and which are not also MNES. As such, the Commonwealth Policy has been used in the preparation of the Final Environmental Offset Strategy (EOS), with overall consistency demonstrated with the ACT Policy.

The proposed development will have significant impact on BGW. This impact is considered significant under the EPBC and NC Acts. The proposal has been assessed under the ACT Assessment Bilateral Agreement and the impact of the proposal needs to be compensated with an offset area, in accordance with the Commonwealth Environmental Offsets Policy. The Commonwealth Offset Tool has been used to calculate the area of habitat required to compensate for the impact.

The impacts of the proposal by clearance of up to 6.41ha of critically endangered BGW are divided into two parts based on quality of the BGW:

- 6.38ha is moderate quality woodland; and
- 0.03ha is low quality derived native grassland.

The details of the calculation are provided at section 4.3.2 of the EOS.

3.2.1. Proposed offset site

The proposed Offset Site is located within the northern section of Registered Rural Block 1616 in the District of Belconnen. Block 1616 is zoned NUZ3 – Hills, Ridges, and Buffer Zone and is bounded to the west by WHD, and to the north, east and south by the existing The Pinnacle Nature Reserve. The site covers a total of 42ha.

The Offset Site would extend The Pinnacle Nature Reserve, which covers 154ha and supports a range of environmental values, including BGW and occupied habitat for PTWL. The Pinnacle Nature Reserve is recognised as an important regional link for the movement of woodland birds. Expansion of The Pinnacle Nature Reserve would further support these environmental values, enhancing the reserve's long-term landscape connectivity values and providing protection from potential threats associated with the development.

The EOS has identified the following potential ecological values within the Offset Site:

- potential threatened woodland;
- PTWL habitat; and
- unspecified rare / uncommon plant records.

Over a range of surveys conducted by Umwelt between December 2022 and March 2023, a total of 30.89ha of BGW that meets EPBC condition criteria have been identified at the Offset Site. The site was also determined to support suitable habitat for PTWL (3.98ha) and 14 hollow-bearing trees that have a moderate likelihood of supporting Superb Parrot breeding hollows. While PTWL and Superb Parrot are not target values within the EOS, they are both MNES that would benefit from additional habitat protection and management.

Site investigations also confirmed the presence of contaminated soil at the site associated with a historic sheep dip and plunge dip. One of the identified areas is located in the Offset Site in a location supporting low quality box gum woodland. The EOS has confirmed that this area has been excluded from the offset calculations. The other area is in the adjacent house block outside the Offset Site and is located in exotic grassland.

The EOS states that both of the identified contaminated sites would be remediated following the advice and recommendations provided in a Remedial Action Plan (Appendix P of the revised EIS) to ensure the site is considered suitable for its intended purpose as an environmental offset site and to ensure they do not pose an unacceptable risk to human health or the environment.

Further details of the Offset Site are set out in detail within Section 3 of the EOS.

3.2.2. Offset strategy

The EOS identified a high-level strategy for use of the proposed site as an offset. This strategy comprises the following basic elements:

- engage an appropriately qualified land manager to deliver offset commitments;
- protect land under a conservation land use zoning (apply the Pc: Nature Reserve Overlay);
- management of the Offset Site for habitat improvement and long term resilience of MNES:
    - invasive weed and pest control.
    - management of overabundant native animals.
    - management of herbage mass.
    - restoration of habitat features including the addition of coarse woody debris.

- protection of regenerating canopy species and revegetation to meet benchmark level.
- increasing the diversity and cover of midstorey species via revegetation.
- increasing the diversity of understory non-grass native species via grassland restoration techniques.

- Investment in site infrastructure (fencing, access tracks etc.).

These strategy elements were considered in the offset assessment to determine whether the proposed offset would be sufficient for meeting the requirements of the EPBC Act Environmental Offsets Policy.

3.2.3. Offset activities

The following offset management activities have been identified in the EIS in accordance with the four key outcomes – improve connectivity, maintain extent of BGW, improve condition and reduction of threats for each BGW zone in the proposed offset area.

ACT16.2 *Eucalyptus melliodora – E. blakelyi* Tableland Grassy Woodland – Low Diversity:

- Managing invasive weeds including African lovegrass, St John's wort, and Patterson's curse, and pest animals following an integrated management strategy.
- Maintain an understorey with a heterogenous structure and herb mass using ecological burns and conservation grazing.
- Protect regenerating canopy species.
- Increase native forb diversity from low to moderate-high through targeted revegetation with local native species that are consistent with the local BGW community with at least one important species to be included.
- Revegetate with midstorey species to increase habitat structural diversity (already at benchmark level).
- Revegetate with canopy species to meet benchmark levels.

ACT16.4 *Eucalyptus melliodora – E. blakelyi* Tableland Grassy Woodland Derived Native Grassland – Moderate – High Diversity:

- Managing invasive weeds including African lovegrass, St John's wort and Paterson's curse and pest animals following an integrated management strategy
- Maintaining herbage mass with a heterogeneous structure via the implementation of ecological burns and conservation grazing
- Protecting any regenerating canopy species
- Increase understorey diversity using targeted low disturbance restoration methods
- Revegetating with midstorey species to increase habitat structural diversity
- Revegetating with canopy species to meet benchmark levels (already at benchmark level)
- Adding coarse woody debris, with the aim to meet benchmark level where possible (see details below).

ACT16.5 *Eucalyptus melliodora – E. blakelyi* Tableland Grassy Woodland Derived Native Grassland – Low Diversity:

- Managing invasive weeds including African lovegrass, St John's wort and Paterson's curse and pest animals following an integrated management strategy

- Maintaining herbage mass with a heterogeneous structure via the implementation of ecological burns and conservation grazing
- Revegetating with canopy species to meet benchmark levels,
- Revegetating with midstorey species to increase habitat structural diversity (already at benchmark level).
- Adding coarse woody debris, with the aim to meet benchmark level where possible (see details below).
- The strategy includes the option to increase native forb diversity through targeted revegetation with local native species that are consistent with the box gum woodland community, however, does not commit to transform areas of 16.5 to a higher quality PCT.

Pink-tailed Worm-lizard habitat:

- Maintaining a diversity of native grassland species and heterogenous structure within patches of box gum woodland will also maintain habitat condition for the Pink-tailed Worm-lizard. Revegetation with canopy and mid storey species will not occur within 20 m of rocky areas, in accordance with recommendations by the ACT Government.

Relocation of woody debris:

- Coarse woody debris, sourced from the Impact Area and other approved development sites will be added into the Offset Site. The size and placement of the coarse woody debris will follow best practice. The distribution of the coarse woody debris across the Offset Site will be limited to areas that are accessible by machinery and where potential site disturbance from the machinery can be avoided. The distribution of woody debris also needs to consider risks to bushfire fuel loads.

Relocation of trees and hollows from Impact Area:

- The ACT Government has also committed to reinstate up to 80% of salvaged tree hollows from trees to be cleared within the Impact Area within the Offset site. This is consistent with actions in the Draft Action Plan for the Loss of Mature Native Trees Key Threatening Process (ACT Government, 2021b) and the approach used in the Molonglo River Reserve as part of the Barrer Restoration Project.

3.2.4. Ongoing monitoring, management and reporting

The EOS states that the Offset Site will be managed by the ACT Parks and Conservation Service (PCS). PCS will be responsible for meeting all offset planning, management, and monitoring obligations. They will also be responsible for managing the Offset Site pursuant to any ACT Government legislative requirements.

Any reporting for the Offset Site and Impact Area and against development conditions will be undertaken by PCS and TCCS, and all plans, monitoring and annual reports will be published on the ACT Government Environmental Offsets Register.

The EOS states that an Operational Management Plan will be prepared for the site by PCS, which will specify measurable and auditable management, monitoring, and ongoing improvement activities. The OMP will be a live document informed by the systems described in the *Environmental Offsets Adaptive Management Strategy*.

The ACT Government has an obligation to manage the Offset Site for the lifetime of the Proposal's impact (in the order of 30+ years) in accordance with the Commonwealth and ACT Environmental Offset Policies.

The EOS also states that, following completion of the offset commitments, the offset will continue to be managed by PCS as part of the public reserve system, ensuring the most favourable outcome for ensuring its long-term protection.

3.3. Traffic and Transport

As described in section 1.1, traffic congestion for he proposed section of the road for duplication is expected to grow significantly in the future. Analysis also identified that the intersection of WHD and DBD, in its current form, is expected to fail in 2031, and the overall average performance of the intersection falls below the required level of service. This section of WHD is also associated with poor crash history records, with a relatively high number of serious crashes and safety issues identified along the alignment.

3.3.1. Impacts

The potential impacts identified in the EIS were:

- unanticipated increase in traffic volumes at the Project Site during construction and operation;
- temporary loss of access and traffic disruptions (e.g. temporary diversions) during construction;
- temporary traffic management measures during construction are not suitable and result in near miss incidents, crashes, injuries or death;
- traffic disruption during construction;
- increased traffic volume during operation, causing further delays and impacting on road safety;
- impact of the duplicated road on road safety and operation; and
- the proposed signalised intersection impacts road safety and operation.

3.3.2. Public consultation

During the public notification process, eight representations were received. Several concerns were raised traffic and transport impacts. The main concerns included:

- Signalisation of the DBD Intersection - the need to signalise the intersection of DBD was queried with some respondents believing it to be unnecessary with the potential to negatively impact traffic flow.
- Congestion - concerns that the road duplication would increase traffic volumes and congestion in the local area and on the wider Canberra Road network.

The issues raised during public consultation were considered by the proponent and a response provided in Appendix J of the revised EIS. In summary, the proponent responded to these concerns with the following information:

- Due to the increase in traffic by 2031, the existing roundabout layout will cause excessive delays, particularly in the morning peak. A larger roundabout with 2 x continuous lanes and exit/turn lanes was considered for the 2031 traffic scenario, as were signals. Both of these options provided acceptable wait times for vehicles. However, the roundabout has a significantly larger construction footprint and environmental impact. The continuous flow of a roundabout provides may also deter active travel as it is difficult for pedestrians and cyclists to find a gap in traffic. The

signals were chosen as they meet the design criteria, minimise the environmental impact and promote safe, active travel.

- One of the Project objectives is to address existing traffic congestion within this section of WHD, being the only unduplicated portion. It will also support future residential development in the Molonglo Valley and West Belconnen. This is achieved by the additional capacity of the duplicated road.

  The Project will not generate any traffic, according to traditional traffic generation methodologies. However, the upgrade will result in a redistribution of traffic across the Canberra road network and may also lead to a small increase in traffic volumes due to the relatively lower congestion and easier road travel. This increase on traffic should be accompanied by a reduction in traffic volumes across other arterial and lower order roads in Belconnen.

3.3.3. Key findings

The EIS includes a Transport Assessment Report (TAR) which has been prepared specifically for this Project (Appendix C of the revised EIS) and discusses the likely transport impacts during construction and operation of the Project.

The TAR involved a detailed review of construction traffic generation, working hours, and mitigation strategies for minimising disruptions, and indicates that only minor traffic impacts are expected during the construction process.

The TAR identified that, upon completion, the duplication of WHD is projected to enhance traffic flow between Belconnen, Civic, Parliamentary Zone, and Woden, addressing existing congestion issues and reducing the likelihood of rat-running in nearby areas including Hawker, Weetangera, Cook and Aranda.

Through strategic transport modelling, the TAR indicates that after project completion, WHD is not expected to face capacity issues. However, there may be constraints further east on WHD between JGD and Bindubi Street.

The EIS states that WHD is set to operate at an acceptable Level of Service (LoS) post-duplication and will benefit non-Rapid bus routes without requiring specific bus priority infrastructure. The TAR has not identified any negative impacts on the surrounding transport network from the duplication of WHD.

The EIS sates that a Safety in Design process identified 132 risks during the construction process, ranging from a Medium to High risk rating. However, risks were able to be reduced to a rating of very low to low with proposed mitigation measures, which mainly includes the preparation and implementation of a Construction Traffic Management Plan. Further details about proposed mitigation measures can be found in Table 9 of this Report.

3.3.4. Mitigation and avoidance

Table 9 summarises the avoidance and mitigation measures associated with Traffic and Transport as proposed in the EIS. A complete table of mitigation measures is available at Table 5-6 within the Revised EIS.

Table 9 Avoidance and mitigation measures (Traffic and Transport)

Proposed mitigation measures	Stage of implementation
A Construction Traffic Management Plan (CTMP) will be prepared by the nominated	Design and Construction

contractor in consultation with the ACT Government and provided to TCCS. The CTMP will be the primary management tool to manage potential traffic impacts associated with construction.	
Works with the potential for traffic disruption, such as utility adjustments, will be scheduled outside of peak commuting periods to minimise road user delays.	Construction
Works impacting on traffic lanes to be undertaken at off peak times (or at night).	Construction

3.3.5. Scoping document requirements

Table 10 below details the risks associated with Traffic and Transport as defined in the EIS.

Table 10 Scoping document requirements (Traffic and Transport)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Traffic volume increases at the Project Site during construction and operation not anticipated.	Medium	Unlikely	Moderate	Low
Temporary loss of access and traffic disruptions (e.g. temporary diversions) during construction.	Medium	Possible	Minimal	Very low
Temporary traffic management measures during construction are not suitable and result in near miss incidents, crashes, injuries, or death.	High	Remote	Major	Low
Traffic disruption during construction.	High	Possible	Minor	Low
Increased traffic volume during operation, causing further delays and impacting on road safety.	Medium	Unlikely	Minor	Very low
Impact of duplicated road on road safety and operation.	Medium	Unlikely	Minor	Very low
The proposed signalised intersection impacts road safety and operation.	Medium	Unlikely	Minor	Very low

3.4. Utilities, Infrastructure and Lighting

The duplication of WHD will require the relocation and potential disruption of exiting utilities identified as being within, or within close proximity to the Project site. The Project will also see the installation of street lighting to this section of WHD drive, which presents possible additional impacts to sensitive receivers.

3.4.1. Impacts

The potential impacts identified in the EIS were:

- impacts on existing infrastructure during construction and operation and/or requirement to install new infrastructure to service the Project impacting on existing infrastructure;
- temporary services disruption during utility works as part of the Project;
- accidental damage to utilities and other essential infrastructure;
- disruption to vital services due to service outages during construction;
- lighting impacts to nocturnal fauna; and
- light impact to sensitive receivers during construction and operation.

3.4.2. Key findings

An assessment of the Project's impacts on utilities, infrastructure, and lighting is presented in Section 5.3 of the revised EIS. A Dial Before You Dig (DBYD) investigation was undertaken by SMEC to locate services potentially affected by the Project. The DBYD investigation revealed the following utility providers with potential assets within close proximity to the Project: Icon Water, NBN, Optus, Telstra, TransACT, Electrix – Omexcom ACT, Evoenergy, and Jemena. The EIS notes that potholing was also carried during preliminary site investigations to confirm the location of existing water mains along WHD and at the intersection of DBD.

The revised EIS included a Spill Light Assessment, which has been prepared by Rudds Pty Ltd (Appendix I of the revised EIS), focusing on the potential construction and operational impacts of the Project, noting that light may spill into The Pinnacle and Kama Nature Reserves. The assessment found that spill light is not expected to have a significant effect on flora or fauna within the reserves.

As previously stated in section 3.1 of this Report, advice from the Conservator of Flora and Fauna has requested further consideration of how light spill pollution can be avoided and mitigated, noting that the area is currently unlit. Recommendations, consistent with the Conservator's advice, have been included in section 7 of this Report and will be required to be addressed through the concurrent DA.

Identified potential impacts include relocation of two existing overhead power poles, protection or relocation of four telecommunication lines, the potential for construction activities to temporarily disrupt communication and power, as well as the potential need for the relocation of existing water mains and the consideration of future sewer infrastructure.

Mitigation measures have been proposed to address these impacts, such as ongoing consultations with utility stakeholders to identify and protect existing infrastructure. The EIS also states that steps will also be taken to prevent accidental damage to utilities and disruptions to vital services during construction. Lighting requirements will also be managed in accordance with the requirements in Australian Standards AS 4282.2019 Control of Obtrusive Effects of Outdoor Lighting. Further details of proposed mitigation measures can be found in Table 11.

With the implementation of proposed mitigation measures, the EIS anticipates that identified utilities, infrastructure and lighting impacts would be reduced from a risk rating of Extreme/High to a rating of High/Low.

In addition, utility providers, including ICON Water, Evoenergy, Jemena Gas and TCCS, as well as the Utilities Technical Regulator, have all been consulted with throughout the EIS process. Conditions consistent with the advice of each entity who commented on the EIS have been included in section 7 of this Report.

3.4.3. Mitigation and avoidance

Table 11 summarises the mitigation and avoidance measures associated with Utilities, Infrastructure and Lighting as proposed in the EIS. A complete table of mitigation measures is available at Table 5-23 within the Revised EIS.

Table 11 Avoidance and mitigation measures (Utilities, Infrastructure and Lighting)

Proposed mitigation measures	Stage of implementation
Impacts / damages to existing infrastructure during construction and operation of the Project will be mitigated through: • Consultation with utility stakeholders to ensure utilities are identified and captured prior to construction. • Relocation of existing utility assets which are affected by the Project works. • Allow provision of new assets, such as Intelligent Transport Systems conduits provided along the WHD from the DBD intersection to JGD intersection. • Continue consultation with relevant utility providers on the project design and incorporate changes to project design as required.	Design and construction
Temporary service disruption impacts will be managed by giving prior notification to residents regarding construction activities that many interfere with their access to utilities such as water, sewer, electricity, and gas networks. Consultation with emergency services closer to construction will be done to confirm the requirements for notification of potential disruption to telecommunications within the locality and prior notification will be given to local residents regarding the works and their impacts on telecommunication networks.	Construction
Lights will be designed to minimise off-site light spill to reduce impacts on nocturnal fauna and other sensitive receivers during construction and operation. Lighting requirements will be managed in general accordance with the requirements in Australian Standards AS 4282.2019 Control of Obtrusive Effects of Outdoor Lighting.	Design

3.4.4. Scoping document requirements

Table 12 below details the risks associated with Utilities, Infrastructure and Lighting as defined in the EIS.

Table 12 Scoping document requirements (Utilities, Infrastructure and Lighting)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Increased luminance for residents impacting amenity of sensitive receivers during construction and operation.	High	Possible	Minor	Low
Lighting impacts to nocturnal fauna.	High	Possible	Minor	Low
Requirement to install new infrastructure to service the Project impacting on existing Infrastructure.	Significant	Likely	Minimal	Low
Temporary services disruption during utility works as part of the Project.	High	Likely	Minimal	Low
Accidental damage to utilities and other essential Infrastructure.	High	Unlikely	Moderate	Low
Impacts on existing infrastructure during construction and operation.	Extreme	Possible	Minor	Low
Disruption to vital services due to service outages during construction.	Extreme	Possible	Major	High
Light impact on sensitive receivers during construction and operation.	High	Possible	Minor	Low

3.5. Heritage

The Project would result in the study area being highly disturbed with excavation and the displacement of soils. The immediate surrounds would also be impacted by machinery movement and the storage of materials. All of these construction activities will disturb and compact soils within the Project boundary. Therefore, the EIS anticipates that any identified heritage sites located within the immediate vicinity of works would likely be impacted by the proposed construction.

3.5.1. Impacts

The potential impacts identified in the EIS were:

- the Project results in impacts to the heritage values of the Weetangera Methodist Cemetery or Kama Woodland/Grassland due to the recommendations of the Conservation Management Plan not being appropriately implemented during the design phase;
- potential damage or destruction of unknown or undiscovered Aboriginal and non-Aboriginal heritage items;
- impacts to unknown or undiscovered heritage items and places;

- uncontrolled access by vehicles leads to damage to heritage elements (identified PADs) or trees to be retained;
- potential damage or destruction of known Aboriginal and non-Aboriginal heritage items; and
- impacts to known heritage items and places.

3.5.2. Key findings

The EIS includes an Aboriginal and Historical Cultural Heritage Assessment (CHA), prepared by Past Traces Heritage Consultants (Appendix E of the revised EIS). Past Traces has identified that the study area encompasses sites of high heritage significance, including the Weetangera Cemetery (historical) and Kama Woodland/Grassland (natural), which are both listed on the ACT Heritage Register.

As a result of the background review, assessment of landforms and current condition, only minor heritage impacts are anticipated to the Kama Woodland Reserve as a result of construction activities. The CHA states that these heritage impacts are limited and are not considered to be significant or to affect the listed heritage values. As such, no significant impacts to the Aboriginal heritage sites are expected, provided that the mitigation measures developed for the Project are implemented.

The CHA notes that the Project will result in impacts to the listed values of the Weetangera Cemetery, in the form of potential harm to the Tree Protection Zone (TPZ) of one boundary tree. The CHA found that these impacts are unlikely to result in significant damage to the listed tree, and are within acceptable limits of impacts to the TPZ.

Mitigation measures including protection signage and buffer zones, have been proposed to address the heritage impacts identified in the CHA. These measures would ensure that there is minimal disturbance to heritage sites, ensure compliance with ACT Heritage Council requirements and protect Indigenous heritage. Further details of proposed mitigation measures can be found in Table 13.

With the implementation of proposed mitigation measures, the EIS anticipates that identified heritage impacts would be reduced from a risk rating of High to a rating of Low/Very Low.

In addition to the above, the ACT Heritage Council have been consulted with throughout the EIS process. There most recent comments confirm that the revised EIS has adequately addressed the requirements of the Scoping Document and, subject to conditions, sufficiently describes the anticipated heritage impacts of the development, and how these will be avoided, minimised and mitigated. Recommended conditions are included in section 7 of this Report.

3.5.3. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- details (including mapping) of the proposed impacts to the significant fabric within the curtilage of Kama Woodland/Grassland;
- further consideration of impact to habitat for native plant and animal species including several threatened species within Kama Woodland/Grassland;
- consideration of reasonably practicable alternatives to the proposal and strategies that would avoid impacts; and
- a description of the controls that will minimise and mitigate impacts to the intrinsic features of Kama Woodland/Grassland (specific to its heritage curtilage).

After considering the proponent's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.5.4. Mitigation and avoidance

Table 13 below summarises the mitigation and avoidance measures associated with Heritage as proposed in the EIS. A complete table of mitigation measures is available at Table 5-27 within the Revised EIS.

Table 13 Avoidance and mitigation measures (Heritage)

Proposed mitigation measures	Stage of implementation
To reduce impacts on the heritage values of Weetangera Methodist Cemetery and Kama Woodland, the following will be undertaken: • Consideration of design options to avoid or minimize impacts wherever possible. • Protection of sensitive areas (e.g. two cypress tress) through fencing or buffer zone demarcations.	Design and construction
If any Aboriginal objects are encountered during works then works must cease immediately in the vicinity of the find, and the find will not be moved until assessed by a qualified archaeologist with the participation of the RAOs. Adherence to the Unexpected Discovery Plan (UDP).	Design and construction
Damage to Heritage elements (identified PADs) or tress (to be retained) will be prevented through the establishment of no-go zones, site boundaries, and fences prior to construction by implementing an industry best practice CEMP to prevent unauthorised access into adjacent areas. Barrier fencing will be installed to demarcate the PAD boundaries with a buffer zone of at least 5m prior to works. Barrier fencing will consist of star pickets with high visibility flagging and will be installed by or under the direction of the RAOs and heritage team. The location of heritage sites and requirements for impact avoidance will be communicated to project manager and personnel engaged on the Project. Heritage site information will be included in site inductions.	Design and construction

3.5.5. Scoping document requirements

Table 14 below details the risks associated with Heritage as defined in the EIS.

Table 14 Scoping document requirements (Heritage)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**

The Project results in impacts to the heritage values of the Weetangera Methodist Cemetery or Kama Woodland/Grassland due to the recommendations of the Conservation Management Plan not being appropriately implemented during the design phase.	High	Unlikely	Minor	Very low
Potential damage or destruction of unknown or undiscovered Aboriginal and non-Aboriginal heritage items.	High	Unlikely	Moderate	Low
Uncontrolled access by vehicles leads to damage to heritage elements (identified PADs) or trees to be retained.	High	Unlikely	Moderate	Low
Potential damage or destruction of known Aboriginal and non-Aboriginal heritage items.	High	Unlikely	Moderate	Low
Impact to known heritage items and places.	High	Unlikely	Moderate	Low
Impacts to unknown or undiscovered heritage.	High	Unlikely	Moderate	Low

3.6. Noise and Vibration

The study area is already subject to noise and vibration from traffic along WHD. The EIS states that construction and operational vibration impacts associated with the Project are not expected to be significant. Noise generation during Project construction will include plant and machinery associated with the widening of the road, which is likely to cause temporary noise and vibration impacts on surrounding areas. In terms of operational traffic noise, a Road Traffic Noise Assessment was conducted by SLR Pty Ltd on behalf of the proponent which compared the noise levels at various receptors if the Project did and did not proceed. The assessment found that the increase in traffic noise as a result of the Project was generally less than 1 dBA at most receptors. The assessment has concluded that there are no significant noise impacts associated with the Project, provided recommended mitigation measures are complied with.

3.6.1. Impacts

The potential impacts identified in the EIS were:

- intermittent noise and vibration emitted from the equipment required to carry out the proposed construction of the Project impacting residential and non-residential receivers;
- local residents in surrounding suburbs exposed to increased levels of noise and vibration; and
- noise and vibration impacts to sensitive receivers during operation.

3.6.2. Public consultation

During the public notification process several concerns were raised about noise impacts. The main concerns included:

- Traffic noise - Local residents were interested in noise mitigation and the noise monitoring undertaken to date with a desire to see noise monitoring undertaken during a period more reflective of 'normal' traffic conditions. Residents concerned about noise levels, in particular close to the Hawker residential area.

The issues raised during public consultation were considered by the proponent and a response provided in Appendix J of the revised EIS. In summary, the proponent responded to these concerns by providing the following further information:

- A Noise and Vibration Assessment (the Study) was undertaken as part of the Draft EIS process. The Study was undertaken using current ACT guidelines and specifications by a specialist contracting firm. The contractor is fully accredited and experienced in working in the ACT. The Study undertook noise monitoring using traffic volumes taken during the Project as well as historical data from the surrounding road network. This provided a base for normal 2020 traffic noise and then was used to model what the road noise levels would be in 2031 under full traffic volumes. Any future noise levels above the required standard were identified and noise mitigation measures are proposed to lower these to an acceptable level.

  Submissions have prompted a peer review assessment of the Road Traffic Noise Assessment, which has been undertaken by WSP Australia. This includes a noise logger at the back of the Hawker houses. The new Noise and Vibration Assessment will be compared against the original and may inform design updates or amendments.

  As per ACT Noise Management Guidelines, road construction Projects need to provide mitigation where the noise impact is above certain criteria and thresholds. For the WHD Project, the required mitigation is likely to be noise reducing asphalt in parts of the project.

3.6.3. Key findings

A noise assessment of the Project was carried out in accordance with the Roads ACT Noise Management Guidelines. The EIS states that the noise assessment considered the existing and predicted traffic noise level at adjacent buildings, and included an assessment based on the predicted maximum traffic flow.

Following notification of the draft EIS, concerns were raised by nearby residents that the Project has not addressed noise adequately, as the noise monitoring was conducted during a quieter traffic period that coincided with COVID 19 lockdowns and on a long weekend.

TCCS responded to these concerns by organising WSP Australia to complete a peer review of the original Road Traffic Noise Assessment undertaken by SLR to confirm the adequacy of the assessment. Following WSP's peer review, some minor amendments were made to the Road Traffic Noise Assessment. A copy of the updated Road Traffic Noise Assessment is presented at Appendix F of the revised EIS.

The EIS notes that, in addition to the updated SLR noise assessment, SLR's original 2020 assessment was also peer reviewed by WSP under a separate engagement from the ACT Government.

The noise model produced by SLR established existing noise levels, target noise levels in accordance with the Roads ACT Noise Management Guidelines, and predicted maximum noise levels for 2031. The Noise Assessment found non compliances at 10 noise sensitive receptors.

The assessment notes that these predicted noise increases would occur incrementally as traffic volumes gradually increase on WHD, with an increase of less than 1 dB(A) at most receptors. The predicted increase is representative of the maximum traffic volumes at 2031 and not at the immediate commencement of road operation. The EIS accepts that an unmitigated difference of up to 4.5dBA would be experienced.

The increase is described as being a result of the widening of the alignment and additional traffic volumes together with the replacement of the asphalt at the Project limits.

The Noise Assessment considered various mitigation treatments to reduce road traffic noise, including changes to road pavement surface and acoustic noise barriers. Of the proposed mitigation measures, the assessment found low noise road pavement to be the preferred option.

Although effective in reducing noise levels, the assessment explains that noise barriers would present certain limitations and may require future maintenance. Whereas low noise road pavement would provide a substantial noise reduction of -4 dBA relative to the pavement surface proposed. The noise assessment states that this would ensure compliance with the Project's target noise levels at all receptor locations and reduce noise levels at affected receptors to levels compliant with the assessment criteria.

In terms of noise impacts associated with construction of the Project, it is expected that plant and machinery works associated with the widening of the road will cause temporary noise and vibration impacts on surrounding areas. The EIS states that nearby residents will be notified of such works prior to commencing, and any construction works outside of the recommended standard hours will not be undertaken without prior agreement with the ACT EPA and consultation with affected residents. It is expected that these measures would be incorporated into the CEMP for the Project. Further details about proposed mitigation measures are provided at Table 15 of this Report.

With the implementation of proposed mitigation measures, the EIS anticipates that identified noise and vibration impacts would be reduced from a rating of High to Low.

3.6.4. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- further justification to support the conclusion that there are no significant noise impacts on fauna; and
- clarification on the proposed mitigation measures in the Traffic Noise Assessment.

After considering the proponent's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.6.5. Mitigation and avoidance

Table 15 summarises the mitigation and avoidance measures associated with Noise and Vibration as proposed in the EIS. A complete table of mitigation measures is available at Table 5-35 within the Revised EIS.

Table 15 Avoidance and mitigation measures (Noise and Vibration)

Proposed mitigation measures	Stage of implementation
A CEMP would be prepared to address noise and vibration impacts. The CEMP will include: • Identification of all potential significant noise and vibration generating activities. • Measures to be implemented during construction to minimise noise and vibration. • Arrangements for consultation with sensitive receivers, including notification and complaint handling procedures. • Where practical, equipment will be selected to minimise noise emissions. Equipment will be fitted with appropriate noise control equipment and be in good working order.	Construction
The noise and vibration impact on local residents and sensitive receivers during operation will be managed through the use of low noise road pavement.	Operation

3.6.6. Scoping document requirements

Table 16 below details the risks associated with Noise and Vibration as defined in the EIS.

Table 16 Scoping document requirements (Noise and Vibration)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Intermittent noise and vibration emitted from the equipment required to carry out the proposed construction of the Project impacting residential and non-residential receivers.	High	Possible	Minor	Low
Local residents in surrounding suburbs exposed to increased levels of noise and vibration.	High	Possible	Minor	Low
Noise and vibration impacts to sensitive receivers during operation.	High	Possible	Minor	Low

3.7. Soils and Geology

Preliminary site investigations undertaken in preparation of the EIS indicate that the Project Site originally consisted of open pasture with scattered trees. In 1987, WHD was constructed and has remained relatively unchanged. Surrounding land use generally has remained as open pasture with scattered trees and used in recent times for grazing purposes. Several man-made features have been noted within the area including a farmhouse dwelling, former and existing sheds and farm dams.

Potentially contaminating historical activities have included the use of sheep dips for pesticide application to livestock in adjacent properties Block 1616 and Block 1592, which is likely to have occurred until the 1960s.

Widespread ground disturbance including cut to fill and possible importation of fill materials occurred during the construction of the WHD road corridor and the areas surrounding WHD have been used for rural grazing activities and recreational or environmental conservation activities associated with Kama and The Pinnacle Nature Reserves.

A feasibility study was undertaken for Molonglo Development Stage 3 by WSP, dated 18 May 2016, which identified the potential for unexploded ordinance (UXO) within the area. However, the EIS notes that the Study Area did not include the WHD road reserve.

3.7.1. Impacts

The potential impacts identified in the EIS were:

- inadequate investigation of site geotechnical issues resulting in additional works, delays to works and contractor claims;
- disturbance to or movement of contaminated soils during construction;
- contamination of soil during construction and operation;
- disturbance of soil associated with construction leading to increased soil and sediment erosion;
- surface water runoff containing sediment and soil leaving the construction site due to inadequate surface water and sediment and erosion control measures being implemented;
- incorrect disposal of excess materials cut from the Project Site;
- incorrect use of fill transported to site, leading to onsite and offsite contamination of soil and water; and
- undertaking significant public works relating to 0.3ha or more of land, and relating to public roads, without oversight by the EPA.

3.7.2. Key findings

The Project Site investigation included advancement of and sampling at 50 boreholes/test pits. No exceedances of human health and ecological investigation levels, or of management limits were detected. No indicators of acid sulfate soils were detected. Minor exceedances of ACT beneficial reuse criteria were detected in four samples selected for analysis. Based on the findings of these investigations, the likelihood for contamination along the alignment is considered low.

Impacts identified in the EIS include potential contamination impacts from historical land use and the presence of underground utilities, as well as the risk of soil erosion and sedimentation, and contaminated water run-off, particularly from vehicle-related contaminants during construction and operation. These concerns arise from various sources, including historical pesticide applications, the construction of the road corridor, and the importation of fill material.

The EIS states that the CEMP, proposed to be prepared and implemented during construction and rehabilitation stages of the Project, will include measures to manage erosion impacts and take specific actions to limit contamination risks, such as conducting dilapidation surveys, adhering to environmental protection measures, and ensuring proper disposal of contaminated soil.

In addition to the above, a contamination report and site investigation was undertaken for the proposed offset site at Block 1616, Belconnen (Appendix O of the revised EIS), which confirmed the presence of contaminated soil at two separate locations associated with a historic sheep dip and plunge dip. One of the sites, is located in an area supporting low quality BGW. The EIS states that this area initially fell within the proposed offset strategy site, however, has since been excluded from the offset calculations of the Final Environmental Offset Strategy. The other area is in the adjacent house block outside the Offset Site and is located in exotic grassland.

To address this, both contaminated areas within and adjacent to the Offset Site will undergo remediation in accordance with a Remediation Action Plan (Appendix P of the revised EIS), to ensure each site is suitable for its intended purposes and will not pose unacceptable risks to human health or the environment. The remediation process involves ex-situ removal of infrastructure and contaminated soil, carried out with minimal disturbance using small excavation equipment.

The CEMP will include specific measures for the offset site to mitigate potential risks, prevent the spread of pest plants, and avoid harm to mature trees. The remediated sites will be backfilled and rehabilitated with native species, consistent with the BGW community, within a small estimated footprint, including a buffer for operational support works.

With the implementation of proposed mitigation measures, the EIS anticipates that identified soil and geology impacts would be reduced from a risk rating of High to Low.

3.7.3. Mitigation and avoidance

Table 17 below summarises the mitigation and avoidance measures associated with Soils and Geology as proposed in the EIS. A complete table of mitigation measures is available at Table 5-37 within the Revised EIS.

Table 17 Avoidance and mitigation measures (Soils and Geology)

Proposed mitigation measures	Stage of implementation
Undertake geotechnical and contamination assessment, including detailed assessment of fill. Incorporate identified geotechnical and contamination constraints and recommendations into the design and project planning decisions.	Design
A site-specific Contamination Management Plan (CMP) will be developed prior to construction. The CMP will include an unexpected finds protocol for all earth works and construction activities including training personnel in the protocol. The CEMP will include measures to limit risks to the delivery of the Final Environmental Offset Strategy and require the site to be backfilled and rehabilitated with local native species that are consistent with the BGW community. Remediation of all identified contaminated sites will be undertaken prior to general construction commencing. All construction works will be covered by an ESCP approved EPA.	Design and construction

Fly tipped wastes (including suspected asbestos containing material) are to be removed by licensed persons, where applicable prior to construction to prevent cross contamination of underlying soils. All hazardous materials will be stored in accordance with the CEMP. Refuel will occur in designated and bunded areas only.	
Soil and sediment erosion will be minimised through: • retention of vegetation and clearing vegetation only when required; and • stabilising disturbed areas immediately through means such as installation of scour protection after excavation works. All construction works will be undertaken in accordance with an ESCP that has been approved by the EPA.	Construction
Stormwater assessments will be undertaken to ensure the Project design does not cause pressure on the existing stormwater infrastructure.	Design and construction
All soil subject to disposal from the Project Site must be addressed in accordance with EPA Information Sheet 4 - Requirements for the reuse and disposal of contaminated soil in the ACT, with no soil to be disposed from the Project Site without EPA approval. All imported fill and re-use of soil within the Project will comply with the ACT EPA requirements.	Construction
TCCS (the Proponent) will enter into an Environment Protection Agreement with the EPA.	Prior to and during construction

3.7.4. Scoping document requirements

Table 18 below details the risks associated with Soils and Geology as defined in the EIS.

Table 18 Scoping document requirements (Soils and Geology)

Potential Impact	**Risk Assessment**			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Inadequate investigation of site geotechnical issues resulting in additional works, delays to works and contractor claims.	High	Unlikely	Moderate	Low
Disturbance of unidentified contaminated soils during construction.	Possible	Major	High	Low
Disturbance of soil associated with construction leading to increased soil and sediment erosion.	Likely	Moderate	High	Low

Surface water runoff containing sediment and soil leaving the construction site due to inadequate surface water and sediment and erosion control measures being implemented.	High	Unlikely	Moderate	Low
Disturbance to or movement of contaminated soils during construction.	High	Possible	Minor	Low
Disturbance of soil associated with construction leading to increased soil and sediment erosion.	High	Unlikely	Moderate	Low
Inadequate soil management, sediment and erosion control, material tracking control and dust control during contamination remediation works resulting in contamination spread, potentially leading to additional works, delays to works, human health risks and contractor claims.	High	Possible	Major	High
Improper or inadequate use of personal protective equipment of contractors during contamination remediation works potentially leading to human health risks and contractor claims.	High	Possible	Major	High
Proposed remediation action plan is ineffective in remediating the identified contaminated site potentially leading to additional works, delays to works, and contractor claims.	High	Possible	Major	High

3.8. Water and Hydrology

The current natural flow of surface water occurs from The Pinnacle Nature Reserve and passes beneath WHD through existing transverse culverts, and discharges into the future Deep Creek dam on the western side of Whitlam and tributaries of Molonglo River to the northern section of the Project. Deep Creek runs south-west, towards the Molonglo River, to the south-south-west of the Project. The Molonglo River runs west and northwest towards the ACT/NSW border.

There are 27 existing culvert crossings within the proposed upgrade section of the road. The culvert catchments generally comprising of non-residential areas, which include the nature reserve and native open areas.

The EIS states that the existing transverse drainage systems under the proposed upgrade would be retained where practically possible to ensure consistency in the flow regime between existing and post-developed conditions. Six additional cross drainage pipes have been proposed in the revised EIS to improve water quality outcomes for the Project. These additional proposed pipes will drain stormwater from road pavement into swales for treatment. As such, the EIS has anticipated that there will only be minor changes in flow attenuation following construction.

3.8.1. Impacts

The potential impacts identified in the EIS were:

- water quality impacts to Deep Creek;
- local and regional drainage conditions altered and impacts on flooding as some of the proposed civil works for the shared path and road widening may impact the existing head available for the transverse drainage culverts, which may affect capacity for events larger than the 1% Annual Exceedance Probability (AEP);
- changes to existing flow paths and overland flow;
- potential changes to groundwater availability due to vegetation removal or excavation including impacts on groundwater dependent ecosystems and water users within the catchment;
- additional run off from new impervious surfaces increases flow downstream and impacts areas beyond the Project boundaries;
- reduction in water quality in waterways due to runoff and sedimentation during construction and operation; and
- change to water flow regimes in waterways due to construction and operation.

3.8.2. Key findings

The EIS states that an assessment of water quality and hydrology was carried out by reviewing aerial photographs and previous studies for developments such as Molonglo Stage 3, Whitlam and the Deep Creek Water Quality Pond. The assessment examined potential water quality and hydrology impacts, concluding that the Project's drainage design largely maintains the existing flow regime, and additional drainage pipes will help improve water quality.

