

Application for EIS Scoping Document

Morrisset Road Extension and Sullivans Creek Retardation Basin

Prepared for Transport Canberra and City Services

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Glossary

CHA	Cultural Heritage Assessment
DA	Development Application
DoE	Department of Energy and Environment
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPSDD	Environment, Planning and Sustainable Development Directorate
ESO	Environmental Significance Opinion
FUA	Future Urban Area
GSM	Golden Sun Moth
MNES	Matters of National Environmental Significance
NC Act	Nature Conservation Act 2014
P&D Act	Planning and Development Act 2007
PAD	Potential Archaeological Deposit
PAEC	Potential Areas of Environmental Concern
PRA	Preliminary Risk Assessment
PSI	Preliminary Site Investigation
SSL	Striped Legless Lizard
WSUD	Water-Sensitive Urban Design

1. Overview

The extension of Morisset Road from Flemington Road, Mitchell to the Federal Highway, Watson is a part of the Territory's plans to complete the orbital freight network, and to cater for growth in the south Gungahlin region. The completion of the orbital freight network will allow for a reduction in heavy vehicle loads on the Federal Highway and Northbourne Ave between Antill Street and the Barton Highway, as well as improving heavy vehicle access into the industrial area of Mitchell. Further, the development of the Sullivans Creek Retardation Basin will help manage stormwater flows during significant rain events, minimising impacts of stormwater downstream of Morisset Road. An Environmental Impact Statement (EIS) for the road was prepared in 2010 and at that time the potential impacts on Matters of National Environmental Significance (MNES) were deemed not to be significant and therefore the Commonwealth decided that the project was not a controlled action. Morisset Road is within the area of the Gungahlin Strategic Assessment (2013), but specific policy decisions were not made in that assessment in relation to the road.

Since the 2010 EIS was prepared, the design of the Morisset Road extension changed and the extent of the Sullivans Creek Retardation Basin has increased. Further environmental studies have also been conducted in the area leading to the current view that the proposed works constitute a controlled action due to the potential impacts on Matters of National Environmental Significance (MNES). The following report, therefore, outlines the project scope and a description of the existing environment to support an application for an EIS Scoping Document under the P&D Act 2007.

2. Introduction

The purpose of this report is to support an application for an Environmental Impact Statement (EIS) scoping document from the EPSDD for the proposed upgrade and extension of Morisset Road, from Flemington Road to the Federal Highway. As the proposed project triggers Impact Track assessment under the *Planning and Development Act 2007* (P&D Act), proponents are required to use Form 1M to request a scoping document which will outline the elements which must be addressed in the EIS.

The table below outlines the supplementary information requirements set out in Form 1M to support a request for scoping document application, along with indication of where the information can be found within this report.

Table 2-1 Form 1M Section 9 Requirements

FORM 1M REQUIREMENT		LOCATION WITHIN THIS REPORT
1	A statement outlining the objectives of the project and why it is needed	Section 3.1
2	A description of the nature/type of project proposed by providing location map(s) of the project site(s), preliminary design drawings and satellite/aerial photographs	Section 3.3
3	A preliminary risk assessment (PRA) based on the guidance document attached to this form	Section 6
4	A description of the natural conservation values of the site based on the considerations listed in the "Preparation of an Application for Scoping and Preparation of an Environmental Significance Opinion" guideline document.	Section 5
6	Any decision under the EPBC Act in relation to this proposal	Section 4.3

3. Project Description and Objectives

3.1 Project Objectives and Need

The extension and upgrade of Morisset Road will complete a section of Canberra's orbital freight network, which aims to provide a heavy vehicle freight route between the Federal Highway and Barton Highway via Morisset Road, Sandford Street, and Gungahlin Drive. The ACT Government's 2016 freight strategy noted this was a missing connection in the orbital freight network for the Territory. This link is also recognised in Map 5 of the ACT Transport Strategy as a Future Orbital Freight Link¹. It is intended that this addition to the orbital network will also reduce heavy vehicle conflict with light rail operating on Northbourne Avenue and Flemington Road, and support future development in south Gungahlin. The upgraded road will also cater for residential growth and subsequent population increase in the south Gungahlin region.

As an additional part of the project, a new retardation basin in the Sullivans Creek catchment on Gungahlin Registered Rural Block No. 393 will be designed to manage stormwater from a 1% annual exceedance probability (AEP) storm event, and reduce the impacts of stormwater on Morisset Road, Flemington Road, and downstream infrastructure. The basin will also enable WSUD (water-sensitive urban design) benefits to support the future suburb of Kenny to the north-east.

3.2 Description of Works

The project will include:

- Upgrading the existing Morisset Road between Flemington Road and Old Well Station Road to a divided road (approximately 1100 metres);
- Extending Morisset Road from Old Well Station Road to the Federal Highway as a single carriageway (approximately 900 metres);
- Creation of a retardation basin on Sullivans Creek upstream of Morisset Road;
- Creation of a new floodway between Old Well Station Road and the Federal Highway with an underpass of the proposed Morisset Road; and
- Other general works associated with the road upgrade and basin including: creation of a new shared path, signalised intersection at Old Well Station Road, tie in works, batters, retaining walls, safety barriers, street lighting, landscaping, median works, and other ancillary works.

3.3 Project Location

The proposal area is located approximately 6.8km north of central Canberra in the district of Gungahlin. Morisset Road runs to the south of the proposed Kenny Residential Development, in Gungahlin's south. The road upgrade stretches approximately 2km, generally linear; bound by Flemington Road to the West, EPIC to the south, the Federal Highway to the east, and Bimberi Youth Justice Centre to the north.

The proposed disturbance area of Native Vegetation zones will total 26.91 ha (this excludes the existing Morisset Rd pavement). This proposed project area includes the disturbance footprint of the road upgrade and retardation basin, as well as set down areas, construction compounds, stockpiles, and other associated works, some of which will be revegetated upon completion of construction.

The proposal includes works on the following blocks:

¹ https://www.transport.act.gov.au/data/assets/pdf_file/0016/1613302/200601-ACT-Transport-Strategy_web.pdf

Table 3-1 Blocks Impacted by Proposed Works

BLOCK	LAND CUSTODIAN	DETAIL OF WORKS	ZONING UNDER TERRITORY PLAN
Block 738	EPSDD – Parks and Conservation	Driveway access for Block 601 and Block 393	<i>FUA</i> (Future Urban Area – zoning subject to change); NUZ1
Block 393	Lease – Private	Sullivans Creek retardation basin: earthworks batters, culverts and associated excavation works, stone pitching and railing. Reinstatement of property fencing and ranger gate.	<i>FUA</i> ; NUZ1
Block 739	Lease – Private	The northern end of the retardation basin is located on Block 739 with minor earthworks for the berm.	<i>FUA</i> ; NUZ1, IZ1, NUZ3, PRZ1
Block 864	EPSDD	Earthworks batter spill from works in the road reserve. Sullivans Creek culvert and associated headwall, stone pitching and railing. Driveway access to Block 765.	NUZ1, TSZ1
Block 765	Lease - Private	Earthworks batter spill from works in the reserve. The majority of these works are all within the Right of Way easement on the block.	NUZ1

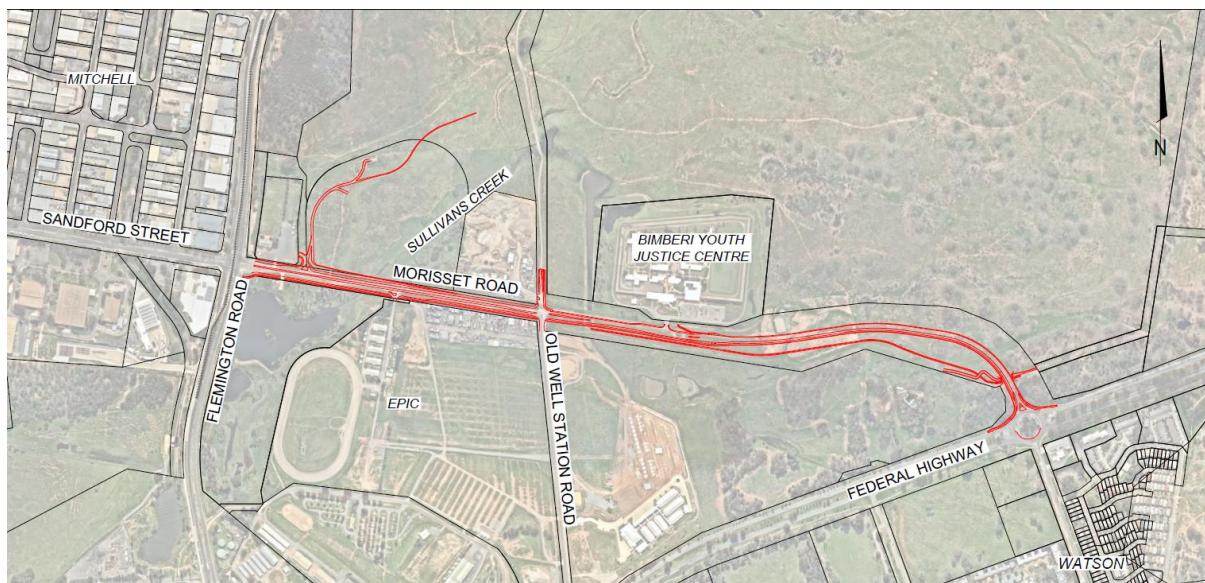


Figure 3-1 Proposed Project Footprint

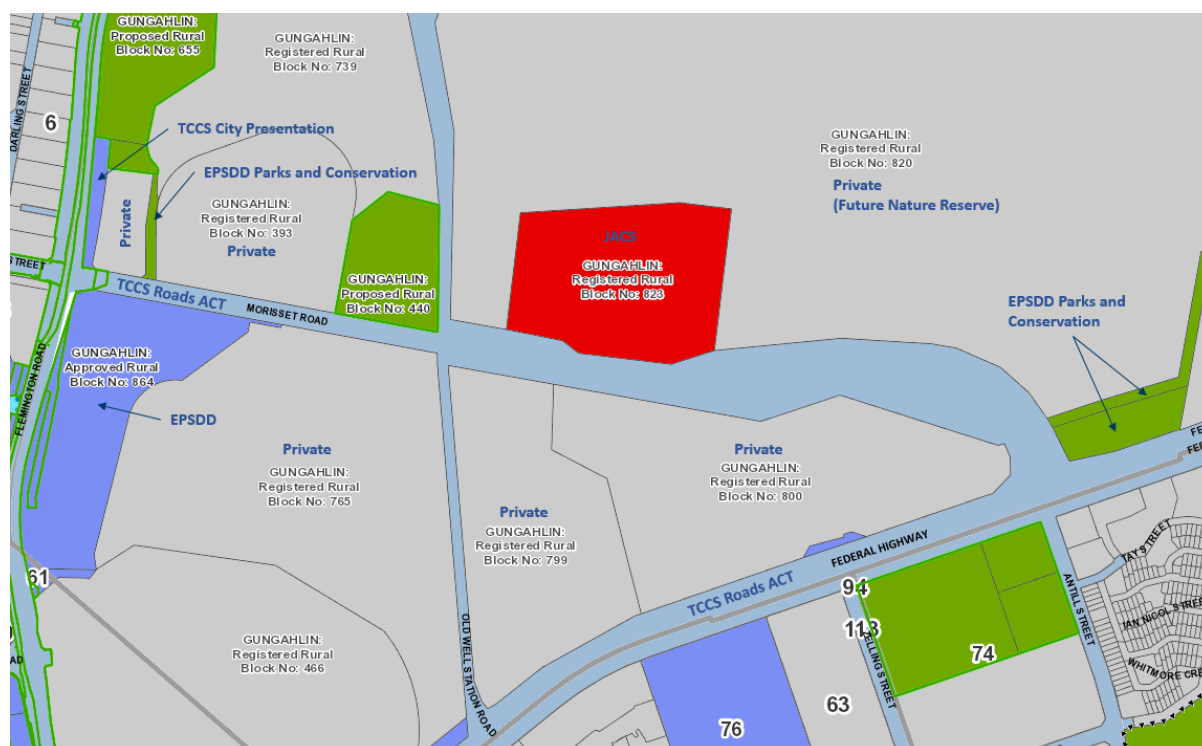


Figure 3-2 Map of Associated Blocks

3.4 Existing Environment

3.4.1 Landscape Setting & Geology

The general topography of the site gradually slopes from east (Federal Highway) to west (Flemington Road) from approximately 607 m Australian Height Datum (AHD) to 583 m ADH. The area is primarily modified pasture with some scattered trees. Sullivans Creek bisects the proposal west of Old Well Station Road.

Reference to the Canberra 1:100 000 Geological Series Sheet indicates that the site is underlain by the Canberra Formation of Early Silurian age to the east of Old Well Station Road and underlain by alluvium of Quaternary age to the west of Old Well Station Road. The Canberra Formation typically comprises of mudstone, siltstone, minor sandstone, limestone, hornfels, dacitic ignimbrite, and volcanoclastic sediments. The alluvium of Quaternary age typically comprises of gravel, sand, silty clay and black organic clay.

3.4.2 Biodiversity

VEGETATION COMMUNITIES

The environment in the proposal area and adjoining land has been subjected to a high degree of disturbance and modification, including:

- extensive tree clearance to 'open up' the land for early pastoralism;
- periodic pasture improvement (i.e. sowing of exotic grasses and herbs, often with superphosphate application);
- prolonged periods of set stock grazing;
- infestation and proliferation of exotic weeds; and
- more recently, clearance for developments such as the existing Morisset Road, EPIC, a landscaping yard, and the Bimberi Youth Justice Centre.

The result of this disturbance and modification is that much of the natural vegetation has been entirely cleared, and that which remains persists in relatively degraded forms. Notwithstanding this, a few patches in the proposal area are characterised by vegetation which retains key components of the pre-European ecological communities. As such, Capital Ecology was commissioned during spring 2020 to undertake detailed assessment and mapping of the vegetation in the proposal area. The preliminary results of this assessment informed the EPBC Act referral submitted in November 2020 and will be finalised to inform the EPBC Act controlled action assessment and the ACT P&D Act EIS.

Based on the Capital Ecology vegetation assessment, and as shown in the attached Preliminary **Figure 3-3** - Vegetation Mapping, the proposal area contains the following two Plant Community Types (i.e. natural pre-European vegetation communities).

- PCT ACT01 Tablelands Dry Tussock Grassland. This naturally treeless grassland community occurs from the eastern side of the Bimberi Youth Justice Centre to the western end of the proposal area (at Flemington Road). The degree of modification of this PCT in the proposal area has been particularly high with most of it either cleared or now characterised by a clear dominance of exotic pasture species and weeds. A few patches retain marginal dominance of disturbance tolerant native grasses, however the diversity in these patches is very low and they are most accurately referred to as native pasture.