Key mitigation measures involve a water quality strategy for treating impervious areas, maintenance of flow paths, additional vegetation planting, erosion control measures, and sedimentation prevention. The EIS anticipates that these measures will effectively manage potential water quality and hydrology impacts during both construction and operation, meeting applicable standards and safeguarding downstream water bodies, such as Deep Creek.

The road has also been designed to addresses stormwater management for events up to the 1% AEP rainfall, and vegetated swales and drainage systems are proposed with aim of reducing sediment transport, to ensure that water quality targets, as specified in Waterways: Water Sensitive Urban Design General Code, are met. Further details about proposed mitigation measures can be found in Table 19 of this Report.

With the implementation of proposed mitigation measures, the EIS anticipates that identified water and hydrology impacts would be reduced from a risk rating of High to Very Low.

3.8.1. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- consistency of proposed mitigation measures across documents;
- compliance with the Waterways: Water Sensitive Urban Design General Code;
- stormwater drainage; and
- resilience of the road to high rainfall events due to climate change.

After considering the proponent's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.8.2. Mitigation and avoidance

Table 19 below summarises the mitigation and avoidance measures associated with Water and Hydrology as proposed in the EIS. A complete table of mitigation measures is available at Table 5-40 within the Revised EIS.

Table 19 Avoidance and mitigation measures (Water and Hydrology)

Proposed mitigation measures	Stage of implementation
As detailed design progresses, consultation with the EPA will take place to confirm whether a Waterways Works Licence is required due to the proximity of the site to Deep Creek. Water quality discharge from the Project Site to meet the Waterways: Water Sensitive Urban Design General Code (21 February 2020).	Preconstruction and construction
Existing flow paths will be maintained and further augmented to allow for flow capacity up to the one percent AEP event. Overland vegetated channels have been designed within the project space to convey external catchment flow and for water quality measures for the Project**.**	Construction and operation
To mitigate the groundwater impacts, it is proposed to plant new evergreen trees alongside the locations where existing trees would be removed. Where possible, established trees would be retained to provide landscape screening. A schedule of additional plantings would be provided to soften the impact on the predominantly rural landscape.	Operational
Run-off and its consequent impacts on water quality will be minimized through: • implementation of an approved ESCP that covers all construction works. • water quality discharged from the construction site is to meet the EPA requirements under the EP Act. • permanent treatment grass swales are proposed to capture and treat pavement runoff to achieve the agreed water quality target for the project.	Construction and operation

Impacts on water flow regimes will be mitigated through: • provision of additional swales at the outlets to help in water storage and treatment. • Implementing appropriate ESC treatments such as dam, sediments fences, and straw bale barriers at the outlets during construction.	Construction and Operation

3.8.3. Scoping document requirements

Table 20 below details the risks associated with Water and Hydrology as defined in the EIS.

Table 20 Scoping document requirements (Water and Hydrology)

Potential Impact	Risk Assessment **Risk** (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Local and regional drainage conditions altered	High	Possible	Minimal	Very low
Changes to existing flow paths and overland flow due to proposed Project	High	Possible	Minimal	Very low
Potential changes to groundwater availability due to vegetation removal or excavation including impacts on groundwater dependent ecosystems and water users within the catchment.	High	Possible	Minimal	Very low
Additional run off from new impervious surfaces increases flow downstream and impacts areas beyond the project boundaries.	High	Possible	Minimal	Very low
Reduction in water quality in waterways due to runoff and sedimentation during construction and operation	High	Possible	Minimal	Very low
Change to water flow regimes in waterways due to construction and operation	High	Possible	Minimal	Very low
Rain event causing flooding, erosion, or damage to road infrastructure	High	Possible	Minimal	Very low

3.9. Hazards and Risks

The Project is located within a bushfire prone area and is considered to have a high bushfire risk. Bushfire risk has been considered as part of the preparation of the EIS to determine the potential risk to the existing and proposed infrastructure. The EIS has considered bushfire

asset protection zone requirements and mitigation measures to manage the potential risk from fire during construction.

3.9.1. Impacts

The potential impacts identified in the EIS were:

- increased risk of bushfire associated with sparks from construction equipment and vehicles;
- increased risk of bushfire through vehicle accidents;
- potential loss of life and property as a result of bushfire during construction
- bushfire started during construction and operation impacting assets and people off site; and
- bushfire started offsite impacting the Project and people on site.

3.9.2. Key findings

The EIS has identified that the construction phase of the Project presents potential ignition sources for bushfire, such as hot works, chemical storage, and plant equipment, which could exacerbate fire risks. Temporary traffic congestion due to construction may also hinder evacuation efforts and emergency services during a bushfire event.

The EIS states that as part of the mitigation measures for the Project, a CEMP will be prepared and implemented during construction for the Project that will contain measures to manage the use of hot works, chemicals storage and the use of plant and equipment at the Project Site in order to reduce the risk of onsite ignition. No hot works will take place during total fire ban days, except with a suitable permit in place. Asset Protection Zones will also be maintained around construction compounds as per the ACT Bushfire Management Standards. This will require a 30m protection zone to be kept between the Project and forest and woodland vegetation.

The CEMP will also have regard to the need for surrounding residents and personnel to be able to evacuate the locality during a potential bushfire event, and will consider the need for emergency services personnel to be able to access the surrounding locality, including major roads, minor roads and bushfire trails, during a bushfire event.

The EIS states that, once operational, the Project may have minor, beneficial impacts on bushfire risks by reducing vehicular congestion and improving road travel times.

With the implementation of proposed mitigation measures, the EIS anticipates that identified bushfire impacts would be reduced from a risk rating of High to Low.

3.9.3. Mitigation and avoidance

Table 21 below summarises the mitigation and avoidance measures associated with Hazards and Risks as proposed in the EIS. A complete table of mitigation measures is available at Table 5-61 within the Revised EIS.

Table 21 Avoidance and mitigation measures (Hazards and Risks)

Proposed mitigation measures	Stage of implementation
Increased risk of bushfire from construction related works and equipment will be managed through the development and implementation of CEMP. The CEMP will contain standard mitigation	Construction and operation

measure to manage the use of hot works, chemical storage and plants and equipment at the Project site. No hot works will take place during total fire ban days, except with a permit. For all works, Job Safety Analysis will be mandated to incorporate fire ignition risk assessment and controls for prevention of fire ignition in grass by vehicle exhaust systems. Project to be incorporated into an Asset Management Plan applying to Vegetation Management (bushfire and environmental) Works Plan.	
Potential loss of life and property from bushfire during construction will be minimized through the maintenance of Asset Protection Zones around construction compounds as per ACT Bushfire Management Standards.	Construction

3.9.4. Scoping document requirements

Table 22 below details the risks associated with Hazards and Risks as defined in the EIS.

Table 22 Scoping document requirements (Hazards and Risks)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Increased risk of bushfire from construction related works and equipment	High	Unlikely	Moderate	Low
Increased risk of bushfire from vehicle accidents	High	Unlikely	Moderate	Low
Loss of life and property from bushfire during construction	High	Unlikely	Moderate	Low

3.10. Landscape and Visual

The proposed alignment of the WHD duplication is contained within the existing road reserve. A visual and landscape assessment has been prepared for the EIS and states that duplication of the road is not anticipated to impact the visual integrity of important surrounding natural vistas including the Kama Nature Reserve (visible on the southern side of WHD) and The Pinnacle Nature Reserve (visible on the northern side of WHD), or any of the surrounding hills and ridges. The assessment also considered that, because the Project will be contained within the road reserve it is also not expected to directly impact the Weetangera Cemetery or its visual curtilage.

3.10.1. Impacts

The potential impacts identified in the EIS were:

- visual impacts during and following construction;
- visual impacts to sensitive receivers during operation;
- views available to occupants of nearby sensitive receivers are altered;

- species planted as part of the Project are inappropriate for landscape and impact on amenity of open spaces; and
- development is not consistent with values of retained heritage sites, or areas of natural environmental value.

3.10.2. Key findings

The EIS states that an assessment of potential landscape and visual impacts of the Project was carried out using photographs, descriptions, and impact assessment and associated ratings for seven representative public viewpoints. The visual impacts included consideration of landscape and urban design features proposed for the duplication works. The assessment found that the overall visual and landscape impacts of the Project will range from Low to Moderate for the landscape character and surrounding visual receiver locations, with potential mitigation measures considered for construction and operation phases.

Proposed mitigation measures are described in the EIS and include minimising light spill during night works, compound area screening, and reducing tree removal. Specific recommendations also include establishing landscaped screening near Weetangera Cemetery to minimise incidental public visitation and vandalism, as well as planting a row of trees to mitigate visual impact. The construction of retaining walls would also be managed to minimise visual impacts by choosing colours and materials that are sympathetic to the surrounding area.

The EIS states that mitigation measures would also include the preparation and implementation of a CEMP for construction works, ongoing maintenance of tree planting, selection of appropriate species, and consideration of Conservation Management Plan recommendations. It is expected that these measures would help manage potential landscape and visual impacts throughout the Project's lifecycle.

With the implementation of proposed mitigation measures, the EIS anticipates that identified landscape and visual impacts would be reduced from a risk rating of High, Medium and Very Low to a rating of Low, Very Low and Negligible.

3.10.3. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- further visual assessment of retaining walls in Whitlam, south of intersection of WHD and DBD;
- clarification if noise barriers will be used to mitigate noise experienced by residents in Hawker and Whitlam. If noise barriers are proposed to be used as a mitigation measure, then a visual impact assessment is required.

After considering proponent's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.10.4. Mitigation and avoidance

Table 23 below summarises the mitigation and avoidance measures associated with Landscape and Visual as proposed in the EIS. A complete table of mitigation measures is available at Table 5-44 within the Revised EIS.

Table 23 Avoidance and mitigation measures (Landscape and Visual)

Proposed mitigation measures	Stage of implementation

Visual impacts during and following construction and visual impacts on sensitive receivers will be mitigated by: • undertaking a Visual and Landscape Assessment during design to anticipate / understand impact on sensitive receivers; • developing and implementing industry best practice CEMP which includes rehabilitation/ landscaping plan; • plan for early establishment of landscaping features as described in detailed design; • erecting fences and other barricades around construction site such that they reduce the visual impacts of the construction phase; and • long term maintenance (and replacement as necessary) of tree planting within the Project Site to maintain visual filtering and screening of external views.	Design, construction and operation
In order to prevent planting of inappropriate species with negative impacts on amenity of open spaces a Landscape Plan will be developed to identify appropriate species to be planted as part of the Project to minimise the visual impact on amenity of open spaces. The Plan will ensure that selected species do not compete with native vegetation or cast an additional shadow on sensitive areas.	Design and construction
To ensure development is in consistent with the existing values of the retained heritage sites or natural environmental value, the Conservation Management Plan and its recommendations will be considered throughout the design phase.	Design and construction

3.10.5. Scoping document requirements

Table 24 below details the risks associated with Landscape and Visual as defined in the EIS.

Table 24 Scoping document requirements (Landscape and Visual)

Potential Impact	**Risk Assessment**			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Visual impacts during and following construction.	Very low	Unlikely	Minimal	Negligible
Views available to occupants of nearby sensitive receivers are altered.	Very low	Unlikely	Minimal	Negligible
Species planted as part of the Project are inappropriate for landscape and impact on amenity of open spaces.	Medium	Unlikely	Minor	Very low
Development is not consistent with values of retained heritage sites, or areas of natural environmental value.	High	Possible	Minor	Low
Development impacts on recreational use/users of the	High	Possible	Minor	Low

area – Bicentennial Nature Trail.				
Visual impacts to sensitive receivers during operation.	Medium	Possible	Minor	Low

3.11. Materials and Waste

The EIS states that resource use and waste impacts due to the Project has been assessed qualitatively by reviewing the likely waste and resource streams during construction and operation and applying the waste hierarchy.

Potential waste associated with the Project is expected to include:

- asphalt from the existing road;
- excess spoil unsuitable for reuse onsite;
- cleared vegetation;
- general garbage and refuse; and
- waste associated with maintenance of construction vehicles and plant, including liquid waste and any onsite spillage of fuels or oils.

Site investigations also found that the Project Site has undergone widespread disturbance as a result of the original construction of WHD in the 1980s. The EIS states that fill mounds are present within the road reserve, which are likely a result of cut undertaken during construction, and there is a potential for previous importation of fill material of unknown origin. As such, the reuse of soil within the Project will need to be assessed during the construction phase to ensure compliance with ACT soil classification requirements.

3.11.1. Impacts

The potential materials and waste impacts of the Project includes:

- waste materials produced during construction of the Project not stored or managed effectively;
- excessive resources used in the construction of the Project; and
- increase in waste to landfill during construction.

3.11.2. Key findings

A range of mitigation measures have been proposed in the EIS to ensure waste associated with construction will be appropriately managed, classified and disposed in accordance with a Waste Management Plan that will be prepared and implemented as part of the CEMP for the Project.

The EIS has also committed to a number of safeguards that will be implemented through the CEMP to avoid and minimise disturbance to the environment as a result of construction of the Project. This includes mulching of cleared vegetation to be reused on-site, application of adequate spill prevention and containment measures during fuelling activities. Labelling of all waste, which will be segregated, and stored in designated areas. Contaminated soil would also be characterised and disposed of at licensed facilities, and all waste materials regularly removed from the construction site.

Any surplus excavated material generated from site works or material deemed unsuitable for onsite reuse will likely be disposed of offsite at an appropriately licenced facility and in accordance with the Environment Protection Authority's Information Sheet 4 - Requirements for the reuse and disposal of contaminated soil in the ACT.

With the implementation of proposed mitigation measures, the EIS anticipates that identified material and waste impacts would be reduced from a risk rating of High to Very Low to a range of Low to Very Low.

3.11.3. Mitigation and avoidance

Table 25 below summarises the mitigation and avoidance measures associated with Materials and Waste as proposed in the EIS. A complete table of mitigation measures is available at Table 5-46 within the Revised EIS.

Table 25 Avoidance and mitigation measures (Materials and Waste)

Proposed mitigation measures	Stage of implementation
Storing of hazardous materials required for the operation and maintenance of the Project in accordance with relevant ACT EPA guidelines and use of an appropriately licensed contractor to remove contaminated waste, under current ACT EPA Guidelines.	Construction
Investigate opportunities to re-use or recycle other construction and demolition waste, and apply the waste hierarchy (avoid, minimise, reuse/recycle, dispose) throughout construction.	Design and construction

3.11.4. Scoping document requirements

Table 26 below details the risks associated with Materials and Waste as defined in the EIS.

Table 26 Scoping document requirements (Materials and Waste)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Waste materials produced during the construction of the Project were not stored or managed effectively	High	Unlikely	Minor	Very low
Excessive resources used in the construction of the Project	Very low	Possible	Minor	Low
Increase in waste to landfill during construction	High	Likely	Minimal	Low

3.12. Climate Change

The EIS has considered potential climate change vulnerabilities that may impact on construction and operational phases of the Project, including weather changes such as storm intensity, flooding and increased fire risk.

The EIS also includes a high-level assessment of greenhouse gas (GHG) emissions produced during construction and operation of the Project. The scope of this assessment includes the estimation of GHG emissions from typical operation of the development, including fuel consumption from vehicles using the road and electricity consumption from road assets. The

GHG emissions have been calculated out to 2045, the year when the ACT Government has committed to having net zero GHG emissions.

3.12.1. Impacts

The potential impacts identified in the EIS were:

- GHG emissions from vehicles and machinery working;
- more regular Inspection of road surface and associated infrastructure required;
- GHG emissions from construction and operation contributing to climate change; and
- urban heat island effect for areas of cleared vegetation at the Project Site.

3.12.2. Key findings

A climate change impact investigation conducted by SMEC in preparation of the EIS concluded that there are no serious climate change risks that require specific treatment in order for the infrastructure to be resilient and business as usual practices following industry practices and Australian Standards are likely to go far enough to produce climate resilient infrastructure.

The investigation also found that given the relatively small scale of the Project, it is unlikely climate change impacts associated with construction and operation will be significant or widespread. Where impacts have been identified, adaptation measures have also been proposed, which are summarised as follows:

Potential Impact	Adaptation Measure	Effectiveness
Bushfire leading to operational dysfunction	Duplication increases capacity of the asset. This will allow the Project to be used by more road users in the early stages of a bushfire.	High
	Project assets are designed to Australian Standards and electrical infrastructure (traffic signals, lighting) are designed to appropriate ingress protection standards (for ash accumulation).	High
	Appropriate fire breaks are designed for the Project and landscaping is included in Agency's maintenance schedule, reducing risk of fire effecting operation.	High
	Design life of signalling, signage, pavement surface and lighting infrastructure is in the order of 20 years. Technological improvements are expected as elements are replaced.	Moderate
Bushfire leading to infrastructure degradation	Project assets are designed to Australian Standards and electrical infrastructure (traffic signals, lighting) are designed to appropriate ingress protection standards (for ash accumulation)	Moderate-High
	Appropriate fire breaks are designed for the Project and landscaping is included in Agency's maintenance schedule, reducing risk of fire effecting operation.	
Bushfire presenting risk to life	Duplication increases capacity of the asset. This will allow the Project to be used by more road users in the early stages of a bushfire.	High

	Appropriate fire breaks are designed for the Project and landscaping is included in Agency's maintenance schedule, reducing risk of fire effecting operation.	
Inundation leading to operational dysfunction	Drainage infrastructure and pavement geometry designed to Australian Standards. Increased impervious service accounted for in surface and sub-surface drainage design. Surface drainage design based upon 1% AEP event and sub-surface drainage designed for 20%AEP. Both were increased by 20% to account for increased rainfall intensity due to climate change as per Section 3.2.4 of MIS08. A sensitivity analysis has also been undertaken in alignment with design criteria.	High
Inundation leading to infrastructure degradation	Drainage and pavement infrastructure designed to Australian Standards. Increased impervious service accounted for in surface and sub-surface drainage design. Surface drainage design based upon 1% AEP event and sub-surface drainage designed for 20%AEP. Both were increased by 20% to account for increased rainfall intensity due to climate change as per Section 3.2.4 of MIS08. A sensitivity analysis has also been undertaken in alignment with design criteria.	High
Inundation presenting risk to life	Drainage and pavement infrastructure designed to Australian Standards. Increased impervious service accounted for in surface and sub-surface drainage design. Surface drainage design based upon 1% AEP event and sub-surface drainage designed for 20%AEP. Both were increased by 20% to account for increased rainfall intensity due to climate change as per Section 3.2.4 of MIS08. A sensitivity analysis has also been undertaken in alignment with design criteria. % AEP event surface drainage design allows for maximum of 1 lane closure in design parameters.	High
Drought leading to infrastructure degradation	Fill batters compacted to 95% MMDD. Geotechnical treatments applied at structural interfaces. Batter erosion protection through landscaping and surface flow drainage.	High High Moderate

	Maximum fill batter steepness of 2.5:1 to maximise stability.	High

The EIS states that an increase in GHG emissions, primarily carbon dioxide, will be expected during construction of the Project. This would be due to exhaust emissions from the construction fleet, from the consumption of electricity, from the production of required materials and from vehicles transporting materials and personnel to and from the construction work area. During road operation, internal combustion engine vehicles and electricity use (lighting) would be the primary sources of GHG emissions.

The EIS has concluded that the predicted GHG emissions generated through the construction and operational stages of the project would be:

- the total construction GHG footprint of 11,785t CO2-eq, which is equivalent to the approximate annual emissions of 590 Australian homes (as per *ACT Infrastructure GHG Emissions Tool, Version 1.1)*. This is approximately 0.72% of the ACT's 2021-22 Annual emissions.; and
- total operational GHG emissions in the year 2045 of 1,96 t CO2-eq (based on traffic modelling data).

A number of measures have been proposed in the EIS to mitigate climate change impacts, including design investigations to provide for efficient vehicular movements, use of energy-efficient vehicles, and planting evergreen trees to mitigate urban heat island effects in cleared areas. The Project has committed to tree and shrub replacement ratios of 1:10 and 1:4 respectively. Eucalyptus saplings would also be replaced at a ratio of 1:4. In addition, landscaping plans for the Project will consider the use of lighter colours in delivering hard infrastructure components of the Project where reasonable and feasible to do so, and where road safety/legibility will not be compromised.

The Project also aims to contribute to emissions reduction by promoting active transport through shared pathways, preserving habitat for the Superb Parrot and offsetting unavoidable biodiversity loss. Further detail about proposed mitigation measures can be found in Table 27 of this Report.

With the implementation of proposed mitigation measures, the EIS anticipates that identified climate change impacts would be reduced from a risk rating of Very High to High, to a rating of Low.

3.12.3. Section 224 notice

Further information was requested on the following items within Appendix 3 – Section 224 notice:

- details about the proposal's resilience to climate change, particularly to extreme events, including consideration of adaptation measures; and
- calculations of the expected GHG emissions produced during construction and operation of the Project and the impact of these on climate change.

After considering proponent's section 224 submission, the assessment is that all items have satisfactorily addressed the heads of consideration of the scoping document.

3.12.4. Mitigation and avoidance

Table 27 below summarises the mitigation and avoidance measures associated with Climate Change as proposed in the EIS. A complete table of mitigation measures is available at Table 5-55 within the Revised EIS. Climate change adaptation measures have also been considered in Table 5-54 of the Revised EIS.

Table 27 Avoidance and mitigation measures (Climate Change)

Proposed mitigation measures	Stage of implementation
Detailed design and CEMP are to take into account efficient vehicular movements in designing construction methodology and managing these impacts during the construction stage of the Project.	Design, construction and operation
Maintenance inspection/requirements and working procedures to consider increase in heat and extreme climate events and use of energy and fuel efficient vehicles.	Construction and operation
GHG emission from construction plant and equipment to consider energy and fuel efficiency to minimise GHG emissions. Site compounds to be powered through ACT grid electricity (100% renewable) where they would otherwise be generator powered. Consider 'green' travel for construction staff.	Construction and operation
To reduce the urban heat island effect, it is proposed to plant new evergreen trees alongside the locations where existing trees will be removed. Where possible, established trees will be retained to provide landscape screening. The Project has committed to tree and shrub replacement ratios of 1:10 and 1:4 respectively. Eucalyptus saplings would also be replaced at a ratio of 1:4. In addition, landscaping plans for the Project will consider the use of lighter colours in delivering hard infrastructure components of the Project where reasonable and feasible to do so, and where road safety/legibility will not be compromised.	Construction and operation

3.12.5. Scoping document requirements

Table 28 below details the risks associated with Climate Change as defined in the EIS.

Table 28 Scoping document requirements (Climate Change)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
GHG emissions from vehicles and machinery working	Very high	Almost certain	Minor	High
More regular Inspection of road surface and	High	Likely	Minimal	**Low**

associated infrastructure required				
Native species unable to optimally adapt to climate change due habitat fragmentation	High	Likely	Major	Medium
GHG emissions from construction and operation contributing to climate change	Medium	Likely	Minimal	Low
Increased impervious surfaces, adding to the urban heat island effect	Medium	Likely	Minimal	Low
Habitat fragmentation reducing the ability for all native species to adapt to climate change	High	Likely	Major	Medium
Bushfire leading to operational dysfunction and infrastructure	Very low	Remote	Minor	Negligible
Bushfire leading to infrastructure degradation				
Bushfire presenting risk to life	Medium	Remote	Major	Low
Inundation leading to operational dysfunction, infrastructure, degradation, and risk to life	Negligible	Remote	Minor	Negligible
Drought leading to infrastructure degradation	Very low	Remote	Minor	Negligible

3.13. Socio-economic and Health

A review of the demographics of the Study Area and its surrounds has been undertaken in preparation of the EIS to understand the potential socio-economic and health impacts of the project. The population of the ACT as per the 2016 census was 396,857, and is projected to be 500,000 by 2033. The total population of the district of Belconnen in 2018 was 98,740 and the population of the Molonglo was 5,847. Both districts are expected to experience significant growth in population with Molonglo projected to increase in population to 51,400 by 2041.

The EIS has considered potential direct and indirect impacts to sensitive receivers and workers as well as the West Belconnen and Molonglo areas.

3.13.1. Impacts

The potential impacts identified in the EIS were:

- Impact on recreational users of reserves and open space adjacent to the current road alignment; and
- Work, health and safety risk to workers during construction.

3.13.2. Key findings

The EIS has identified that sensitive receivers which may be impacted by the Project include local residents, local businesses, government institutions, religious and community centres, and educational and childcare facilities.

The immediate area of impact for the Project is any property or neighbouring property in the residential areas of Higgins, Weetangera and Holt and the future suburb of Whitlam. However, the EIS notes that no acquisition of land is proposed for this Project and all work areas, including construction lay down areas and site compounds, are to be contained to the road reserve.

The EIS confirms that indirect impacts will be experienced by residents in properties adjoining the road reserve, including construction and operational impacts such as noise, air quality or visual impacts. Some temporary access impacts will also be necessary to allow for access through surrounding areas which are utilised for recreational purposes including the Bicentennial National Trail, The Pinnacle and Kama Nature Reserves, the Weetangera Cemetery and adjacent open spaces.

Potential exposure to contaminants during construction presents additional risks for workers, which may be associated with potential unexpected finds, exposure to any hazardous materials required for the construction of the roadway and fuel and oils required for maintenance of construction vehicles and plant.

Overall, the EIS anticipates positive socio-economic impacts as a result of operation of the Project, as it would provide West Belconnen and Molonglo residents with an improved road network, including with respect to both vehicular travel times, active travel and road safety.

With the implementation of proposed mitigation measures, the EIS anticipates that identified socio-economic and health impacts would be reduced from a risk rating of Medium to Very Low, to a rating of Low to Negligible.

3.13.3. Mitigation and avoidance

Table 29 below summarises the mitigation and avoidance measures associated with Socio-economic and Health as proposed in the EIS. A complete table of mitigation measures is available at Table 5-59 within the Revised EIS.

Table 29 Avoidance and mitigation measures (Socio-economic and Health)

Proposed mitigation measures	Stage of implementation
A CEMP will be prepared and include an unexpected finds protocol. A Waste Management Plan will be prepared and include stockpile management procedures for contaminated material. Hazardous materials are to be stored in accordance with relevant ACT EPA guidelines. An appropriately licensed contractor will be used to remove contaminated waste under ACT EPA Guidelines.	Design and construction
To reduce / minimize access impacts on surrounding recreational areas (such as Bicentennial National Trail, The Pinnacle and Kama Nature	Construction

Reserves, the Weetangera Cemetery and adjacent open spaces), the construction contractor will schedule construction tasks so as to minimise these disruptions where reasonable and feasible to do so.	

3.13.4. Scoping document requirements

Table 30 below details the risks associated with Socio-economic and health as defined in the EIS.

Table 30 Scoping document requirements (Socio-economic and Health)

Potential Impact	Risk Assessment			
	Risk (before mitigation)	**Likelihood** (after mitigation)	**Consequence** (after mitigation)	**Residual risk**
Impact on recreational users of reserves and open space adjacent to the current road alignment	Very Low	Remote	Minor	Negligible
Work, health and safety risks to workers during construction	Medium	Possible	Minor	Low

3.14. Non-potentially significant impacts

The EIS did not identify any additional non-potentially significant impacts.

3.15. Conclusion of impact assessment

The supporting studies and the comments of relevant entities provide sufficient information on the impacts of the proposal identified above. Of note, the Project will result in the unavoidable clearing of 6.41ha of BGW. An AOS has been prepared at Appendix D of the revised EIS and has determined this to be a significant impact to this critically endangered threatened ecological community.

A Final Environmental Offset Strategy: William Hovell Drive Duplication (Umwelt, October 2023) has been prepared and is included at Appendix L of the revised EIS. The offset area will adjoin The Pinnacle Nature Reserve would offset unavoidable impacts to EPBC listed BGW. Implementation of this strategy would result in an offset of 123% of the impact to EPBC listed BGW.

Conditions have been included in section7of this Report to ensure that impacts identified in section 3 above will be appropriately mitigated.

4. Legislative and Policy considerations

A number of ACT and Commonwealth legislation and policies were considered in the preparation of this EIS as outlined below.

4.1. Planning and Development Act 2007

Schedule 4 of the PD Act, which was the chief determining piece of legislation for environmental impact assessment in the ACT at the time of preparing the EIS for the Project, lists proposals requiring an EIS. The proposal falls under the impact track, as it meets the requirements listed in Schedule 4, Part 4.3, Items 1 and 2 of the PD Act.

A Scoping Document (Application Number: EIS 202000014) for the duplication of William Hovell Drive was issued by the Authority on 19 October 2020 and provides requirements for information that is to be provided in the EIS to be submitted for planning approval.

The EIS has been prepared in a manner that is consistent with the Scoping Document.

4.2. Planning and Development Regulation 2008

This EIS must be prepared in accordance with the *Planning and Development Regulation 2008* (the Regulation). Section 50 of the Regulation outlines the requirements for the preparation of an EIS in the ACT.

The requirements of the Regulation have been met in preparation of the EIS.

4.3. Environment Protection and Biodiversity Conservation Act 1999 (EPBC ACT)

The Commonwealth's EPBC Act is the Australian Government's key piece of environmental legislation. In accordance with the EPBC Act, approval is required for any proposed action likely to have a significant impact on MNES protected by the EPBC Act.

Potentially significant impacts on any MNES trigger a referral process under the EPBC Act.

The Project has been referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for confirmation of whether impact on MNES is deemed significant and whether the Project constitutes a Controlled Action. A Referral Decision was received on 29 July 2020 (EPBC 2020/8703) confirming that the Project is a controlled action and requires assessment and approval under the EPBC Act. The Project will be assessed under the bilateral agreement with the ACT.

4.4. Environment Protection Act 1997

The *Environment Protection Act 1997* (EP Act) protects the environment from pollution and its effects. The EP Act provides the regulatory framework to help reduce and eliminate the discharge of pollutants into the air, land, and water.

The EP Act establishes the EPA as the statutory decision maker for environmental regulation and policy. The EPA administers legislation covering air and water quality, waste, contaminated land, noise, pesticides, and hazardous waste. It is an offence under Sections 137, 138 and 139 of the EP Act to cause environmental harm, material environmental harm,

serious environmental harm, or likely environmental likely material environmental harm or likely serious environmental harm.

The Project involves a Class B activity as listed under Clause 1.3 of Schedule 1 to the EP Act, being for major land development or construction activities, as well as for management of municipal services maintenance on unleased land.

The proponent will be required to enter into an Environment Protection Agreement with the EPA.

In relation to other EP Act related aspects of the proposal, the proponent has provided sufficient detail to the EPA in relation to the EP Act. As noted by the EPA, in their advice on the EIS, the documentation adequately addresses EPA concerns within the proposed works area. Conditions have been recommended for the concurrent development application.

4.5. Environment Protection Regulation 2005

The *Environment Protection Regulation 2005* supports the EP Act. Conditions will be included in the Notice of Decision for any related DA to ensure unexpected finds are assessed by suitably qualified consultants.

4.5.1. Environmental Authorisations

Environmental authorisations are a form of licence to conduct an activity which has a significant potential to cause environmental harm. An authorisation sets out the conditions under which the activity may be conducted. As stated above, the proponent will be required to enter into an Environment Protection Agreement with the EPA.

4.5.2. Environment Protection Policies

Environment Protection Policies help to explain and apply the EP Act and the *Environment Protection Regulation 2005*. There are eight policies, with the following relating to particular areas of environment protection applicable to the Project:

- general;
- air;
- contaminated sites;
- hazardous materials;
- noise; and
- water.

The EIS states that management plans which are required to be prepared to guide the potential environmental impacts of the Project's construction will be guided by these polices.

4.6. Nature Conservation Act 2014 (NC Act)

The NC Act establishes a formal process for the identification and protection of threatened species and ecological communities in the ACT region. The NC Act requires the Conservator of Flora and Fauna to prepare an action plan in response to each declaration of a threatened species, ecological community or threatening process.

Proponents must assess the likely impact of the proposed development on threatened species and ecological communities listed under the NC Act. As such, the NC Act applies to the Project and this EIS has assessed the Project against the relevant NC Act requirements within the biodiversity assessment.

Part 2.1 of the NC Act establishes the role and function of the Conservator of Flora and Fauna in the administration of licensing for taking, owning, selling, importing and exporting native plants and animals, for establishing the Biodiversity Research and Monitoring Program, for managing Nature Reserves in the ACT and for protecting and conserving threatened species and ecological communities.

In preparing advice regarding DAs, the Conservator must consider MNES Significant Impact Guidelines, the ACT Offsets Policy and any other published guideline, policy, or plan regarding protected matters or MNES.

The EIS documentation includes an assessment of likely impacts of the proposed development on threatened species and ecological communities listed under the NC Act.

4.7. Tree Protection Act 2005

The *Tree Protection Act 2005* protects registered and regulated trees from removal or damage. The EIS states that the Project will not require the removal of any tree registered under the ACT Provisional Tree Register or the ACT Tree Register.

The Project Site comprises area designated as road reserve, that is not within a tree management precinct, and does comprise any regulated trees that may need to be protected. Section 5.2.2.3 of the EIS provides the details of a registered tree within the Study Area.

One mature Cypress Tree within the heritage-listed Weetangera Cemetery would have around 5-6% of its Tree Protection Zone impacted by the Project. The concurrent DA seeks approval to undertake these minor impacts to this tree.

4.8. Pest Plants and Animal Act 2005

The *Pest Plants and Animals Act 2005* identifies pest plants and animals within the Territory and promotes a strategic and sustainable approach to protecting the ACT's land and aquatic resources from threats from pest plants and animals.

The *Pest Plants and Animals Act 2005* is relevant to the Project, and is the basis for identifying and managing clearing of pest species within and adjacent to the road duplication. Matters with respect to invasive flora and fauna species related to the Project are considered within Section 5.2 and Appendix D of the EIS.

4.9. Water Resources Act 2007

Under section 42 of the *Water Resources Act 2007*, administered by the EPA, construction or altering a water structure, or doing any other work in or on a waterway, is not permitted before obtaining a Waterway Works Licence (WWL). When considering an application for a WWL, the EPA must be satisfied that the work will not adversely affect the flow or quality of the water, the aquatic habitat in the waterway or the interests of other water users.

The EIS states that consultation will be undertaken with the EPA as to whether a WWL will be required due to the Project's proximity to Deep Creek.

4.10. Heritage Act 2004

The Heritage Act 2004 sets out a regime for the recognition, registration and conservation of:

- Places and objects that have natural heritage significance
- Places and objects that have cultural heritage significance

- Aboriginal places and objects.

It also provides a system integrated with ACT land planning and development to consider DAs having regards to the heritage significance of places, as well as the prevailing heritage guidelines. The *Heritage Act 2004* also establishes the ACT Heritage Council. Part 15 of the *Heritage Act 2004* sets out the process for entering into heritage agreements. Various criminal offences are furthermore set out with regards to damaging heritage items or places.

Both a Cultural Heritage Assessment (CHA) and a Statement of Heritage Effects (SHE) has been prepared in support of the Project. These are summarised in Section 5.4, and provided in full within Appendix E of the EIS.

As noted by the Act Heritage Council in their advice on the EIS, the documentation adequately addresses their concerns within the proposed works area, subject to conditions. Conditions have been recommended for the concurrent development application.

4.11. ACT Climate Strategy 2019 – 2025

The ACT Climate Change Strategy 2019-2025 sets out the ACT Government's action plan to respond to climate change and its effects and manage the impacts on people, infrastructure, and services. The EIS documentation has assessed the potential impacts of climate change and includes an assessment of the Project's impact on Climate Change in consideration of construction phase GHG emissions and the steps identified in the ACT Climate Change Strategy to reduce emissions.

4.12. Canberra's Living Infrastructure Plan: Cooling the City

Canberra's Living Infrastructure Plan: Cooling the City sets out the ACT Government's commitment to maintain and improve living infrastructure within Canberra. The Plan recognises the role that 'living infrastructure' plays in keeping the City's temperature cool as the climate warms, becomes more variable, and also more extreme.

The Project proposes to provide an offset against the loss of BGW habitat by protection of land adjoining The Pinnacle Nature Reserve which will preserve nesting habitat for Superb Parrot and retain old growth trees and native grassland understorey. Revegetation and rehabilitation will be undertaken during the Project and include:

- prior to revegetation works excavated or disturbed areas to be rehabilitated so that material is reinstated in original sequence i.e., topsoil at surface and subsoil below;
- all areas of disturbance must be revegetated immediately following construction;
- revegetation to be undertaken using a cover crop of sterile Rye Grass to ensure that rapid stabilisation occurs; and
- a suite of suitable local native species will be used in conjunction with the Rye Grass cover crop. The seed mix will be a locally collected species mix including four species.

The EIS states that native, mature trees removed as a result of the Project will be replaced at a ratio of 1:10. Native shrubs and Eucalyptus saplings removed as a result of the Project will be replaced at a ratio of 1:4. The locations of these plantings must be considered as part of the landscaping plans prepared for the Project, in line with the Final Environmental Offset Strategy (refer to Appendix L of the revised EIS).

Proposed landscaping trees for the Project will either be *Casuarina Cunninghamiana*, or one of six different species of Eucalyptus. Landscaping plans for the Project will also consider the use of lighter colours in delivering hard infrastructure components of the Project where reasonable and feasible to do so, and where road safety/legibility will not be compromised.

4.13. Territory Plan 2008

The Territory Plan 2008 is the statutory document that guides planning and development in the ACT. The purpose of the Territory Plan is to control planning and development in the ACT in a manner which promotes 'an attractive, safe and efficient environment in which to live, work and have their recreation'. The Territory Plan manages development and land use by establishing strategic directions and plans, land uses as well as codes and criteria associated with different land uses.

The concurrent Development Application for the Project will include an assessment against the relevant requirements of the Territory Plan

4.13.1. Territory Plan Statement of Strategic Directions

The Statement of Strategic Directions sets out the principles to guide the planning and development of the ACT. These include principles relating to sustainable development relating to environmental, economic, and social sustainability as well as spatial planning and urban design principles.

The key principles in the statement of strategic directions include a balanced approach to environmental, economic, and social impacts to ensure sustainable practices.

The EIS documentation states that the Project will increase the safety and efficiency of a key road which has enabled the well-planned expansion of residential development within the ACT. In doing so, it also provides the opportunity to develop new shared pathways alongside the Project Site which would improve the opportunities for residents and visitors of the ACT to pursue active transport journeys or engage in other active leisure pursuits.

The Project proposes to provide an offset against the loss of BGW habitat by protection of land adjoining The Pinnacle Nature Reserve, which will preserve nesting habitat for Superb Parrot and retain old growth trees and native grassland understorey.

4.13.2. Territory Plan codes

Various codes apply under the Territory Plan and are considered during the assessment of Development Applications. The Transport and Services Zone Development Code and the Non-Urban Zones Development Code are applicable to the proposal, in addition to various general codes. Upon completion of the EIS, the concurrent Development Application will be assessed against the relevant Territory Plan codes.

4.14. ACT Planning Strategy 2018

The ACT Planning Strategy provides long-term planning policy and goals to promote sustainable development, consistent with the social, environmental, and economic aspirations of the people.

The EIS states that the proposal is considered to be consistent with the general aims and objectives of the ACT Planning Strategy.

4.15. Transport Canberra Transport for a Sustainable City 2012 – 2031

The Transport for Canberra Policy sets the scene and vision for a sustainable city. It was released on 19 March 2012, and provides a foundation for transport planning for the next 20 years.

The EIS documentation states that the Project is directly aligned with many of the Transport for Canberra Strategic Goals which are embodied within Transport for Canberra Transport for a sustainable city 2012-2031, including:

Efficiency - the Project represents efficiency in the use of existing transport infrastructure by widening and improving an existing road corridor rather than constructing a new road corridor. The Project therefore also represents value for money.

Active travel - the Project will provide a future potential active transport corridor alongside WHD. This potential future shared path could connect to the existing shared path adjacent to Bindubi Street, potentially offering users a safe, direct connection to Civic and the trunk cycle network around Lake Burley Griffin. Providing a good access to this shared path will encourage broader use of active transport links and less reliance on private cars.

Integrated transport system – the Project will integrate both car travel and active travel modes with key arterial transport networks within the ACT, allowing transport users to also access public transport and other modes of transport.