Note: There is the potential that portions of the proposal area mapped as ACT01 may have once been more closely aligned with either ACT03 Moist Tussock Grassland or ACT04 Wet Tussock Grassland. However, the very high degree of modification means that insufficient on-ground evidence remains to inform any meaningful attempt to distinguish between these specific grassland associations. Accordingly, the entire area of historical grassland has been mapped as PCT ACT01 which would have been the more widely occurring association.

- PCT ACT16 *Eucalyptus melliodora* – *E. blakelyi* Tableland Grassy Woodland. This open grassy woodland community occurs from the eastern side of the Bimberi Youth Justice Centre to the eastern end of the proposal area (at the Federal Highway). The remnant trees have been historically cleared from most of this PCT in the proposal area, and much of the groundstorey is dominated by exotic pasture species and weeds. However, the proposal area directly adjoins the Kenny Conservation Reserve to the north and a portion of the large patch of remnant woodland occurring in the reserve extends into the proposal area. This patch contains scattered remnant Yellow Box *E. melliodora* and Blakely's Red Gum *E. blakelyi*, extensive natural regeneration of these trees, and a groundstorey dominated by native grasses.

As detailed in the below table, the above two PCTs occur as six discernible vegetation zones. One of these, PCT-ACT16 Zone 1, is consistent with the definition for the Box-Gum Woodland critically endangered ecological community as listed pursuant to both the EPBC Act and the NC Act.

Table 3-2 Native Vegetation Zones within the Proposal Area

PLANT COMMUNITY TYPE	VEGETATION ZONE	EPBC / NC ACT LISTED COMMUNITY?	AREA IMPACTED BY PROPOSAL
ACT01 Tablelands Dry Tussock Grassland	ACT01 Zone 1 - This zone occurs as a large patch in the Sullivans Creek retardation basin site, together with a thin band along the southern boundary to the south of the Bimberi Centre. The zone is characterised by a dominance of disturbance tolerant native grasses, notably Tall Speargrass <i>Austrostipa bigeniculata</i> , with low native forb diversity. The low-lying wetter areas support Tall Sedge <i>Carex appressa</i> and Austral Rush <i>Juncus australis</i> .	No	5.4ha
	ACT01 Zone 2 - This zone occurs throughout the remaining undeveloped areas of PCT ACT01 in the proposal area. The vegetation in this zone is highly modified with a clear dominance of exotic pasture species and weeds, together with a very low diversity of native species.	No	9.78ha
ACT16 <i>Eucalyptus melliodora</i> – <i>E. blakelyi</i> Tableland Grassy Woodland	ACT16 Zone 1 This zone comprises the portion of the large patch of remnant woodland occurring in the adjoining reserve which extends into the proposal area. This patch contains scattered remnant Yellow Box <i>E. melliodora</i> and Blakely's Red Gum <i>E. blakelyi</i> , extensive natural regeneration of these trees, and a groundstorey dominated by native grasses with low native forb diversity.	Yes – EPBC Act Yes – NC Act	2.14ha
	ACT16 Zone 2 – This zone comprises a few very small patches and supports the same low diversity groundstorey as Zone 1, however the remnant trees and regeneration are absent.	No – EPBC Act Yes – NC Act	0.26ha
	ACT16 Zone 3 – This zone comprises a few small patches in the eastern portion of the proposal area, together with the area in the Federal Highway road reserve in the eastern extent of the proposal area. This zone supports scattered remnant woodland trees and natural regeneration, however the groundstorey consists almost entirely of exotic species, notably Phalaris <i>Phalaris aquatica</i> . The portion of Zone 3 located in the Federal Highway road reserve contains many planted native trees and shrubs, a component of which are Yellow Box, Blakely's Red Gum, and other locally indigenous species.	No – EPBC Act Yes – NC Act	1.26 ha
	ACT16 Zone 4 – This zone comprises the rest of the eastern portion of the proposal area for which the PCT is ACT16. Zone 4 supports the same exotic dominant groundstorey as Zone 3, however the remnant trees and regeneration are absent.	No	8.07 ha
		TOTAL	26.91 ha

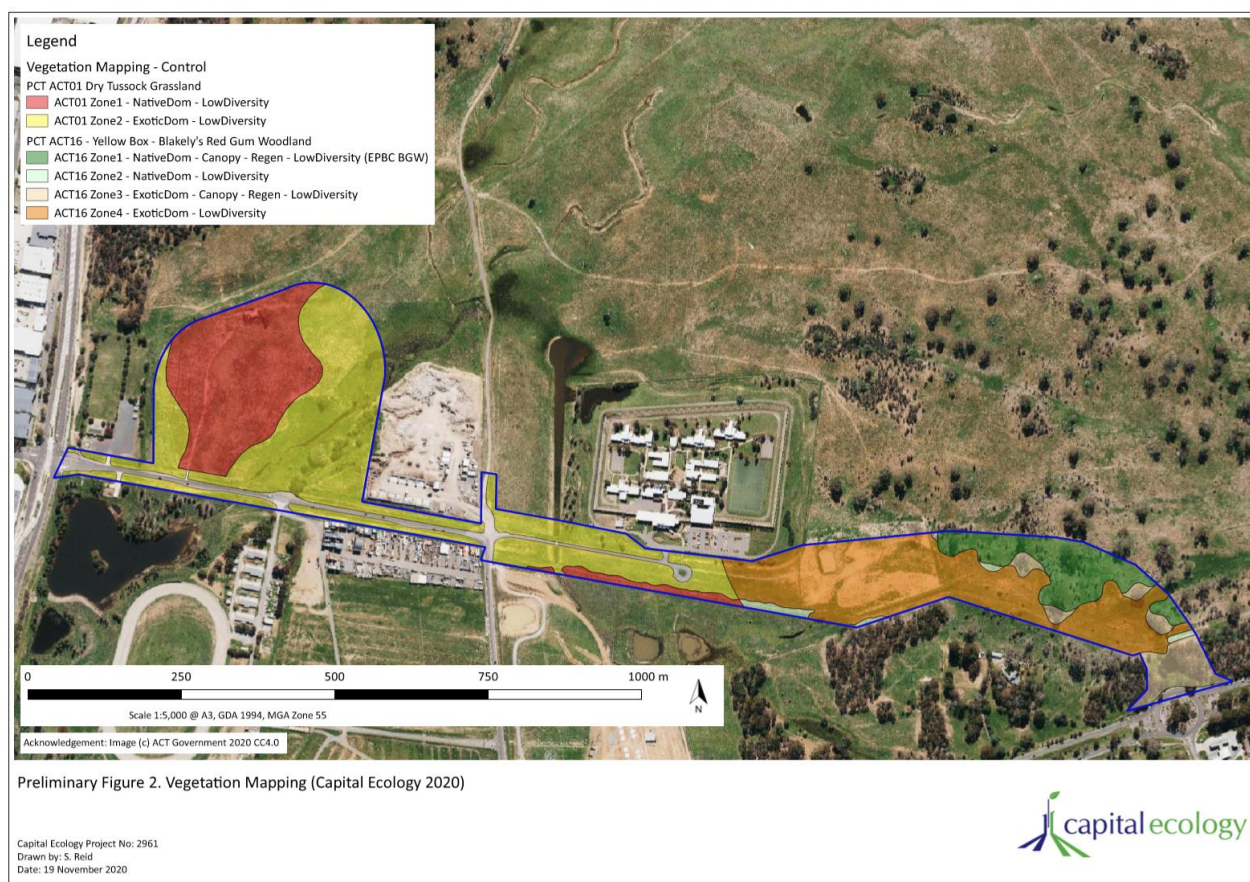


Figure 3-3 Vegetation Mapping (Capital Ecology 2020)

THREATENED SPECIES

A review of the EPBC Act Protected Matters Search Tool (PMST) and ACTmapi indicates that numerous EPBC Act and/or NC Act listed threatened flora and fauna species have the potential to occur in the locality of the proposal area.

However, as discussed in the EPBC Act referral, most of the species with the potential to occur in the locality are highly unlikely to occur in the proposal area due to the type and condition of the habitat present. Furthermore, for the majority of those species that may occur, the potential value of the habitat in the proposal area is likely to be limited to intermittent foraging. However, the proposal area was identified by Capital Ecology as having moderate to high likelihood of containing potentially significant habitat for the following species. Accordingly, targeted surveys were undertaken for each of these species across spring 2020, the results of which are summarised as follows.

- Golden Sun Moth *Synemon plana*. As shown in Preliminary **Figure 3-4** – Golden Sun Moth Surveys, a program of four targeted Golden Sun Moth surveys was undertaken during the November–December 2020 flying season. The surveys covered all the potential habitat in the proposal area and identified the species along the band of Zone 1 of both PCT ACT01 and PCT ACT16 (native dominant groundstorey) to the south of the Bimberi Youth Justice Centre. Accordingly, this area has been classified by Capital Ecology as confirmed Golden Sun Moth habitat.
- Striped Legless Lizard *Delma impar*. As shown in Preliminary **Figure 3-5** – Striped Legless Lizard Surveys, a program of roof tile surveys was undertaken over ten weeks from September to December 2020. Eight tile grids (400 tiles in total) were placed in a manner that sampled each of the patches of characteristically suitable habitat (i.e. sufficient tussock structure of either native or exotic dominance) in the proposal area. The Striped Legless Lizard was recorded at six of the grids, and, based on this and previous surveys, the associated habitat patches have been classified by Capital Ecology as confirmed habitat for the species.

- Superb Parrot *Polytelis swainsonii*. A program of targeted surveys was undertaken across the 2020 spring nesting season to assess the current utilisation of the woodland habitat in the proposal area by the Superb Parrot. This involved weekly inspections of the remnant trees in the proposal area and immediately adjoining portions of the Kenny Conservation Area, recording the birds present and their activities (i.e. nesting or limited to foraging). Small flocks of Superb Parrots were regularly observed flying over the proposal area, some of which were also observed foraging in the remnant and planted eucalypts, however no evidence of current nesting activity was observed.
- Hoary Sunray *Leucochrysum albicans* var. *tricolor*. A program of targeted flora surveys was undertaken by Capital Ecology across the 2020 spring flowering season. This included thorough searches for the threatened flora species with the potential to occur in the proposal area, together with the development of an inventory of all species recorded. No Hoary Sunray, or any other threatened flora species, was identified in the proposal area. These results provide a high level of confidence that the proposal area does not support any threatened flora species.

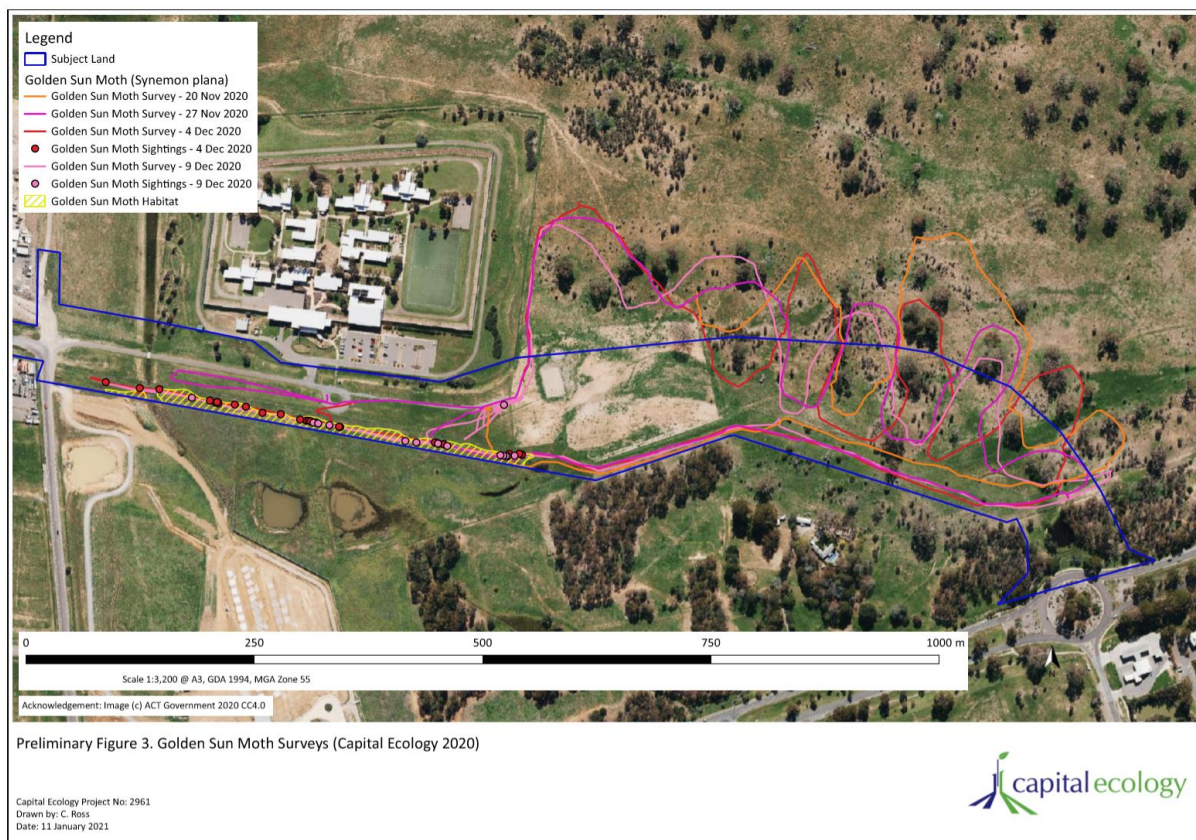


Figure 3-4 Golden Sun Moth Surveys (Capital Ecology 2020)