Safe - the Project will improve the safety of both car and active transport journeys within this region of the ACT.

4.16. ACT Transport Strategy 2020

The ACT Transport Strategy 2020 identifies how the COVID-19 pandemic has provided the ACT with a once in a lifetime opportunity to reconsider individual transport behaviours to maintain the economic, health and environmental potential of reduced congestion. At the time of preparing the ACT Transport Strategy 2020, the ACT had around 1,000km of shared pathways, 2,500km of footpaths, and around 3,100km of roads, evidencing how most roadways in the ACT are supported by either a footpath or shared pathway. Cars remain the dominant mode of transport for ACT residents, with walking, public transport, and cycling following respectively. As stated in the Strategy: 'Continuing to increase flexibility, by building on the modern public transport network introduced in 2019 and harnessing the opportunities of on demand travel, especially in our outer suburbs, will offer people more choice over how they travel.'

The EIS documentation states that the Project will deliver on this vision as identified within the ACT Transport Strategy 2020 by improving the quality of road infrastructure which ACT residents and visitors may use for driving and cycling.

The ACT Transport Strategy 2020 also shows that WHD will be used by Orbital (e.g. non-Rapid) bus routes. The increased capacity of the additional lane along WHD would provide improved travel speed and travel time reliability for these bus routes.

4.17. Healthy Canberra: ACT Preventative Health Plan 2020 – 2025

Healthy Canberra: ACT Preventative Health Plan 2020-2025 seeks to improve health and wellbeing by supporting and promoting healthy and active lifestyles. This includes promoting and enabling active living, for instance by developing Canberra as a walkable and cycle-friendly

city and prioritising walking and cycling as a mode of transport for people of all ages and abilities. The Plan aims to see more adults and children using active modes of transport as we know that physical activity and movement have many physical and mental health benefits and can reduce the risk of developing chronic diseases.

The EIS documentation states that the Project is directly aligned with the aims of Healthy Canberra: ACT Preventative Health Plan 2020-2025 (ACT Health, 2019), as it will improve the quality of road infrastructure which ACT residents and visitors may use for driving and cycling.

4.18. National Capital Plan

The object of the National Capital Plan (NCP) is to ensure that Canberra and the Territory are planned and developed in accordance with nationally significant planning objectives. The NCP provides guidance for the planning, design and development of Designated Areas and other areas identified in the NCP with special requirements.

The Project is not subject to any NCP policies and will not require works approval.

However, the EIS documentation has noted that the Project is generally aligned with the Statement of Planning Principles within the National Capital Plan with regards to environmental sustainability, liveability and open space, urban design and heritage and accessibility. In particular, the Project will enhance the provision of:

> *Accessible movement systems for a diversity of pedestrian, cycle, public transport and private transport modes will be provided, with good connections between different modes of transport.*

5. Other EPBC Act considerations

Once finalised by the ACT Minister for Planning, this report will be provided to the Commonwealth Minister (or their delegate) to determine whether or not to approve the project under the EPBC Act.

In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Commonwealth Minister must not consider any matters that the Minister is not required or permitted, by Subdivision B, Division 1, Part 9 of the EPBC Act, to consider.

6. Other considerations

6.1. Principles of ecologically sustainable development

The following ecologically sustainable development principles have been considered at section 3.3.7 of the EIS, and by the Authority. It is considered that information has been provided against economic, environmental, social, and equitable considerations which are contained within the EIS documentation and inform decision-making through the implementation of the following principles.

6.1.1. Economic, environmental, social and equitable considerations

The long-term and short-term economic, environmental, social, and equitable considerations have been considered by the Authority in the preparation of this Report. These included the cumulative impacts of past and present developments within the area, including known future proposals. The Authority is satisfied that information relating to the above considerations, and the cumulative impacts, have been provided at section 3.3.7.1 of the EIS.

The Project will allow this existing arterial road corridor to continue to provide its functions whilst meeting the requirements of future traffic demands which are being driven by nearby residential estate development. This will also ensure that the road can safely meet the needs of road users in this area of the ACT, including future users of the Orbital public transport system. Budget funding has been set aside to deliver the Project and so meet the road safety needs of local constituents and visitors to the ACT. It allows for the provision of improved shared path access along the road corridor, which in turn will promote social and equitable outcomes by improving active travel and recreational access in the locality. Proposed biodiversity offsets and dedicated road crossings for fauna species will ensure that the Project provides for long-term needs of threatened species in the locality.

6.1.2. The precautionary principle

The precautionary principle has been addressed at section 3.3.7.2 of the EIS and was considered by the Authority in the preparation of this Report. The proponent has provided sufficient information relating to all potential environmental impacts and has proposed mitigation measures to be adopted during the construction and operation phases. A thorough review of the proposed design, construction and maintenance has been undertaken to identify areas where the Project would be able to avoid mitigate or offset identified impacts.

6.1.3. The principle of inter-generational equity

The principle of inter-generational equity has been addressed at section 3.3.7.3 of the EIS and was considered by the Authority in the preparation of this Report. The EIS and supporting documentation has considered short-term and long-term impacts and identified mitigation measures to minimise the impacts. The information provided to address the impacts will be considered in the assessment of the DA to determine whether these impacts have been reduced to a suitable level.

Given the location and nature of the Project is within existing road reserves, the Project is not considered to result in any impacts that are likely to adversely impact on the health, diversity or productivity of the environment for future generations. The EIS states that the Project is expected to benefit future generations by improving the efficiency, safety and carrying capacity of the current arterial road network whilst also enhancing opportunities for ACT residents and visitors to undertake active transport journeys and active leisure pursuits. The Final Environmental Offset Strategy will ensure the Project's biodiversity impacts can be appropriately compensated.

6.1.4. The conservation of biological diversity and ecological integrity

The conservation of biological diversity and ecological integrity has been addressed at section 3.3.7.4 of the EIS and was considered by the Authority in the preparation of this Report. The Biodiversity Impact Assessment discussed at Section 5.2 and Appendix D of the EIS sets out how revegetation and rehabilitation will be undertaken during the Project, including:

- prior to revegetation works excavated or disturbed areas to be rehabilitated so that material is reinstated in original sequence i.e., topsoil at surface and subsoil below;
- all areas of disturbance must be revegetated immediately following construction;
- revegetation to be undertaken using a cover crop of sterile Rye Grass to ensure that rapid stabilisation occurs; and
- a suite of suitable local native species will be used in conjunction with the Rye Grass cover crop. The seed mix will be a locally collected species mix including four species.

6.1.5. Improved valuation, pricing and incentive mechanisms

Improved valuation, pricing and incentive mechanisms have been addressed at section 3.3.7.5 of the EIS and was considered by the Authority in the preparation of this assessment report. The EIS has examined the environmental impacts of the Project and nominated specific management measures to mitigate the potential for adverse impacts. The requirement to implement these management measures will result in an economic cost to the Proponent. Implementing these management measures will increase both the Project's capital and operating costs. This indicates how environmental resources have been given appropriate valuation.

The EIS states that the design of the Project was developed with the intent of minimising the potential impacts on the Study Area and beyond. The Project also proposes a formal offset against the loss of BGW TEC habitat adjacent to The Pinnacle Nature Reserve.

The EIS states that TCCS, as the proponent for the Project, has budgeted for the cost of undertaking suitable mitigation measures associated with the development.

6.2. Proponent's environment history

SMEC has been engaged by the Infrastructure Delivery Partners Group (IDPG) on behalf of TCCS to undertake the detailed design and assessment of the duplication of WHD. The Infrastructure Delivery Partners Group are a part of Major Projects Canberra, the ACT Government directorate with the responsibility for directing and managing all aspects of major projects invested in by the ACT Government.

The EIS states that IDPG/TCCS/Major Projects Canberra has not been involved in any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either the person proposing to take the action or, if a permit has been applied for in relation to the action - the person making the application.

7. Recommended conditions

After considering the revised EIS, the Authority recommends DA considerations to assist with the avoidance and mitigation and offsetting of adverse environmental impacts, as outlined in Table 31 below.

Any DA related to the completed EIS must include the DA considerations as part of the application. In deciding a development application in the Impact Track, the Authority must consider matters raised in the completed EIS and EIS assessment report.

The information gathered through the EIS process is used to assist in the decision- making process for an impact track DA. Any matters highlighted in the EIS process as being critical for the decision-making process will need to be clearly addressed as part of the impact track DA.

Table 31 Draft Conditions of Development Approval for the duplication of William Hovell Drive

No.	Condition contents	Endorsement/approval	Construction stage	Draft condition of approval
1	General	Planning and Land Authority	All Works	All works must be consistent with the mitigation measures in Table 7-1 of the William Hovell Drive Duplication Revised Environmental Impact Statement, prepared by SMEC Australia, dated 6 February 2024 (the EIS).
2	General	Planning and Land Authority	All Works	Where mitigation measures cannot be incorporated into detailed design, each remaining mitigation measure must be outlined in a Construction Environmental Management Plan (CEMP).
3	Construction Environmental Management Plan (CEMP)	Planning and Land Authority	Prior to construction	A CEMP must be prepared and submitted to the planning and land authority (EPDImpact@act.gov.au) for endorsement. The CEMP must outline the construction conditions/methods and temporary environmental protection measures to manage the impact of construction activities, consistent with the EIS. The CEMP must include the mitigation measures proposed in the EIS and any relevant management plans including, but not limited to: • Flora and Fauna Management Plan; • Tree Management Plan; • Unexpected Discovery Plan for heritage items; • Erosion and Sediment Control Plan; • Landscape Plan; • Waste Management Plan; • Asset Management Plan; and • Construction Traffic Management Plan.
4	CEMP	Planning and Land Authority	During Construction	All works must be undertaken in accordance with the approved CEMP.

5	Environmental impact and detailed design - MNES	Planning and Land Authority	During Construction	The proponent must not clear more than 6.41ha of critically endangered BGW.
6	Environmental impact and detailed design - MNES	Planning and Land Authority	During Construction	The proponent must not clear outside of the construction boundary (as shown in Figure 2).
7	Offset Management Plan - MNES	Planning and Land Authority	In perpetuity	An Offset Management Plan (OMP) must be prepared for the proposed offset site (Block 1616, Belconnen), which is required to compensate for the clearing of 6.41ha of critically endangered BGW. The OMP must be prepared by a suitably qualified specialist and include detail of how the offset is to be managed, including reporting and monitoring requirements.
8	Tree Management Plan	Conservator of Flora and Fauna	Prior to construction	A Tree Management Plan showing trees to be retained in green and removed/impacted in red must be provided as part of the DA. The proponent must demonstrate efforts to retain native trees including seedlings, juvenile and mature trees within the construction alignment where they are not being directly impacted by design features. For example, there are trees within the Study Area that can and should be protected between the new shared path and the road.
9	Tree and hollow reinstatement	Conservator of Flora and Fauna	Prior to construction	An arborist report identifying structurally suitable mature and hollow bearing trees for reinstatement, with explanatory notes and coordinates must be included as part of the DA. Trees containing hollows that are assessed by an arborist as not being suitable for reinstatement as a standing dead tree should be identified and stockpiled separately so that the hollows can be salvaged and

				attached to suitable trees. Nest box use must only be undertaken in consultation with and to the satisfaction of the Conservator of Flora and Fauna and PCS.
10	Tree replacement	Conservator of Flora and Fauna	Prior to construction	Tree replacement ratios must be consistent with the soon to be published Conservator Guidelines for Development of a CEMP or otherwise to the satisfaction of the Conservator of Flora and Fauna. Additional plantings will likely be required at the CEMP stage.
11	Land Management Considerations	Conservator of Flora and Fauna	Prior to construction	Wildlife fence integration with/replacement of sections of the existing reserve fences (which are also stock fences) needs to be designed in consultation with PCS to permit wildlife movement from the reserves into the crossing culverts.
12	Land Management Considerations	Conservator of Flora and Fauna	Prior to construction	The applicant must engage with PCS to resolve access for stock movement into the offset area from Kama Nature Reserve to meet offset and bushfire biomass management requirements. The proposed design has repurposed the existing critical stock underpass for use as a shared path. This conflicts with this requirement. Additional opportunities for the cattle underpass should be considered, for example a dual use of bike path/cattle path, with half the path naturalised to attract native fauna movements.
13	Dedicated fauna underpasses	Conservator of Flora and Fauna	Prior to construction	Detailed technical information relating to the underpass specifications must be provided as part of the DA. These points should be adequately considered, with a detailed design response formed by the proponent. In summary, these comments require: a) Consideration of what species will be using the underpasses.

				b) Consideration of potential PTWL use of at least one underpass. c) Detailed revision of dimensions and specific habitat features within the three dedicated fauna crossing points to achieve connectivity of the target fauna. This is likely to include enlarging the size of the culvert, at least in height. d) Further consideration of the installation of course woody debris and rocks within the underpasses, and how these may be installed (noting the small size of the proposed underpasses). e) Revision to allow natural light in underpasses, to increase use by species which may not wish to pass through a 50-60m wide tunnel with no natural light. For example, some form of grate could be implemented at various intervals to allow natural light penetration from above within the culverts (and allow access for contractors to install/maintain features). This may act to encourage fauna which are more averse to crossing long enclosed dark spaces.
14	Pedestrian Underpasses	Conservator of Flora and Fauna	Prior to construction	The lighting of pedestrian underpass 2 (CH2440) should be reconsidered to increase the likelihood of fauna use. Details as to how the pedestrian underpasses will be naturalised must be provided in the DA. The proponent must provide information on how these will be enhanced in order to increase use by fauna (i.e. through the use of habitat features such as woody debris, boulders etc.), bearing in mind target fauna groups and species.
15	General	Conservator of Flora and Fauna	During construction	A minimum 700 tons of excess rock from the development must be crushed to suitable PTWL habitat rock size (approximately football

				sized) and stockpiled within the adjacent reserve to the satisfaction of PCS. All rock must be clean and free of soil. In the first instance, PTWL habitat rock impacted by the development that cannot be reinstated, should be included in the stockpile. The remainder of the 700 tons can be made up using crushed excess bedrock from other areas of the development.
16	Light spill management	Conservator of Flora and Fauna	Prior to construction	The DA must include further consideration of how light spill pollution can be avoided and mitigated to reduce potential impacts to light sensitive fauna.
17	Statement of Heritage Effects (SHE)	ACT Heritage Council	Prior to construction	A SHE application for Kama Woodland/Grassland must be submitted to the Council with the required form as per section 119 of the *Heritage Act 2004* as soon as practicable. The report provided with the EIS does not constitute a SHE application. Works cannot commence until a SHE has been approved by the Council, and any relevant conditions of approval have been met.
18	Fencing	ACT Heritage Council	Prior to and during construction	The fencing recommendations included in the *"William Hovell Drive Duplication: Updated Aboriginal and Historical Cultural Heritage Assessment"* (Past Traces 2023) for WHPAD1, WHPAD3 and WHD1 must be met prior to works commencing and adhered to through the duration of works. Should fencing of WHD1 not be possible, noting General Arrangement Plan, then *Heritage Act 2004* approvals would be required. A SHE report would need to be submitted, under Section 61G of the *Heritage Act 2004* along with the relevant application form. Any application must:

				a) Be prepared in consultation with Representative Aboriginal Organisations; b) Meet the criteria of Section 61G of the Heritage Act 2004; and c) Meet the requirements set out in the Council's Cultural Heritage Report Policy.
19	Fencing	ACT Heritage Council	Prior to and during construction	Temporary barrier fencing must be installed around the two mature cypress trees which are part of the significant fabric of the Weetangera Cemetery, to ensure impacts do not occur to more than 6.6% of the Tree Protection Zones. This fencing must be installed by, or under the supervision of, a heritage consultant and an arborist, and the Council notified in writing of the completion of this action, in accordance with the recommendations of "William Hovell Drive Duplication: Updated Aboriginal and Historical Cultural Heritage Assessment" (Past Traces 2023).
20	CEMP	ACT Heritage Council	Prior to construction	The project's CEMP must identify, at minimum, fencing requirements for Aboriginal places and the Weetangera Cemetery, unanticipated discovery protocols, heritage induction requirements and be submitted to the Council for endorsement prior to works commencing.
21	Environmental assessment – contamination	Environment Protection Authority	Prior to construction	An environmental assessment in accordance with EPA endorsed guidelines must be undertaken by a suitably qualified environmental consultant to determine whether past activities have impacted the site from a contamination perspective and to determine what specific management measures may be required during site works. The consultant's assessment report and any proposed contamination management plan must be submitted to the EPA in

				accordance with Information sheet 11 - EPA Report Submission Requirements for review and endorsement.
22	Environmental Protection Authorisation or Agreement	Environment Protection Authority	Prior to construction	As the site is greater than 0.3ha the construction is an activity listed in Schedule 1 as a Class B activity under the *Environment Protection Act, 1997*. The contractor/builder developing the site must hold an Environmental Authorisation or enter into an Environmental Protection Agreement with the Environment Protection Authority (EPA) in respect of that activity prior to works commencing.
23	Erosion and Sediment Control Plan	Environment Protection Authority	Prior to construction	An Erosion and Sediment Control Plan must be submitted to and be endorsed by the EPA prior to works commencing on site.
24	General	Environment Protection Authority	During construction	All spoil identified at the site must be managed in accordance with EPA Information Sheet - Spoil Management in the ACT; All soil subject to disposal from the site must be assessed in accordance with EPA Information Sheet 4 - Requirements for the reuse and disposal of contaminated soil in the ACT; No soil is to be disposed from site without EPA approval. All works must be carried out in accordance with "Environment Protection Guidelines for Construction and Land Development in the ACT, March 2011", available at www.environment.act.gov.au or by calling 132281.
25	Sediment Control Pond	Environment Protection Authority	During construction	All excavations that collect rain water during a rain storm event would be considered as a sediment control pond, and must meet the following condition: • No discharge from pond unless sediment level is less than 60mg/litre. If sediment level is greater, then prior to discharge, the pond must be dosed with either Alum or

				Gypsum and allowed to settle until the sediment is less than 60 mg/litre.
26	Utilities	Icon Water	Prior to construction	Any work(s) that is likely to impact on the Icon Water infrastructure must have Icon Water acceptance prior to any work being undertaken.
27	Contamination	Icon Water	During construction	Recommendations regarding contamination are to be followed during construction. Any contaminating activity that occurs over/adjacent to Icon Water infrastructure will be the responsibility of the polluter to clean up and not of Icon Water. Any spills of chemicals near or over Icon Water assets should be reported to Icon Water.

8. Conclusions and recommended action on this EIS

Having regard to the documentation and information provided, the Authority has assessed the William Hovell Drive Duplication Project revised EIS as meeting the requirements of Chapter 8 of the PD Act.

It is the Authority's assessment that the revised EIS has provided sufficient information to the ACT Government and the community to allow an informed evaluation of potential environmental impacts which could be attributed to the William Hovell Drive Duplication proposal. The applicant, SMEC Pty Limited on behalf of TCCS has proposed a range of avoidance, mitigation and offset measures to reduce, avoid and offset potential environmental impacts arising from construction and operational activities associated with the project, including significant impact to EPBC listed BGW. It is considered that any potential adverse impacts can be adequately addressed by implementing these measures and the DA conditions specified in this report.

The construction activity associated with the Project, and the subsequent environmental performance attributable to its ongoing operation, will be monitored by a variety of public agencies including the Environment Protection Authority, ACT Heritage Council, Conservator of Flora and Fauna, the planning and land authority, TCCS and DCCEEW.

In regard to MNES, the proponent has provided sufficient information to enable the Australian Government DCCEEW to commence its statutory approval decision making process under the EPBC Act.

The Authority's recommendation is that the Minister need take no action in relation to the revised EIS.

Appendix 1 – Final scoping document

ACT Government
Environment, Planning and Sustainable Development

Scoping Document

Under Division 8.2.2 of the *Planning and Development Act 2007*

APPLICATION NUMBER: EIS202000014	**DATE OF THIS NOTICE:** 19 October 2020
DATE LODGED: 4 September 2020	
PROJECT: Duplication of William Hovell Drive, between John Gorton Drive and Drake Brockman Drive in the districts of Molonglo Valley and Belconnen	
IMPACT TRACK TRIGGER: Planning and Development Act, Schedule 4; Part 4.3, items 1 and 2	
LOCATION: William Hovell Drive road reserve, between John Gorton Drive and Drake Brockman Drive	
PROPONENT: Transport Canberra and City Services, Infrastructure Delivery	
APPLICANT: SMEC	
LAND CUSTODIAN: Roads ACT, Transport Canberra and City Services. City Presentation, Transport Canberra and City Services	

SCOPING DOCUMENT

The planning and land authority (the Authority) within the Environment, Planning and Sustainable Development Directorate received your application under section 212(1) of the *Planning and Development Act 2007* (the PD Act) for Scoping of an Environmental Impact Statement (EIS) for the above proposed development. Pursuant to section 212(2) of the PD Act, the Authority has:

a) Identified the matters that are to be addressed by an EIS in the relation to the development proposal; and

b) Prepared a written notice (the ***scoping document***) of the matters.

NB: The EIS must conform to the requirements of this scoping document. This document does not indicate approval or support in any way, nor does it indicate approval in principle.

TERM OF SCOPING DOCUMENT

Pursuant to section 213(2) of the PD Act, the proponent must give the draft EIS to the Authority by the end of the period of 18 months starting on the day the Authority gives the scoping document for the development proposal to the applicant.

FORM AND FORMAT OF EIS

The Authority requires that the proponent engage a suitably qualified independent consultant to prepare an EIS, OR the proponent submits, with the draft EIS, an independent review of the draft EIS undertaken by a suitably qualified consultant. The EIS must be in the following form and format:

- The EIS must be prepared in accordance with section 50 of the *Planning and Development Regulation 2008.*
- The EIS must be written in plain English and avoid the use of jargon as much as possible.

- The EIS is required to be provided in the same structure as described in this Scoping Document as closely as possible. A table that cross-references the EIS to the scoping document must be included in the EIS submission.
- The report must reference any figures or supporting information used to the supporting appendix and page number, table or figure.
- Additional technical detail, including relevant data, technical reports and other sources of the EIS analysis must be provided in appendices.
- Maps, diagrams and other illustrative material should be included in the EIS to assist readers to interpret information.
- The EIS document sized A4 with maps and drawings in A4 or A3 format.
- The proponent must supply a copy of all draft EIS and revised EIS documents in electronic formats for circulation and web posting. These are to be supplied by email, USB, or another agreed method.
- Digital files must not exceed 20 MB each.
- The proponent must supply three hard copies of the draft EIS once it has been accepted for lodgement and three hard copies of the revised EIS once it had been accepted for lodgement.

COST OF PREPARATION OF EIS

The proponent is responsible for the preparation of the draft and revised EIS and any related applications and associated costs. This includes additional copies of the draft and revised EIS and other associated documents as required by the Authority from time to time.

NEXT STEPS

The proponent is now required to prepare a document (a ***draft EIS***) that addresses each matter raised in the scoping document for the proposal within the timeframe provided in this scoping document. Once the draft EIS has been accepted for lodgement, a public notification fee is payable in order for notification, referrals and assessment to commence. After the notification period has closed, the Authority will provide comments and any public representations received for the proponent to address in preparing a ***revised EIS***, and any further instructions on the application.

If you have any queries about the requirements outlined in this scoping document, please contact Benjamin Huttner-Koros to arrange a suitable time to discuss.

Delegate of the planning and land authority
Brett Phillips
Executive Group Manager
Planning Delivery Division
Environment, Planning and
Sustainable Development Directorate (EPSDD)

Contact
Benjamin Huttner-Koros
Assessment Officer
Impact Assessment
Planning Delivery Division
Environment, Planning and
Sustainable Development Directorate

E: Benjamin.huttner-koros@act.gov.au

T: (02) 6207 9397

GENERAL REQUIREMENTS FOR THE EIS

1. Cover Page

The cover page must clearly display the following:

- The name of the proposal (project title)
- The block identifier(s) and street address for the proposal
- The date of the preparation of the document
- Full name and postal address of the designated proponent
- Full name and postal address of the designated applicant
- Name and contact details of the person/organisation who prepared the documents (if different to the above)

2. Glossary

Provide a glossary of technical terms, acronyms and abbreviations used in the EIS.

3. Executive Summary

Provide a non-technical summary of the EIS including a description of the proposal, key findings and recommendations.

4. Introduction

Summarise the background of the proposal.

5. Proposal Details

5.1. Project Description

Provide a description of the proposal, including:

a) The objectives for the proposal;

b) The location of the land to which the proposal relates, including detailed maps;

c) The division and/or district names and block and/or section numbers of the land under the *Districts Act 2002;*

d) If the land is leased – the lessee's name;

e) If the land is unleased or public land – the custodian of the land;

f) The purposes for which the land may be used;

g) A clear identification of all lands subject to direct disturbance from the proposal and associated infrastructure and geomorphic features such as waterways and wetlands. This is to be supported by a map showing all affected lands;

h) An outline of any developments that have been, or are being, undertaken by the proponent, or other person(s) or entities on the land subject to this proposal;

i) A description of all the components of the proposal, including the proposal specifications, the predicted timescale for implementation (design, approvals, construction and decommissioning) and project life;

j) A plan/description of the precise location of any works to be undertaken, structures to be built or elements of the proposal that may have relevant impacts; and

k) A description of the construction methodologies for the proposal.

5.2. Alternatives to the proposal

Provide details of any alternatives to the proposal considered in developing the proposal including a description of:

a) Any alternatives to the proposal and provide reasons for selecting the preferred option (including any criteria used) with an analysis of site selection as an attachment to the EIS;

b) Any matters considered to avoid or reduce potential impacts prior to the selection of the preferred option; and

c) Details of the consequences of not proceeding with the proposal.

6. Legislative and Strategic Context

A description of the EIS process including any statutory approvals obtained or required for the proposal, and how the proposal is aligned with strategic priorities for the ACT.

6.1. Statutory requirements

The description must include information on statutory requirements for the preparation of an EIS:

- *Planning and Development Act 2007*
- *Planning and Development Regulation 2008*
- Related statutory approvals.

6.2. Climate change

The EIS must include information on how the proposal will reduce the risks from climate change impacts and include proposed adaptation measures to reduce vulnerability and increase resilience of the community and the Territory, particularly the extreme events of heatwaves, droughts, storms with flash flooding and bushfires. The information must address impacts on the local microclimate and how it will avoid contribution to urban heat and positively contribute to urban cooling measures.

Additionally, the EIS must address the contribution the proposal will make to reducing greenhouse gas emissions and meeting the legislated target for a net zero emissions Territory (by 2045 at the latest).

Preparation of the EIS must consider the relevant sections of the following ACT Government policies:

- ACT Climate Change Strategy 2019-2025
- Canberra's Living Infrastructure Plan: Cooling the City

6.3. Other requirements

The description must also include information on how each of the following has been considered in the preparation of the EIS and the development of the proposal:

- Territory Plan 2008
- ACT Planning Strategy
- National Capital Plan
- Relevant Environment Protection Policies and Environment Protection Guidelines

(https://www.environment.act.gov.au/about/legislation_and_policies)

- Transport for Canberra policy
- Other relevant planning and environmental guidelines and management plans.

6.3.1.Ecologically sustainable development (ESD)

Provide a description of how the proposed development demonstrates ESD. This is to include long-term and short-term considerations related to economic development, social development and environmental protection at local, regional and national scales. The proponent should ensure that the EIS adequately addresses the ESD principles as defined by section 9 of the PD Act.

6.3.2.Territory Plan strategic directions

A statement must be provided regarding the proposal's consistency with the principles in the Statement of Strategic Directions in the Territory Plan 2008 (Section 2.1 - Strategic Direction).

7. Risk Assessment

7.1. Risk Assessment Methodology

Provide a risk assessment in accordance with the Australian and New Zealand Standard for risk management AS/NZS ISO 31000:2009 *Risk Management – Principles and guidelines.* The proposed criteria for determining which risks are potentially significant impacts must be described.

The Preliminary Risk Assessment (PRA) submitted as part of the request for a scoping document must be revised to include, but not be limited to, the risks identified by the Authority in Table 1.
The risks identified in Table 1 are based on the scoping document application and comments received from entities on the application. All of these risks are considered potentially significant (i.e. a medium risk level or above), and must be addressed in the EIS. Should any risk levels change during the preparation of the EIS or any new risks become apparent, these must be assessed and included with a justification in the EIS, and where relevant, the residual risk assessment.

-Assessment guide-			
Provide a table with the headings below to describe the risks identified and the original risk rating without any mitigation strategies in place. This table format is one option, however alternative formats can be used provided the methodology is clearly described and in accordance with AS/NZS ISO 31000:2009 *Risk Management – Principles and guidelines*			
Risk	Likelihood	Consequence	Risk rating

Table 1 – Identified impacts and requirements to be addressed in the EIS

Environmental Theme	Risk identified	See section/s below for further detail
Traffic and transport	• Traffic disruption during construction • Increased traffic volume during operation, causing further delays and impacting on road safety • Impact of duplicated road on road safety and operation • The proposed signalised intersection impacts	8.2.1

Environmental Theme	Risk identified	See section/s below for further detail
	road safety and operation	
Flora and fauna	• Direct impacts on threatened flora and fauna, threatened ecological communities and non-threatened flora and fauna from clearing and other construction works • Increased habitat fragmentation impacting species movement • Loss of fauna from vehicle strikes and roadkill • Impacts to adjoining nature reserves during construction and operation	8.2.2
Utilities and Infrastructure	• Impacts on existing infrastructure during construction and operation • Disruption to vital services due to service outages during construction	8.2.3
Heritage items and places	• Impacts to known heritage items and places • Impacts to unknown or undiscovered heritage items and places	8.2.4
Noise, vibration and lighting	• Noise and vibration impacts to sensitive receivers during operation • Light impact to sensitive receivers during construction and operation	8.2.5
Soils and geology	• Disturbance to or movement of contaminated soil during construction • Contamination of soil during construction and operation	8.2.6
Water and hydrology	• Reduction in water quality in waterways due to runoff and sedimentation during construction and operation • Change to water flow regimes in waterways due to construction and operation	8.2.7
Hazards and risks	• Bushfire started during construction and operation impacting assets and people off site • Bushfire started offsite impacting the proposal and people on site • Rain event causing flooding, erosion or damage to road infrastructure	8.2.8
Landscape and visual	• Visual impacts to sensitive receivers during operation	8.2.9
Materials and waste	• Increase in waste to landfill during construction	8.2.10
Climate change	• Greenhouse gas emissions from construction and operation contributing to climate change • Increased impervious surfaces, adding to the urban heat island effect	8.2.11

Environmental Theme	Risk identified	See section/s below for further detail
Socio-economic and health	• Impact on recreational users of reserves and open space adjacent to the current road alignment • Work, health and safety risk to workers during construction	8.2.12
Matters of national environmental significance	• Construction and operation impacts on EPBC Act listed threatened species and communities and any other matters of national environmental significance • Proposal fails to comply with Commonwealth recovery plans or threat abatement plans	8.2.13

8. Assessment of Impacts

Sufficient information is required to provide the Authority with an adequate understanding of the environmental impacts associated with the proposal.

Each risk identified in Table 1 and in the proponent's PRA must be addressed, and structured, as set out in sections 8.1.1-8.1.5 below.

8.1. Standard requirements

8.1.1.Environmental conditions and values

Describe the environmental conditions and identify the environmental values for the environmental themes identified in Table 1. This section should discuss the baseline conditions for the area.

8.1.2.Investigations

Identify the findings and results of any environmental investigation in relation to the land to which the proposal relates.

8.1.3.Impacts

Describe the effects of the environmental impact as a result of construction and operation for the environmental themes identified in Table 1 and in the proponent's risk assessment (including cumulative, consequential and indirect effects) on physical and ecological systems and human communities. Particular emphasis should be placed on the potentially significant impacts identified in the risk assessment and this scoping document. Include a discussion of the timeframes of impacts i.e. short or long term, their nature and extent and whether they are reversible or irreversible, unknown or unpredictable. Include an analysis of the significance of the relevant impacts. Information must include any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

8.1.4.Mitigation and offsets

Discuss the proposed safeguards and mitigation measures proposed to be taken for the environmental management of the land to which the proposal relates for the environmental themes identified in Table 1 and the proponent's risk assessment. This is to include:

a) A description and an assessment of the proposed impact prevention, mitigation or offsetting measures to deal with the environmental impact of the proposal, along with which stage the mitigation measures will be adopted

b) Any statutory or policy basis for the mitigation measures

c) An outline of an environmental management plan (EMP) that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing

d) The frequency, duration and objectives of monitoring proposed

e) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program

f) A description of the cost effectiveness of environmental mitigation or rehabilitation measures proposed and the expected or predicted effectiveness of those measures.

Offsets should directly contribute to the ongoing viability of protected matters impacted by the project and deliver an overall conservation outcome that improves or maintains the viability of protected matters as compared to what is likely to have occurred under the status quo, that is if neither the action nor the offset had taken place.

An offset package must provide compensation for any unavoidable impacts arising from the proposal on listed threatened species and communities. The offset package must include, but not be limited to, measures to address the long-term protection and management of relevant listed threatened species and communities at offset sites in the ACT (or surrounding area) and may also include management measures to improve the ecological values. Further information on the provision of Commonwealth offsets is detailed in the following link http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy on the Commonwealth Department of Agriculture, Water and Environment website.

8.1.5.Residual risk

Provide a table that details the residual risk for the potentially significant impacts identified for the environmental themes in Table 1 and the proponent's risk assessment. A residual risk assessment is only required where the significance of impact is determined as medium or above. The calculation of the residual risk should take into account the influence of implementation of mitigation or offsetting measures on the impacts identified by the risk assessment. A discussion of how the calculations were determined should also be included, including the expected or predicted effectiveness of the mitigation measures.

-Assessment Guide-				
Provide the residual risk assessment as set out in the table below.				
Risk identified in Section 7.1	**Original risk rating from items identified in 7.1**	**Residual likelihood**	**Residual consequence**	**Residual risk rating**

8.2. Detailed requirements

The following items (sections 8.2.1 - 8.2.13), relate to the potentially significant environmental impacts identified in Table 1. They must be addressed in detail in the EIS.

Note: The information provided under the following headings is not an exhaustive list of matters that may be required to accurately detail the assessment scenarios.

8.2.1. Traffic and transport

- Provide a Traffic Impact Assessment prepared by a suitably qualified consultant that describes:
    - traffic disruptions and other impacts during construction;
    - the impacts to the current and future urban areas;
    - impacts on road safety and operation, particularly to vulnerable road users;
    - the likely volume of traffic proposed to be accommodated during operation; and
    - how construction vehicle movement and parking will be managed.

8.2.2. Flora and Fauna

- Provide an Ecological Impact Assessment prepared by a suitably qualified consultant.
- Assess the direct impacts on flora and fauna in particular Golden Sun Moth, Pink-tailed Worm Lizard, Superb Parrot, Swift Parrot and any other threatened species and threatened ecological communities including Box Gum Woodland.
- Describe the impact of habitat fragmentation caused by the development, particularly the potential loss of wildlife movement corridors and habitat connections.
- Discuss the impact of night lighting and noise on nocturnal fauna and flora.
- Describe the impacts increased animal strikes and roadkill may have on threatened and non-threatened species, particularly kangaroos and threatened fauna and methods to mitigate these.
- Discuss the potential impacts to the adjacent nature reserves, including impacts from altered hydrology patterns and spread of invasive plants.
- Outline mitigation arrangement and whether an offset is likely to be required and, if so, how they comply with the EPBC Act environmental offsets policy and whether an offset management plan is likely to be required.
- Consider whether ongoing management, monitoring or reporting regimes are required.

8.2.3. Utilities and infrastructure

- Describe the existing utilities located on the land subject to this proposal.
- Describe any new utilities, removal or realignments required as a result of this development.
- Describe the impacts of planned and unplanned service disruptions, including to vital services such as health and emergency services.

8.2.4. *Heritage*

- Provide a Cultural Heritage Assessment prepared by a suitably qualified consultant that includes details of all known heritage items and places, including but not limited to the Weetangera cemetery, the Kama nature reserve and potential archaeological deposits.
- Describe the impact of construction and operation on known and unknown heritage items and places and measures to mitigate these.

8.2.5. Noise, vibration and lighting

- Provide an updated acoustic impact assessment prepared by a suitably qualified consultant.
- Identify any existing nearby sensitive receivers that could be affected by construction and operation of this proposal.
- Describe the impacts of noise and vibration on sensitive receivers during construction and operation, including current and future residents in Whitlam and Hawker.
- Consider noise source reduction measures attributed to both engine noise and road surface noise.
- Describe the impacts of light on sensitive receivers during construction and operation, including current and future residents in Whitlam and Hawker.

8.2.6. *Soils and Geology*

- Discuss any contamination impacts on site and how these will be managed during construction, particularly in areas where soil is proposed to be reused.
- Describe the impacts of soil erosion and sedimentation, and contaminated water run-off including from oils and other contaminants from vehicles during construction and operation and how these will be managed.

8.2.7. Water Quality and Hydrology

- Describe the impacts of construction and operation on water quality in downstream waterways, including the Molonglo River and Deep Creek, including the proposed future Deep Creek Water Quality Control Pond.
- Describe the impact of sediment and road surface run-off entering nearby waterways. Describe the impacts of changes to water flow regimes, including consequences of increased water flow during large rainfall events.

8.2.8.*Hazards* and Risks

- Describe the risk and impacts of a bushfire starting during construction.
- Describe the impact of a bushfire starting off site on assets and workers during construction.
- Describe the impact of a large rainfall event on road infrastructure, the site and the downstream environment.

8.2.9.Landscape and Visual

- Undertake a visual assessment and/or provide perspectives of the proposal from local vantage points.
- Describe the visual impact of the development on sensitive receivers during operation, including to current and future residents in Whitlam and Hawker.

8.2.10. Materials and Waste

- Describe how construction waste will be managed, including disposal to landfill.

8.2.11. *Climate Change*

- Describe the greenhouse gas emissions produced during construction and operation and the impact of these on climate change.
- Discuss how the proposal is consistent with ACT and national policies.
- Describe the urban heat impacts associated with the removal of a soft landscape and replacement with impervious surfaces.

8.2.12. *Socio-economic and health*

- Describe the impact on recreational users of the surrounding areas, including but not limited to the Bicentennial National Trail and adjacent open spaces and nature reserves.
- Provide details of any potential contaminants that may pose health risks to workers during construction.

8.2.13. Matters of National Environmental Significance (MNES)

- Describe the impact on Box Gum Woodland, Superb Parrot, Swift Parrot, Golden Sun Moth and any other MNES potentially impacted by the project.
- For any matters identified as potentially impacted provide a description of the relevant impacts of the action including:
    - a detailed discussion of known threats
    - a detailed assessment of direct and indirect impacts on areas of habitat and populations of listed threatened species during pre-construction, construction and operation
    - detailed information on the extent (in hectares) of known and potential habitat that occurs in the proposed site and surrounds which may potentially be impacted by the proposal
    - a detailed assessment of the nature and extent of the likely short term and long term relevant impacts
    - a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible.
- Outline how the proposal is consistent with
    - Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention), or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
    - any relevant recovery plans or threat abatement plans
    - any relevant strategic assessment reports
    - any relevant Commonwealth recovery plans or threat abatement plans.
- If offsets are proposed to compensate for impacts on MNES, describe the proposed offsets and how they comply with the EPBC Act environmental offsets policy.

8.3 Entity requirements

The EIS must address the entities comments provided in Attachment B. If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced.

9. Community and stakeholder consultation

The intention of the consultation in this scoping document is to ensure significant proposals include meaningful engagement with the community in the early stages of the project and provide clear expectations and an understanding of the actual development proposed. Consultation also provides an opportunity for the community to contribute in the design of the proposal and to resolve any major concerns early in the planning stages.

9.1. Consultation must be undertaken with:

- Lease holders and land managers of land potentially impacted by the proposal;
- Any recreational groups which may be affected by the proposal;
- Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal;

- The local community, community groups, businesses owners and employees.