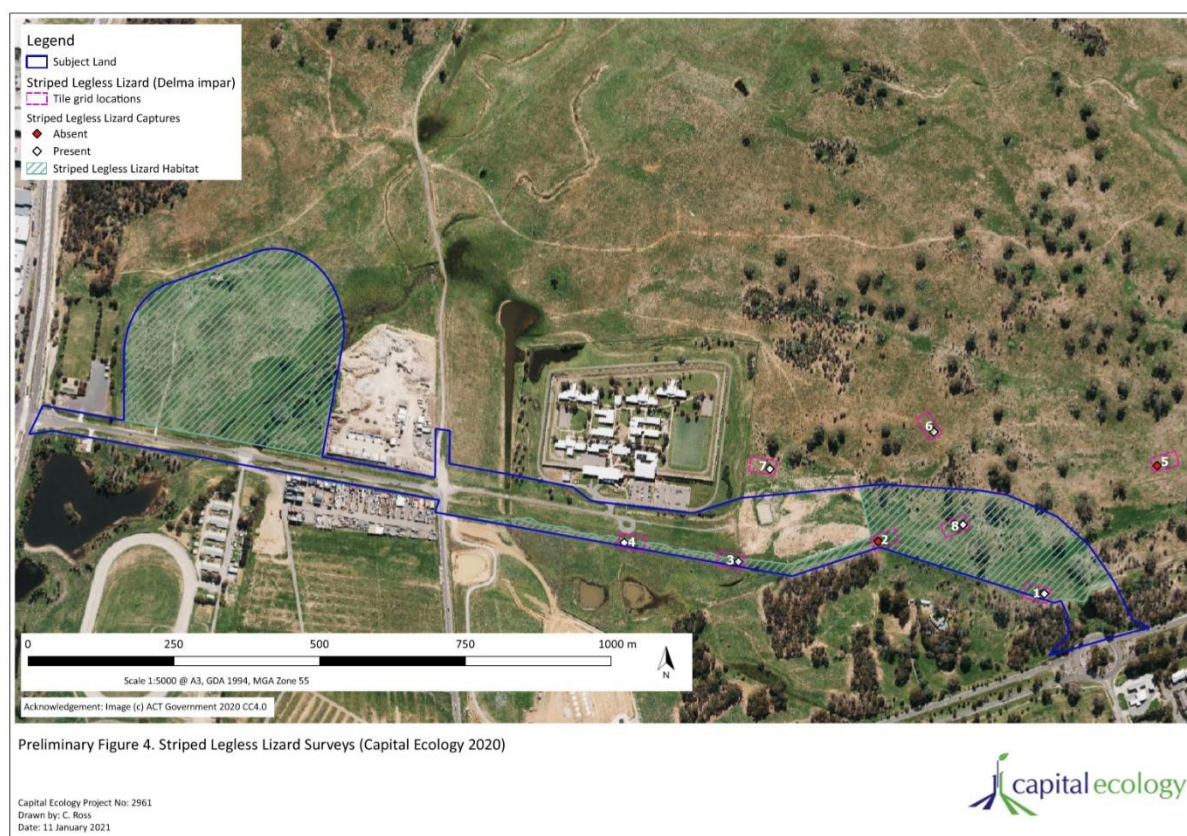


Figure 3-5 Striped Legless Lizard Surveys (Capital Ecology 2020)

3.4.3 Heritage

The project area is within a region identified as part of the Ngunnawal language group. A Cultural Heritage Assessment (CHA) has been prepared for the project by Advitech Environmental Pty Ltd (2020). The CHA determined that there are no registered heritage items within the proposed footprint of the project. One artefact has been registered to the north of the proposed road alignment and away from the intended works area. Two additional potential archaeological deposit (PAD) sites were located on a block that will have some minimal works conducted on it. However, the proposed works are not located near the PAD sites and the project is not expected to impact the PADs. The CHA determined that the current footprint of the project does not have the potential to directly impact other known heritage items.

The project will connect into the existing alignment of Old Well Station Road that is noted to have low to moderate historical significance (Biosis 2012). Further modification of Old Well Station Road through the Morisset Road intersection would not change the nature of the existing road, provided no changes are made to the alignment. Gungaherra Station, Gungahlin Grassland and Gungahlin Hill, and Wells Station Group (homesteads and associated buildings) are also in the vicinity of the project area, but they are outside of the limits of work and will not be impacted by the project.

3.4.4 Contaminated Land

A Preliminary Site Investigation (PSI) was completed in July 2020 by Douglas Partners. The PSI consisted of a site history review and site walkover, and resulted in the identification of seven Potential Areas of Environmental Concern (PAEC). These are summarised in the table below.

Table 3-3 PAEC Identified During PSI

PAEC#	IDENTIFIED FROM	DESCRIPTION	COMMENT
1	1975-2014 Aerials	Disturbed ground from road construction	Disturbed ground and the possible placement of fill were noted in the 1975 - 2014 aerials around

PAEC#	IDENTIFIED FROM	DESCRIPTION	COMMENT
2	Aerials	Unsealed roads	where Morisset Road and Flemington Road had been developed. Unsealed roads were observed across the site upon review of the aerials
3	1985 Aerial and Contaminated Land Search	Disturbed ground from landfill	Disturbed ground from the historical uncontrolled builder's spoil landfill was observed upon review of the 1985 aerial. Subsequently, the contaminated land search letter from the EPA states that part of Block 393 Gungahlin was used as a historical builders' spoil landfill.
4	1995 Aerial and Historic Titles Search	Small building and two radio towers	A small building and two radio towers were observed upon review of 1995 aerial photographs. Historical titles search indicated the land was leased by Radio Canberra Pty Ltd from 1985. Buildings/structures constructed from mid-1980's to 1990 are likely to have asbestos containing materials (ACM)
5	Site Walkover	Fill pad	The 2CA radio station building appeared to be built upon a fill pad
6	Aerials and Site Walkover	Service station	A service station is located approximately 100 m south-east from the easternmost portion of the site. No records have been made available of whether the service station could be a potential source of contamination in the area.
7	Previous Investigations	Fill	Fill was encountered in DP's geotechnical investigations from 2009 to 2020 within the road and road embankments.

3.4.5 Hydrology

Sullivans Creek bisects the proposal area west of Old Well Station Road. The creek flows from North to South, originating in Goorooyarro Nature Reserve to the North and emptying into Lake Burley Griffin.

Immediately upstream of Morisset Road, Sullivans Creek exists as a wide, shallow channel with vegetation similar to the surrounding grasslands. The creek passes through the existing Morisset Road via a pipe culvert of approximately 0.9m diameter. Downstream of the road, the creek channel becomes deeper, with some evidence of erosion likely attributable to increased water velocity through the culvert (Cardno 2011).

The catchment for Sullivans Creek upstream of the proposal area includes areas to the north east of Horsepark Drive in Goorooyarro Nature Reserve, all areas in the future Kenny Residential Development and Kenny Conservation Areas, flows off Mt Majura to the direct east of the future Kenny Residential Development and Kenny Conservation areas, the Harrison 4 Development (a small development to the immediate north West of the Kenny Development Area, north of Well Station Drive), and the paddock between the Kenny Conservation area and Flemington Road.

A notable feature of the catchment is the "pedoderm" in the alluvial plain between Horse Park Drive and Morisset Road. The pedoderm is a shallow aquifer, notable because of its ability to absorb rainfall runoff, contributing to the overall catchment storage with an unusually high infiltration capacity (SMEC 2018).

4. Legislative Context

4.1 Planning and Development Act

The majority of the project is located within land designated as a Future Urban Area (FUA) under the Territory Plan. The notional zoning is Broadacre (NUZ1), Hills Ridges & Buffers (NUZ3) and Residential (R1), however these are likely to be updated and refined based on the outcomes of the Gungahlin Strategic Assessment. Future Urban Areas do not have an associated development table under the *Planning and Development Act* (2007); however, development projects can still trigger the requirement for an EIS (Impact Track Development Application) under Schedule 4 of the P&D Act.

The relevant Schedule 4 EIS triggers are listed in the table below. The table does not include items under Schedule 4 Part 4.2 (Activities) as none are applicable to the proposal.

Table 4-1 Planning and Development Act EIS triggers under Schedule 4 Part 4.3 – Areas and Processes

EIS TRIGGER	APPLICABILITY
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 dependant species; (e) A regionally threatened species; (f) A regionally conservation dependant 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.	<u>Applicable</u> The proposal has the potential to impact on: i. Vulnerable species: Striped Legless Lizard ii. Various Threatened woodland bird species. iii. Critically Endangered species: Golden Sun Moth iv. Critically Endangered ecological community White Box-Yellow Box-Blakely's Red Gum Grassy Woodland
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.	<u>Applicable</u> Of the 26.9 ha of vegetation estimated to be impacted by the proposal, 9.06 ha is native-dominated.
Proposal for development in a reserve, unless- (a) the conservator of flora and fauna produces an environmental significance opinion that the proposal is not likely to have a significant adverse environmental impact; or (b) the proposal is for minor public works to be carried out by or for the Territory in accordance with a minor public works code approved by the conservator of flora and fauna under the Nature Conservation Act 2014, section 318A.	<u>Potentially Applicable</u> The recently submitted DV379 has proposed the Kenny Environmental Offset site to the north east of the Morisset Road/Old Well Station Road intersection. The boundary of the proposed Kenny Environmental Offset site overlaps with a small section of the works proposed as part of this development, namely the small section of Old Well Station Drive to be

EIS TRIGGER	APPLICABILITY
	upgraded to the north of Morisset Road. Early communication and comment on DV379 has indicated that the proposed boundary of the Offset site is likely to be adjusted prior to the final formalisation of the offset area, to allow the proposed Morisset Road works to be completed without impact on the new reserve. However, should the reserve boundary not be adjusted as anticipated, the limit of works for the Morisset Road proposal will be adjusted south so as not to encroach into the nature reserve. And so, while the current project footprint encroaches into the newly created Kenny Environmental Offset Site, the final design will not impact the reserve.
proposal that is likely to have a significant adverse environmental impact on— (a) a domestic water supply catchment; or (b) a water use purpose mentioned in the territory plan (water use and catchment general code); or (c) a prescribed environmental value mentioned in the territory plan (water use catchment general code) of a natural waterway or aquifer	<u>No applicable</u> The works are not in a domestic water supply catchment. The works are in the urban area as identified in Figure 1 of the Water Use and Catchment General Code. There are no policies in the code for urban areas.
proposal that is likely to result in environmentally significant water extraction or consumption, other than a proposal for an urban lake, pond or retardation basin or a wastewater reuse scheme...	<u>Not applicable</u> The project will not result in water extraction.
proposal that is likely to have a significant adverse impact on the heritage significance of a place or object registered under the Heritage Act 2004, unless...	<u>Not applicable</u> Refer to heritage review work undertaken to date.
proposal involving land included on the register of contaminated sites....	<u>Not applicable</u> No blocks within the project footprint are listed on the register of contaminated sites.
proposal, other than on land in an existing urban area or land that is designated under the territory plan as a future urban area, with the potential to adversely affect the integrity of a site where significant environmental or ecological scientific research is being conducted by a government entity, a university or another entity prescribed by regulation	<u>Not applicable</u> The works are within FUA

4.2 Other Relevant Legislation

Tree Protection Act 2005 – Protects registered or regulated trees from removal. Three registered trees occur close to the proposal site (reference numbers PTR169, PTR170, PTR171). These trees are a Blakelyi's Red Gum (*Eucalyptus blakelyi*) and two Yellow Box (*E. melliodora*).

These trees were registered with the intent to preserve them during future development in the suburb of Kenny. The trees in the Kenny area are excellent representatives of the dominant Eucalypts in the Yellow Box/Red Gum Grassy Woodland community, and the specific trees selected for registration also represent some of the largest specimens within the built-up urban area of the ACT. They contribute positively to the surrounding landscape due to their large size and good form.

These trees are outside the proposal footprint and will not be removed or altered.

Water Resources Act 2007 – A Waterway Works Licence will be required for the works within the Sullivans Creek water way. This will be administered by the Environmental Protection Authority (EPA) and can require

actions to protect the waterway. These actions would be integrated into the Construction Environment Management Plan (CEMP).

Environment Protection Act 1997 – An environmental protection agreement for the works will also be obtained from the EPA. Any actions relating to this agreement would be incorporated into the CEMP.

Nature Conservation Act 2014 – A licence to remove native vegetation will be required for vegetation clearing within the project footprint.

4.3 Decisions under the EPBC Act

An EPBC referral was submitted on 1st Nov 2020 to the Commonwealth DoEE for consideration based on potential impacts to Box Gum Woodlands, Striped Legless Lizard, Superb Parrot, and Golden Sun Moth (EPBC referral 2020/8822). The referral response was received on 30th Nov 2020, which found the proposed Morrisset Road upgrade to be a controlled action, requiring assessment under the EPBC Act. The project is to be assessed by preliminary documentation. On the 14 December 2020 advice was provided in accordance with Section 95A(2) of the EPBC Act outlining the preliminary information required which included:

- A detailed description of the proposed action
- Information in relation to the following threatened species and ecological communities
 - White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland (BGW)
 - Striped Legless Lizard (*Delma impar*)
 - Golden Sun Moth (*Synemon plana*)
 - Superb Parrot (*Polytelis swainsonii*)
 - Regent Honeyeater (*Anthochaera phrygia*)
 - Grassland Earless Dragon (*Tympanocryptis pinguicolla*)
 - Pink-tailed Worm-lizard (*Aprasia parapulchella*)
- Economic and social impacts

The proposed Morrisset Road upgrade is not eligible to be assessed under the ACT's bilateral agreement with EPBC as a portion of the project footprint impacts the Federal Highway road reserve.

5. Natural Conservation Values

Form 1M Section 9 states that the EIS Scoping Document Application supporting documentation must include “a description of the natural conservation values of the site based on the considerations listed in the “Preparation of an application for scoping and preparation of an ESO” guideline document.

That document has since been replaced with the “Proponent’s Guide to Environmental Impact Statements” (ACT Government, 2020). As such, the following sections provide response in line with the natural conservation values described in the *Proponent’s Guide*.

5.1 Existing Processes and Natural Systems

Is the location important in maintaining existing processes or natural systems of the ACT?

The proposal location is primarily modified agricultural land with some areas of existing roadway and road verges, and would not be considered important to any existing processes or natural systems in the ACT.

The retardation basin in Sullivans Creek will reduce the flow rate downstream during heavy rainfall events, this will also reduce the flow rate into the Flemington Wetland during rainfall events. The basin will not, however, impact on the total volume of water flowing downstream, only its release rate. Therefore, the hydrology of the wetland, and Sullivans Creek downstream of the basin is not expected to be impacted.

5.2 Diversity of Flora, Fauna or Landscape

Is the location important in exhibiting unusual richness of diversity of flora, fauna or landscapes?

The vegetation throughout the proposal area is overall low in species diversity and is significantly impacted by exotic species. The areas of native vegetation – primarily along Sullivans Creek and the Box-Gum Woodland adjacent to the Federal Highway – are also impacted by exotic species. These vegetated areas are home to a low variety of both native and exotic fauna species.

5.3 Uncommon Communities, Landscapes or Phenomena

Is the location important in its possession of uncommon, rare or endangered flora, fauna, communities, natural landscapes or phenomena?