9.2. Consultation methods and documentation requirements:

- A variety of communication methods must be used to ensure all stakeholders are engaged appropriately, such as face to face, email/letters, community meetings and information sessions, digital/online tools and website notifications.
- A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholders during consultation.
- Consultation must occur as early as possible and avoid, or make allowances for public holidays, school holidays and the summer holiday (Christmas) shutdown period. The level of engagement must be comparable with the size, location and nature of the development and potential impact on the wider community.

9.3. Provide a consultation report that includes:

- A description of the methodology and criteria for identifying stakeholders and how they were identified. Details and plans must be provided showing potential impacts on the local and wider community to justify how stakeholders were identified.
- An outline of the communication methods used.
- A copy of the information provided during the community consultation process.
- A summary of the responses and the main comments raised. Evidence must be provided demonstrating that consultation has been undertaken with each relevant group/person.
- A description on how concerns have been considered and addressed. It must be identified where changes have been made to the proposal to account for community comments.

9.4. Consideration of public representations from Draft EIS notification

The revised EIS must include a consultation report outlining the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.

10. Recommendations

Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.

Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.

11. Other relevant information

The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.

12. References

A reference list using standard referencing systems must be included.

13. Required Appendices

13.1. Scoping document for the EIS

A copy of the scoping document should be included in the EIS. Where it is intended to bind appendices in a separate volume from the main body of the EIS, the scoping document should be bound with the main body of the EIS for ease of cross-referencing.

13.2. Scoping Document Reference

Include a table that cross-references the EIS to the scoping document. If the EIS addresses the scoping document in multiple places then this must be also referenced.

13.3. Proponent's Environmental History

Provide details of any proceedings under a Commonwealth or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- The person proposing to take the action
- For an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, then provide details of the corporation's environmental policy and planning framework. These details must satisfy s 136(4) of the EPBC Act.

13.4. Information Sources

For information given the following must be stated:

- The author of any reports or studies
- The publication date
- The source of the information
- How recent the information is (i.e. when a study was conducted or when primary sources were produced)
- How the reliability of the information was tested
- What uncertainties (if any) in the information.

13.5. Study team

The qualifications and experience of the study team and specialist sub-consultants and expert reviewers must be provided.

13.6. Specialist studies

All reports generated based on specialist studies undertaken as part of the EIS are to be included as appendices.

13.7. Research

Any proposals for researching alternative environmental management strategies or for obtaining any further necessary information should be outlined in an appendix.

Attachment A DEPARTMENT OF AGRICULTURE, WATER AND THE ENVIRONMENT (COMMONWEALTH GOVERNMENT)

There are likely to be significant impacts on the following controlling provisions:

- listed threatened species and communities (sections 18 and 18A)

All matters of national environmental significance (MNES) protected under the triggered controlling provisions are potentially relevant, however the Department of Agriculture, Water and the Environment considers that there is likely to be a significant impact on the following:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Ecological Community (Box Gum Woodland) – critically endangered

Based on the Department's Environment Reporting Tool and information provided by the Department's Species Profiles and Threats Database (SPRAT) (located at http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl), the Department considers that the following species are possibly at risk of being impacted.

- Superb Parrot (*Polytelis swainsonii*) – vulnerable
- Swift Parrot (*Lathamus discolor*) – critically endangered
- Golden Sun Moth (*Synemon plana*) – critically endangered.

Note that this may not be a complete list and it is the responsibility of the proponent to ensure any protected matters under this controlling provision are assessed for the Commonwealth decision-maker's consideration.

Specific risks

DAWE has identified the following keys risks may be associated with the proposal:

- Removal of up to 13.75 ha Box Gum Woodland.
- Removal of up to 0.06 ha potential habitat for the Golden Sun Moth.
    - The Department understands that due to the timing of the ecological survey effort it is unclear as to whether the habitat within the proposed action area supports a population of the species.
- Removal of potential habitat for the Superb Parrot and Swift Parrot.
    - The referral documentation does not quantify habitat for these species within the proposed action area.

Relevant References and Guidelines

The international conventions, management plans and principles that must be considered in relation to this proposal include:

- Listed threatened species and communities
    - Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention), or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
    - any relevant recovery plans or threat abatement plans
    - any relevant strategic assessment reports

- any relevant recovery plans or threat abatement plans.

Commonwealth Listing Advice, Survey Guidelines and Referral Guidelines contain information on threatened species and ecological communities which may provide further support to proponents and ACT EPSDD in considering and evaluating the significance of residual impacts on the action's controlling provisions. These documents may be found in the Department of Agriculture, Water and the Environment's Species Profile and Threats Database: http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl.

Attachment B ENTITY REQUIREMENTS

A1. Conservator of Flora and Fauna

The existing documents associated with this project accurately map the vegetation and give appropriate consideration to Golden Sun Moth and Pink-tailed Worm-lizard habitat. In summary - the key issues that will need to be addressed in the EIS are:

1. The degree of habitat fragmentation caused by the road and measures that will be used to minimise habitat fragmentation;
2. The level or potential rate of increase in animal-vehicle strikes and roadkill caused by increased road width, road speed and/or design features in the road upgrade. Mitigation measures that will be used to minimise animal vehicle strikes and roadkill, particularly of kangaroos and threatened fauna will also need to be included;
3. Potential impacts to the adjoining Pinnacle and Kama Nature Reserves.
4. Offset arrangements for the loss of critically endangered Box Gum woodland – this should involve consideration of a land bridge over William Hovell Drive at a key point of wildlife connection which could reduce the level of current roadkill.

Habitat Fragmentation

The EIS will need to:

1. Provide further imagery showing the entire planned alignment over aerial imagery and where it impacts each Matter of National Environmental Significance (MNES) (e.g. Box Gum Woodland, protected species habitat and hollow bearing trees). It would be useful to have a view showing the entire alignment and also broken into sections for a more detailed view.
2. Describe and map the key wildlife connection points cut/dissected by the proposed William Hovell Drive duplication.
3. Describe how wildlife (including insects, reptiles, birds and mammals) may be using these connections
4. Describe the local occurrence and likely movements of threatened species including the Superb Parrot, Varied Sitella, White-winged Triller and Scarlet Robin.
5. Describe measures that will be undertaken to try and reduce fragmentation including:
    a. Retention of existing trees;
    b. Minimisation of road width(including cycle lanes, paths, layovers etc) at key areas of connection;
    c. Consideration of construction of a land bridge at a key point of connection;
    d. Minimising road barriers such as wire ropes, crash barriers or fencing at areas of key connection points;
    e. Enhancing the existing vegetation at key connection points; and
    f. Provision for movement across road by sugar gliders and other possums which could be achieved by careful retention of trees or construction of glider or rope crossing poles.

Animal-Vehicle collision and Roadkill reduction

The EIS will need to:

1. Describe the latest research findings of the ACT Government/Sydney University Kangaroo Road Kill Research project, how this research is informing the road design and how this project may contribute to furthering the research;
2. Describe the wildlife likely to be subject to animal collision and road kill;
3. Describe potential road kill impacts on threatened species such as carrion feeders like the Little Eagle (which nests nearby) and other species moving across William Hovell Drive such as the

Superb Parrot, Varied Sitella, Whitewinged Triller and scarlet Robin;

4. Describe measures that will be undertaken to reduce road kill including:
    a. At key crossing points lowering the road or keeping high steep cuttings or other measures to encourage flying wildlife to cross road at a height that is above the level of traffic;
    b. Retention of any existing underpasses and how these will be enhanced to encourage use by ground dwelling fauna;
    c. Use of fences and other barriers (including street lighting) in a way that directs wildlife to underpasses, a land bridge or safer crossing points , which are away from intersections, have opportunities for escape (limited barriers to road crossing, particularly in central median strips), and have good line of sight;
    d. Imposing speed limits along the road or for key areas of connection;
    e. Avoidance of lighting in the key linkage areas. Any lighting which is installed (noting the lack of support for its benefits regarding reduced kangaroo-vehicle collisions) should be considered to act as a physical "barrier" to movement, likely to create a road kill hotspot at either end where animals move around it to access nearby habitat;
    f. Lighting of intersections with ample escape routes through the limited use of barriers within several hundred meters (either on road edges or central median strips); and
    g. prevent access by wildlife from either side of the road, where road barriers are required particularly where central safety barriers between carriageways are in place

<u>Nature Reserve considerations</u>

The EIS will need to:

1. Describe any potential impacts to the adjacent Nature Reserves and how these will be avoided, including:
    a. any potential impacts to existing hydrology patterns in the adjacent Nature Reserves and how these will be preserved
    b. potential increased threat of invasive plant incursions in Kama Nature Reserve and the Pinnacle Extension Offset. The duplication of William Hovell Drive is likely to disturb established ground story vegetation (native and exotic) within the road reserve. Non weed infested areas of native dominant understory within the road reserve should be protected and not disturbed wherever possible.

Note: African Lovegrass (Eragrostis curvula), a declared pest plant under the *Pest Plants and Animals Act 2005*, is a major threat to ground story biodiversity in protected woodlands and grasslands of the ACT; as identified in the ACT Native Woodland Conservation Strategy and Action Plans. Roadside mowing is one of the major invasion vectors for the spread of this declared pest plant in the ACT.

    c. The design of road edges and the re-grassing of disturbed batters has the potential to increase both the extent and proximity of mown areas adjacent to these nature reserves. Road edge treatments should be designed to minimise edge mowing and the likely spread of African Lovegrass in close proximity to nature reserves. Examples of alternatives to grass on road edges could include compacted decomposed granite. Eliminating grassed verges would also restrict kangaroo grazing directly adjacent to traffic.
    d. All batters should be planted very densely with shrubs and ground covers to act as a niche barrier to future infestation of African Lovegrass or Chilean Needlegrass and minimise the spread of seed into adjacent conservation lands. African Lovegrass infestations along William Hovell Dr, which have spread from roadside mowing to the

adjacent batters, are already impacting the Molonglo Strategic Assessment Offset Patches H and C. With windblown seed from the batter being a constant source of re-infestation for these offset patches.

Offset considerations
The EIS will need to:

1. Describe how the loss of critically endangered Box Gum Woodland will be offset. As the biggest impact of the road upgrade on this community is not loss of habitat but the impact it will have on woodland connectivity.
2. Consideration should be given to building of a land bridge connection (from Pinnacle to Kama Nature Reserve) being the offset measure (for example as done in Nevada, USA). Another potential offset condition could be that the road verge and batters along the entire length of William Hovell Dr be addressed to better mitigate the spread of declared pest plants into Kama, The Pinnacle, Mount Painter, Offset Patches H, C, N, Aranda Grasslands, and the woodland/grassland within Glenloch interchange and adjacent to the cork oaks. Weed control works can be viewed online.

A2. Environment Protection Authority (EPA)

The scoping document provided adequately covers the issues of concern for the Environment Protection Authority (EPA), in particular contamination and erosion and sediment control, noting that the formal trigger is for potential impacts to flora and fauna.

Please note that as the project involves the construction of public infrastructure on a site of 0.3ha or more the proponent will also need to enter into an Environment Protection Agreement with the EPA.

Additionally should the proposal proceed beyond the final EIS to the construction stage, the EPA will require the following be included as Development Application conditions:

- A site specific contaminant management plan (CMP), incorporating an unexpected finds protocol, must be prepared by a suitably qualified environmental consultant and implemented during site development works. The CMP must include, amongst other things, appropriate procedures for the identification, assessment, management, validation and disposal of potential contamination at the site and contractor induction procedures into the use of the CMP;
- All soil subject to disposal from the site must be assessed in accordance with EPA *Information Sheet 4 - Requirements for the reuse and disposal of contaminated soil in the ACT*, with no soil is to be disposed from site without EPA approval; and
- All construction works are covered by and erosion and sediment control plan approved the EPA.

A3. Emergency Services Agency (ESA)

Bushfire Protection Requirements:
This development is located inside of the area declared by the ESA to be subject to the threat of bushfire as noted within the Environmental Impact Statement Scoping Request reference number 3002750, prepared by SMEC, engaged by IDPG on behalf of TCCS.

ACTF&R notes, and is supportive of, the report indicating consideration of the bushfire risk as part of the development of the EIS in considering the bushfire asset protections zones around the construction compounds and mitigation measures to manage the potential risk from fire during construction.

Asset Protection Zones:
Asset protections zones (APZ) assist with bushfire risk mitigation in the urban area by reducing the impact of embers, radiant heat and flames on properties. APZs also provide access for firefighters (and their vehicles) to conduct fire suppression activities and provide space to evacuate if required.

When APZ's are imposed on land not within the development site, the APZs are required to be maintained as per the ACT bushfire management standards (2014) Table 4 (Pg. 4) or as recommended by the findings of a bushfire assessment report, whichever is the higher standard.

Bushfire Protection Measures - During Construction:
Where works prevent travel along existing fire trails or access ways, alternate access, constructed to Rigid Float standard in accordance with the Strategic Bushfire Management Standards (2014} must be provided to ensure access for firefighting operations is maintained.

Standard industry procedures are to be adhered to for hot works during construction and operation at the facility and a permit will be required for any high-risk activities such as hot works on total fire ban days.

A4. ACT Health

The Health Protection Service (HPS) has reviewed the documents and supports:

- the need for a Construction Environmental Management Plan (CEMP) to be prepared before construction. The HPS also supports an Unexpected Finds Protocol be prepared and implemented under the framework of the CEMP;
- the need for all imported fill and the reuse of soil within the project to comply with the ACT Environment Protection Authority requirements; and
- the recommendation that where observed, surface fly tipped wastes (including suspected asbestos containing materials if present) are removed using appropriately licensed persons, where applicable, prior to construction to prevent cross contamination of underlying soils.

There are no further public health concerns in relation to the proposed EIS scoping document.

A5. ACT Heritage Council

On 17 April 2020, the Council provided advice on this proposal to Transport Canberra and City Services, which set out that further information is required in the CHA to determine whether the proposed development may damage Aboriginal places and/or diminish the heritage significance of the places subject to *Heritage Act 2004* provisions.

The following potential heritage impacts were identified in this advice:

- The proposal may have impacts within the curtilage of the Kama Woodlands and Weetangera Cemetery that could diminish the heritage significance of these places; and
- Areas potential archaeological deposit (PAD) may be impacted by the development. Clarification of the boundaries of these PADs is required to understand these possible impacts.

In this context, the Council identifies the following *Heritage Act 2004* requirements for the project:

1. The project CHA must be revised to address Council advice provided on 17 April 2020, and be submitted to the Council for endorsement;
2. An Excavation Permit would need to be sought for the further investigation of any PAD areas that would be impacted by the proposal, and archaeological testing undertaken in accordance with any Council approval issued under Section 61F of the *Heritage Act 2004*;
3. Informed by the above, the project EIS is to: describe the known heritage values of the proposed development area; assess the potential heritage effects of the activity; and set out appropriate management recommendations in accordance with *Heritage Act 2004* requirements; and
4. As information on Aboriginal places and objects is restricted and/or culturally sensitive, the project EIS is only to include a redacted version of the CHA as an appendix.

Additionally, the Council notes that if works will damage or diminish the significance of any heritage places, a Statement of Heritage Effect approved by the Council under Section 61H will be required in addition to *Planning and Development Act 2007* approvals.

A6. Development Coordination Branch, City Services, Transport Canberra and City Services (TCCS)

SLR's noise assessment report should also discuss the likely noise source reduction in its recommendations, being attributed to either engine noise or road surface noise, and therefore shouldn't rely solely on OGA (or similarly SMA) pavement surface to achieve target noise levels. This is also to mitigate the potential for the OGA pavement voids filling with debris prior to its theoretical service life as a noise mitigation measure which will reduce its effectiveness to an almost negligible level.

A7. Icon Water

Icon Water have no comments regarding the William Hovell Drive Duplication.

A8. Jemena

On behalf of Evoenergy Distribution Gas, Jemena have no comment to make re: Request for scoping document-EIS202000014-William Hovell Drive Duplication as there are no gas network assets in the vicinity of the development.

A9. Suburban Land Agency (SLA)

General

- The Suburban Land Agency is supportive of the EIS Scoping application

Noise

- The EIS should consider noise impacts on the Whitlam estate along its entire William Hovell Drive interface from John Gorton Drive to Kama Nature reserve. The current proposed treatment to mitigate noise (Open Grade Asphalt) appears to stop well short of Kama Nature

Reserve, and therefore potentially exposing parts of Whitlam to inappropriate levels of road noise.

- The EIS should consider the long term maintenance of the open grade asphalt, and ensure that future maintenance activities do not degrade the noise mitigation provided by the road surface (either through resurfacing with inappropriate material, or failing to maintain the surface in the timeframe advised in the Noise report).

Visual Amenity

- The EIS should consider the visual amenity from the Whitlam estate towards William Hovell Drive, including the design of any retaining walls that will be visible from the Whitlam estate.

Light pollution

- William Hovell Drive sits well above Whitlam estate. If lighting is to be provided along the interface with Whitlam, the EIS should consider potential for light spill into the estate and ensure it does not negatively affect residents.

A10. National Capital Authority (NCA)

The NCA has no comment.

Attachment C

GLOSSARY

Controlled Action (EPBC): An action defined under the EPBC Act, section 67.

Development application (DA): Application for development as defined under the PD Act.

Environment: As defined under the *Planning and Development Act 2007* (the PD Act), each of the following is part of the environment:

(a) the soil, atmosphere, water and other parts of the earth;

(b) organic and inorganic matter;

(c) living organisms;

(d) structures, and areas, that are manufactured or modified;

(e) ecosystems and parts of ecosystems, including people and communities;

(f) qualities and characteristics of areas that contribute to their biological diversity, ecological integrity, scientific value, heritage value and amenity;

(g) interactions and interdependencies within and between the things mentioned in paragraphs (a) to (f);

(h) social, aesthetic, cultural and economic characteristics that affect, or are affected by, the things mentioned in paragraphs (a) to (f).

Environmental Impact Statement (EIS): As defined under the PD Act.

EPBC Act: *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

Impact Track: An assessment track that applies to a development proposal defined under the PD Act, section 123.

Long term: Greater than 15 years duration.

Medium term: Greater than three (3) years to 15 years duration.

PD Act: *Planning and Development Act 2007* (ACT)

Regulated waste: waste defined under the *Environment Protection Act 1997*

Scoping: The process of identifying the matters that are to be addressed by an EIS in relation to the development proposal - see the PD Act, Section 212 (2).

Short term: Zero to three (3) years duration.

Socio-economic: Involving both social and economic factors.

Appendix 2 – Section 224 notice

ACT Government
Environment, Planning and Sustainable Development

Skylar Chan
SMEC Australia
243 Northbourne Avenue
LYNEHAM ACT 2602

Dear Mr Chan,

Application EIS202000014 – William Hovell Drive Duplication
Environmental Impact Statement (EIS)
Chance to Address Unaddressed Matters – Section 224 Notice

I refer to the revised EIS submitted to the planning and land authority (the Authority) on 6 May 2022.

The Authority has performed an assessment of the revised EIS in accordance with section 222 of the *Planning and Development Act 2007* (PD Act). The Authority is not satisfied that the EIS sufficiently addresses each matter raised in the scoping document for the proposal. As a result, the Authority does not accept the EIS and is providing a notice to this effect under section 224 of the PD Act.

You are required to provide further information as described in Attachment A. Comments from referral entities are described in Attachment B. You must respond to this notice by providing a revised EIS by 16 September 2023. If you do not respond within this time, the Authority must reject the EIS.

For your information, the Authority may provide up to two notices for a chance to address unaddressed matters. If the Authority remains unsatisfied after the two notices are responded to, the Authority must reject the EIS.

If you have any questions, please contact the Assessment Officer Benjamin Huttner-Koros on 6207 9397 or email benjamin.huttner-koros@act.gov.au or EPDImpact@act.gov.au.

Yours sincerely,

Dominic Riches
A/g Senior Director, Impact Assessment
16 September 2022

Attachment A

This is a notice under section 224 of the *Planning and Development Act* (the Act) that the Planning and Land Authority does not accept EIS202000014 - William Hovell Drive Duplication under section 222 of the Act. The following further information is required to be addressed in a Revised EIS.

Please note: Entity comments are included at Attachment B and must also be addressed in the Revised EIS.

Executive summary

Please provide greater detail on the findings and recommendations of the EIS in the executive summary as required by section 3 of the Scoping Document (SD).

Climate change resilience (section 6 - Legislative and Strategic Context of the Scoping Document (SD))

The EIS does not describe how the proposal will be resilient to climate change, particularly to extreme events of heatwaves, droughts, storms with flash flooding and bushfires. Table 5-47 of the EIS describes predicted changes in heat, rainfall and fire danger but does not include predicted changes in flash flooding or storms as required by section 6.2 of the SD. Please provide further information demonstrating how the proposal will be resilient to these extreme weather events.

It is noted that the only mitigation measure provided is increased inspections of infrastructure. It is recommended that consideration is given to adaptation measures within the proposal to reduce vulnerability and increase resilience to climate change.

Flora and Fauna

Report

The Biodiversity Assessment (Appendix D of the EIS) still contains unfinished sections. For example:

- table 4-1 of Appendix D – Vegetation communities in the study area – Native Grassland, column 2 states ACT [tba]: Derived Native Grasslands;
- table 6-2 (pg. 80) describes that whether an offset is required for Hoary Sunray is [tba]; and
- Appendix C of the Biodiversity Assessment (pg 119-120) describes [tba] hollow-bearing trees containing [tba] hollows that may provide suitable breeding habitat for the Superb Parrot will be removed.

The documentation submitted with the EIS must be complete.

Threatened species

The impact of the proposal on threatened species continues to be described inconsistently between the EIS main report, Biodiversity Assessment and between sections within other reports, for example:

- the offset strategy (section 8) of the Biodiversity Assessment describes that offsets are required for box gum woodland, hoary sunray, superb parrot and pink-tailed worm lizard (PTWL);
- Appendix C (assessment of significance) of the Biodiversity Assessment describes that impacts to box gum woodland and striped legless lizard are significant, impacts to pink-tailed worm lizard are potentially significant and impacts to other threatened species are not significant;

- table 6-7 of the Biodiversity Assessment describes impacts to striped legless lizard as not significant while table 5-16 of the EIS describes impacts to striped legless lizard as potentially significant;
- Appendix C states the impact on PTWL is potentially significant. The offset strategy (section 8) describes that an offset is required for loss of 0.16 hectares of habitat;
- Appendix C states the impact on superb parrot is not significant however the offset strategy (section 8) describes that an offset is required for the loss of 7 hollow bearing trees; and
- Appendix C states the impact on hoary sunray is not significant however the offsets strategy (section 8) describes that an offset is required for loss of 10.9 ha of habitat.

The EIS must include consistent information on impacts of the proposal on threatened species, including confirmation of the species that will be significantly impacted and the species that won't be significantly impacted.

Habitat fragmentation

The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:

- Glider poles: The draft EIS included the installation of glider poles to assist gliders to cross the expanded road and mitigate impacts of habitat fragmentation. This mitigation measure is not in the revised EIS and there is no explanation for why it has been removed. The Appendix L Fauna Crossing drawings shows a glider crossing (page 2). It is not clear where this structure will be constructed and the EIS does not include an assessment of the impact it will have.

- Echidna: The impacts of fragmentation (table 5-13) includes a section for echidnas however the information in one row appears to describe impacts to microbats. Please review the table and correct the information. Please provide a justification for why echidnas are the only species included in the table when other rows in the table are for faunal groups.

- Underpasses: The use of pedestrian underpasses as wildlife crossings is not described. The EIS describes that 2 of 3 underpasses will have lighting added. It is not clear where underpasses are, which underpasses will be lit and whether they will be effective as wildlife crossing points. The EIS does not include a response to the comment on the draft EIS that lit underpasses may not be effective as wildlife crossings.

- General wildlife crossings: The mitigation measures to reduce habitat fragmentation are not described clearly in the EIS. Please provide further information on the location, features and number of wildlife crossing structures.

  The EIS describes installing a rope bridge and culverts in areas of high ecological connectivity to enable wildlife movement across the road. The EIS needs to describe the species or faunal groups that are intended to use each wildlife crossing structure, why the crossing structure will be effective to enable movement of those species or faunal groups and how they mitigate the fragmentation effect of the road expansion. This information is required for pipe culverts, rope bridge, glider poles, underpasses, roadside vegetation for flying species and any other habitat fragmentation mitigation measure. A justification must be provided for design of the wildlife crossings, for example their size and location.

Appendix L Fauna Crossing drawings shows the location and dimensions of the wildlife culverts and rope bridge. The EIS needs to provide justification for these locations and dimensions and remove the text “approximate location”.

- Other methods: Many mitigation measures must be described in more detail to be able to determine their effect on reducing habitat fragmentation. The other methods (other than physical crossing structures) used to encourage wildlife movement and their effectiveness must be described in more detail. For example, fencing that directs wildlife to underpasses or crossing structures, plantings close to crossing structures to encourage wildlife use of crossing structures, vegetation to encourage wildlife to cross the road in locations without crossing structures, habitat features inside culverts, appropriate lighting and avoidance of lighting close to crossing structures and in high ecological connectivity value areas.

- The EIS needs to describe the species or faunal groups that are expected to be permanently isolated by the road (unable to move across the road or use the crossing structures).

- The EIS needs to describe the residual impact of the road expansion on habitat fragmentation and movement of threatened and non-threatened species. The information in table 5-13 is not clear on the residual impact of the road expansion on each faunal group.

Noise

minimal justification has been provided in the EIS to support the conclusion that there are no significant noise impacts on fauna, except for a minor shift in habitat suitability for sound sensitive species. It is not clear which species are considered sound sensitive. Microbats are described in section 5.2.3.8 as affected by sound and section 5.2 states that microbats may occur at the development site. Please provide further information on the significance of impacts on sound sensitive species and additional details on any mitigation measures required to reduce impacts on these species.

Roadkill

The EIS does not provide sufficient detail on mitigation measures intended to reduce the occurrence of wildlife vehicle strike (roadkill) to assess their effectiveness. The locations where the following mitigation measures will be used and their effectiveness needs to be described:

- at key crossing points lowering the road or keeping high steep cuttings to encourage flying wildlife to cross the road above traffic;
- revegetation where birds are likely to cross the road particularly at the top of cuttings to encourage flight above the road;
- fauna exclusion fencing to prevent wildlife accessing the road particularly where central barriers between carriageways are in place; and
- escape routes/gentle batters for fauna trapped on the road and central medians designed to not trap fauna on the road.

The EIS also needs to describe which species are intended to be blocked by fencing.

Nature reserves

The EIS must describe how stormwater flowing off the road will be managed. For example, will the stormwater flow into nature reserves, areas of box gum woodland or threatened species habitat and will it be treated prior to entering natural areas?

Mitigation measures
The flora and fauna mitigation measures in table 5-19 are described inconsistently and do not match the impact they are listed against. Please review table 5-19 to ensure mitigation measures are consistent.

Offsets
The EIS and Biodiversity Assessment must include consistent information on which threatened species require offsets and details on the offsets required based on the offsets policy and calculator. The EIS describes (section 5.2.4, pg 125) that the proposal will use the Commonwealth Offsets Calculator in conjunction with the ACT Environmental Offsets Delivery Framework. Please clarify, as the proposed offset arrangements will be required to comply with both the Commonwealth and ACT environmental offsets policy.

Heritage
Page 152 of the EIS states: "*Both the Weetangera Cemetery and Kama Woodland/Grassland are currently registered to the ACT Heritage Register as holding high heritage significance and no impacts will occur within the registered curtilages.*"

The ACT Heritage Council has advised that the proposal will impact on the registered curtilage of the Kama Woodland/Grassland registered heritage site. Comments on the revised EIS from the Heritage Council must be addressed.

Noise
The EIS and Noise Assessment (Appendix F) include inconsistent information on the proposed mitigation measures. The Noise Assessment states there are three potential mitigation measures for reducing noise (two types of noise barriers and low noise road pavement), and each option results in noise within the guideline at sensitive receivers. It is not clear in the EIS which option is proposed for the development. The EIS needs to clearly describe the mitigation measures that are proposed and the residual impact of noise on sensitive receivers. If a decision has not been made on which option will be constructed, the EIS must describe this. It is noted that the statement against criteria submitted with the concurrent DA describes the installation of a noise reducing pavement close to Hawker and Whitlam.

Hydrology
The mitigation measures, in table 5-38, do not match the corresponding impacts. Please review table 5-38 to ensure mitigation measures are consistent and logical.

The draft EIS described that the road will achieve a reduction in pollution of suspended solids, phosphorus and nitrogen of 19%, 11% and 11% respectively, compared to a road with no water quality controls. The revised EIS described that a reduction in pollution of suspended solids, phosphorus and nitrogen of 96%, 81% and 40% respectively will be achieved. There is no explanation in the revised EIS about how the design achieves such a greater reduction in pollution. The methods used to capture pollution in the revised EIS appear to be the same as in the draft EIS. Please clarify this in the revised EIS.

The EIS does not describe how increased stormwater flow due to a larger area of impermeable surface will discharge into drainage lines and Deep Creek and how it will be managed to prevent erosion of waterways. It is still unclear what changes to stormwater drainage are proposed.

The EIS does not provide information on the resilience of the road to high rainfall events. It is not clear what the climate change analysis concluded. The EIS describes that the rainfall intensity was increased by 20 percent to account for the effects of climate change. It is not clear what the 20% increase was calculated from - is it the 1% annual exceedance probability (AEP) rainfall intensity?

The EIS describes that surface flow for the 20% AEP flood widths remained within limits stipulated in the municipal infrastructure standard. However, the 20% AEP flood is a flood that is expected to occur once in a 5-year period. The EIS must describe the effect of flooding on the road that will occur due to increased rainfall due to climate change.

Visual

The visual impact assessment of the proposal has not been updated to include the additional viewpoints from the 9m retaining wall in Whitlam, south of intersection of William Hovell Drive and Drake Brockman Drive looking south, east, west. This is to be included in the revised EIS.

It is also noted that the EIS does not contain an assessment of the visual impact of noise barriers close to Hawker and Whitlam. The EIS must be clear if noise barriers will be used to mitigate noise experienced by residents. If it has not yet been determined if noise barriers will be used as a mitigation measure, then a visual impact assessment of the noise barriers should be included in the revised EIS.

Greenhouse Gas emissions (section 8 – Climate Change impacts of the SD)

The EIS has not responded to requests for information on greenhouse gas emissions.

Construction

Construction emissions are described as minimal and have not been estimated/calculated. The scoping document requires that the EIS describe the greenhouse gas emissions produced during construction and the impact of these on climate change. For example, how these emissions compare to the ACT's annual emissions and how they contribute to meeting the legislated target for a net zero emissions Territory by 2045.

Operation

The EIS must estimate the increased number of vehicles using the road due to the road expansion (for example, due to a reduction in congestion causing an increase in people using personal vehicle transport) and calculate the emissions this increase in vehicles is likely to produce, then compare these emissions with the ACT annual emissions.

EPBC Act Bilateral EIS requirements

As described in the biodiversity section above, the assessments of significance for impacts to threatened species are inconsistent in the Biodiversity Assessment (Appendix D) and main EIS report.

A detailed discussion of threats to threatened species, due to impacts of the proposal, has not been conducted, including:

- Unknown impacts: A statement must be provided describing whether any impacts to each matter of national environmental significance (MNES) are likely to be unknown, unpredictable or irreversible.

- International conventions: The scoping document requires that the EIS outlines how the proposal is consistent with Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). No information has been provided on these international conventions.

- Recovery plans: The scoping document requires that the EIS outlines how the proposal is consistent with relevant commonwealth recovery plans and threat abatement plans. No information has been provided on consistency with recovery plans and threat abatement plans. The recovery plans are listed at the bottom of each assessment of significance in the Biodiversity Assessment (appendix D), however, there is no explanation of how the proposal is consistent with these plans.

- Offsets: The EIS does not include information on the proposed environmental offsets and how they comply with the EPBC Act environmental offsets policy. As described in the biodiversity section above, additional information is required on proposed offsetting arrangements.

ACT Government
Environment, Planning and Sustainable Development

Mr Ben Ponton
Chief Planning Executive
ACT Planning and Land Authority
480 Northbourne Avenue
DICKSON ACT 2602

Via email: EPDImpact@act.gov.au

Dear Mr Ponton Ben

CONSERVATOR COMMENT – REVISED EIS – WILLIAM HOVELL DRIVE DUPLICATION - 202000014

Thank you for the opportunity to provide comment on the revised Environmental Impact Statement (EIS) for the proposed William Hovel Drive Duplication.

While some of the comments provided on the Draft EIS have been satisfactorily addressed, several have not yet been sufficiently considered. In particular, the proposed measures for mitigating impacts to connectivity are not sufficient and not well justified in the Revised EIS.

More detailed comments are provided at Attachment A.

Please contact Eliza Larson, Conservator Liaison, by email at conservatorflorafauna@act.gov.au or by phone at 6207 7009 if you have any questions regarding these comments.

Bren Burkevics
Conservator of Flora and Fauna

26 July 2022

General Comments

1. While the number of hollow-bearing trees to be removed has now been clarified, the number of mature native trees to be removed is yet to be identified. Additionally, the project should provide funding to re-stand a proportion of the cleared mature hollow bearing trees in Kama or Pinnacle Nature Reserves.

2. Habitat restoration work to mitigate impacts to Pink-tailed Worm-lizard (PTWL), Superb Parrot, Hoary Sunray and Box Gum Woodland (BGW) habitat and connectivity must be undertaken within the Kama and Pinnacle Nature Reserves and/or the proposed offset and must be detailed in the offset management strategy. Restoration works must include:

    2.1 PTWL habitat restoration, including improving connectivity from the northern section of Kama Nature Reserve down into key populations of PTWL within the Molonglo River Reserve. This must be achieved through the establishment of a total of 1 ha (700 tonne of rock) of strategically placed PTWL habitat islands (approximately 20).

    2.2 BGW tree and shrub plantings (and weld mesh guarding) at the proposed replacement ratios of 1:10 for trees and 1:4 for shrubs and eucalyptus saplings)

    2.3 Reinstatement of 80% of salvaged tree hollows.

    2.4 Placement of all removed trees as coarse woody debris. Trees are to remain intact as much as possible.

    2.5 Two hectares of BGW forb enhancement (scrapes), including seeding of *Leucochrysum albicans*

3. Roadside fencing needs to extend further than the habitat and be designed in a way that reduces the likelihood of animals being able to get around the ends of the fences and on to the road. If this is not done correctly, it is likely that roadkill will not be mitigated, it will just be concentrated at either end of the fence. Data collected by PCS Wildlife Rangers on the location of kangaroo-vehicle collisions could be used to identify patterns in current roadkill along this stretch of road to inform fencing design.

4. Stock fence design along the Kama Nature Reserve, Kama buffer and Pinnacle Nature Reserve must be designed in consultation with the ACT Parks and Conservation Service.

5. Pg 81 still has reference to kangaroos being managed in accordance with the 2010 Kangaroo Management Plan, rather than the Eastern Grey Kangaroo: Controlled Native Species Management Plan (see previous comment #69 in Appendix J).

6. The Conservator should have an on-going role in the:

   6.1 Consultation and approval of artificial lighting across the project area. Any artificial lighting plans and designs need to be approved by the Conservator of Flora and Fauna prior to construction.

   6.2 Consultation and approval of the design of wildlife underpasses and retro-fitting of existing underpasses to facilitate fauna movement (further details below).

Consideration of land bridge viability

7. The Revised EIS has not addressed this previous comment, instead seeking to justify why it has not considered the option at all citing (1) a direct construction impact on box gum woodland, (2) unclear direction by the conservator, and (3) that the committed mitigation structures are sufficient. All of these arguments are unsupported in the EIS because:

   7.1 There is no detail given of what the direct impact footprint on box gum woodland would be (no estimated area of construction impact provided). We contend that some impact on existing box gum woodland would be justified given the improved connectivity and restoration that would occur from this action.

   7.2 The "unclear direction" is detailed as being the unresolved conflict between whether the bridge would have trees (to better facilitate use by woodland species) which would be a detriment to threatened grassland species. Proper consideration here would involve detailing how both of those objectives could be met in a single design that is of an adequate width to provide suitable habitat for all. Terrestrial/arboreal mammals and other woodland species would require only limited canopy or structures to be on the bridge itself, that could be arranged in such a way to not disadvantage grassland specialists.

   7.3 The EIS has not demonstrated that the committed fauna crossing structures (particularly the box culverts) have any benefit. Therefore, it is insufficient of the EIS to use those structures as justification to not fully consider a land bridge. The previously submitted comments by the Conservator of Flora and Fauna advised that the proponent should give due consideration to a land bridge, and only if that was not a viable option, should connectivity be addressed via suitable culverts.

8. The feasibility of a land bridge should not be considered beyond the scope of this current EIS, but instead an integral component of it. Maintaining and enhancing the connectivity between Kama and The Pinnacle Nature Reserves is among the highest priorities for achieving a functional ecological landscape in the lowlands of the ACT. The biodiversity offset does not offset the residual loss of connectivity between the two reserves.

Culvert structures

9. The revised EIS has included the design for two box culverts but has not provided any evidence to demonstrate that the design would be suitable for wildlife. In fact, the EIS does not make a case at all that these measures will mitigate the impact of increased fragmentation. The main concerns about the way the box culverts are as follows:

    9.1 At 0.6m wide, 1.5m tall and up to 50m long, these box culverts will be very tight and very dark.

    9.2 The EIS provides no explanation or consideration on what species are expected to use a culvert of this design beyond "ground-dwelling fauna" and "various wildlife". Previous comments requested consideration for a range of specific wildlife, including both reptiles and large mammals. It does not appear that the current design could possibly allow for enough natural light to enable use by any of the target native fauna, and it is too small to be used by macropods.

    9.3 The EIS describes the installation of appropriate habitat structures (such as logs and rocks) within the box culverts "where possible". However, the described size is far too small for a person to undertake such installation work safely, so further clarification would be required as to what measures will be taken to ensure adequate numbers and diversity of log and rock structures are to be installed.

    9.4 Faunal exclusion fencing will effectively prevent those larger species that would be capable of crossing the road from doing so. While the current pedestrian underpasses will be suitable for these species following appropriate modification of each end (removal of fences and restoration of vegetation) and internal characteristics (provision of habitat elements), the proposed new box culverts will not be. This is a serious issue as the proposed culverts are about connecting the highest priority area along William Hovel Dr – the specific area where Kama and The Pinnacle Offset Extension connect. While there is connectivity value right along the road, this is the priority given it is already protected Nature Reserve.

    9.5 The Revised EIS needs to provide detailed justification for the design of these box culverts being appropriate to mitigate connectivity loss and explain specifically which species will use them and how. This should be based on species-specific information where available and published evidence of equivalent wildlife using equivalent sized culverts in other contexts. It is unlikely that sufficient evidence supporting this exists, with effective culvert use by wildlife being associated with much more open, larger, and more inviting tunnels. For example, there are examples in the literature of box culverts specifically designed for use by the mountain pygmy-possum (*Burramys parvus*), a very small mammal at ~45 g, that have larger dimension than are proposed in this EIS (van der Ree *et al.* 2009. *Ecology and Society* **14**: 7).

    9.6 Instead, these two culverts will need to be redesigned to be significantly larger to allow as much nature light as possible, provision and

maintenance of artificial light if required due to length (e.g. day time grow lights), adequate establishment and maintenance of a variety of habitat elements, and be easy to use by the largest species in the landscape. Consideration must also be given to providing sufficient moisture for plant growth. Careful consideration must also be given to the location of the underpasses. It is recommended that at least one of the underpasses targets providing connectivity for PTWL.

Monitoring the effectiveness of box culverts

10. Previous comments noted that the effectiveness of culverts for maintaining connectivity in the context of ACT lowland grassy ecosystems is not known, and so the revised EIS commits to monitoring the structures with cameras for a period of three years. While this is welcomed, simply stating they will be monitored is far from having a plan for evaluating whether they are successfully being used by wildlife or not. There are many questions of detail with regards to this monitoring that should be addressed in the EIS, for instance:

    10.1 Will wildlife cameras capable of continuous monitoring for long periods of time be used? Who will service these cameras? Where will the images and other data be stored?

    10.2 How frequently will images be checked, and data collected; e.g. every month, quarterly, half-yearly? Who will be responsible for data use and evaluation? When does the 3-year program start?

    10.3 What, if any, are the triggers within the 3-year period to change something if wildlife are not using the culverts? What exactly would be considered a “success”; e.g. demonstrated use by all known species? What happens after 3-years if these box culverts are found to not be effective?

11. The EIS needs to commit to an “evaluation program” rather than the “monitoring” that is currently described. This could include descriptions of how data is collected, managed, summarised, analysed and interpreted to evaluate whether these structures are effective. It could also include a description of a collaborative evaluation program with ACT Government ecologists with a commitment of funding and resources required to complete the work. More detail as to (1) how the monitoring will be undertaken, (2) how the monitoring data will be used to make decisions, and (3) what will happen if the culverts are demonstrated to not be effective is required.

ACT Heritage Council

HERITAGE ADVICE

Environmental Impact Statement

ACTPLA Reference:	EIS-202000014
Heritage Reference:	Belconnen-General
Contact Officer:	JM
Received by Council:	9 June 2022
Due date:	29 July 2022

TO: **ACT planning and land authority**
Environment, Planning and Sustainable Development Directorate
EPDImpact@act.gov.au

Block:	Section:	Division / District:	Heritage Place:
N/A	N/A	Belconnen Molonglo Valley	Kama Woodland/Grassland, Weetangera Cemetery, WDH1, PAD1, PAD3 and PAD5.

Status of Place:	Registered Heritage Places, Aboriginal places
Description of Works:	Upgrade and duplication of William Hovell Drive
Council Advice provided by:	A/g Secretary / ACT Heritage Senior Director

Pursuant to Part 8 of the *Planning and Development Act 2007* and Section 60 of the *Heritage Act 2004*, the ACT Heritage Council advises that:

☒ The Environmental Impact Statement has partially addressed the requirements. Some aspects have not been adequately addressed the requirements of the Scoping Document and Council advice on the draft EIS.

☒ The Environmental Impact Statement partially describes the anticipated heritage impacts of the development, and how these will be avoided, minimised and mitigated. **Further information is required for those parts which have not been adequately described.**

Background:

On 9 June 2022, the revised Environmental Impact Statement (EIS) for William Hovell Drive was referred to the ACT Heritage Council (the Council) for entity advice. The proposal involves the duplication of William Hovell Drive for a 4.5km length between John Gorton Drive and Drake-Brockman Drive in the districts of Molonglo Valley and Belconnen, ACT. The Council previously provided advice on the draft EIS on 16 August 2021 requesting amendments and further information in the final EIS including:

- Clarification if any drainage and revegetation works associated with the duplication would cause damage to potential archaeological deposit ‘PAD1’, noting that plans included with the referral suggested that revegetation works were planned to occur in PAD1;

- Confirmation if drainage and electrical infrastructure would cause damage to Aboriginal place, WDH1, noting that the plans provided with the referral suggested works in proximity to WDH1;

- Addressing conflicting recommendations and works regarding two Cypress trees which are part of the significant fabric of the registered heritage place 'Weetangera Cemetery'. The draft EIS included a recommendation that these trees were fenced with a 10m buffer from the dripline of the trees to prevent inadvertent impact. Associated plans appeared to show an access road and associated works in this buffer zone; and

- Clarification whether the proposal may diminish the significance of the registered heritage place 'Kama Woodland/Grassland' through impacts to Yellow Box-Red Gum Grassy Woodland, noting inconsistencies between the conclusions of the CHA and the '*Biodiversity Impact Assessment William Hovell Drive Duplication'* (the 'Biodiversity Impact Assessment'). If the project would diminish the heritage significance of the Kama Woodland/Grassland, the revised EIS was required to describe how these impacts will be avoided, minimised and mitigated.

Assessment

The revised EIS outlines that there is no anticipated heritage impact to Aboriginal places, PADs, or the Weetangera Cemetery. Impacts will occur to the Kama Woodland/Grassland. A Statement of Heritage Effect (SHE) application under *Heritage Act 2004* to allow the proposed works to diminish the significance of the Kama Woodland/Grassland was submitted directly to the Council and is currently under assessment. Following detailed review of the revised EIS, the Council notes the following regarding previous comments on the draft EIS:

- PAD1

  The revised EIS indicates that works have been redesigned to ensure that there are no impacts to PAD1 from the proposal. The General Arrangement Plans provided with the referral do not map any proposed works in PAD1.

- PAD5

  No impacts have been proposed to PAD5 and the revised Cultural Heritage Assessment (CHA) recommends that the PAD is fenced prior to works commencing. The Council issued advice on 30 March 2022, unrelated to the EIS proposal, that PAD5 is not likely to contain subsurface Aboriginal places and objects. This was based on new credible information that the PAD contained unconsolidated fill which was identified during utilities installation works in this area.

- WDH1

  The CHA and revised EIS identify that no impacts to WDH1 are anticipated from review of the site location and plans. Council review of General Arrangement Plans provided with the revised EIS has identified that WDH1 appears to be in proximity to proposed utility infrastructure, 'ITS Conduit'. *Heritage Act 2004* approvals will be required should works which would cause damage to WDH1 be proposed.

- Weetangera Cemetery

  The revised EIS includes that one mature cypress tree, which is part of the significant fabric of Weetangera Cemetery would have 5-6% of its Tree Protection Zone (TPZ)

impacted by the proposal. Therefore, the buffer zone in the draft EIS (trees were fenced with a 10m buffer from the dripline) to prevent inadvertent impact cannot be achieved.

The CHA recommends that where impacts occur within the TPZ advice from an arborist should be sought to confirm that the works will not have an adverse impact. No supporting arborist report is included in the revised EIS.

- Kama Woodland/Grassland

  The Register Entry for the Kama Woodland/Grassland includes a number of features which are intrinsic to the significance of the heritage place. These include: an area of Yellow Box-Red Gum Grassy Woodland; an area of Natural Temperate Grassland; the ecotone between the Yellow Box-Red Gum Grassy Woodland and the Natural Temperate Grassland; habitat for many native plant and animal species including several threatened species: the Brown Treecreeper, Varied Sittella, White-winged Triller and Pink-tailed Worm Lizard; and a zone of ecological connectivity between the lower Molonglo River and The Pinnacle.

  The CHA indicates that 1.16ha of Yellow Box-Red Gum Grassy Woodland would be impacted by the proposal (within the curtilage of the Kama Woodland/Grassland), which is approximately 0.75% of the area of the place. While the works are impacting an intrinsic feature of the Registration, the CHA and revised EIS suggest that this would not have a significant impact on the place. The Council does not support this statement as the proposal will impact the intrinsic features of the Kama Woodland/Grassland, and therefore diminish the significance of the place. The CHA also notes partial impacts to the ecological connectivity between the lower Molonglo River and The Pinnacle but also describes these as having no significant impact. Mitigation measures include underpasses, overhead paths and fauna friendly lighting.

  The CHA indicates there are no impacts to the following intrinsic features: Natural Temperate Grassland; the ecotone between the Yellow Box-Red Gum Grassy Woodland and the Natural Temperate Grassland or the habitat for native plant and animal species. The Council considers, based on the information provided, that the project will also impact the habitat for native plant and animal species including several threatened species, as some of this habit is Yellow Box-Red Gum Grassy Woodland.

  Heritage Act 2004 approvals are required, as the project will diminish the significance of the Kama Woodland/Grassland. The Council also notes that the curtilage of the Kama Woodland/Grassland is not correctly mapped in the CHA.

Advice:

Partial Endorsement

The revised EIS and CHA has adequately identified the heritage values of the study area as they relate to Aboriginal heritage and the registered heritage place ‘the Weetangera Cemetery’ and has provided an assessment of the likely heritage impacts. The proposal therefore meets the requirements for these heritage aspects subject to the following conditions which may be addressed within the revised development application for these works:

1. The fencing recommendations included in the revised CHA for PAD1, PAD3 and WHD1 must be met prior to works commencing and adhered to through the duration of works;

2. Fencing of PAD5 is not required as the Council has recently determined that this location consists of unconsolidated fill and is not likely to contain subsurface Aboriginal places and objects;

3. Should fencing of WHD1 not be possible, noting General Arrangement Plans, then *Heritage Act 2004* approvals would be required. A Statement of Heritage Effect report would need to be submitted, under Section 61G of the *Heritage Act 2004* along with the relevant application form. Any application must:

    a. Be prepared in consultation with Representative Aboriginal Organisations;
    b. Meet the criteria of Section 61G of the *Heritage Act 2004*; and
    c. Meet the requirements set out in the Council's *Cultural Heritage Report Policy;*

4. Prior to the submission of the revised development application, an arborist report must be obtained that demonstrates that works in the TPZ will not adversely impact the mature cypress tree in the Weetangera Cemetery. Design amendments will be required if the arborist report identifies works would adversely impact this tree. Temporary barrier fencing must be installed around the two mature cypress trees based on the TPZ identified in the CHA or where this cannot be met, in accordance with an arborist's written advice to ensure no impacts occur to this significant fabric; and

5. The project's Construction Environment Management Plan (CEMP), must identify fencing requirements for Aboriginal places and the Weetangera Cemetery, unanticipated discovery protocols, heritage induction requirements and be submitted to the Council for endorsement prior to works commencing.

<u>Further Information Required</u>

The Council advises that the following information is required to adequately address the requirements of the EIS scoping document and previous Council advice on the draft EIS as it relates to the Kama Woodland/Grassland:

- The revised EIS has clarified that the proposal will diminish the heritage significance of the Kama Woodland/Grassland and notes impacts to Yellow Box-Red Gum Grassy Woodland and the ecological connectivity between the lower Molonglo River and The Pinnacle. The revised EIS includes some descriptions and information about how the impacts will be avoided, minimised and mitigated through underpasses and overhead paths to maintain connectivity, however the following is still required:

    - Details (including mapping) of the proposed impacts to the significant fabric within the curtilage of Kama Woodland/Grassland. This should also include information regarding the number of mature trees and hollow bearing trees (if present) which will be cleared within the curtilage;

    - The CHA and revised EIS must consider impact to habitat for native plant and animal species including several threatened species within Kama Woodland/Grassland. The Biodiversity Impact Assessment suggests impacts to these habitats will occur within the curtilage of Kama Woodland/Grassland;

    - The CHA and revised EIS must include any detail of reasonably practicable alternatives to the proposal and strategies that would avoid impacts in accordance with Council advice on the draft EIS. Where there are no

reasonably practicable alternatives or avoidance strategies this should be outlined;

- The CHA references the Biodiversity Impact Assessment for detailed controls to be adopted to minimise or mitigate impacts, however, these relate to the entire project and are not specific to Kama Woodland/Grassland. The controls that will minimise and mitigate impacts to the intrinsic features of Kama Woodland/Grassland (specific to its heritage curtilage) must be described; and

- The Council considers that the above requirements could be satisfactorily met with further discussion and associated reporting which involves both the heritage and ecological consultants for the project. This would allow intrinsic features of the Kama Woodland/Grassland to be understood and strategies for impacts to be avoided, minimised, and mitigated to be adequately documented as it relates to the heritage place.

The Council welcomes the referral of the information required on these matters to enable final endorsement of the EIS as it relates to the Kama Woodland/Grassland.

Edwina Jans
A/g Secretary (as delegate for),
ACT Heritage Council

29 July 2022

From:	Coldicutt, Russell on behalf of EPSDD_Sustainability Policy
To:	EPD Impact
Subject:	RE: Request for comments: William Hovell Drive duplication revised environmental impact statement (EIS)
Date:	Friday, 29 July 2022 10:40:32 AM
Attachments:	20220714 - Treasury - LZEV sales target and base July 2022.xlsx

OFFICIAL

Hi EPD Impact,

Thank you for the opportunity to comment on the revised EIS for the William Hovell Drive Duplication. Please see below for our response on each of the elements that the Climate Change and Energy Division requested from the proposal's earlier EIS.

Greenhouse Gas Emissions

Comments provided by the Climate Change and Energy Division on a previous EIS for this proposal requested the proponent provide quantified estimates of any greenhouse gas emissions resulting from the construction and operation of the road duplication. This has not been provided in the revised EIS. Without a quantified estimate of emissions caused by construction, the EIS does not quantify the contribution the proposal will make to meeting the legislated emissions reduction target, as required by the EIS scoping document.

The Division also requested in earlier comments that the proponent quantify the fuel savings resulting from the road duplication and use this information to inform the mitigation strategy for reducing emissions. The revised EIS indicates only that 'efficient vehicular movements' would be incorporated in the construction methodology and suggests that this mitigation strategy would take the risk rating from 'very high' to 'low'. Without more detailed analysis, it has not been possible for the Division to assess the suitability of incorporating 'efficient vehicular movements' into the construction methodology as a mitigation strategy.

The list of Climate Change Mitigation Measures (p. 203) suggests that site compounds will consider using solar panels instead of non-renewable energy. The Division notes that the ACT's electricity supply is 100% renewable, so this detail may need to be updated. The Division also queries whether the regular inspection of the road surface proposed in the same Mitigation Measures table should read "post construction" in addition to or instead of "pre-construction".

The Division reiterates our earlier recommendation to require the proponent to provide quantified estimates of:

- Changes in greenhouse gas emissions resulting from the project, including any emissions reductions due to decreases in congestion and fuel use or from any substitutions between active travel and passenger vehicle travel options. This must take the form of a detailed, quantified comparison between a business-as-usual scenario and the proposed duplication project.
- Scope 1 and 2 greenhouse gas emissions resulting from the construction and operational energy use of the infrastructure itself.
- Mitigation and/or offsetting measures proposed and the extent to which they mitigate emissions.

Estimates must be calculated in a way that is comparable to the greenhouse gas emissions targets in the *Climate Change and Greenhouse Gas Reductions Act 2010*.

Electric Vehicles

The Division acknowledges that future electric vehicles will require similar road infrastructure to vehicles with internal combustion engines, as stated in the revised EIS. However, because these estimates are used to quantify potential operational emissions (as required by the EIS scoping document), the proportion and rate at which EVs use the road duplication will impact the proposal's greenhouse gas emissions.

The EIS applies a linear electric vehicle uptake factor to 2045, based on estimates that approximately half of the vehicles in the ACT could be electric vehicles by 2031. By contrast, internal modelling by the Division (attached) anticipates that even if 80-90% of new vehicle sales in 2030 are EVs the total number of low emissions vehicles in the ACT is likely to only be between 23-28% of the total fleet. This modelling also suggests that uptake of low emissions vehicles will not occur linearly.

The discrepancy between the EIS's estimates of future EV usage in the ACT and the Division's modelling of low emissions vehicle uptake suggests that the EIS underestimates the operational emissions likely to result from the proposal.

The Division recommends requiring the proponent to use the Division's internal modelling of low emissions vehicle uptake to inform the estimates used to quantify the operational greenhouse gas

emissions in section 5.10.3.1 of the revised EIS. Additionally, the proponent may also wish to use the publicly released data on existing EV registrations to inform the estimates in the EIS, available here: Cars and vehicles - Climate Choices (act.gov.au).

Kind regards,

Russell

Russell Coldicutt (He/Him) | Policy Officer | Sustainability Policy

P: 02 6205 5189 **| E:** russell.coldicutt@act.gov.au

Climate Change and Energy | Environment, Planning and Sustainable Development Directorate | ACT Government

480 Northbourne Avenue Dickson | GPO Box 158, Canberra City | www.environment.act.gov.au | www.planning.gov.au

I acknowledge the Traditional Custodians of the lands of the ACT, the Ngunnawal people. I acknowledge and respect their continuing culture and the contribution they make to the life of this city, and pay my respects to Elders, past and present.

William Hovell Drive upgrade (EPBC 2022/8703)

DAWE's comments on the adequacy of the draft EIS in accordance with section *8.2.13. Matters of National Environmental Significance (MNES)* of the Scoping document

Requirement	What has been provided	DCCEEW Comments/recommendations 29/07/2022
Describe the impact on Box Gum Woodland, Superb Parrot, Swift Parrot, Golden Sun Moth and any other MNES potentially impacted by the project.	Sections 6.1.1, 6.2 and 6.4 and Appendix C of the Biodiversity Impact Assessment contain descriptions of direct and indirect impacts, respectively, to White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box Gum Woodland). Works associated with this project will involve clearing of vegetation. Sections 6.1.2, 6.2 and 6.4 and Appendix C contain descriptions of direct and indirect impacts, respectively, to Hoary Sunray, Superb Parrot, Swift Parrot, Golden Sun Moth, Pink-tailed Worm-lizard. Works associated with this project will involve clearing of vegetation.	No further comments.
For any matters identified as potentially impacted provide a description of the relevant impacts of the action including: - a detailed discussion of known threats - a detailed assessment of direct and indirect impacts on areas of habitat and	Sections 6.1.1 and 6.4.1 and Appendix C contain a detailed assessment of impacts to Box Gum Woodland. 6.41 ha will be impacted by this project, including 6.38 ha of moderate quality Grassy Woodland and 0.03 ha of native grassland. Sections 6.1.2 and 6.4 and Appendix C contain descriptions of direct and indirect impacts,	Table 6-3: Direct impacts on threatened fauna habitat of the Biodiversity Report does not include the Golden Sun Moth. Please update to include the habitat directly impacted by the project. The scoping document requires the proponent to provide a statement on whether impacts are expected to be unknown, irreversible, or unpredictable. Please provide a statement to this effect for each MNES.

- populations of listed threatened species during pre-construction, construction and operation - detailed information on the extent (in hectares) of known and potential habitat that occurs in the proposed site and surrounds which may potentially be impacted by the proposal - a detailed assessment of the nature and extent of the likely short term and long term relevant impacts - a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible.	respectively, to Hoary Sunray. 10.9 ha of potential habitat will be impacted, including 13 individuals. Sections 6.1.2 and 6.4 and Appendix C contain a detailed assessment of impacts to Superb Parrot. There is 19.80 ha of potential habitat within the study area, and 10.81 ha will be impacted by this project, including 6.41 ha of foraging habitat and 7 potential breeding trees. Sections 6.1.2 and 6.4 and Appendix C contain a detailed assessment of impacts to Swift Parrot. There is 19.80 ha of potential habitat within the study area, and 10.81 ha will be impacted by this project Sections 6.1.2 and 6.4 and Appendix C contain contains a detailed assessment of impacts to Golden Sun Moth. The project will result in the removal of 0.06 ha of habitat. Sections 6.1.2 and 6.4 and Appendix C contain contains a detailed assessment of impacts to Pink-tailed Worm-lizard. There is 0.27 ha of potential habitat within the study area, and 0.16 ha of rocky habitat will be impacted by this project. Information of surrounds includes discussion of Kama and Pinnacle Extension Nature Reserves, and indirect impacts to adjacent land to proposal in section 6.2, however does not discuss the surrounds for each individual MNES.	

	The conclusion states that that the impacts would be permanent but not irreversible, however there is not a statement for each individual MNES.	
Outline how the proposal is consistent with: - Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention), or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - any relevant recovery plans or threat abatement plans - any relevant strategic assessment reports - any relevant Commonwealth recovery plans or threat abatement plans.	Statutory Documents considered: - National Recovery Plan for White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland. (2010). - National Recovery Plan for *Leucochrysum albicans* var*. tricolor* (Hoary Sunray) (2010) - The National Recovery Plan for the Superb Parrot (*Polytelis swainsonii*) (2021). - National Recovery Plan for *Lathamus discolor* (Swift Parrot) (2011). - There is no Recovery Plan in effect for the Golden Sun Moth or Pink-tailed worm Lizard. Table 6-7: Summary of EPBC Act assessments notes that the project is not inconsistent with the threat abatement plans for the listed species and communities, however does not detail which these are and why.	Please provide a discussion on how the proposal is consistent with the relevant threat abatement plans: - Threat abatement plan for competition and land degradation by rabbits (2015), for Pink-tailed worm lizard and Golden Sun Moth. - Threat abatement plan for predation by feral cats (2010) for Swift Parrot. - Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (2011) for Box Gum Woodland. - Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*) (2017) for Box Gum Woodland. - Threat abatement plan for disease in natural ecosystems caused by *Phytophthora cinnamomi* (2018) for Box Gum Woodland. In Appendix C the National Recovery Plan has been prepared for the Swift Parrot (Saunders and Tzaros 2011) is noted as being a draft. This plan has been in

		effect under the EPBC Act from 10 February 2012, please update for accuracy.
If offsets are proposed to compensate for impacts on MNES, describe the proposed offsets and how they comply with the EPBC Act environmental offsets policy.	The Revised EIS states in Section 5.2.4 that the Draft Biodiversity Offset Strategy for the Project is expected to be established over the next two quarters of 2022. The ACT Conservator of Flora and Fauna has been consulted on Draft Offset Strategy and final Offset Management Plan, and that the first choice of offset being located to the west of Kama Nature Reserve. Section 8 of the Biodiversity Impact Assessment notes that the document package does not contain a complete Offset Strategy, which is expected to be produced once potential offset sites have been identified. The Offset Strategy document will show a high-level proposal outlining how potential offset sites can provide appropriate direct offsets associated with the project. Section 8 provides the intended inputs and impact calculations for the EPBC Act Offset Assessment Guide for Box Gum Woodland (moderate and low qualities and derived native grassland), Hoary Sunray Habitat, and Pink-tailed Worm-lizard habitat. There are no details on how the 7 hollow bearing trees that provide breeding habitat for Superb Parrot will be offset.	The departments offset Policy states offset should be implemented either before, or at the same point in time as, the impact arising from the action. To ensure consistency with the offset policy, the department will require an offset strategy detailing the proposed offset to be approved prior to commencing the action. The EPBC Act environmental offsets policy can be found on the departments website at https://www.dcceew.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy. Please provide details on how the 7 hollow bearing trees will be offset. Table 6-2: Direct impacts on threatened flora habitat notes that whether an offset is required for Hoary Sunray is [tba] (to be advised). The department notes that impact calculations for the Hoary Sunray have been completed in Section 8.2.3. Please confirm whether offsets for the Hoary Sunray will be required.

Appendix 3 – Proponent response to Section 224 notice

Member of the Surbana Jurong Group

William Hovel Drive Duplication (WHDD) - Response to the Planning and Land Authority's Section 224 Notice on Revised EIS - EIS202000014

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	1	***Executive summary:*** Please provide greater detail on the findings and recommendations of the EIS in the executive summary as required by section 3 of the Scoping Document (SD).	Executive Summary has been revised to provide greater detail on the findings and recommendations of the EIS, including expanded comments on impacts.
EPSDD	2	***Climate change resilience (section 6 - Legislative and Strategic Context of the Scoping Document (SD)):*** The EIS does not describe how the proposal will be resilient to climate change, particularly to extreme events of heatwaves, droughts, storms with flash flooding and bushfires. Table 5-47 of the EIS describes predicted changes in heat, rainfall and fire danger but does not include predicted changes in flash flooding or storms as required by section 6.2 of the SD. Please provide further information demonstrating how the proposal will be resilient to these extreme weather events.	Projected climate risks have been better demonstrated in Table 5-52 (previously Table 5-47). Additional climate data and commentary provided generally (Section 5.10.3), with more explicit conclusion made on the proposals resilience to extreme weather events directly relating to SD requirements (flash flooding, storms).
EPSDD	3	***Climate change resilience (section 6 - Legislative and Strategic Context of the Scoping Document (SD)):*** It is noted that the only mitigation measure provided is increased inspections of infrastructure. It is recommended that consideration is given to adaptation measures within the proposal to reduce vulnerability and increase resilience to climate change.	Section 5.10.4 and 5.10.5 now have additional climate change data included and used to determine relevant infrastructure and social risks. Risks have been explicitly rated and design mitigations highlighted. A stronger conclusion is drawn that the infrastructure has residual resilience to climate change and is less vulnerable into the far future.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	4	***Flora and Fauna - Report*** ***The Biodiversity Assessment (Appendix D of the EIS) still contains unfinished sections. For example:*** • table 4-1 of Appendix D – Vegetation communities in the study area – Native Grassland, column 2 states ACT [tba]: Derived Native Grasslands; • table 6-2 (pg. 80) describes that whether an offset is required for Hoary Sunray is [tba]; and • Appendix C of the Biodiversity Assessment (pg. 119-120) describes [tba] hollow-bearing trees containing [tba] hollows that may provide suitable breeding habitat for the Superb Parrot will be removed. The documentation submitted with the EIS must be complete.	The specified unfinished sections of the Biodiversity Assessment (Appendix D of the EIS) within Table 4-1, Table 6-2 & Appendix C (pg. 119-120) have been updated to completion, namely: • Table 4-1 of Appendix D – Vegetation communities in the study area – Native Grassland, column 2 now states "ACT [xx]: Derived Native Grasslands;" • Table 6-2 (pg. 80) identifies whether an offset is required for Hoary Sunray. It is stated "no;"; and • Appendix C of the Biodiversity Assessment (now pg. 128) now describes "seven trees containing hollows that may provide suitable breeding habitat for the Superb Parrot will also be removed."

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	5	***Flora and Fauna*** ***Threatened species*** ***The impact of the proposal on threatened species continues to be described inconsistently between the EIS main report, Biodiversity Assessment and between sections within other reports, for example:*** • the offset strategy (section 8) of the Biodiversity Assessment describes that offsets are required for box gum woodland, hoary sunray, superb parrot and pink-tailed worm lizard (PTWL); • Appendix C (assessment of significance) of the Biodiversity Assessment describes that impacts to box gum woodland and striped legless lizard are significant, impacts to pink-tailed worm lizard are potentially significant and impacts to other threatened species are not significant; • table 6-7 of the Biodiversity Assessment describes impacts to striped legless lizard as not significant while table 5-16 of the EIS describes impacts to striped legless lizard as potentially significant; • Appendix C states the impact on PTWL is potentially significant. The offset strategy (section 8) describes that an offset is required for loss of 0.16 hectares of habitat; • Appendix C states the impact on superb parrot is not significant however the offset strategy (section 8) describes that an offset is required for the loss of 7 hollow bearing trees; and • Appendix C states the impact on hoary sunray is not significant however the offsets strategy (section 8) describes that an offset is required for loss of 10.9 ha of habitat. The EIS must include consistent information on impacts of the proposal on threatened species, including confirmation of the species that will be significantly impacted and the species that won't be significantly impacted.	The impact of the proposal on threatened species and their offset requirements are now consistent across the EIS, Biodiversity Assessment and other reports, namely: • the offset strategy (section 8) of the Biodiversity Assessment describes that offsets are now only required for box gum woodland; • This is consistent with the new Appendix L Final Environmental Offset Strategy; • Appendix C (assessment of significance) of the Biodiversity Assessment now describes that only impacts to the box gum woodland are significant, with impacts to other threatened species not being significant; • Table 6-7 of the Biodiversity Assessment describes impacts to Striped Legless Lizard as not significant while table 5-16 of the EIS describes impacts to striped legless lizard as also not significant; • Appendix C now states that a significant impact on PTWL is unlikely, with the loss of potential habitat unlikely to be important to the survival of the Pink-tailed Worm-lizard, due to the existing William Hovel Drive barrier to movement and lack of connectivity to other nearby areas. The area lost is therefore no longer proposed to be offset. • Appendix C states that the impact on the Superb Parrot is not significant. Even with the loss of seven hollow-bearing trees, considering the mobility of the Superb Parrot and the proximity of these trees to an existing major road, it is not expected to affect the breeding habitat for this species. • Appendix C states the impact on hoary sunray is not significant as even with loss of 10.9 ha of habitat, and these impacts leading to a decline in the population and a reduction in available habitat, in context of the size of the population, these impacts are unlikely to lead to a local extinction. The area lost is therefore no longer proposed to be offset.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	6	***Flora and Fauna - Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** Glider poles: The draft EIS included the installation of glider poles to assist gliders to cross the expanded road and mitigate impacts of habitat fragmentation. This mitigation measure is not in the revised EIS and there is no explanation for why it has been removed. The Appendix K Fauna Crossing drawings shows a glider crossing (page 2). It is not clear where this structure will be constructed and the EIS does not include an assessment of the impact it will have.	On 23 Feb 2022, within the William Hovel Drive Duplication (WHDD) – Environmental Offsets meeting, the Conservator (Ian Walker) agreed to the new mitigation structures nominated in this revised EIS (i.e. culvert structures and rope bridges) as being acceptable in the interim, with TCCS committing to pursue a Future Land Bridge Feasibility Study as a separate exercise to consider whether such a structure provides a demonstrable ecological benefit in this location (as described in section 2.4.1).TCCS has since engaged SMEC to undertake the Feasibility Study, with investigations now under way. The wildlife crossing designs and EIS has progressed based on this agreement and therefore no longer includes the installation of Glider poles, and are now doing rope bridges in their place. The mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of wildlife crossing structures being presented in Section 5.2. Updated Fauna Crossing figures (Figure 5 -11) within the EIS also now shows the location of all crossings. Appendix K Fauna Crossing drawings have also now been updated and present the locations and designs of the wildlife crossings.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	7	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** Echidna: The impacts of fragmentation (table 5-13) includes a section for echidnas however the information in one row appears to describe impacts to microbats. Please review the table and correct the information. Please provide a justification for why echidnas are the only species included in the table when other rows in the table are for faunal groups.	Table 5-13 within the EIS has been revised to now only include faunal/floral groups, with the section referring to echidnas being removed.
EPSDD	8	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** Underpasses: The use of pedestrian underpasses as wildlife crossings is not described. The EIS describes that 2 of 3 underpasses will have lighting added. It is not clear where underpasses are, which underpasses will be lit and whether they will be effective as wildlife crossing points. The EIS does not include a response to the comment on the draft EIS that lit underpasses may not be effective as wildlife crossings.	The use of pedestrian underpasses as wildlife crossings is now described in greater detail within the EIS in Section 5.2.3.3 and Section 5.2.4: • A Figure 5 -11 has been placed within the EIS which now depicts the locations of all underpasses. • Along with the figure the EIS now describes that all underpass will be lit and unlit, while also recommending the type of lighting to be used in lit underpasses (i.e. non-sensor based warm lighting) (Section 5.2.3.3). • The EIS now better describes the target species and potential use of these underpasses (lit and unlit) (Table 5-19). • As per agreements during the WHDD S224 notice meeting (22 September 2023), TCCS will work in consultation with the Parks and Conservation Service to implement a program, approved by the Conservator, for monitoring the crossing structures. The program will include monitoring the effectiveness of the structures and adaptive management if required (addressed in Section 5.2.4).

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	9	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** General wildlife crossings: The mitigation measures to reduce habitat fragmentation are not described clearly in the EIS. Please provide further information on the location, features and number of wildlife crossing structures. The EIS describes installing a rope bridge and culverts in areas of high ecological connectivity to enable wildlife movement across the road. The EIS needs to describe the species or faunal groups that are intended to use each wildlife crossing structure, why the crossing structure will be effective to enable movement of those species or faunal groups and how they mitigate the fragmentation effect of the road expansion. This information is required for pipe culverts, rope bridge, glider poles, underpasses, roadside vegetation for flying species and any other habitat fragmentation mitigation measure. A justification must be provided for design of the wildlife crossings, for example their size and location. Appendix K Fauna Crossing drawings shows the location and dimensions of the wildlife culverts and rope bridge. The EIS needs to provide justification for these locations and dimensions and remove the text "approximate location".	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4: • Number and locations of the crossings: A Figure 5 -11 has been placed within the EIS which now depicts the number and locations of all wildlife crossings. • Features of crossings: A justification is now provided for the design of the wildlife crossings, including their size and locations within Section 5.2.4. • Faunal species that are intended to use the crossings: The EIS now describes the Faunal groups that are intended to use each wildlife crossing structure and how the crossing structure will enable the movement of those species. • Effectiveness: Future monitoring of the crossings will speak to how effective they are at mitigate the fragmentation effect of the road expansion on those species as described in Comment 8 of this register and Section 5.2.4 of the EIS. • Appendix K Fauna Crossing drawings have now been updated and present the locations and designs of the agreed upon wildlife crossings (i.e., culverts and rope bridges).

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	10	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** Other methods: Many mitigation measures must be described in more detail to be able to determine their effect on reducing habitat fragmentation. The other methods (other than physical crossing structures) used to encourage wildlife movement and their effectiveness must be described in more detail. For example, fencing that directs wildlife to underpasses or crossing structures, plantings close to crossing structures to encourage wildlife use of crossing structures, vegetation to encourage wildlife to cross the road in locations without crossing structures, habitat features inside culverts, appropriate lighting and avoidance of lighting close to crossing structures and in high ecological connectivity value areas.	Other methods (other than physical crossing structures) used to encourage wildlife movement and their effectiveness is now described in more detail within the EIS (Section 5.2.4). These are: • Section 5.2.4.1 and Appendix K of the EIS provide further details around the specifications of fauna rope bridge and box culvert crossings, as well as supporting fauna fencing and escape ramps/barriers. • Escape ramps and barriers - One-way gates or ramps allowing medium to large species to escape the roadway and move back into adjacent habitats, is also now further detailed within the EIS. • Revegetation - Planting along the alignment, groundcover planting at the entrance to smaller culverts, and other strategic planting will be used to encourage fauna to cross at particular locations, including those in locations without crossing structures. This is now further detail within the EIS (Section 5.2.4.1). • Lighting - appropriate lighting within wildlife crossing structures, and in high ecological connectivity value areas are now described in further detail within the EIS (Table 5-18).
EPSDD	11	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** The EIS needs to describe the species or faunal groups that are expected to be permanently isolated by the road (unable to move across the road or use the crossing structures).	It was agreed upon during the WHDD S224 notice meeting (22 September 2023), that Table 5-13 within the EIS is sufficient in addressing this comment, as it lists the impacts of fragmentation on existing flora and fauna species groups (before mitigation measures are applied). The EIS now also lists the species groups that will potentially use the proposed wildlife crossing structures (Table 5-19). There is limited research of crossing structure use for many of the fauna groups and therefore a full comprehensive list of species with a level of impact the proposed design will have on them, alongside evidence to support that assessment is just not feasible at this stage of the EIS.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	12	***Flora and Fauna*** ***Habitat fragmentation*** ***The development width (including all works, road, shared path, drainage infrastructure) along the entire alignment, and specifically, in the most important ecological connectivity corridors, must be clarified in the EIS, including:*** The EIS needs to describe the residual impact of the road expansion on habitat fragmentation and movement of threatened and non-threatened species. The information in table 5-13 is not clear on the residual impact of the road expansion on each faunal group.	It was argued that the residual risk had already been addressed in Table 5-20 of the EIS, as required by the Scoping Document (and in the format required by the Scoping Document), section 8.1.5. This was later agreed to by the Conservator via email correspondence. The conservator provided follow up comments, with regards to revising the risk table (Table 4-4) to further address, the following: *a. the consequence of "Incursion of vehicles, light, noise, invasive species and increased recreational use caused by greater human access into areas of environmental significance" should be listed as "Major", rather than Minor. These impacts are well recognised as key threatening processes.* *b."clearing of trees and other vegetation causing impacts including loss of amenity, loss of habitat, increased erosion and water runoff" should be listed with a "certain" likelihood, given the known impacts on MNES (let alone impacts on non-listed species).* *c.the likelihood of "vegetation clearing activities during construction disturb native animals and increase the potential for vehicle strike" should be certain, particularly in relation to the noise and disturbance during construction.* *d.It is almost certain that "clearing of vegetation results in a loss of connectivity through fragmentation in the landscape, or obstructing local movement corridors" and "addition of construction of barriers to movement, including safety railings, wider paved roads, more lighting, noise and disrupted water courses", based on current proposals for mitigation of these impacts.*

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
			e.The impacts of habitat fragmentation on the ability for all native species to adapt to climate change should be noted under the 'climate change' risks. As such Table 4-4 has been updated to address the Conservators above comments.
EPSDD	13	***Flora and Fauna*** ***Noise*** Minimal justification has been provided in the EIS to support the conclusion that there are no significant noise impacts on fauna, except for a minor shift in habitat suitability for sound sensitive species. It is not clear which species are considered sound sensitive. Microbats are described in section 5.2.3.8 as affected by sound and section 5.2 states that microbats may occur at the development site. Please provide further information on the significance of impacts on sound sensitive species and additional details on any mitigation measures required to reduce impacts on these species.	EIS now references low noise pavement as the main means of noise reduction for the road long-term and the main mitigation measure in this case. The resulting noise levels will be of low impact to existing sensitive receivers. EIS also now considers additional species that are considered to be noise sensitive, however the impact on these species is also been considered to be low. This can be found in Section 5.2.3.3.
EPSDD	14	***Flora and Fauna*** ***Roadkill*** ***The EIS does not provide sufficient detail on mitigation measures intended to reduce the occurrence of wildlife vehicle strike (roadkill) to assess their effectiveness. The locations where the following mitigation measures will be used and their effectiveness needs to be described:*** • at key crossing points lowering the road or keeping high steep cuttings to encourage flying wildlife to cross the road above traffic;	Additional text has been added within Section 5.2.4 of the EIS around using the existing road pavement so there will be no changes to cuttings and height of the road. Other mitigation measures such as revegetation and fencing will be used to re-direct fauna to the crossings as has also been further discussed within Section 5.2.4.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	15	***Flora and Fauna*** ***Roadkill*** ***The EIS does not provide sufficient detail on mitigation measures intended to reduce the occurrence of wildlife vehicle strike (roadkill) to assess their effectiveness. The locations where the following mitigation measures will be used and their effectiveness needs to be described:*** • revegetation where birds are likely to cross the road particularly at the top of cuttings to encourage flight above the road;	Further discussion within the EIS have been added around planting shrub and canopy species at the top of existing cuttings and encourage flying species to cross above the height of the traffic in Section 5.2.4.
EPSDD	16	***Flora and Fauna*** ***Roadkill*** ***The EIS does not provide sufficient detail on mitigation measures intended to reduce the occurrence of wildlife vehicle strike (roadkill) to assess their effectiveness. The locations where the following mitigation measures will be used and their effectiveness needs to be described:*** • fauna exclusion fencing to prevent wildlife accessing the road particularly where central barriers between carriageways are in place; and	Further discussion has now been added around Fencing within Section 5.2.4 of the EIS.
EPSDD	17	***Flora and Fauna*** ***Roadkill*** ***The EIS does not provide sufficient detail on mitigation measures intended to reduce the occurrence of wildlife vehicle strike (roadkill) to assess their effectiveness. The locations where the following mitigation measures will be used and their effectiveness needs to be described:*** • escape routes/gentle batters for fauna trapped on the road and central medians designed to not trap fauna on the road.	Further discussion has now been added around Escape ramps within Section 5.2.4 of the EIS.
EPSDD	18	***Flora and Fauna*** ***Roadkill*** The EIS also needs to describe which species are intended to be blocked by fencing.	Species intended to be blocked by fencing is now further discussed in Section 5.2.4 of the EIS.
EPSDD	19	***Flora and Fauna*** ***Nature reserves*** The EIS must describe how stormwater flowing off the road will be managed. For example, will the stormwater flow into nature reserves, areas of box gum woodland or threatened species habitat and will it be treated prior to entering natural areas?	This has now been addressed in section 5.7.5 of the EIS.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	20	***Flora and Fauna*** ***Mitigation measures*** The flora and fauna mitigation measures in table 5-19 are described inconsistently and do not match the impact they are listed against. Please review table 5-19 to ensure mitigation measures are consistent.	Table 5-18 (previously 5-19) has been reviewed and updated where necessary in EIS to reflect the updated flora and fauna mitigation measures within the revised BIA.
EPSDD	21	***Flora and Fauna*** ***Offsets*** The EIS and Biodiversity Assessment must include consistent information on which threatened species require offsets and details on the offsets required based on the offsets policy and calculator. The EIS describes (section 5.2.4, pg. 125) that the proposal will use the Commonwealth Offsets Calculator in conjunction with the ACT Environmental Offsets Delivery Framework. Please clarify, as the proposed offset arrangements will be required to comply with both the Commonwealth and ACT environmental offsets policy.	The EIS, BIA and new Appendix L (Final Environmental Offset Strategy) have been reviewed to ensure consistency across the species which are being carried forward for offsetting. Whilst offset are only technically triggered for Box Gum Woodland, there is discussion on how this proposed offset will also provide residual habitat benefits for the Superb Parrot and Pink-tailed Worm-lizard. Refer to Section 5.2.6.2 and Section 1.2.2 of Appendix L of the EIS, which include the following clarification: The ACT Government has developed an Environmental Offsets Policy, which is consistent with the Commonwealth Offsets Policy with regard to MNES (ACT Government, 2015). As such, if an environmental offset has been established for an MNES under the EPBC Act, a separate offset is not required under the ACT Offset Policy, even if the MNES is also protected under relevant ACT legislation. The Project will not be impacting upon any matters that are protected in the ACT and are not MNES. As such, the Commonwealth Policy will apply, and overall consistency with the ACT Policy will be demonstrated. The ACT Government has developed an Environmental Offsets Policy, which is consistent with the Commonwealth Offsets Policy with regard to MNES (ACT Government, 2015). As such, if an environmental offset has been established for an MNES under the EPBC Act, a separate offset is not required under the ACT Offset Policy, even if the MNES is also protected under