The proposal location is home to the vulnerable Striped Legless Lizard and the critically endangered Golden Sun Moth as described in **Section 3.4.2** above, as well as providing potential low-quality foraging and transiting habitat for the threatened woodland bird species the Superb Parrot. Additionally, the critically endangered Yellow Box – Red Gum Grassy Woodland ecological community is located primarily in the area where the proposed Morisset Road upgrade joins the Federal Highway. The woodland is of moderate quality and currently highly impacted by exotic species, however this woodland provides some broad habitat connectivity to the larger high-quality woodland reserves in Mount Majura and Goorooyarroo Nature Reserve.

When considering the context of the broader area, the Sullivans Creek habitat corridor and the future Kenny Offset Area would be considered highly important to the resident population of Striped Legless Lizard, particularly as the community of Gungahlin continues to be developed. However, when considering the project footprint specifically, the impacted areas would not be considered important for its possession of rare or endangered flora, fauna, or landscapes.

5.4 Landscape and Ecosystem Characteristics

Is the location important in demonstrating the principal characteristics of the range of landscapes, environments or ecosystems, the attributes of which identify them as being characteristic of their class?

The site would not be considered important in demonstrating the principal characteristics of any landscapes, environments or ecosystems. Its characteristics are typical of a modified agricultural area and road corridors within the broader Gungahlin area.

5.5 Information Resource

Is the location important for information contributing to a wider understanding of the ACT's natural history, by virtue of its use as a research site, teaching site, type locality, reference or benchmark site?

The site is not a research, teaching, reference or benchmarking site.

6. Preliminary Risk Assessment

The Preliminary Risk Assessment (PRA) is conducted to identify potentially significant risks associated with the proposed project that will need to be mitigated and managed, both during the construction and eventual operation of the road. A matrix methodology is used to assess the risks, which follows the process recommended in the *Proponent's Guide*.

The key risks identified in the PRA are related to biodiversity risks, and are summarised below:

- Vegetation clearing including removal of 3.66 ha of Box-Gum Woodlands listed under the NC Act, of which 2.14 ha is also listed under the EPBC Act.
- Potential direct impact to the Striped Legless Lizard population within the project area
- Potential habitat loss for Golden Sun Moth and other threatened species that may forage in the area
- Potential fragmenting of movement corridors for threatened species

Identified risks and subsequent avoidance and mitigation measures will be addressed in full in the EIS.

6.1 Methodology

Identifying Possible Impacts and Assessing Significance

Potential impacts associated with the proposal are identified through a number of resources, including review of the previous EIS for the road extension, feasibility studies, preliminary drawings, and other existing reports and background information for the proposal; review of EIS and scoping documents for similar recent projects in the ACT; and consultation with agencies and other stakeholders.

According to the *Proponent's Guide*:

"Identifying possible impacts requires the consideration of all of the likely activities that will be involved in the construction, operation and decommission of the project with further consideration given to all the impacts that these activities could lead to"

Identification and management of potentially significant impacts is the key driver behind the EIS process. Measuring significance, however, has the potential to be subjective, given the dependence on context, and the likelihood of impacts to be interlinked. To avoid undue subjectivity in our assessments of significance, we follow the guidance provided in Section 124A of the P&D Act:

"An adverse environmental impact is significant if the environmental function, system, value or entity that might be adversely impacted by a proposed development is significant; or the cumulative or incremental effect of a proposed development might contribute to a substantial adverse impact on an environmental function, system, value or entity.

In deciding whether an adverse environmental impact is significant, the following matters must be taken into account:

- *the kind, size, frequency, scope and length of time of the impact; and*
- *the sensitivity, resilience and rarity of the environmental function, system, value or entity likely to be affected.*

In deciding whether a development proposal is likely to have a significant adverse environmental impact it does not matter whether the adverse environmental impact is likely to occur on the site of the development or elsewhere."

Evaluating Likelihood

The likelihood of an impact occurring is assessed in terms of probability. Each impact is assigned a likelihood on a scale from "remote" probability to "almost certain" probability. The table below lists and describes the likelihood categories set out in the *Proponent's Guide*.

Table 6-1 Evaluating likelihood for the risk assessment

LIKELIHOOD	DESCRIPTION	PROBABILITY
Remote	May occur in exceptional circumstances	<1%
Unlikely	Not expected to occur in most circumstances	1-20%
Possible	May occur	21-49%
Likely	Probably will occur	50-85%
Almost Certain	Expected to occur	>85%

Evaluating Consequence

The consequence of each potential impact is assessed on a range starting from “minimal” and ending with “catastrophic”. The consequence assigned to each potential impact is based on the *reasonably foreseeable consequence* of each impact identified.

The evaluation of consequence is assessed with some inherent subjectivity, as consequences can consist of several interrelated elements. The first table below is derived from the *Proponent’s Guide* and lists a range of these elements which should be considered in the PRA. The second table uses these same elements to expand upon the consequence scores (“minimal” through to “catastrophic”) through a range of examples.

Table 6-2 Elements to consider when evaluating consequence for the risk assessment

ELEMENT	DESCRIPTION
Spatial	The area over which the impact will occur, from small (square metres) to large (square kilometres).
Intensity	The level of impact within the spatial area, from minor disruption to total destruction. A low intensity impact over a large area could be worse than a high intensity impact in a small area, depending upon other elements.
Duration	The length of time of the impact, from a single event to a permanent change.
Timing	Short term events may create significant impacts if they occur often. They may also coincide with particularly sensitive times in the receiving environment such as breeding cycles.
Values	The quality of the receiving environment, generally identified through the declaration of conservation areas, identification of protected species and other features of natural conservation value.
Sensitivity	The capacity of the receiving environment to regenerate or adapt to the impact (resilience). The sensitivity of an environment to a potential impact will require informed judgement.
Number of People	The number of people directly or indirectly affected through lost opportunities for enjoyment or other values such as equity or existence values.
Heritage	The impact on known or possible items of heritage or cultural value.
Political	The measure of the likely political implications or level of community interest.
Economic	The financial cost of the impact through lost productivity or the cost of remediation.

Table 6-3 Evaluating consequence for the risk assessment

ELEMENT	MINIMAL	MINOR	MODERATE	MAJOR	CATASTROPHIC
Spatial	A single point	< 0.5ha	> 0.5ha, but < 20ha	> 20ha	> 500ha
Intensity	Low level behavioural, lifespan or condition effect	Acute impacts on some species	Moderate impacts on growth, recruitment or survival rates	Lethal impacts on some species	Lethal for individuals or communities
Duration	Single incident or transient event	Short term impact, single generation	Medium term	Long term, multiple generations	Permanent

ELEMENT	MINIMAL	MINOR	MODERATE	MAJOR	CATASTROPHIC
Timing	Occurs outside breeding times	Occasional interruption of feeding or breeding	Interrupts one life cycle	Regularly interrupts life cycle	Permanent interruption of life cycle
Values	Previously disturbed areas	Parkland	Nature conservation area	Conservation area, listed species or other conservation feature of ACT significance	Wilderness, nationally threatened species or other conservation feature of national significance
Sensitivity	Will recover completely	Will recover with some changes	Moderate change to ecosystem functioning	Significant change to ecosystem functioning	Will not recover
Number of People	Some people indirectly impacted	Some people directly impacted or several indirectly	Several people directly impacted or many indirectly	Large number of people directly impacted	Loss of life
Heritage	Impact on item of minimal significance	Impact on multiple items of low significance	Impact on significant item	Impact on multiple significant items	Major impact on protected item
Political	Single negative press article	Multiple negative press articles	Significant public interest	Leads to an inquiry	Change of government
Economic	Minimal losses	Several thousand dollars in lost revenue or remediation costs	Half million dollars in lost revenue or remediation costs	One million dollars in lost revenue or remediation costs	Several million dollars lost revenue or remediation costs

Risk Matrix

Based on the assessments of likelihood and consequence as described above, any potential impacts can be assigned a risk rating. The table below presents the risk ratings as a matrix, with increased consequence from left to right and increasing likelihood from top to bottom. The combination of these likelihoods and consequences produce a risk rating on a scale of negligible to significant

Table 6-4 The risk matrix

Consequence	Minimal	Minor	Moderate	Major	Catastrophic
Likelihood					
Remote	Negligible	Negligible	Very low	Low	Medium
Unlikely	Negligible	Very low	Low	Medium	High
Possible	Very low	Low	Medium	High	Very high
Likely	Low	Medium	High	Very high	Significant
Almost Certain	Medium	High	Very high	Significant	Significant

As described in the *Proponent's Guide*, the EIA process is designed to address potentially significant impacts. As the risk assessment process includes some subjectivity and uncertainty, it is reasonable to expect that the EIS would address risks that are identified as Medium and above.