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
			relevant ACT legislation. The Project will not be impacting upon any matters that are protected in the ACT and are not MNES. As such, the Commonwealth Policy will apply, and overall consistency with the ACT Policy will be demonstrated.
EPSDD	22	***Heritage*** Page 152 of the EIS states: "Both the Weetangera Cemetery and Kama Woodland/Grassland are currently registered to the ACT Heritage Register as holding high heritage significance and no impacts will occur within the registered curtilages." The ACT Heritage Council has advised that the proposal will impact on the registered curtilage of the Kama Woodland/Grassland registered heritage site. Comments on the revised EIS from the Heritage Council must be addressed.	EIS now better reflects the impacts within the registered curtilages of both the Weetangera Cemetery and Kama Woodland/Grassland within Section 5.4.3.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	23	***Noise*** The EIS and Noise Assessment (Appendix F) include inconsistent information on the proposed mitigation measures. The Noise Assessment states there are three potential mitigation measures for reducing noise (two types of noise barriers and low noise road pavement), and each option results in noise within the guideline at sensitive receivers. It is not clear in the EIS which option is proposed for the development. The EIS needs to clearly describe the mitigation measures that are proposed and the residual impact of noise on sensitive receivers. If a decision has not been made on which option will be constructed, the EIS must describe this. It is noted that the statement against criteria submitted with the concurrent DA describes the installation of a noise reducing pavement close to Hawker and Whitlam.	EIS now provides additional clarity around the proposed noise solution / mitigation measures, specifically updating section '5.5.4.2 Operational road traffic noise' to include a conclusion clarifying that the low noise road pavement is the preferred mitigation option for the development. 'Table 5-35 Noise and vibration mitigation measures' was also updated to reflect this conclusion.
EPSDD	24	***Hydrology*** The mitigation measures, in table 5-38, do not match the corresponding impacts. Please review table 5-38 to ensure mitigation measures are consistent and logical.	Table 5-40 (previously Table 5-38) has been revised to ensure mitigation measures are consistent and logical, also adding more context.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	25	***Hydrology*** The draft EIS described that the road will achieve a reduction in pollution of suspended solids, phosphorus and nitrogen of 19%, 11% and 11% respectively, compared to a road with no water quality controls. The revised EIS described that a reduction in pollution of suspended solids, phosphorus and nitrogen of 96%, 81% and 40% respectively will be achieved. There is no explanation in the revised EIS about how the design achieves such a greater reduction in pollution. The methods used to capture pollution in the revised EIS appear to be the same as in the draft EIS. Please clarify this in the revised EIS.	Minor updates to Section 5.7.5 Water Quality to clearly define the treatable area. Previous agreements confirmed approach of treating the net additional road pavement area only. The updated strategy, and update to the drainage design from the PSP stage including additional cross culverts and vegetated swale for pavement runoff is has resulted in the improvement of water quality outcomes for the project.
EPSDD	26	***Hydrology*** The EIS does not describe how increased stormwater flow due to a larger area of impermeable surface will discharge into drainage lines and Deep Creek and how it will be managed to prevent erosion of waterways. It is still unclear what changes to stormwater drainage are proposed.	Mitigation measures as per Table 5-40 refers to required approved ESCP (Erosion Sediment Control Plan) for the construction stage of this Project. Section 5.7.6 Impacts addresses this increase in discharge due to increase in impervious area: '*As a result of the duplicated road, the area of hardstand will increase and there will be an associated minor increase in peak stormwater runoff. The Project will maintain or increase the stormwater drainage provisions to manage the surface water for events up to the one percent AEP, while also providing additional protection during and following major storm events. As such, there will be no change with regard to the risk for erosion and scour at the stormwater discharge points or potential for sediment discharge and pollution.*' The provision of additional water quality swales will allow for treatment and infiltration of some of the additional pavement runoff, minimising the impact of increased flow from the increase in impervious area.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	27	***Hydrology*** The EIS does not provide information on the resilience of the road to high rainfall events. It is not clear what the climate change analysis concluded. The EIS describes that the rainfall intensity was increased by 20 percent to account for the effects of climate change. It is not clear what the 20% increase was calculated from - is it the 1% annual exceedance probability (AEP) rainfall intensity?	Additional Climate Change data has been included in Section 5.7 of the EIS and used to determine relevant infrastructure and social risks. Risks have been explicitly rated and design mitigations highlighted. This includes a stronger explanation of 20% increase (this is a requirement of MIS08). The increase was a nominal inclusion on top of the 1% and 10% AEP allowance as additional buffer for climate change. It should be noted that drainage sized for 1% or 10% AEP, it includes sizing for the future which includes consideration from climate change models. A stronger conclusion is drawn that the infrastructure has residual resilience to climate change and is less vulnerable into the far future.
EPSDD	28	***Hydrology*** The EIS describes that surface flow for the 20% AEP flood widths remained within limits stipulated in the municipal infrastructure standard. However, the 20% AEP flood is a flood that is expected to occur once in a 5-year period. The EIS must describe the effect of flooding on the road that will occur due to increased rainfall due to climate change.	Climate change has been applied as a sensitivity analysis as per MIS08 Stormwater appendix F4.4. The major storm event (1%AEP) and minor (10%AEP) analysis has been run and the performance of the drainage network ensures flood width compliance with MIS08 requirements. A 20% climate change sensitivity factor applied to the IFDs for both the major and minor storm event, and analysis undertaken on the road design. The EIS has been updated in Section 5.7 to read as such and to include the outcomes. There is one location (CH2040) where the 20% increase for climate change will increase the one required trafficable lane in a major storm event. The current design scope is to retain an existing cross culvert and road profile, therefore further drainage design improvements are only possible if the existing culvert and road are upgraded at CH2040.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	29	***Visual*** The visual impact assessment of the proposal has not been updated to include the additional viewpoints from the 9m retaining wall in Whitlam, south of intersection of William Hovel Drive and Drake Brockman Drive looking south, east, west. This is to be included in the revised EIS.	The visual impact assessment of the EIS already includes key viewpoints from the 9m retaining wall in Whitlam, as presented within Figure 5-23 via Viewpoint (VP) 2, and described within Table 5-44, under VP 2. The visual impact assessment for residence who are in visual range of the development located around the intersection of William Hovel Drive and Drake Brockman Drive looking south, east, west, are also presented within Figure 5-23 via VP's 4, 5 and 6, and described within Table 5-43, under Viewpoint's 4, 5 and 6.
EPSDD	30	***Visual*** It is also noted that the EIS does not contain an assessment of the visual impact of noise barriers close to Hawker and Whitlam. The EIS must be clear if noise barriers will be used to mitigate noise experienced by residents. If it has not yet been determined if noise barriers will be used as a mitigation measure, then a visual impact assessment of the noise barriers should be included in the revised EIS.	As per Comment No.23, the Noise section of the EIS (Section 5.5) has been updated to clearly indicate noise barriers will not be implemented during the development. As such, no further visual impact assessment is required since there will be no noise barriers implemented as part of the works.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	31	***Greenhouse Gas emissions (section 8 – Climate Change impacts of the SD)*** ***The EIS has not responded to requests for information on greenhouse gas emissions.*** ***Construction*** Construction emissions are described as minimal and have not been estimated/calculated. The scoping document requires that the EIS describe the greenhouse gas emissions produced during construction and the impact of these on climate change. For example, how these emissions compare to the ACT's annual emissions and how they contribute to meeting the legislated target for a net zero emissions Territory by 2045.	Construction emissions have now been estimated and described within Section 5.10. The impact of the construction GHG's on climate change cannot be described as this cannot be qualified. Instead, they have been relativised to Canberra's residential emissions and ACT's 2021-22 emissions. A clear statement of the reduction's compliment of the reduction targets has been included.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	32	***Greenhouse Gas emissions (section 8 – Climate Change impacts of the SD)*** ***The EIS has not responded to requests for information on greenhouse gas emissions. Operation*** The EIS must estimate the increased number of vehicles using the road due to the road expansion (for example, due to a reduction in congestion causing an increase in people using personal vehicle transport) and calculate the emissions this increase in vehicles is likely to produce, then compare these emissions with the ACT annual emissions.	More robust traffic uplift factors have been sought and implemented in Section 5.10.3.1 based on a nearby Traffic Impact Assessment (Aecom, 2019). Calculation of induced demand volumes is out of scope and would require elasticity validation. The long-term effect of induced demand (over the period of 23 years) is not likely to be the most significant driver of traffic (land use change is more likely) so understanding induced demand will have limited value.
EPSDD	33	***EPBC Act Bilateral EIS requirements*** As described in the biodiversity section above, the assessments of significance for impacts to threatened species are inconsistent in the Biodiversity Assessment (Appendix D) and main EIS report.	Updated so that the assessments of significance for impacts to threatened species are now consistent in the Biodiversity Assessment (Appendix D) and main EIS report.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	34	***EPBC Act Bilateral EIS requirements*** ***A detailed discussion of threats to threatened species, due to impacts of the proposal, has not been conducted, including:*** • Unknown impacts: A statement must be provided describing whether any impacts to each matter of national environmental significance (MNES) are likely to be unknown, unpredictable or irreversible.	This is addressed in Section 5.2.3.2 of the EIS.
EPSDD	35	EPBC Act Bilateral EIS requirements A detailed discussion of threats to threatened species, due to impacts of the proposal, has not been conducted, including: • International conventions: The scoping document requires that the EIS outlines how the proposal is consistent with Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). No information has been provided on these international conventions.	The objectives of these conventions have been reviewed and are now included in Section 5.7 of the BIA and Section 5.2.2.10 of the EIS.
EPSDD	36	***EPBC Act Bilateral EIS requirements*** ***A detailed discussion of threats to threatened species, due to impacts of the proposal, has not been conducted, including:*** • Recovery plans: The scoping document requires that the EIS outlines how the proposal is consistent with relevant commonwealth recovery plans and threat abatement plans. No information has been provided on consistency with recovery plans and threat abatement plans. The recovery plans are listed at the bottom of each assessment of significance in the Biodiversity Assessment (appendix D), however, there is no explanation of how the proposal is consistent with these plans.	Threat Abatement Plans and Recovery Plans are discussed in Section 5.2.2.7 and Table 5-16 of the EIS, as well as in the BIA. Further consideration is also provided within Appendix C of the BIA.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
EPSDD	37	***EPBC Act Bilateral EIS requirements*** ***A detailed discussion of threats to threatened species, due to impacts of the proposal, has not been conducted, including:*** • Offsets: The EIS does not include information on the proposed environmental offsets and how they comply with the EPBC Act environmental offsets policy. As described in the biodiversity section above, additional information is required on proposed offsetting arrangements.	Section 5.2.6.5 of the EIS and Section 6.1 of Appendix L set out how the Final Environmental Offset Strategy is consistent with the EPBC offsets policy.
Conservator of Flora and Fauna	38	***General Comment*** 1. While the number of hollow-bearing trees to be removed has now been clarified, the number of mature native trees to be removed is yet to be identified. Additionally, the project should provide funding to re-stand a proportion of the cleared mature hollow bearing trees in Kama or Pinnacle Nature Reserves.	Section 5.2.3.2 of the EIS now identifies how 132 mature trees (having a diameter at breast height of greater than 50 cm) which includes seven hollow bearing trees. This information is also included within the BIA. The following mitigation measure has been added: Where feasible, at least 80 % of hollows from hollow-bearing trees that are removed will be salvaged and re-used as habitat for ground-dwelling fauna or made into a natural hollow nest box and reattached to a suitable trees or otherwise these cleared hollow bearing trees will be "stood up." These salvaged hollows are to be relocated to suitable locations within The Pinnacle or Kama Nature Reserves, or within the Offset Site.
Conservator of Flora and Fauna	39	***General Comment*** ***2. Habitat restoration work to mitigate impacts to Pink-tailed Worm-lizard (PTWL), Superb Parrot, Hoary Sunray and Box Gum Woodland (BGW) habitat and connectivity must be undertaken within the Kama and Pinnacle Nature Reserves and/or the proposed offset and must be detailed in the offset management strategy. Restoration works must include the following:***	Note only.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	40	***Restoration works must include the following:*** 2.1 PTWL habitat restoration, including improving connectivity from the northern section of Kama Nature Reserve down into key populations of PTWL within the Molonglo River Reserve. This must be achieved through the establishment of a total of 1 ha (700 tonne of rock) of strategically placed PTWL habitat islands (approximately 20).	It was agreed upon during the WHDD S224 notice meeting (22 September 2023), to include this within the restoration drawings for the construction contractor.
Conservator of Flora and Fauna	41	***Restoration works must include the following:*** 2.2 BGW tree and shrub plantings (and weld mesh guarding) at the proposed replacement ratios of 1:10 for trees and 1:4 for shrubs and eucalyptus saplings)	EIS and BIA have been updated to include the proposed replacement ratios of 1:10 for trees and 1:4 for shrubs and Eucalyptus saplings.
Conservator of Flora and Fauna	42	***Restoration works must include the following*:** 2.3 Reinstatement of 80% of salvaged tree hollows.	EIS Mitigation measure reads as follows: *Where feasible, at least 80 % of hollows from hollow-bearing trees that are removed will be salvaged and re-used as habitat for ground-dwelling fauna or made into a natural hollow nest box and reattached to a suitable trees or otherwise these cleared hollow bearing trees will be "stood up." These salvaged hollows are to be relocated to suitable locations within The Pinnacle or Kama Nature Reserves, or within the Offset Site*
Conservator of Flora and Fauna	43	***Restoration works must include the following:*** 2.4 Placement of all removed trees as coarse woody debris. Trees are to remain intact as much as possible.	The following mitigation measure is provided: *All removed trees will be placed in suitable locations as coarse woody debris. These cleared trees are to remain intact as much as possible. Coarse woody debris and rocks will be placed in the adjoining reserves following consultation with the land manager for these reserves.*
Conservator of Flora and Fauna	44	***General Comment*** Restoration works must include the following: 2.5 Two hectares of BGW forb enhancement (scrapes), including seeding of Leucochrysum albicans	The following mitigation measure is provided in the EIS.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	45	***General Comment*** 3. Roadside fencing needs to extend further than the habitat and be designed in a way that reduces the likelihood of animals being able to get around the ends of the fences and on to the road. If this is not done correctly, it is likely that roadkill will not be mitigated, it will just be concentrated at either end of the fence. Data collected by PCS Wildlife Rangers on the location of kangaroo-vehicle collisions could be used to identify patterns in current roadkill along this stretch of road to inform fencing design.	Section 5.2.4.1 confirms that fauna fencing will extend 200m beyond the fauna crossing sites so as to reduce the likelihood of roadkill occurrences. Section 7 of the EIS also contains the following commitment: *Roadkill should be monitored monthly during construction by a suitably qualified person and for two years during operation to determine if mitigation measures have been effective. Adaptive management (e.g. moving barriers and wildlife fencing) should be adopted based on the results of the monitoring. A report on roadkill should be written to determine if there are hotspots on the new road and include recommendations for reducing roadkill in these hotspots. Adaptive management should be used to undertake recommendations of the report.*
Conservator of Flora and Fauna	46	***General Comment*** 4. Stock fence design along the Kama Nature Reserve, Kama buffer and Pinnacle Nature Reserve must be designed in consultation with the ACT Parks and Conservation Service.	Note only. No changes to the stock fence proposed.
Conservator of Flora and Fauna	47	***General Comment*** 5. Pg 81 still has reference to kangaroos being managed in accordance with the 2010 Kangaroo Management Plan, rather than the Eastern Grey Kangaroo: Controlled Native Species Management Plan (see previous comment #69 in Appendix J).	This has been updated in BIA and EIS to now reference the 2017 document.
Conservator of Flora and Fauna	48	**General Comment** 6.1. The Conservator should have an on-going role in the: Consultation and approval of artificial lighting across the project area. Any artificial lighting plans and designs need to be approved by the Conservator of Flora and Fauna prior to construction.	Note only.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	49	**General Comment** 6.2. The Conservator should have an on-going role in the: Consultation and approval of the design of wildlife underpasses and retro-fitting of existing underpasses to facilitate fauna movement (further details below).	Note only.
Conservator of Flora and Fauna	50	**Consideration of land bridge viability** 7. The Revised EIS has not addressed this previous comment, instead seeking to justify why it has not considered the option at all citing (1) a direct construction impact on box gum woodland, (2) unclear direction by the conservator, and (3) that the committed mitigation structures are sufficient. All of these arguments are unsupported in the EIS because:	Note only.
Conservator of Flora and Fauna	51	**Consideration of land bridge viability** 7.1. There is no detail given of what the direct impact footprint on box gum woodland would be (no estimated area of construction impact provided). We contend that some impact on existing box gum woodland would be justified given the improved connectivity and restoration that would occur from this action.	As previously mentioned in Comment No. 6, on the 23 Feb 2022, within the William Hovel Drive Duplication (WHDD) – Environmental Offsets meeting, the Conservator (Ian Walker) agreed to a Feasibility Study to be undertaken for a Landbridge across WHD as a separate exercise, and that the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) are acceptable in the interim. The design and EIS has progressed based on this agreement. As such, there will no longer be a direct impact on the footprint of box gum woodland (as a result of a potential Landbridge) within the scope of works that this EIS is assessing. This will be addressed within a future Land Bridge Feasibility Study currently being progressed by SMEC.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	52	***Consideration of land bridge viability*** 7.2. The "unclear direction" is detailed as being the unresolved conflict between whether the bridge would have trees (to better facilitate use by woodland species) which would be a detriment to threatened grassland species. Proper consideration here would involve detailing how both of those objectives could be met in a single design that is of an adequate width to provide suitable habitat for all. Terrestrial/arboreal mammals and other woodland species would require only limited canopy or structures to be on the bridge itself, that could be arranged in such a way to not disadvantage grassland specialists.	As above, the Land Bridge will no longer be included within the scope of the EIS. As such, there is no longer a need to determine whether the bridge would have trees (to better facilitate use by woodland species) which would be a detriment to threatened grassland species. This will be addressed within a future Land Bridge Feasibility Study currently being progressed by SMEC.
Conservator of Flora and Fauna	53	***Consideration of land bridge viability*** 7.3. The EIS has not demonstrated that the committed fauna crossing structures (particularly the box culverts) have any benefit. Therefore, it is insufficient of the EIS to use those structures as justification to not fully consider a land bridge. The previously submitted comments by the Conservator of Flora and Fauna advised that the proponent should give due consideration to a land bridge, and only if that was not a viable option, should connectivity be addressed via suitable culverts.	As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator in the interim, with a future Land Bridge Feasibility Study currently being progressed by SMEC.
Conservator of Flora and Fauna	54	***Consideration of land bridge viability*** 8. The feasibility of a land bridge should not be considered beyond the scope of this current EIS, but instead an integral component of it. Maintaining and enhancing the connectivity between Kama and The Pinnacle Nature Reserves is among the highest priorities for achieving a functional ecological landscape in the lowlands of the ACT. The biodiversity offset does not offset the residual loss of connectivity between the two reserves.	As previously addressed (above) the feasibility of a land bridge has now been accepted by the conservator to be considered beyond the scope of this current EIS and will be addressed within a future Land Bridge Feasibility Study currently being progressed by SMEC.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	55	***Culvert*** structures ***9. The revised EIS has included the design for two box culverts but has not provided any evidence to demonstrate that the design would be suitable for wildlife. In fact, the EIS does not make a case at all that these measures will mitigate the impact of increased fragmentation. The main concerns about the way the box culverts are as follows:***	Note Only.
Conservator of Flora and Fauna	56	***Culvert structures*** 9.1. At 0.6m wide, 1.5m tall and up to 50m long, these box culverts will be very tight and very dark.	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	57	***Culvert structures*** 9.2. The EIS provides no explanation or consideration on what species are expected to use a culvert of this design beyond "ground-dwelling fauna" and "various wildlife". Previous comments requested consideration for a range of specific wildlife, including both reptiles and large mammals. It does not appear that the current design could possibly allow for enough natural light to enable use by any of the target native fauna, and it is too small to be used by macropods.	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.
Conservator of Flora and Fauna	58	***Culvert* structures** 9.3. The EIS describes the installation of appropriate habitat structures (such as logs and rocks) within the box culverts "where possible". However, the described size is far too small for a person to undertake such installation work safely, so further clarification would be required as to what measures will be taken to ensure adequate numbers and diversity of log and rock structures are to be installed.	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	59	**Culvert structures** 9.4. Faunal exclusion fencing will effectively prevent those larger species that would be capable of crossing the road from doing so. While the current pedestrian underpasses will be suitable for these species following appropriate modification of each end (removal of fences and restoration of vegetation) and internal characteristics (provision of habitat elements), the proposed new box culverts will not be. This is a serious issue as the proposed culverts are about connecting the highest priority area along William Hovel Dr – the specific area where Kama and The Pinnacle Offset Extension connect. While there is connectivity value right along the road, this is the priority given it is already protected Nature Reserve.	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.
Conservator of Flora and Fauna	60	***Culvert structures*** 9.5. The Revised EIS needs to provide detailed justification for the design of these box culverts being appropriate to mitigate connectivity loss and explain specifically which species will use them and how. This should be based on species-specific information where available and published evidence of equivalent wildlife using equivalent sized culverts in other contexts. It is unlikely that sufficient evidence supporting this exists, with effective culvert use by wildlife being associated with much more open, larger, and more inviting tunnels. For example, there are examples in the literature of box culverts specifically designed for use by the mountain pygmy-possum (Burramys parvus), a very small mammal at ~45 g, that have larger dimension than are proposed in this EIS (van der Ree et al. 2009. Ecology and Society 14: 7).	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	61	***Culvert structures*** 9.6. Instead, these two culverts will need to be redesigned to be significantly larger to allow as much nature light as possible, provision and maintenance of artificial light if required due to length (e.g. day time grow lights), adequate establishment and maintenance of a variety of habitat elements, and be easy to use by the largest species in the landscape. Consideration must also be given to providing sufficient moisture for plant growth. Careful consideration must also be given to the location of the underpasses. It is recommended that at least one of the underpasses targets providing connectivity for PTWL.	Wildlife crossing structures as mitigation measures to reduce habitat fragmentation are now described clearly in the EIS with further information on the locations, features and number of crossing structures being presented in Section 5.2.4, and designs being presented in Appendix K. As previously addressed in comment No.6, the proposed mitigation structures nominated in this EIS (i.e. culvert structures and rope bridges) have been accepted by the Conservator. The wildlife crossing designs and EIS has progressed based on this agreement.
Conservator of Flora and Fauna	62	***Monitoring the effectiveness of box culverts*** 10. Previous comments noted that the effectiveness of culverts for maintaining connectivity in the context of ACT lowland grassy ecosystems is not known, and so the revised EIS commits to monitoring the structures with cameras for a period of three years. While this is welcomed, simply stating they will be monitored is far from having a plan for evaluating whether they are successfully being used by wildlife or not. There are many questions of detail with regards to this monitoring that should be addressed in the EIS, for instance:	Note Only.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	63	***Monitoring the effectiveness of box culverts*** 10.1. Will wildlife cameras capable of continuous monitoring for long periods of time be used? Who will service these cameras? Where will the images and other data be stored?	As previously addressed, TCCS will work in consultation with the Parks and Conservation Service to implement a program, approved by Conservator, for monitoring the crossing structures. The program will include monitoring the effectiveness of the structures and adaptive management if required (addressed in Section 5.2.4).
Conservator of Flora and Fauna	64	***Monitoring the effectiveness of box culverts*** 10.2. How frequently will images be checked, and data collected; e.g. every month, quarterly, half-yearly? Who will be responsible for data use and evaluation? When does the 3-year program start?	As per comment 63 (above).

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Conservator of Flora and Fauna	65	***Monitoring the effectiveness of box culverts*** 10.3. What, if any, are the triggers within the 3-year period to change something if wildlife are not using the culverts? What exactly would be considered a "success"; e.g. demonstrated use by all known species? What happens after 3-years if these box culverts are found to not be effective?	As per comment 63 (above).
Conservator of Flora and Fauna	66	***Monitoring the effectiveness of box culverts*** 11. The EIS needs to commit to an "evaluation program" rather than the "monitoring" that is currently described. This could include descriptions of how data is collected, managed, summarised, analysed and interpreted to evaluate whether these structures are effective. It could also include a description of a collaborative evaluation program with ACT Government ecologists with a commitment of funding and resources required to complete the work. More detail as to (1) how the monitoring will be undertaken, (2) how the monitoring data will be used to make decisions, and (3) what will happen if the culverts are demonstrated to not be effective is required.	As per comment 63 (above).
ACT Heritage Council	67	***Partial Endorsement*** ***Conditions to be addressed in the revised DA application:*** 1. The fencing recommendations included in the revised CHA for PAD1, PAD3 and WHD1 must be met prior to works commencing and adhered to through the duration of works;	Note Only.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
ACT Heritage Council	68	***Partial Endorsement*** ***Conditions to be addressed in the revised DA application:*** 2. Fencing of PAD5 is not required as the Council has recently determined that this location consists of unconsolidated fill and is not likely to contain subsurface Aboriginal places and objects;	Note Only.
ACT Heritage Council	69	***Partial Endorsement*** ***Conditions to be addressed in the revised DA application:*** 3. Should fencing of WHD1 not be possible, noting General Arrangement Plans, then Heritage Act 2004 approvals would be required. A Statement of Heritage Effect report would need to be submitted, under Section 61G of the Heritage Act 2004 along with the relevant application form. Any application must: a. Be prepared in consultation with Representative Aboriginal Organisations; b. Meet the criteria of Section 61G of the Heritage Act 2004; and c. Meet the requirements set out in the Council's Cultural Heritage Report Policy;	Note Only.
ACT Heritage Council	70	***Partial Endorsement*** ***Conditions to be addressed in the revised DA application***: 4. Prior to the submission of the revised development application, an arborist report must be obtained that demonstrates that works in the TPZ will not adversely impact the mature cypress tree in the Weetangera Cemetery. Design amendments will be required if the arborist report identifies works would adversely impact this tree. Temporary barrier fencing must be installed around the two mature cypress trees based on the TPZ identified in the CHA or where this cannot be met, in accordance with an arborist's written advice to ensure no impacts occur to this significant fabric; and	The two trees have been assessed by an arborist noting the proximity of the works (in particular a stormwater drain and headwall) that has the potential to impact approximately 6.6% of the tree protection zone. The report notes that although there will be an impact, the QTRA Risk Category is acceptable, and the works can proceed with the suggested mitigation measures. This conclusion has been included in the EIS (Section 5.4.3.1), with refrence to the Arborist report which is now attached in the Appendix M.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
ACT Heritage Council	71	***Partial Endorsement*** ***Conditions to be addressed in the revised DA application:*** 5. The project's Construction Environment Management Plan (CEMP), must identify fencing requirements for Aboriginal places and the Weetangera Cemetery, unanticipated discovery protocols, heritage induction requirements and be submitted to the Council for endorsement prior to works commencing.	Note Only.
ACT Heritage Council	72	***Further Information Required*** The Council advises that the following information is required to adequately address the requirements of the EIS scoping document and previous Council advice on the draft EIS as it relates to the Kama Woodland / Grassland: The revised EIS has clarified that the proposal will diminish the heritage significance of the Kama Woodland/Grassland and notes impacts to Yellow Box-Red Gum Grassy Woodland and the ecological connectivity between the lower Molonglo River and The Pinnacle. The revised EIS includes some descriptions and information about how the impacts will be avoided, minimised and mitigated through underpasses and overhead paths to maintain connectivity, however the following is still required:	Note Only.
ACT Heritage Council	73	***Further Information Required*** ***The following is still required:*** o Details (including mapping) of the proposed impacts to the significant fabric within the curtilage of Kama Woodland/Grassland. This should also include information regarding the number of mature trees and hollow bearing trees (if present) which will be cleared within the curtilage;	The EIS now better depicts (Figure 5-13 and 5-15) and details the proposed impacts to the significant fabric within the curtilage of Kama Woodland/Grassland within Sections 5.4.3 and 5.4.3.2. This also now includes information regarding the number of mature trees and hollow bearing trees which will be cleared within the curtilage.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
ACT Heritage Council	74	***Further Information Required*** ***The following is still required:*** o The CHA and revised EIS must consider impact to habitat for native plant and animal species including several threatened species within Kama Woodland/Grassland. The Biodiversity Impact Assessment suggests impacts to these habitats will occur within the curtilage of Kama Woodland/Grassland;	The EIS must now better references the impacts to habitat for native plant and animal species including several threatened species within Kama Woodland/Grassland in Section 5.4.3.2 of the EIS and the CHA have been updated and now make better reference to the BIA on this matter.
ACT Heritage Council	75	***Further Information Required*** ***The following is still required:*** o The CHA and revised EIS must include any detail of reasonably practicable alternatives to the proposal and strategies that would avoid impacts in accordance with Council advice on the draft EIS. Where there are no reasonably practicable alternatives or avoidance strategies this should be outlined	The CHA (Section 4.2) and EIS (Section 2.4.2) now outline that due to the presence of the current infrastructure within the designated road corridor – the upgrade of the road by duplication is considered to be the most satisfactory and effective way to meet future urban growth infrastructure requirements. Design options of placement of elements within the road corridor have been undertaken to avoid heritage sites whenever possible. The remaining effects are considered to have no practical or reasonable alternative to remove impacts.
ACT Heritage Council	76	***Further Information Required*** ***The following is still required:*** o The CHA references the Biodiversity Impact Assessment for detailed controls to be adopted to minimise or mitigate impacts, however, these relate to the entire project and are not specific to Kama Woodland/Grassland. The controls that will minimise and mitigate impacts to the intrinsic features of Kama Woodland/Grassland (specific to its heritage curtilage) must be described; and	The controls that will minimise and mitigate biodiversity impacts to the intrinsic features of Kama Woodland/Grassland (specific to its heritage curtilage) are now better referred to in Section 5.4.3.2 of the EIS and the CHA have been updated and now make better reference to the BIA on this matter.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
ACT Heritage Council	77	***Further Information Required*** ***The following is still required:*** o The Council considers that the above requirements could be satisfactorily met with further discussion and associated reporting which involves both the heritage and ecological consultants for the project. This would allow intrinsic features of the Kama Woodland/Grassland to be understood and strategies for impacts to be avoided, minimised, and mitigated to be adequately documented as it relates to the heritage place.	General matters within the BIA Appendix C speaks to and addresses avoiding and minimising impacts to vegetation present within the woodland. The revised CHA now speak to this further.
Climate Change and Energy Division	78	**Greenhouse Gas Emissions** Comments provided by the Climate Change and Energy Division on a previous EIS for this proposal requested the proponent provide quantified estimates of any greenhouse gas emissions resulting from the construction and operation of the road duplication. This has not been provided in the revised EIS. Without a quantified estimate of emissions caused by construction, the EIS does not quantify the contribution the proposal will make to meeting the legislated emissions reduction target, as required by the EIS scoping document.	Construction emissions have now been estimated and described in section 5.10.2.1. Construction GHG emissions have been relativised to Canberra's residential emissions and ACT's 2021-22 emissions. Quantification of emission reduction cannot be made at this stage as 2023 emission profile is not yet understood. This would be a retrospective assessment. Reflection on the most recent year must suffice. A clear statement of the reduction's compliment of the reduction targets has been included.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Climate Change and Energy Division	79	***Greenhouse Gas Emissions*** The Division also requested in earlier comments that the proponent quantify the fuel savings resulting from the road duplication and use this information to inform the mitigation strategy for reducing emissions. The revised EIS indicates only that 'efficient vehicular movements' would be incorporated in the construction methodology and suggests that this mitigation strategy would take the risk rating from 'very high' to 'low'. Without more detailed analysis, it has not been possible for the Division to assess the suitability of incorporating 'efficient vehicular movements' into the construction methodology as a mitigation strategy.	An evaluation of the fuel savings of the Project in the operational phase by comparing base case network fuel use with a Project case network fuel use is an extensive undertaking and is out of scope. The risk rating for ' Greenhouse gas emissions from construction and operation contributing to climate change has been reviewed to Medium from Low to reflect the whole of life operational emission consequence (noting that the uptake of EVs has reduced this significantly, but significant emissions are still expected until full renewable uptake). This mitigation is more than construction based efficient vehicle movements. Efficient vehicular movements should still persist as construction methodology.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Climate Change and Energy Division	80	***Greenhouse Gas Emissions*** The list of Climate Change Mitigation Measures (p. 203) suggests that site compounds will consider using solar panels instead of non-renewable energy. The Division notes that the ACT's electricity supply is 100% renewable, so this detail may need to be updated. The Division also queries whether the regular inspection of the road surface proposed in the same Mitigation Measures table should read "post construction" in addition to or instead of "pre-construction".	This point is noted and amended. Timing of mitigations reviewed for accuracy.
Climate Change and Energy Division	81	***Greenhouse Gas Emissions*** The Division reiterates our earlier recommendation to require the proponent to provide quantified estimates of: o Changes in greenhouse gas emissions resulting from the project, including any emissions reductions due to decreases in congestion and fuel use or from any substitutions between active travel and passenger vehicle travel options. This must take the form of a detailed, quantified comparison between a business-as-usual scenario and the proposed duplication project.	An evaluation of the fuel savings of the Project in the operational phase by comparing base case network fuel use with a Project case network fuel use is an extensive undertaking and is out of scope. A social impact assessment quantifying transport mode share changes is also a significant undertaking and is out of scope. GHG reductions in construction and operational phases have been estimated and included in the revised EIS in Section 5.10.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Climate Change and Energy Division	82	***Greenhouse Gas Emissions*** The Division reiterates our earlier recommendation to require the proponent to provide quantified estimates of: o Scope 1 and 2 greenhouse gas emissions resulting from the construction and operational energy use of the infrastructure itself.	Construction and operation phase GHG emissions have now been estimated and included in the revised EIS in Section 5.10. Scope 1 and 2 emissions have been called out and commented on accordingly. Reference has been made to ACT emission targets.
Climate Change and Energy Division	83	***Greenhouse Gas Emissions*** Estimates must be calculated in a way that is comparable to the greenhouse gas emissions targets in the Climate Change and Greenhouse Gas Reductions Act 2010.	Estimates have been calculated in a way that enables comparison with greenhouse gas emission targets in the Act (2010). Commentary has been included in the revised EIS in Section 5.10.
Climate Change and Energy Division	84	***Greenhouse Gas Emissions*** The Division reiterates our earlier recommendation to require the proponent to provide quantified estimates of: o Mitigation and/or offsetting measures proposed and the extent to which they mitigate emissions.	Effectiveness indications have been included in Climate Change - Mitigations section of the EIS (Section 5.10.4). These cannot be quantified further.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
Climate Change and Energy Division	85	***Electric Vehicles*** The Division acknowledges that future electric vehicles will require similar road infrastructure to vehicles with internal combustion engines, as stated in the revised EIS. However, because these estimates are used to quantify potential operational emissions (as required by the EIS scoping document), the proportion and rate at which EVs use the road duplication will impact the proposal's greenhouse gas emissions.	ACT Gov modelling data has been consulted and compared to CSIRO ACT EV uptake modelling. The CSIRO data has been determined to be more robust since it projects out to 2045 (where the ACT Gov model only projects to 2035 and 10 years of assumption would be required), includes heavy vehicle EV uptake (where the ACT Gov model does not) and is more conservative (based on the medium uptake scenario) resulting in more conservative operational GHG emission modelling (as opposed to underestimating the footprint). Stronger GHG emission impact conclusions have therefore been drawn. All updates reflected in Section 5.10.3.1.
Climate Change and Energy Division	86	Electric Vehicles The EIS applies a linear electric vehicle uptake factor to 2045, based on estimates that approximately half of the vehicles in the ACT could be electric vehicles by 2031. By contrast, internal modelling by the Division (attached) anticipates that even if 80-90% of new vehicle sales in 2030 are EVs the total number of low emissions vehicles in the ACT is likely to only be between 23-28% of the total fleet. This modelling also suggests that uptake of low emissions vehicles will not occur linearly.	ACT Gov modelling data has been consulted and compared to CSIRO ACT EV uptake modelling. The CSIRO data has been determined to be more robust since it projects out to 2045 (where the ACT Gov model only projects to 2035 and 10 years of assumption would be required), includes heavy vehicle EV uptake (where the ACT Gov model does not) and is more conservative (based on the medium uptake scenario) resulting in more conservative operational GHG emission modelling (as opposed to underestimating the footprint). Stronger GHG emission impact conclusions have therefore been drawn. All updates reflected in Section 5.10.3.1.
Climate Change and Energy Division	87	Electric Vehicles The discrepancy between the EIS's estimates of future EV usage in the ACT and the Division's modelling of low emissions vehicle uptake suggests that the EIS underestimates the operational emissions likely to result from the proposal.	ACT Gov modelling data has been consulted and compared to CSIRO ACT EV uptake modelling. The CSIRO data has been determined to be more robust since it projects out to 2045 (where the ACT Gov model only projects to 2035 and 10 years of assumption would be required), includes heavy vehicle EV uptake (where the ACT Gov model does not) and is more conservative (based on the medium uptake scenario) resulting in more conservative operational GHG emission modelling (as opposed to

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
			underestimating the footprint). Stronger GHG emission impact conclusions have therefore been drawn. All updates reflected in Section 5.10.3.1.
Climate Change and Energy Division	88	Electric Vehicles The Division recommends requiring the proponent to use the Division's internal modelling of low emissions vehicle uptake to inform the estimates used to quantify the operational greenhouse gas emissions in section 5.10.3.1 of the revised EIS. Additionally, the proponent may also wish to use the publicly released data on existing EV registrations to inform the estimates in the EIS, available here: Cars and vehicles - Climate Choices (act.gov.au).	ACT Gov modelling data has been consulted and compared to CSIRO ACT EV uptake modelling. The CSIRO data has been determined to be more robust since it projects out to 2045 (where the ACT Gov model only projects to 2035 and 10 years of assumption would be required), includes heavy vehicle EV uptake (where the ACT Gov model does not) and is more conservative (based on the medium uptake scenario) resulting in more conservative operational GHG emission modelling (as opposed to underestimating the footprint). Stronger GHG emission impact conclusions have therefore been drawn. All updates reflected in Section 5.10.3.1.
DCCEEW	89	***Section 8.2.13. Matters of National Environmental Significance (MNES) of the Scoping document*** Table 6-3: Direct impacts on threatened fauna habitat of the Biodiversity Report does not include the Golden Sun Moth. Please update to include the habitat directly impacted by the project. The scoping document requires the proponent to provide a statement on whether impacts are expected to be unknown, irreversible, or unpredictable. Please provide a statement to this effect for each MNES.	Updated Table 6-3 in BIA to include GSM, this is reflected in Section 5.2.3 of the EIS.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
DCCEEW	90	***Section 8.2.13. Matters of National Environmental Significance (MNES) of the Scoping document*** ***Please provide a discussion on how the proposal is consistent with the relevant threat abatement plans:*** - Threat abatement plan for competition and land degradation by rabbits (2015), for Pink-tailed worm lizard and Golden Sun Moth. - Threat abatement plan for predation by feral cats (2010) for Swift Parrot. - Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (2011) for Box Gum Woodland. - Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (Sus scrofa) (2017) for Box Gum Woodland. - Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi (2018) for Box Gum Woodland.	This is now discussed within Section 5.2.2 of the EIS.
DCCEEW	91	***Section 8.2.13. Matters of National Environmental Significance (MNES) of the Scoping document*** In Appendix C the National Recovery Plan has been prepared for the Swift Parrot (Saunders and Tzaros 2011) is noted as being a draft. This plan has been in effect under the EPBC Act from 10 February 2012, please update for accuracy.	This has been updated.
DCCEEW	92	***Section 8.2.13. Matters of National Environmental Significance (MNES) of the Scoping document*** The departments offset Policy states offset should be implemented either before, or at the same point in time as, the impact arising from the action. To ensure consistency with the offset policy, the department will require an offset strategy detailing the proposed offset to be approved prior to commencing the action. The EPBC Act environmental offsets policy can be found on the departments website at https://www.dcceew.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy. Please provide details on how the 7 hollow bearing trees will be offset.	Please refer to the new Appendix L of the EIS (Final Environmental Offset Strategy). Section 5.2.6 of the EIS also includes a summary of the Final Environmental Offset Strategy. Section 5.2.6.3 of the EIS recognises how 14 hollow bearing trees will be protected within the chosen Offset Site, compensating for the seven hollow bearing trees to be removed. Table 5-16 of the EIS identifies how these 14 hollow bearing trees have a moderate likelihood of providing suitable habitat for the Superb Parrot.

Entity		Comments (from s244 Attachments A and B)	Reference to where comments are addressed
			The EIS also contains the following mitigation measure: *Where feasible, at least 80 % of hollows from hollow-bearing trees that are removed will be salvaged and re-used as habitat for ground-dwelling fauna or made into a natural hollow nest box and reattached to a suitable trees or otherwise these cleared hollow bearing trees will be "stood up." These salvaged hollows are to be relocated to suitable locations within The Pinnacle or Kama Nature Reserves, or within the Offset Site*
DCCEEW	93	***Section 8.2.13. Matters of National Environmental Significance (MNES) of the Scoping document*** Table 6-2: Direct impacts on threatened flora habitat notes that whether an offset is required for Hoary Sunray is [tba] (to be advised). The department notes that impact calculations for the Hoary Sunray have been completed in Section 8.2.3. Please confirm whether offsets for the Hoary Sunray will be required.	Table 6-2 of the Biodiversity Report has been updated to also say 'no'. No offset required as there is no residual significant impact to the Hoary Sunray.

Appendix 4 – Public representations

Representation for EIS or Territory Plan Variation Notification - submission confirmation

Your submission has been successful. Please keep a copy of this receipt for your records.

Date and time: 20 Jul 2021 6:00:21 PM

Reference code: QNND29

Thank you for your representation regarding application number: 202000014. A copy of your representation will be forwarded to the proponent of this proposal. The proponent must consider your representation when preparing a revised application for the planning and land authority's assessment.

Access Canberra
Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra City ACT 2601
Telephone: (02) 6207 1923

Type of representation

Application type

Please select the application type: *

EIS

Representor details

Title

Given name *

Family name *

Organisation name

Home phone number

Work phone number

Mobile number

Email address *

Application details

EIS/EIS Exemption Application No.

EIS/EIS Exemption Application No. *

202000014

Provide the details of your representation *

Section 6.3 of the draft EIS document indicates no large open forum community consultation has been undertaken due to COVID restrictions and no confirmation of construction funding. As construction funding has recently been announced with the Federal Government and there are now no impeding COVID restrictions may I suggest the Proponent can now proceed with public consultation. Possible suggestions include a display at the Hawker shops, a community forum and at least a letter box drop of residents directly affected by the proposal.

Section 6.4 indicates targeted discussions with specific stakeholders only and not residents. May I suggest the Proponent engage more directly with affected residents during the draft EIS and DA phase rather than just specific stakeholders. Engagement in the detailed design phase once the DA & EIS are approved is too late.

A representation on this matter which should also be referred to has been provided on the DA.

You may upload any additional supporting documentation or photos.

Disclaimer
Please Note: Under section 220 (2) of the Planning and Development Act 2007; The planning and land authority must— (a) make a copy of the representation available on the authority website (b) give a copy of the representation to the proponent of the development proposal as soon as practicable after the public consultation period for the draft EIS ends. In complying with the obligation under section 220(2), the authority discloses the representations, which may include personal information on its website and to the proponent. You may request to have part or all of your representation excluded from the public register under Sections 411 or 412 of the Planning and Development Act 2007. The request for exclusion must be in writing and clearly identify what you are seeking to exclude and how the request satisfies the exclusion criteria. The Authority may approve or refuse to approve an exclusion application. If your request for exclusion is approved the Authority will seek to protect the information from disclosure. However, the Authority cannot guarantee that the information will not have to be disclosed pursuant to a legal obligation. The Environment, Planning and Sustainable Development Directorate's (EPSDD) Information Privacy Policy contains information about how you may access or seek to correct your personal information held by EPSDD, and how you may complain about an alleged breach of the Territory Privacy Principles. Read our Information Privacy Policy. If you require any further information on this Draft EIS please contact the Impact Assessment Team at EPDImpact@act.gov.au.

☐ **Click here for more information on applying for exemption from the public register.**

Representation for EIS or Territory Plan Variation Notification - submission confirmation

Your submission has been successful. Please keep a copy of this receipt for your records.

Date and time: 01 Sep 2021 6:27:34 PM

Reference code: VYW4K9

Thank you for your representation regarding application number: 2020000014. A copy of your representation will be forwarded to the proponent of this proposal. The proponent must consider your representation when preparing a revised application for the planning and land authority's assessment.

Access Canberra
Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra City ACT 2601
Telephone: (02) 6207 1923

Type of representation

Application type

Please select the application type: *

EIS

Representor details

Title

Given name *

Family name *

Organisation name

Home phone number

Work phone number

Mobile number

Email address *

Application details

EIS/EIS Exemption Application No.

EIS/EIS Exemption Application No. *

2020000014

Provide the details of your representation *

William Hovell Drive – Draft Environmental Impact Statement (EIS)
The Draft Environmental Impact Statement (EIS) prepared for William Hovell Drive Duplication has several issues which need to be satisfactorily addressed before the EIS is accepted. The issues are:
1. Poor noise monitoring methodology and inconsistencies in the outcomes proposed for the treatment of noise.
2. No information on the traffic impact of the duplication on the wider road network.
3. Insufficient justification for the recommended design and alignment of off-road shared path in the reserve adjacent the Hawker residential estate.
4. Lack of meaningful public consultation with the local residents as required by Section 9.1 of the scoping document.

1. Treatment of Noise
a) Road Traffic Noise Assessment (SLR) (Noise Report, Appendix F) – Comments and questions
General
The report would benefit with a definition of terms and abbreviations particularly for all various "L"s. to assist the reader .
Monitoring Methodology (Section 3.1)
The monitoring methodology used in the noise report is not consistent with the Roads ACT Noise Management Guidelines (TCCS June 2018). These Guidelines require that noise impacts must be considered on blocks adjacent to the proposal. Table 1.3 specifies that measurements should be taken at a distance of one metre forward of the building façade.
Contrary to this requirement the noise loggers for the William Hovel assessment were located in paddocks west of William Hovell Drive, up to 1 km away from houses directly impacted by the project (figure 1). The loggers should have been placed in accordance with the Guidelines or in an agreed position near the existing residences to get actual measurements close to residents directly affected by the proposal, i.e. adjacent to the Whitlam Estate and the properties in Andado, Florina, Kurundi and Mainoru Places backing onto William Hovell Drive.This data would be far more meaningful and reliable for predictions and avoid obvious criticism from residents.
The choice of timing for noise monitoring is also questionable and possibly unrepresentative. Starting the measurements on Friday 24 April at the start of a three-day Anzac Day long weekend seems an inappropriate choice as it is likely to lead to lower noise measurements than would normally occur.
The chosen methodology creates the perception that the results are inaccurate and potentially biased towards lower measurements than actual.
The field work should be re done to gain more accurate data.
Noise Model Validation (Section 4.4)
Table 5 indicates the difference between the measured and predicted noise levels. For location 2 the difference is +1.9dB between measured (69.8dB) and predicted (67.9dB). The discrepancy is large but is "considered within the commonly accepted range of noise of modelling accuracy" i.e. +/- 2dBA. The basis of this conclusion is not established.
However, on the basis of this statement the noise model is "considered verified".
Noting the discrepancy is just within the asserted nominated accuracy range but greater i.e. louder which is concerning, it would appear that a more rigorous validation process is required. Was consideration given to carrying out further field measurements to explain the difference?
Predicted Road Traffic Noise Levels (Section 4.5)- queries on modelling inputs
The crossections (Ch 0 to 480) (drawings XS 1300 to 1306) indicate a reduction in the batter on the left side (Hawker). Is this reduction in height and the earthworks formation to create the shared path alignment picked up in the noise impact modelling? This change in height will reduce the distance the traffic noise travels thereby increasing the impact for residents.
A similar comment also applies to the substantial earthworks near Ch660 (drawing XS 1309) to create the shared path.
Has the impact of the noise reflection from the concrete retaining walls on the west side of the road been considered?
Noise Mitigation Measures (Section 4.6 and Section 5)
The section on noise mitigation treatments investigates two noise barrier options and the use of open grade asphalt (OGA).
The Conclusion of the report Indicates the use of OGA "is the preferred mitigation approach".
b) Noise Mitigation – Numerous Inconsistencies across the various components of the EIS and with the Development Application
Other components of the EIS also assess noise mitigation options.
The Traffic Assessment Report (SMEC) (Appendix C) indicated OGA "is the preferred mitigation approach" (p24 Section 5.7)
However, the Draft EIS Statement (SMEC) (Main Report) indicates the project includes two acoustic walls (executive summary, page v.)
Section 5.5.4 Mitigation of the Draft EIS states:
"From a technical perspective, noise would be sufficiently mitigated by using two noise walls for a portion of the project that are in close proximity to these noise receptors. These noise barriers would reduce noise at affected receptors to levels compliant with the assessment criteria. Noise barriers have been recommended as part of this proposal as they offer a long term approach to noise mitigation and are suitable in this instance.
Scans of these three pages are attached for easy reference.
This is contrary to the conclusions of Noise and Traffic report. This needs to be clarified. Additionally, there is no evidence on the General Arrangement Plans of the acoustic walls. Clearly the EIS and Development Application (DA)needs to establish the proposed mitigation method.
If acoustic walls are proposed their location and visual impact needs to be determined. There is no mention of acoustic walls in the Draft EIS report Section on Landscape and Visuals (Section 5.8).
I also note the Pavement drawings in the DA do not identify the use of OGA.
Finally, I am aware that the Minister for Roads and Active Travel, Hon Chris Steel MLA, advised on 18/7/2020 that "the final wearing surface of the duplicated road being a low noise producing asphalt product" (Question on Notice Paper, No 48 Question

No 3194).
c) Other Comments
As a local resident, traffic noise is evident throughout the day and increases at peak times. The noise is apparent from directly opposite our property and from the south coming up from the road below. The noise from the south is at times perceivably louder and seemingly magnified by the stone chip seal.
I would support the adoption of OGA along the duplication as recommended by the Noise Report and advised by the Minister. The OGA should extend for the full length of William Hovell Drive to beyond the projected south boundary of block 34, section 26 (17 Mainoru Pl) - see attachment. This would be similar to the extent of treatment proposed adjacent to the Whitlam Estate (refer Appendix G of Noise Report for details).
This treatment would certainly be beneficial to the outdoor amenity and appreciated by the many people that use the reserve for walking and recreation every day as well as the residents.
2. Traffic Assessment Report (Appendix C)
The report looks at William Hovell Drive (between John Gorton Drive and Drake Brockman Drive) in isolation.
Section 6 concludes
"overall there are not expected to be any negative impacts on the surrounding transport network"
There is no analysis to substantiate this statement.
Congestion on the road particularly in the AM peak is more a factor of the performance of downstream intersections and the road network as a whole.
From my experience delays on William Hovell Drive are due to the performance (queueing) at the Bindubi St signalised intersection, at Glenlock interchange, Parkes Way tunnel at the ANU and particularly the performance of the off ramp to Commonwealth Ave and the unregulated layout of the Coranderrk St roundabout on Parkes Way. Have the broader impacts of the increased traffic volumes from the Ginninderry estate been assessed at these "congestion" points? Duplicating this section of William Hovell Drive will no doubt increase the traffic capacity of the road, but it will provide little relief to congestion if wider network problems are not considered. This impact should be considered.
3. Shared Path Alignment
A shared path is proposed for the length of the duplication.
No information is provided on the basis of the alignment selection and what options were considered. e.g., utilising the track to the old Weetangera Cemetery on the west side of the road, or following the existing dirt track at the rear of the Hawker properties. A briefing by the project consultants on the basis of design and options considered would be beneficial to residents. Possibly there is a design report that includes these details.
Specific comment on the design
A revision of the shared path alignment is suggested to retain a healthy stand of eucalyptus to the rear of blocks 16,17 & 18 section 30 (11,13 & 15 Kurundi Place). (Drawings SMEC RD -0112 – 13 & ELD LP 02& 03)
The current design seems poorly chosen as it not only goes through the eucalyptus but also cuts into the bank near the existing underpass under William Hovell Drive involving substantial earthworks and other vegetation clearing.
A suggested more sympathetic alignment both in terms of avoiding tree clearing minimizing earthworks and grade is attached for reference.
Please refer to the attached markups on the GA and Landscape Plans and accompanying photographs.
At a broader scale, have alternative alignments been considered that would be of benefit to people that currently use the track that runs at the back of the properties. i.e. an alignment that follows or follows close to the existing track and extends onto Belconnen Way (refer attachment).
This option still provides the connection to the on-road cycle path a little further to the north of Drake Brockman Drive intersection and has the added advantage that it connects to Belconnen Way and the path network to the north of Belconnen Way. This option would reduce the significant earthworks and vegetation clearing in the current proposal (particularly around Ch 440). At a local level the existing paths from the Mainoru, Kurundi and Florina Places could also be linked. Currently this is not even proposed in the current application. In some regard the current design seems quite remote from the suburb. Linking with the existing path network would promote benefits to residents as well as commuter bike riders.
This option would be an upgrade of the existing track which in some areas particularly at the section between Drake Brockman Drive and Belconnen Way is in poor condition and in need of serious maintenance.
I am also curious why the path needs to be so close to the road as it goes further to the south (Ch 880 – 2380). There seems to be an opportunity to locate the path further to the east above the road to minimize tree clearing (frequently noted on the ELD drawings) and earthworks. Reference SMEC drawings RD-00112 to RD-00117 and ELD drawings LP03 to LP08.
Surely for amenity of users it would be better to be away from the road. The same principal would apply as the path continues to Whitlam.
Conversely there is an option on west side of William Hovell Drive that could be adopted including taking advantage of the proposed access to the old Weetangera Cemetery.
All these matters could be explored with proper public consultation.
It would be very beneficial if the proposed alignment of the shared path is field pegged so the actual alignment could be appreciated by reserve users and the impact on trees properly assessed.

4. Public Consultation
Section 9.1 of the Scoping Document states that consultation "must be undertaken with the local community."
Section 9.2 states
"A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholder during consultation."
An extract from the Scoping Document is attached.
This has not happened. As a local resident impacted by this proposal I have had no contact from the Government or the Consultants working on the project. Residents have been left with no alternative other than to read multiple long technical reports with many appendices and impenetrable technical language, to try to understand how the project will impact them.
While I understand there has been consultation with broader conservation and other community groups (eg Pedal Power), no effort has been made to communicate with all the households who will live with the new road and shared path at their backyards.

As a minimum It would have been appropriate to write to the relevant households of Andado, Florina, Kurundi and Mainoru Places giving them the same opportunity as the
broader community groups to contribute to the project in the design phase. This would also have the benefit of reducing uncertainty for those people living close to the project.

In an earlier representation prior to Lockdown (G63JLT) I made a number of suggestions including a display at the Hawker shops, a community forum and at least a letter box drop of residents directly affected by the proposal.
I think the community really wants to understand the project and be taken on the journey in achieving a good outcome.
Until this has been properly and satisfactorily undertaken the EIS should not be accepted.

I appreciate the opportunity to comment on the proposal.

You may upload any additional supporting documentation or photos.

File: William Hovell Drive - EIS Response.pdf

File: WHD Shared Path Options_20210901_0002.pdf

File: WHD Public Consultation_20210818_0001.pdf

File: WHD Photo No 1.JPG

File: WHD Photo No 2.JPG

File: WHD Photo No 3.JPG

File: WHD DA Shared Path Realignment GA Base _20210731_0001.pdf

File: WHD DA Shared Path Realignment Landscape Base _20210731_0001.pdf

File: WHD Noise_20210818_0001.pdf

File: Noise Report Appendix OGA _20210804_0002.pdf

Disclaimer
Please Note: Under section 220 (2) of the Planning and Development Act 2007; The planning and land authority must— (a) make a copy of the representation available on the authority website (b) give a copy of the representation to the proponent of the development proposal as soon as practicable after the public consultation period for the draft EIS ends. In complying with the obligation under section 220(2), the authority discloses the representations, which may include personal information on its website and to the proponent. You may request to have part or all of your representation excluded from the public register under Sections 411 or 412 of the Planning and Development Act 2007. The request for exclusion must be in writing and clearly identify what you are seeking to exclude and how the request satisfies the exclusion criteria. The Authority may approve or refuse to approve an exclusion application. If your request for exclusion is approved the Authority will seek to protect the information from disclosure. However, the Authority cannot guarantee that the information will not have to be disclosed pursuant to a legal obligation. The Environment, Planning and Sustainable Development Directorate's (EPSDD) Information Privacy Policy contains information about how you may access or seek to correct your personal information held by EPSDD, and how you may complain about an alleged breach of the Territory Privacy Principles. Read our Information Privacy Policy. If you require any further information on this Draft EIS please contact the Impact Assessment Team at EPDImpact@act.gov.au.

☐ **Click here for more information on applying for exemption from the public register.**

William Hovell Drive – Draft Environmental Impact Statement (EIS)

The Draft Environmental Impact Statement (EIS) prepared for William Hovell Drive Duplication has several issues which need to be satisfactorily addressed before the EIS is accepted. The issues are:

1. Poor noise monitoring methodology and inconsistencies in the outcomes proposed for the treatment of noise.
2. No information on the traffic impact of the duplication on the wider road network.
3. Insufficient justification for the recommended design and alignment of off-road shared path in the reserve adjacent the Hawker residential estate.
4. Lack of meaningful public consultation with the local residents as required by Section 9.1 of the scoping document.

1. Treatment of Noise

a) Road Traffic Noise Assessment (SLR) (Noise Report, Appendix F) – Comments and questions

General

The report would benefit with a definition of terms and abbreviations particularly for all various "L"s. to assist the reader .

Monitoring Methodology (Section 3.1)

The monitoring methodology used in the noise report is not consistent with the Roads ACT Noise Management Guidelines (TCCS June 2018). These Guidelines require that noise impacts must be considered on blocks adjacent to the proposal. Table 1.3 specifies that measurements should be taken at a distance of one metre forward of the building façade.

Contrary to this requirement the noise loggers for the William Hovel assessment were located in paddocks west of William Hovell Drive, up to 1 km away from houses directly impacted by the project (figure 1). The loggers should have been placed in accordance with the Guidelines or in an agreed position near the existing residences to get actual measurements close to residents directly affected by the proposal, i.e. adjacent to the Whitlam Estate and the properties in Andado, Florina, Kurundi and Mainoru Places backing onto William Hovell Drive.This data would be far more meaningful and reliable for predictions and avoid obvious criticism from residents.

The choice of timing for noise monitoring is also questionable and possibly unrepresentative. Starting the measurements on Friday 24 April at the start of a three-day Anzac Day long weekend seems an inappropriate choice as it is likely to lead to lower noise measurements than would normally occur.

The chosen methodology creates the perception that the results are inaccurate and potentially biased towards lower measurements than actual.

The field work should be re done to gain more accurate data.

Noise Model Validation (Section 4.4)

Table 5 indicates the difference between the measured and predicted noise levels. For location 2 the difference is +1.9dB between measured (69.8dB) and predicted (67.9dB). The discrepancy is large

but is "*considered within the commonly accepted range of noise of modelling accuracy*" i.e. +/- 2dBA. The basis of this conclusion is not established.

However, on the basis of this statement the noise model is "*considered verified*".

Noting the discrepancy is just within the asserted nominated accuracy range but greater i.e. louder which is concerning, it would appear that a more rigorous validation process is required. Was consideration given to carrying out further field measurements to explain the difference?

Predicted Road Traffic Noise Levels (Section 4.5)- queries on modelling inputs

The crossections (Ch 0 to 480) (drawings XS 1300 to 1306) indicate a reduction in the batter on the left side (Hawker). Is this reduction in height and the earthworks formation to create the shared path alignment picked up in the noise impact modelling? This change in height will reduce the distance the traffic noise travels thereby increasing the impact for residents.

A similar comment also applies to the substantial earthworks near Ch660 (drawing XS 1309) to create the shared path.

Has the impact of the noise reflection from the concrete retaining walls on the west side of the road been considered?

Noise Mitigation Measures (Section 4.6 and Section 5)

The section on noise mitigation treatments investigates two noise barrier options and the use of open grade asphalt (OGA).

The Conclusion of the report Indicates the use of OGA "*is the preferred mitigation approach*".

b) Noise Mitigation – Numerous Inconsistencies across the various components of the EIS and with the Development Application

Other components of the EIS also assess noise mitigation options.

The **Traffic Assessment Report (SMEC)** (Appendix C) indicated OGA "*is the preferred mitigation approach*" (p24 Section 5.7)

However, the **Draft EIS Statement (SMEC)** (Main Report) indicates the project includes *two acoustic walls* (executive summary, page v.)

Section 5.5.4 Mitigation of the Draft EIS states:

"*From a technical perspective, noise would be sufficiently mitigated by using two noise walls for a portion of the project that are in close proximity to these noise receptors. These noise barriers would reduce noise at affected receptors to levels compliant with the assessment criteria. Noise barriers have been recommended as part of this proposal as they offer a long term approach to noise mitigation and are suitable in this instance.*

Scans of these three pages are attached for easy reference.

This is contrary to the conclusions of Noise and Traffic report. This needs to be clarified. Additionally, there is no evidence on the General Arrangement Plans of the acoustic walls. Clearly the EIS and Development Application (DA)needs to establish the proposed mitigation method.

If acoustic walls are proposed their location and visual impact needs to be determined. There is no mention of acoustic walls in the Draft EIS report Section on *Landscape and Visuals (Section 5.8).*

I also note the Pavement drawings in the DA do not identify the use of OGA.

Finally, I am aware that the Minister for Roads and Active Travel, Hon Chris Steel MLA, advised on 18/7/2020 that *"the final wearing surface of the duplicated road being a low noise producing asphalt product"* (Question on Notice Paper, No 48 Question No 3194).

c) Other Comments

As a local resident, traffic noise is evident throughout the day and increases at peak times. The noise is apparent from directly opposite our property and from the south coming up from the road below. The noise from the south is at times perceivably louder and seemingly magnified by the stone chip seal.

I would support the adoption of OGA along the duplication as recommended by the Noise Report and advised by the Minister. The OGA should extend for the full length of William Hovell Drive to beyond the projected south boundary of block 34, section 26 (17 Mainoru Pl) - ***see attachment***. This would be similar to the extent of treatment proposed adjacent to the Whitlam Estate (refer Appendix G of Noise Report for details).

This treatment would certainly be beneficial to the outdoor amenity and appreciated by the many people that use the reserve for walking and recreation every day as well as the residents.

2. Traffic Assessment Report (Appendix C)

The report looks at William Hovell Drive (between John Gorton Drive and Drake Brockman Drive) in isolation.

Section 6 concludes

"*overall there are not expected to be any negative impacts on the surrounding transport network*"

There is no analysis to substantiate this statement.

Congestion on the road particularly in the AM peak is more a factor of the performance of downstream intersections and the road network as a whole.

From my experience delays on William Hovell Drive are due to the performance (queueing) at the Bindubi St signalised intersection, at Glenlock interchange, Parkes Way tunnel at the ANU and particularly the performance of the off ramp to Commonwealth Ave and the unregulated layout of the Coranderrk St roundabout on Parkes Way. Have the broader impacts of the increased traffic volumes from the Ginninderry estate been assessed at these "congestion" points? Duplicating this section of William Hovell Drive will no doubt increase the traffic capacity of the road, but it will provide little relief to congestion if wider network problems are not considered. This impact should be considered.

3. Shared Path Alignment

A shared path is proposed for the length of the duplication.

No information is provided on the basis of the alignment selection and what options were considered. e.g., utilising the track to the old Weetangera Cemetery on the west side of the road, or following the existing dirt track at the rear of the Hawker properties. A briefing by the project consultants on the basis of design and options considered would be beneficial to residents. Possibly there is a design report that includes these details.

Specific comment on the design

A revision of the shared path alignment is suggested to retain a healthy stand of eucalyptus to the rear of blocks 16,17 & 18 section 30 (11,13 & 15 Kurundi Place). (Drawings SMEC RD -0112 – 13 & ELD LP 02& 03)

The current design seems poorly chosen as it not only goes through the eucalyptus but also cuts into the bank near the existing underpass under William Hovell Drive involving substantial earthworks and other vegetation clearing.

A suggested more sympathetic alignment both in terms of avoiding tree clearing minimizing earthworks and grade is attached for reference.

Please refer to the attached markups on the GA and Landscape Plans and accompanying photographs.

At a broader scale, have alternative alignments been considered that would be of benefit to people that currently use the track that runs at the back of the properties. i.e. an alignment that follows or follows close to the existing track and extends onto Belconnen Way (***refer attachment***).

This option still provides the connection to the on-road cycle path a little further to the north of Drake Brockman Drive intersection and has the added advantage that it connects to Belconnen Way and the path network to the north of Belconnen Way. This option would reduce the significant earthworks and vegetation clearing in the current proposal (particularly around Ch 440). At a local level the existing paths from the Mainoru, Kurundi and Florina Places could also be linked. Currently this is not even proposed in the current application. In some regard the current design seems quite remote from the suburb. Linking with the existing path network would promote benefits to residents as well as commuter bike riders.

This option would be an upgrade of the existing track which in some areas particularly at the section between Drake Brockman Drive and Belconnen Way is in poor condition and in need of serious maintenance.

I am also curious why the path needs to be so close to the road as it goes further to the south (Ch 880 – 2380). There seems to be an opportunity to locate the path further to the east above the road to minimize tree clearing (frequently noted on the ELD drawings) and earthworks. Reference SMEC drawings RD-00112 to RD-00117 and ELD drawings LP03 to LP08.

Surely for amenity of users it would be better to be away from the road. The same principal would apply as the path continues to Whitlam.

Conversely there is an option on west side of William Hovell Drive that could be adopted including taking advantage of the proposed access to the old Weetangera Cemetery.

All these matters could be explored with proper public consultation.

It would be very beneficial if the proposed alignment of the shared path is field pegged so the actual alignment could be appreciated by reserve users and the impact on trees properly assessed.

4. Public Consultation

Section 9.1 of the Scoping Document states that consultation "*must be undertaken with the local community."*

Section 9.2 states

"A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholder during consultation."

An extract from the Scoping Document is attached.

This has not happened. As a local resident impacted by this proposal I have had no contact from the Government or the Consultants working on the project. Residents have been left with no alternative other than to read multiple long technical reports with many appendices and impenetrable technical language, to try to understand how the project will impact them.

While I understand there has been consultation with broader conservation and other community groups (eg Pedal Power), no effort has been made to communicate with all the households who will live with the new road and shared path at their backyards.

As a minimum It would have been appropriate to write to the relevant households of Andado, Florina, Kurundi and Mainoru Places giving them the same opportunity as the broader community groups to contribute to the project in the design phase. This would also have the benefit of reducing uncertainty for those people living close to the project.

In an earlier representation prior to Lockdown (G63JLT) I made a number of suggestions including a display at the Hawker shops, a community forum and at least a letter box drop of residents directly affected by the proposal.

I think the community really wants to understand the project and be taken on the journey in achieving a good outcome.

Until this has been properly and satisfactorily undertaken the EIS should not be accepted.

I appreciate the opportunity to comment on the proposal.

5 Conclusion

A noise assessment of the proposed duplication of William Hovell Drive (WHD) between between Drake Brockman Drive and John Gorton Drive has been completed. The upgrade would result in two lanes in each direction.

Project Target Noise Levels were established for existing and future residential receptors in the vicinity of the WHD alignment in accordance with the Roads ACT "*Noise Management Guidelines*".

Road traffic noise from vehicles on the upgraded alignment was modelled to predict noise for the Year 2031.

The predictions showed that road traffic noise associated with the duplication would exceed the assessment criteria at two existing residential properties and the Whitlam residential estate development by up to 2 dBA.

In addition, a comparison of the noise levels at the receptors if the project did and did not proceed was also carried out. The increase as a result of the project is generally less than 1 dBA at most receptors, and therefore it would be reasonable to conclude that there are no significant noise impacts associated with the new project.

Noise mitigation treatments to achieve the assessment criteria were considered.

Noise barriers up to 2.5 m high would reduce noise at 'affected' receptors to levels compliant with the assessment criteria.

In addition, the use of a low noise pavement such as Open Graded Asphalt (OGA) for sections of the WHD alignment was found to result in compliance with the project Target Noise Levels and is the preferred mitigation approach. The extent of the OGA required is limited to sections at the north and south ends of the alignment where residential receptors will be closest.

Noise levels at the Whitlam residential estate including either of the noise mitigation options considered would comply with the assessment criteria, however there is an obligation to consider acoustic amenity provisions described in the Whitlam Precinct Map and Code and Single Dwelling Housing Development Code. It would be a matter for the relevant authority to address that conflict.

5.5 Parking and Service Vehicles

The project does not include any parking and will not generate additional service vehicles.

5.6 Road Safety

The proposed road upgrade has been through a Safety in Design (SiD) process, which identified 132 risks during the construction process, ranging from Low to Very High. Mitigation options were developed for all risks, which reduced the risk ratings to a range from Low to Moderate.

The proposed road duplication would address most of the key issues noted by Calibre in 2018, including:

- Limited safe active travel opportunities
- Limited capacity
- Congested merge and intersection points

5.7 Environmental Capacity

A noise assessment of the proposed duplication of William Hovell Drive (WHD) between Drake Brockman Drive and John Gorton Drive has been completed. The upgrade would result in two lanes in each direction.

Project Target Noise Levels were established for existing and future residential receptors in the vicinity of the WHD alignment in accordance with the Roads ACT "Noise Management Guidelines".

Road traffic noise from vehicles on the upgraded alignment was modelled to predict noise for the Year 2031.

The predictions showed that road traffic noise associated with the duplication would exceed the assessment criteria at two existing residential properties and the Whitlam residential estate development by up to 2 dBA.

Noise mitigation treatments were considered. The use of a low noise pavement such as Open Graded Asphalt (OGA) for sections of the WHD alignment was found to result in compliance with the project Target Noise Levels and is the preferred mitigation approach. The extent of the OGA required is limited to sections at the north and south ends of the alignment where residential receptors will be closest.

5.8 On-Site Circulation and Access Assessment

There are no on-site roads that have not been assessed in Section 5.2 or access points.

From a technical perspective, noise would be sufficiently mitigated by using two noise walls for the portions of the Project that are in close proximity to these noise receptors. These noise barriers up to 2.5m high would reduce noise at affected receptors to levels compliant with the assessment criteria. Noise barriers have been recommended as part of this proposal as they offer a long-term approach to road noise mitigation and are suitable in this instance.

As the noise walls would effectively reduce noise levels in Whitlam to acceptable levels, there may be opportunity to remove the construction requirements for noise affected dwellings in the Whitlam Estate Development Plan, however this would be subject to separate assessment.

5.5.5 Residual risk

Based on the mitigation measures identified in Section 5.5.4, an assessment of the residual risks associated with the proposal have been considered Table 5-26 below sets out the residual risk assessment of the Project's potential noise impacts.

Table 5-26 Noise and vibration residual risk assessment

Risk (as per Chapter 4 and scoping document)	Original Risk Rating	Residual Likelihood	Residual Consequence	Residual Risk Rating
Scoping Report preliminary risks identified				
Intermittent noise and vibration emitted from the equipment required to carry out the proposed construction of the Project impacting residential and non-residential receivers.	High	Possible	Minor	Low
Local residents in surrounding suburbs exposed to increased levels of noise and vibration	High	Possible	Minor	Low
Scoping Document identified risk				
Noise and vibration impacts to sensitive receivers during operation	High	Possible	Minor	Low
Light impact to sensitive receivers during construction and operation	Refer to Table 5-17			

5.6 Soils and geology

This section provides an assessment of potential soil and geological impacts as identified in the Scoping Document, including:

- Discuss any contamination impacts onsite and how these would be managed during construction, particularly in areas where soil is proposed to be reused
- Describe the impacts of soil erosion and sedimentation, and contaminated water run-off including from oils and other contaminants from vehicles during construction and operation and how these would be managed.

8.2.12. *Socio-economic and health*

- Describe the impact on recreational users of the surrounding areas, including but not limited to the Bicentennial National Trail and adjacent open spaces and nature reserves.
- Provide details of any potential contaminants that may pose health risks to workers during construction.

8.2.13. Matters of National Environmental Significance (MNES)

- Describe the impact on Box Gum Woodland, Superb Parrot, Swift Parrot, Golden Sun Moth and any other MNES potentially impacted by the project.
- For any matters identified as potentially impacted provide a description of the relevant impacts of the action including:
    - a detailed discussion of known threats
    - a detailed assessment of direct and indirect impacts on areas of habitat and populations of listed threatened species during pre-construction, construction and operation
    - detailed information on the extent (in hectares) of known and potential habitat that occurs in the proposed site and surrounds which may potentially be impacted by the proposal
    - a detailed assessment of the nature and extent of the likely short term and long term relevant impacts
    - a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible.
- Outline how the proposal is consistent with
    - Australia's obligations under the Convention on Biological Diversity, the Convention on Conservation of Nature in the South Pacific (Apia Convention), or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
    - any relevant recovery plans or threat abatement plans
    - any relevant strategic assessment reports
    - any relevant Commonwealth recovery plans or threat abatement plans.
- If offsets are proposed to compensate for impacts on MNES, describe the proposed offsets and how they comply with the EPBC Act environmental offsets policy.

8.3 Entity requirements

The EIS must address the entities comments provided in Attachment B. If the issues raised by entities have been addressed in other sections of the EIS, this must be cross referenced.

9. Community and stakeholder consultation

The intention of the consultation in this scoping document is to ensure significant proposals include meaningful engagement with the community in the early stages of the project and provide clear expectations and an understanding of the actual development proposed. Consultation also provides an opportunity for the community to contribute in the design of the proposal and to resolve any major concerns early in the planning stages.

9.1. Consultation must be undertaken with:

- Lease holders and land managers of land potentially impacted by the proposal;
- Any recreational groups which may be affected by the proposal;
- Any volunteer conservation, landscape management or land care groups active in the area to be affected by the proposal;

- The local community, community groups, businesses owners and employees.

9.2. Consultation methods and documentation requirements:

- A variety of communication methods must be used to ensure all stakeholders are engaged appropriately, such as face to face, email/letters, community meetings and information sessions, digital/online tools and website notifications.
- A plain English statement explaining the proposal and conceptual drawings must be made available to the community and stakeholders during consultation.
- Consultation must occur as early as possible and avoid, or make allowances for public holidays, school holidays and the summer holiday (Christmas) shutdown period. The level of engagement must be comparable with the size, location and nature of the development and potential impact on the wider community.

9.3. Provide a consultation report that includes:

- A description of the methodology and criteria for identifying stakeholders and how they were identified. Details and plans must be provided showing potential impacts on the local and wider community to justify how stakeholders were identified.
- An outline of the communication methods used.
- A copy of the information provided during the community consultation process.
- A summary of the responses and the main comments raised. Evidence must be provided demonstrating that consultation has been undertaken with each relevant group/person.
- A description on how concerns have been considered and addressed. It must be identified where changes have been made to the proposal to account for community comments.

9.4. Consideration of public representations from Draft EIS notification

The revised EIS must include a consultation report outlining the representations received, issues raised in the representations and a response to the issues and values identified. The summary response must clearly identify the representation(s) to which the responses relate.

10. Recommendations

Provide a summary of any commitments to impact prevention, mitigation measures, offsetting measures and other actions within the EIS.

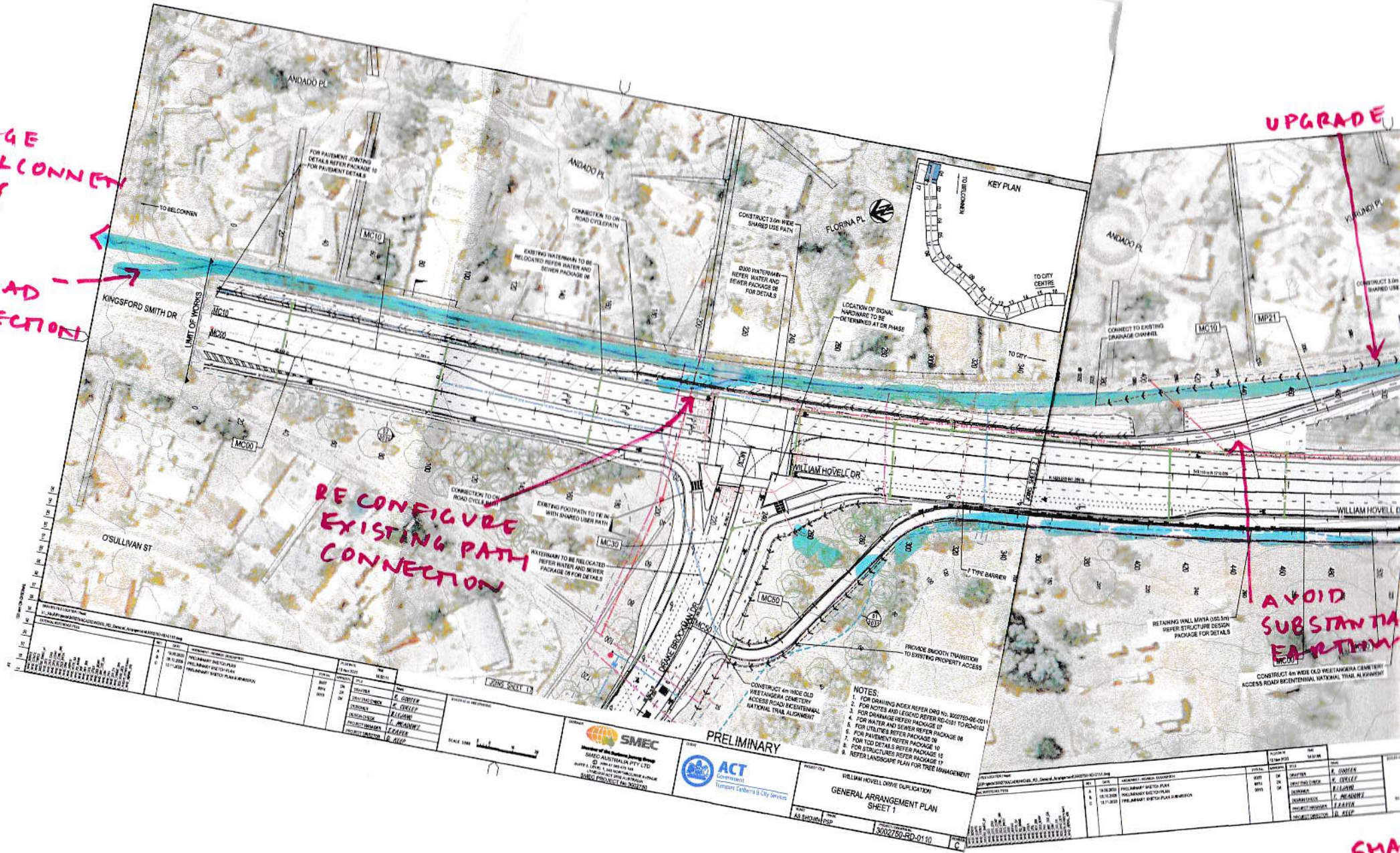
Describe the monitoring parameters, monitoring points, frequency, data interpretation and reporting proposals.

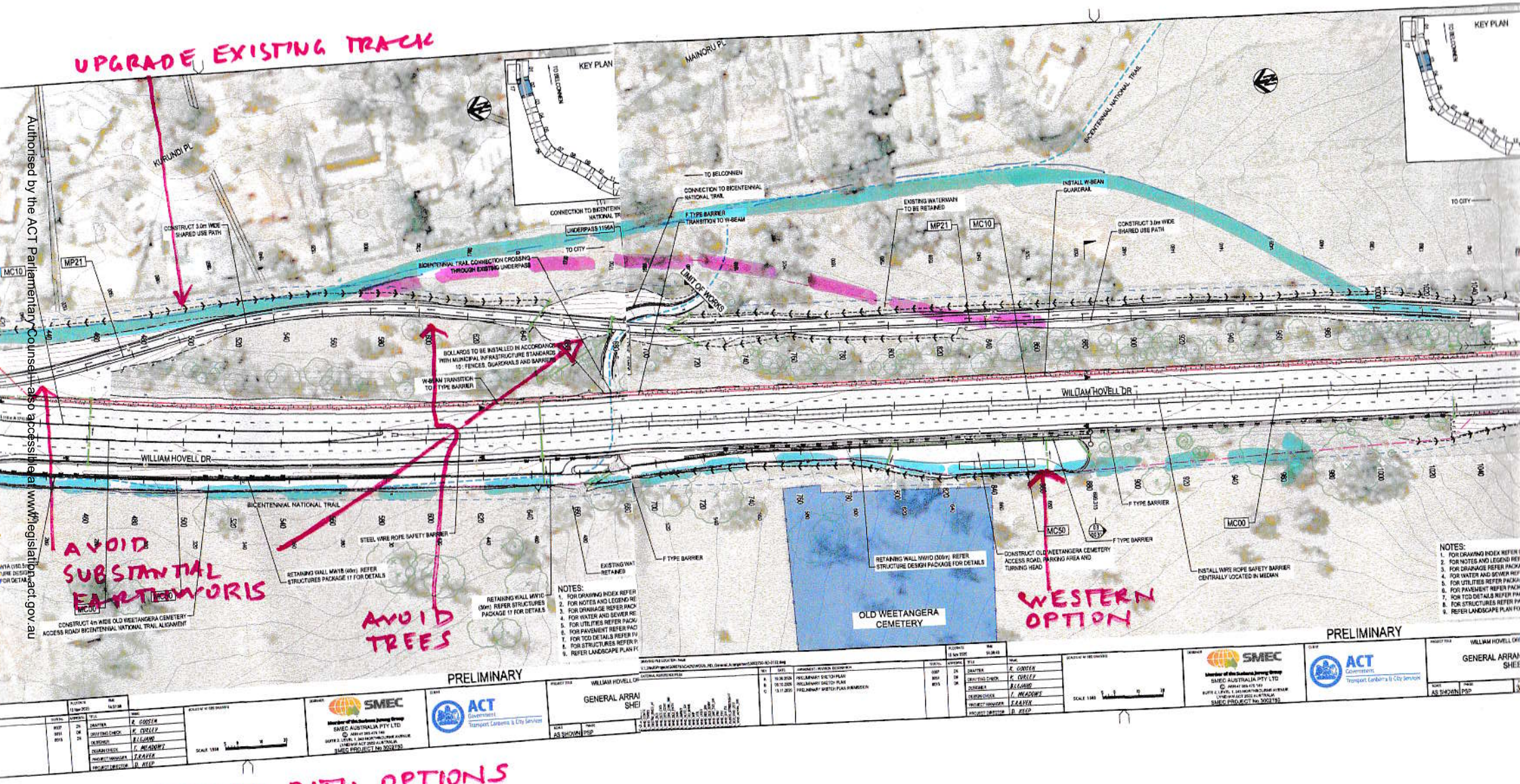
11. Other relevant information

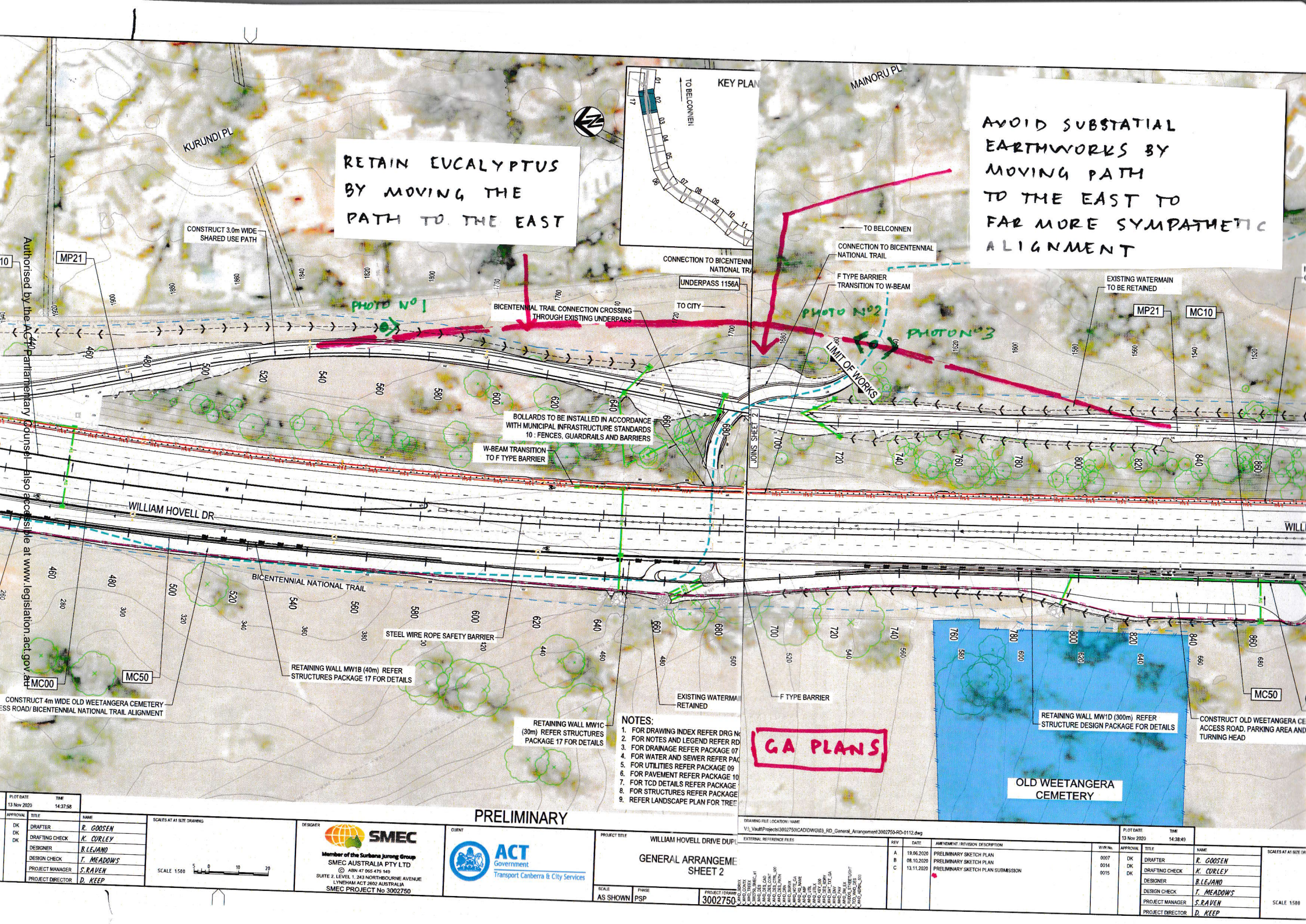
The proponent may wish to include issues outside the scope of the EIS as a separate section of the EIS. This allows the proponent to identify matters not required to be addressed in the EIS, but that would be subject to development assessment consideration and notification. This can provide additional context for members of the public regarding management of environmental issues, by ensuring that the public is aware that these issues will be addressed in the detailed design of the proposal.

12. References

A reference list using standard referencing systems must be included.







PLOT DATE	TIME
13 Nov 2020	14:37:58

APPROVAL	TITLE	NAME
DK	DRAFTER	R. GOOSEN
DK	DRAFTING CHECK	K. CURLEY
DK	DESIGNER	B.LEJANO
	DESIGN CHECK	T. MEADOWS
	PROJECT MANAGER	S.RAVEN
	PROJECT DIRECTOR	D. KEEP

SCALES AT A1 SIZE DRAWING

SCALE 1:500 5 0 10 20

DESIGNER
SMEC
Member of the Surbana Jurong Group
SMEC AUSTRALIA PTY LTD
© ABN 47 065 475 149
SUITE 2, LEVEL 1, 243 NORTHBOURNE AVENUE
LYNEHAM ACT 2602 AUSTRALIA
SMEC PROJECT No 3002750

CLIENT
ACT Government
Transport Canberra & City Services

PROJECT TITLE
WILLIAM HOVELL DRIVE DUPL

GENERAL ARRANGEME
SHEET 2

SCALE	PHASE	PROJECT / DRAWING
AS SHOWN	PSP	3002750

DRAWING FILE LOCATION / NAME
V:_Vault\Projects\3002750\CAD\DWG\03_RD_General_Arrangement\3002750-RD-0112.dwg

EXTERNAL REFERENCE FILES

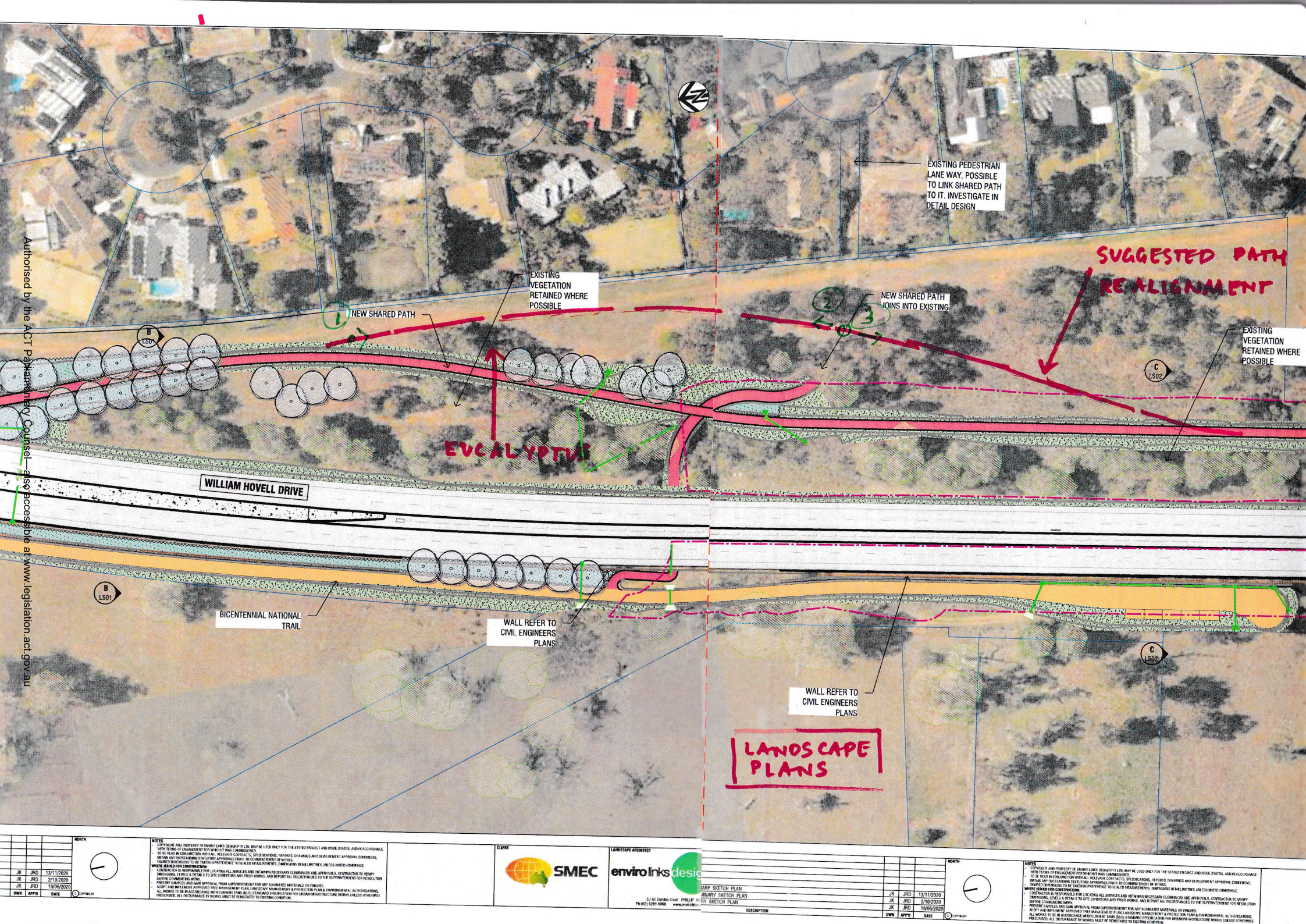
REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.
A	19.06.2020	PRELIMINARY SKETCH PLAN	0007
B	08.10.2020	PRELIMINARY SKETCH PLAN	0014
C	13.11.2020	PRELIMINARY SKETCH PLAN SUBMISSION	0015

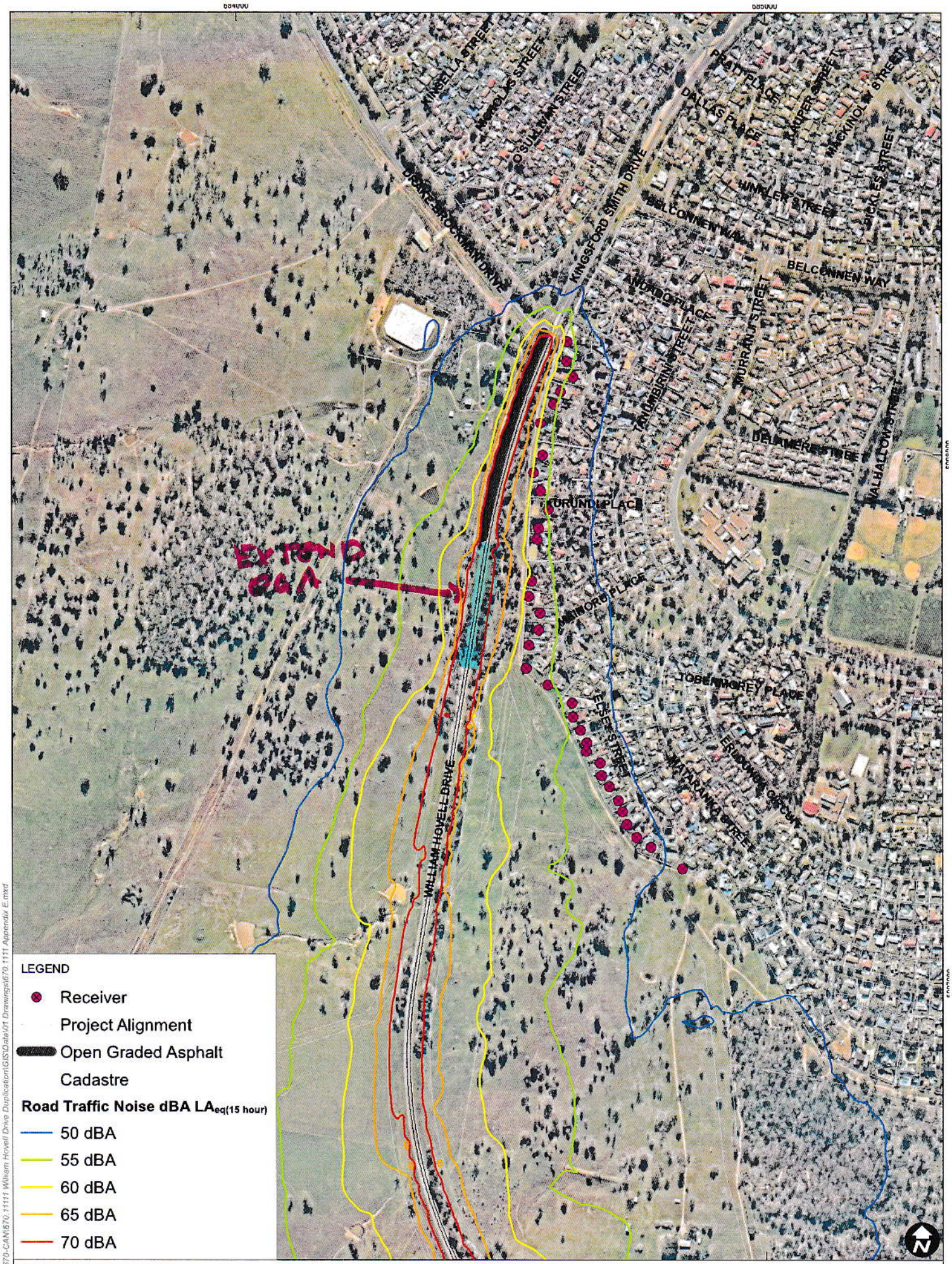
PLOT DATE	TIME
13 Nov 2020	14:38:49

APPROVAL	TITLE	NAME
DK	DRAFTER	R. GOOSEN
DK	DRAFTING CHECK	K. CURLEY
DK	DESIGNER	B.LEJANO
	DESIGN CHECK	T. MEADOWS
	PROJECT MANAGER	S.RAVEN
	PROJECT DIRECTOR	D. KEEP

SCALES AT A1 SIZE DR

SCALE 1:500





From:
To: AC, EPD Customer Services
Cc:
Subject: Submission: William Hovell Drive duplication environmental impact statement
Date: Wednesday, 28 July 2021 11:00:40 AM

Good morning

Pedal Power supports the construction of new on-road cycle paths and 3.0m wide shared path as part of the William Hovell Drive duplication project as recommended in the Draft Environmental Impact Statement (EIS).

As noted in the draft EIS, the construction of these paths is “directly aligned with various statements of Strategic Directions”. These include; ACT Planning Strategy 2018, Transport for Canberra: Transport for a sustainable city 2012-2031, ACT Transport Strategy 2020, Health Canberra: ACT Preventative Health Plan 2020-2025, and the National Capital Plan.

The shared pathway provides safe separated active travel linkages to the main path network at Bindubi Street for residents of West Belconnen, and Molonglo. There is a substantial population in West Belconnen that does not have high quality separated infrastructure to enable travel to the city and other areas of Canberra. Similarly residents of Molonglo, in existing or future suburbs, do not have a safe separated active travel route to the northern side of Lake Burley Griffin or to Belconnen. The on-road cycle paths and 3.0m wide shared path proposed as part of the William Hovell Drive duplication project provide these desperately needed active travel linkages. Further synergies with the Canberran trunk path network may be obtained in future if a separated path alongside Coulter Drive, connecting Molonglo to the Belconnen Town Centre is built.

As noted in the EIS (p89) the current design of William Hovell “represents a substantial risk for pedestrians and cyclists”. Usage is low, despite the road being a major thoroughfare connecting important parts of Canberra. A shared path alongside William Hovell Drive would “offer users a safe, direct connection to Civic and the trunk network around Lake Burley Griffin". Providing good access to this potential shared path would encourage broader use and less reliance on private cars.

Pedal Power agrees with the EIS (p143) that a high quality shared path would offer pedestrians and cyclists greater access to the Nature Parks alongside William Hovell Drive and that although some trees may have to be removed replanting of replacement trees would mitigate this.

In summary, Pedal Power sees that the construction of both on-roads cycle paths and a 3.0m wide shared path as part of the William Hovell Drive duplication would benefit both local residents and provide an important missing link in the Canberra trunk path network. Environmental impact will be limited, and the liveability of West Belconnen and Molonglo areas of Canberra greatly enhanced.

Kind regards

Pedal Power ACT
Ph: 02 62487995
Level 2 Griffin Centre, 20 Genge Street, Canberra City ACT | GPO Box 581, Canberra ACT, 2601

Representation for EIS or Territory Plan Variation Notification - submission confirmation

Your submission has been successful. Please keep a copy of this receipt for your records.

Date and time: 10 Aug 2021 4:55:46 PM

Reference code: MZH67C

Thank you for your representation regarding application number: EIS202000014. A copy of your representation will be forwarded to the proponent of this proposal. The proponent must consider your representation when preparing a revised application for the planning and land authority's assessment.

Access Canberra
Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra City ACT 2601
Telephone: (02) 6207 1923

Type of representation

Application type

Please select the application type: *

EIS

Representor details

Title

Given name *

Family name *

Organisation name

Pedal Power

Home phone number

Work phone number

Mobile number

Email address *

Application details

EIS/EIS Exemption Application No.

EIS/EIS Exemption Application No. *

EIS202000014

Provide the details of your representation *

[redacted], Pedal Power Advocacy

Duplication of William Hovell Drive

Overall the plans appear of good quality and will provide an excellent link between West Belconnen, the Molonglo area and potentially the main paths into Belconnen and the City area. There are no main active travel paths to link with at either end of these works. This issue is probably beyond the scope of the William Hovell Drive (WHD) works.

Some comments on the plans are set out below. If you could respond to these that would be great.

Landscape plan
Can you clarify exactly how the shared path is separated from the road? It looks like the when the shared path is directly alongside the road it is separated from the road by a small gutter or hardstand, or similar.

How wide are the on-road paths? Is there any marking to indicate that they are for cyclists? In what ways is the safety of cyclists being included in the design of the on-road paths? E.g. paint, surface treatment etc

Road alignment plan

It appears that the paths have no connection to other paths or infrastructure at either end, especially the Drake Brockman end. Is this correct?

At the John Gorton Drive end the Minister has responded to questions in the Legislative Assembly that the path will continue onto Bindubi Street. Can you confirm that, and perhaps provide some context to that path design.

Sheet 2 and 3 show a feature that looks like a road or path crossing the shared path. Can you clarify what this feature on the drawing is?

Sheet 8 shows a road coming off William Hovell to the south that crosses the shared path. It appears by the design that this could be a possible safety issue. The cyclists will likely be travelling fairly quickly at this point and may not be expecting any vehicular traffic. Cars travelling along WHD can turn into the road and immediately cross the shared path. They may do this at speed and be more concerned with avoiding any issues on WHD and have no time to see if the shared path has cyclists on it. There is the possibility that this may create potential problems. Pedal Power suggest that this aspect of the design is altered so that both cyclists and drivers have good sight lines and traffic is slowed. A suggestion is to move the crossing point of the road to Kama nature Reserve and the shared path further east. If the crossing was after the 90 degree turn in the road car traffic would be slowed and cyclists would have plenty f opportunity to see any cars. If the shared path came out and moved in chicane shape it would also slow cyclists and provide a designed in notice that this is a potentially dangerous location.

Sheet 16, can you clarify the nature of the end of the path at John Gorton drive. Will cyclists have lights, a painted path etc.

You may upload any additional supporting documentation or photos.

Disclaimer
Please Note: Under section 220 (2) of the Planning and Development Act 2007; The planning and land authority must— (a) make a copy of the representation available on the authority website (b) give a copy of the representation to the proponent of the development proposal as soon as practicable after the public consultation period for the draft EIS ends. In complying with the obligation under section 220(2), the authority discloses the representations, which may include personal information on its website and to the proponent. You may request to have part or all of your representation excluded from the public register under Sections 411 or 412 of the Planning and Development Act 2007. The request for exclusion must be in writing and clearly identify what you are seeking to exclude and how the request satisfies the exclusion criteria. The Authority may approve or refuse to approve an exclusion application. If your request for exclusion is approved the Authority will seek to protect the information from disclosure. However, the Authority cannot guarantee that the information will not have to be disclosed pursuant to a legal obligation. The Environment, Planning and Sustainable Development Directorate's (EPSDD) Information Privacy Policy contains information about how you may access or seek to correct your personal information held by EPSDD, and how you may complain about an alleged breach of the Territory Privacy Principles. Read our Information Privacy Policy. If you require any further information on this Draft EIS please contact the Impact Assessment Team at EPDImpact@act.gov.au.

☐ **Click here for more information on applying for exemption from the public register.**

Friends of Grasslands

supporting native grassy ecosystems

PO Box 440, Jamison Centre ACT 2614
phone: [redacted]
email: advocacy@fog.org.au
web: http://www.fog.org.au

Chief Planning Executive
Environment, Planning and Sustainable Development Directorate Customer Service
GPO Box 158
Canberra ACT 2601
Email: ACEPDCustomerServices@act.gov.au

Dear Sir/Madam

William Hovell Drive duplication: Draft Environmental Impact Statement EIS202000014

Friends of Grasslands (FOG) is a community group dedicated to the conservation of natural temperate grassy ecosystems in south-eastern Australia. FOG advocates, educates and advises on matters to do with the conservation of grassy ecosystems, and carries out surveys and other on-ground work. FOG is based in Canberra and its members include professional scientists, landowners, land managers and interested members of the public.

FOG made a submission about Referral 2020/8703 in July 2021 and is pleased to see that an EIS has been required to investigate many issues triggered by the proposed duplication of William Hovell Drive.

FOG is also pleased to find that many points which FOG made in its submission 13 months ago have been put forward for consideration, notably those to Avoid habitat loss, Avoid loss of mature Eucalypts, Offset Box Gum Woodland (BGW) loss, Reuse timber, Replanting, and Control of Weeds, especially African Lovegrass (ALG).

FOG was also pleased to find many other points being considered such as excessive habitat fragmentation, analysis of cumulative impacts by development across this northern side of the Molonglo River, and of all potential biodiversity risks.

However, FOG is deeply concerned that the EIS is not yet developed to a stage that can be used as an instrument to control the potential duplication project. Specifically, the issue of offsets is not taken far enough. Analysis clearly reveals impacts on several MNES and concedes that about 6.5 ha of Box-Gum Woodland of moderate quality will be directly impacted if this road is duplicated, even after redesigns have minimised impact. FOG presumes this concession means that impact cannot be avoided, so that must leave only the option of offsetting.

The scoping document (Appendix B) within section 8.12.3 explicitly requires that "If offsets are proposed to compensate for impacts on MNES, describe the proposed offsets and how they comply with the EPBC Act environmental offsets policy".

FOG does note that the draft EIS includes "The Project proposes to provide an offset against the loss of BGW TEC habitat by protection of land to the west of Kama NR…… " in sections 3.2.2, 3.3.1.1, 3.3.7.3 and 3.3.7.4. Table 5-14 also lists this offset as a Biodiversity Mitigation Measure, and that it will be required prior to construction with TCCS as the responsible agency.

FOG of course would be easily convinced that such an offset is great in principle, in fact we used this protection as an offset recommendation in our July 2020 submission. FOG is also convinced if the plan establishes such an offset prior to any construction commencement.

However, FOG calls for immediate analysis of offset-multiple factors and at least the skeleton of an offset management plan being released for public consultation before the proposition is considered further. Only in that way can the people of the region know whether or not the direct impact on BGW can be satisfactorily offset.

FOG submits that the EIS in such a draft form with next to no detail about offsetting and concludes it has been prematurely released.

FOG would like to make some other comments. The first is that the 13 *Leucochrysum albicans var. tricolor* plants that will be impacted by the project are almost certainly self sown out of a large revegetation program where the species was introduced abundantly into the Kama Nature Reserve. Also that a few new plants of this species are also now found in the nearby Pinnacle Reserve offset area.

Secondly, the Scoping document's Attachment B lists Entity Requirements by the ACT Conservator of Flora and Fauna. FOG agrees with the comprehensive list of issues, and notes that some suggestion for offsets was included. However, FOG wishes to highlight an issue of particular concern in weed control during construction and rehabilitation – William Hovell Drive is currently a weed bank, and the high risk that the infestation of African Lovegrass will be made worse by the project disturbance must be taken extremely seriously.

Lastly, in the mitigation measures in table 7-1 of the Biodiversity Impact Assessment and in Section 5.2.4 of the Draft Environmental Impact Statement the text is “Areas of re-vegetation should be maintained for a minimum of two years until plantings are established”. Plantings of trees and shrubs are unlikely to be completely established within two years. This would be better worded as “Areas of re-vegetation should be maintained until plantings are established”. If a period is mentioned, five years would be more realistic.

Yours sincerely

Naarilla Hirsch
Advocacy coordinator

18 August 2021

Representation for EIS or Territory Plan Variation Notification - submission confirmation

Your submission has been successful. Please keep a copy of this receipt for your records.

Date and time: 23 Aug 2021 10:50:44 AM

Reference code: LRT95T

Thank you for your representation regarding application number: EIS202000014. A copy of your representation will be forwarded to the proponent of this proposal. The proponent must consider your representation when preparing a revised application for the planning and land authority's assessment.

Access Canberra
Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra City ACT 2601
Telephone: (02) 6207 1923

Type of representation

Application type

Please select the application type: *

EIS

Representor details

Title: Ms

Given name *: Kat

Family name *: McGilp

Organisation name: Ginninderra Catchment Group

Home phone number:

Work phone number:

Mobile number:

Email address *: landcare@ginninderralandcare.org.au

Application details

EIS/EIS Exemption Application No.

EIS/EIS Exemption Application No. *

EIS202000014

Provide the details of your representation *

William Hovell Drive duplication: Development Application DA202138722 - EIS202000014

The Ginninderra Catchment Group is both a community-based natural resource management organisation and a Landcare network, operating primarily in the north-west ACT Region. Our community-driven organisation supports over 20 Landcare Groups, which includes several local Parkcare groups working in areas around William Hovell Drive, especially the Friends of the Pinnacle Group. This group, among many of our other groups, have significant involvement for expert ecologists and environmentalists who contribute significantly to our work undertaken within the catchment. Both GCG and our member groups have raised several concerns about the proposed Development Application DA202138722 - William Hovell Drive duplication and the associated EIS and project documentations.

Firstly, the EIS provided on the website has not been finalised to a level that it can be a useful management tool to mitigate potential environmental damage from this duplication project. While there are some references to potential needs for offset areas to be designated, there are no definitive statements about mitigation work that will be done. The project impacts include 6.5hectares of critically endangered Box Gum Woodland that will be impacted which cannot be avoided. This should require offset works to be undertaken. Any offsets would ideally be for other Box gum woodland areas of similar quality nearby. There are some areas near Kama NR that would be ideal, as listed in the EIS, assuming all reasonable efforts and funds are available to maintain these new offset areas.

Secondly, the mitigation measures listed in the draft EIS and BIA state that any revegetation plantings undertaken as part of this project will be maintained for a minimum of 2 years. Most Ecologists and Revegetation Specialists would state that 2 years is not nearly enough time to maintain and monitor native plantings to maximise survival. Previous revegetation works undertaken at neighboring sites have attempted to “Maintain” new areas over 2 years, with poor success. Some of these sites are now needed to be re-planted and resown due to low survival and weed infestations in the time following the limited 2year maintenance schedule. We recommend aiming for a maintenance period closer to 5 years as this maximises the chances that these works will be maintained for high survivability and reduce the need for future contractors to come back and redo the revegetation works.

And finally, many GCG members have raised concerns about the potential for this road duplication project to exacerbate the existing weed infestations in the area. Currently, the areas around William Hovell drive support dense stands of numerous exotic weeds, including significant weed African Love Grass, which lines the roadside where regular TCCS mowing is undertaken. If appropriate weed control measures are not enforced during construction, this project risks spreading these weed infestations to other sites, including the surrounding Nature reserves and downstream into the Molonglo Valley. Our recommendation would be for further planning to be undertaken around how these potential effects can be limited to the surrounding areas

You may upload any additional supporting documentation or photos.

File: EIS Submisison EIS202000014_DA202138722_Ginninderra Catchment Group.docx.pdf

Disclaimer

Please Note: Under section 220 (2) of the Planning and Development Act 2007; The planning and land authority must— (a) make a copy of the representation available on the authority website (b) give a copy of the representation to the proponent of the development proposal as soon as practicable after the public consultation period for the draft EIS ends. In complying with the obligation under section 220(2), the authority discloses the representations, which may include personal information on its website and to the proponent. You may request to have part or all of your representation excluded from the public register under Sections 411 or 412 of the Planning and Development Act 2007. The request for exclusion must be in writing and clearly identify what you are seeking to exclude and how the request satisfies the exclusion criteria. The Authority may approve or refuse to approve an exclusion application. If your request for exclusion is approved the Authority will seek to protect the information from disclosure. However, the Authority cannot guarantee that the information will not have to be disclosed pursuant to a legal obligation. The Environment, Planning and Sustainable Development Directorate’s (EPSDD) Information Privacy Policy contains information about how you may access or seek to correct your personal information held by EPSDD, and how you may complain about an alleged breach of the Territory Privacy Principles. Read our Information Privacy Policy. If you require any further information on this Draft EIS please contact the Impact Assessment Team at EPDImpact@act.gov.au.

☐ **Click here for more information on applying for exemption from the public register.**

Ginninderra Catchment Group
PO Box 446, Holt, ACT 2615
Phone: [redacted]
Phone: [redacted]
email: landcare@ginninderralandcare.org.au
web: https://ginninderralandcare.org.au/

Land, Planning and Building Services
Environment, Planning and Sustainable Development Directorate Customer Service
GPO Box 158
Canberra, ACT, 2601
Email: ACEPDCustomerServices@act.gov.au

William Hovell Drive duplication: Development Application DA202138722

The Ginninderra Catchment Group is both a community-based natural resource management organisation and a Landcare network, operating primarily in the north-west ACT Region. Our community-driven organisation supports over 20 Landcare Groups, which includes several local Parkcare groups working in areas around William Hovell Drive, especially the Friends of the Pinnacle Group. This group, among many of our other groups, have significant involvement for expert ecologists and environmentalists who contribute significantly to our work undertaken within the catchment. Both GCG and our member groups have raised several concerns about the proposed Development Application DA202138722 - William Hovell Drive duplication and the associated EIS and project documentations.

Firstly, the EIS provided on the website has not been finalised to a level that it can be a useful management tool to mitigate potential environmental damage from this duplication project. While there are some references to potential needs for offset areas to be designated, there are no definitive statements about mitigation work that will be done. The project impacts include 6.5hectares of critically endangered Box Gum Woodland that will be impacted which cannot be avoided. This should require offset works to be undertaken. Any offsets would ideally be for other Box gum woodland areas of similar quality nearby. There are some areas near Kama NR that would be ideal, as listed in the EIS, assuming all reasonable efforts and funds are available to maintain these new offset areas.

Secondly, the mitigation measures listed in the draft EIS and BIA state that any revegetation plantings undertaken as part of this project will be maintained for a minimum of 2 years. Most Ecologists and Revegetation Specialists would state that 2 years is not nearly enough time to maintain and monitor native plantings to maximise survival. Previous revegetation works undertaken at neighbouring sites have attempted to “Maintain” new areas over 2 years, with poor success. Some of these sites are now needed to be re-planted and resown due to low survival and weed infestations in the time following the limited 2year maintenance schedule. We recommend aiming for a maintenance period closer to 5 years as this maximises the chances that these works will be maintained for high survivability and reduce the need for future contractors to come back and redo the revegetation works.

And finally, many GCG members have raised concerns about the potential for this road duplication project to exacerbate the existing weed infestations in the area. Currently, the areas around WIlliam Hovell drive support dense stands of numerous exoctic weeds, including significant weed African Love Grass, which lines the roadside where regular TCCS mowing is undertaken. If appropriate weed control measures are not enforced during construction, this project risks spreading these weed infestations to other sites, including the surrounding Nature reserves and downstream into the Molonglo Valley. Our recommendation would be for further planning to be undertaken around how these potential effects can be limited to the surrounding areas

Please feel free to contact me if you have any queries.

Regards,

Kat McGilp

Executive Officer , Ginninderra Catchment Group

18 August 2021

friends of the pinnacle

The Friends of the Pinnacle
Ph.: [redacted]
Email: fotpin@fotpin.org.au
Web: www.fotpin.org.au

Customer Service
Environment, Planning and Sustainable Development Directorate
GPO Box 158
Canberra, ACT, 2601
Email: ACEPDCustomerServices@act.gov.au

William Hovell Drive duplication: Environmental Impact Statement (EIS): EIS202000014

The Friends of The Pinnacle (fotpin) is a ParkCare volunteer group with a common interest in protecting, enhancing and promoting the ecological values of the Pinnacle Nature Reserve. Since our inception in 2010, we have contributed well over 10,000 hours of volunteer effort on the reserve in activities such as controlling weeds, conducting community planting events and assisting with visits by local schools, as well as organising guided walks led by experts on flora, fauna, ecology, local history and indigenous heritage. We are also active in the community through the local primary and secondary schools and through annual Joint ParkCare display events with other ParkCare groups in the area. We currently have 105 full members as well as a mailing list that reaches another 207 interested community members.

The draft EIS as it currently stands includes many measures that could potentially improve the current arrangements for fauna movement in particular between the Pinnacle Nature Reserve (PNR) and Kama Nature Reserve (KNR). The proposed fencing improvements and other measures to facilitate fauna movement are essential if the current levels of roadkill along WHD are to be mitigated. However, we have significant concerns regarding other aspects of the EIS. These can be broadly divided into three areas: Revegetation, offsetting for cleared Box Gum Woodland (BGW), and access to the PNR from WHD post construction.

Further, we strongly advise that, before contracts are signed, all non-definitive terms such as “should” and “would” (as used in Section 5.2.4, “Mitigation”), be replaced by definitive terms such as “shall” and “will”.

- Our concerns regarding the revegetation derive largely from our experience with the revegetation of the Molonglo 3 water main, which was constructed through the PNR in 2018-19. The contractors tasked with the revegetation demonstrated little or no capability with regard to restoring native vegetation and have left the reserve with a largely weed-filled corridor which will take years to remediate. This failure to effectively implement a detailed revegetation plan has taught us that any future such work in or near the reserve must come with clear standards and safeguards to ensure compliance. For the WHD duplication project we are particularly concerned with edge effects and the spread of weeds (particularly grassy weeds such as African Lovegrass) into the reserve from the construction area both during and after the construction period. It is essential that weed management be conducted both during and after construction to

prevent weed spread into the PNR and KNR, as well as adjacent leased land. We would also like an assurance that the contractor or sub-contractor tasked with the revegetation has demonstrated capability in successfully restoring native vegetation communities and that experienced and qualified ecologists are engaged to monitor and sign off on the revegetation. It is also important in our experience that any introduced materials, including topsoils, seed and any mulch used, be free of weed contamination. It is important that the seeds used are fresh/viable and that the sowing rate (kg/ha) is sufficient to ensure adequate coverage. We are also curious to know which four species will be included in the "*locally collected species mix*" (section 5.10.4, P.156). We consider the current mitigation measure that "Areas of re-vegetation should be maintained for a minimum of two years…" (Table 5-14, P.102) to be insufficient and would like to see this extended to at least five years, with monitoring to be conducted by a qualified ecologist. Appendix D (Table 7-1, P.73) includes a recommendation to "*Maintain revegetated areas by undertaking weed removal until growth is enough to prevent weed invasion*". This determination should also be made by a qualified ecologist.

- The EIS notes that the project will result in the clearing of 6.41 ha of BGW and that an area to the west of Kama NR will be protected as an offset, but no detail is provided. We don't see how this provision can possibly be accepted without first seeing the attendant Offset Strategy and Offset Management Plan. We look forward to an opportunity to review these documents as and when they are available.

- Section 7 (P.179) of the EIS states: "*Access to reserves and open space would not be impacted by the Project"*, however the drawings in the draft DA (DA202138722) appear to show that the current vehicle access and parking area on the north side of WHD opposite the access to Kama NR will be deleted in favour of a bicycle path that runs under WHD at that point (DA Appendix B, Landscape Plan Sheet 8 of 17). This access to the Pinnacle offset and the adjacent leased land from WHD is very useful for us when conducting weed control activities and guided walks in that area of the reserve. It is also frequently used by PCS rangers, notably those responsible for maintaining the Pinnacle Offset. We note that Section 6.3 of the EIS (P.167) refers to "*MS-Teams and in-persons discussions with ACT Parks and Conservation Service regarding vehicular access into The Pinnacle and Kama Nature Reserves.*" Was the loss of vehicle access to the PNR covered in these discussions? We would like to see the project modified to retain the current capability for vehicles to turn off onto the northern side of WHD and park close to the gated reserve entrance.

We appreciate this opportunity to comment on the EIS and would be happy to provide any further information as needed.

Regards,

John Brannan
Convenor, Friends of the Pinnacle
1 September 2021