The risk assessment has been prepared on the basis that the project will be the subject of a CEMP that will provide a mechanism to identify and adaptively manage response to environmental risks. As a result, the risks discussed are those that relate to a failure of 'business as usual' environmental controls.

6.2 Risk Assessment

Table 6-5 Preliminary Risk Assessment

RISK		COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
1.0 Traffic					
1.1	Increased road traffic on Morisset Road resulting in impacts to sensitive receivers	Increased traffic from construction vehicles, machinery, site employee vehicles will cause increased traffic through the area and may result in temporary traffic delays.	Possible	Minor	Low
1.2	Damage to existing road infrastructure from construction or delivery vehicles	Construction machinery may cause accidental damage to the existing roads and road infrastructure in the area. As the existing road will be replaced as part of the project, any impacts from accidental damage are likely to be negligible.	Unlikely	Minimal	Negligible
1.3	New road connection results in traffic changes to surrounding suburbs – causing disturbance to sensitive receivers	The connection of Morisset Road to the Federal Highway will create a new access point to the southern Gungahlin area, which may change traffic flow through surrounding suburbs.	Possible	Minor	Low
1.4	Temporary traffic lane closure on Federal Highway resulting in significant delays to road users	Temporary changes to traffic on Federal Highway may be needed when constructing the connection to Morisset Road. This may potentially lead to traffic delays along the Federal Highway.	Unlikely	Minor	Very low
1.5	After completion – use of Morisset road as a heavy vehicle route - resulting in impacts to sensitive receivers	Heavy vehicles along Morisset Road can cause changes to traffic flow and increase wear-and-tear on the road. However, the road upgrade has been designed as a heavy vehicle route, which will divert heavy vehicle traffic from other, more sensitive areas.	Unlikely	Minor	Very low
1.6	Change of traffic conditions resulting in increased traffic incidents	The construction will result in a new exit on the Federal Highway roundabout, and a new signalised intersection at Morisset and Old Well Station Road, which may change the expected traffic conditions for regular commuters.	Unlikely	Moderate	Low
2.0 Utilities					

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
2.1	Excessive Energy demand during construction	Total energy demand in the increases beyond anticipated amounts during construction activities.	Unlikely	Minor	Very low
2.2	Excessive Water demand during construction	Increased water demand for construction activities exceeded expected amounts.	Unlikely	Minor	Very low
2.3	Pollution of stormwater during construction	Increased sediments and erosion generated during construction activities have the potential to impact stormwater quality. Use of chemical pollutants is not anticipated and therefore is unlikely to pose a risk to stormwater.	Possible	Minor	Low
2.4	Inadequate flood contingency arrangements leads to uncontrolled stormwater release	Significant rainfall during construction could lead to uncontrolled release of stormwater from the site.	Unlikely	Moderate	Low
2.5	Damage to existing utilities/interruption of service	A range of utilities [AAPT, electrical, gas, sewer, water, NBN, Nextgen, Lighting, Telstra, and Icon Comms] exist within the project footprint and may be affected during construction. Of particular sensitivity are the radio towers and associated infrastructure at the retardation basin site.	Unlikely	Major	Medium
2.6	Accidental striking of utilities results in injury/electrocution	Failure to follow standard procedures for excavation (ie: DBYD, service location, de-energising infrastructure) results in the unintended striking of utility services, particularly electrical, resulting in injury or electrocution to the worker.	Remote	Catastrophic	Medium
2.7	Proximity to Light Rail	The proposed upgrade will connect on to Flemington Road to the west, which hosts the Light Rail route to Gungahlin. Potential for construction traffic and activities to have unintended conflict with the Light Rail and its associated infrastructure.	Unlikely	Minor	Very low
3.0 Material Use and Waste					
3.1	Inappropriate generation, reuse, or disposal of waste	Inappropriate waste management procedures could result in release of pollution or contamination into the ground or water. Waste	Unlikely	Moderate	Low

RISK		COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
3.2	Excessive consumption of raw materials	management systems are required for all developments in the ACT. A significant quantity of raw materials and energy will be utilised by the project during construction. This is temporary and consistent with this type of infrastructure.	Unlikely	Minor	Very low
3.3	Dispersal of litter and other pollutants into the surrounding areas	Construction activities and future operation of the road could result in increased litter being released into the surrounding areas.	Likely	Minimal	Low
3.4	Inappropriate handling of toxic and hazardous materials leads to a pollution event.	Hydrocarbons and other potentially hazardous materials will be used onsite during construction. Accidental mishandling could result in pollution	Unlikely	Moderate	Low
3.5	Oil spill from padmount substation	The padmount substation will contain up to 518L of oil. If an oil leak/spill were to occur, the pollution would run into Flemington Ponds	Remote	Major	Low
3.6	Asbestos discovery	Unexpected discovery of asbestos or asbestos-containing materials could pose a health risk and delay the project.	Remote	Major	Low
4.0 Landscape and Visual Impacts					
4.1	Loss of vegetation results in loss of visual amenity	Clearing of vegetation, particularly trees, may reduce the visual amenity of the affected areas. As receivers will be experiencing the area while driving, any visual impacts will be very short term.	Possible	Minor	Low
4.2	Completion of roadway has a negative impact on visual amenity of the landscape	The proposal is within a modified agricultural landscape. It is not expected to significantly alter the visual amenity of the area. Landscaping will be designed to minimise impacts on the visual amenity of the existing area	Possible	Minor	Low
4.3	Inadequate screening for Youth Justice Centre	Vegetation screening is required between the road and Bimberi Youth Justice Centre. Inadequate screening could result in loss of visual amenity and negative stakeholder relationships with the Justice Centre.	Unlikely	Minor	Very low
5.0 Soils and Geology					

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
5.1	Discovery of unexpected contamination during construction	Previously unidentified contamination may be uncovered during construction activities.	Unlikely	Major	Medium
5.2	Failure of Erosion/Sediment control plan results in significant erosion	Vegetation clearance and any off-road construction traffic will increase the likelihood of erosion.	Unlikely	Moderate	Low
5.3	Soil compaction from heavy machinery outside the permanent project area	Soil compaction as a result of vehicle and equipment traffic beyond the project footprint may limit revegetation and disturb underground-reliant species such as the Golden Sun Moth, whose larvae feed exclusively on underground root systems.	Unlikely	Moderate	Low
5.4	Loss of topsoil through vegetation clearing and incorrect stockpiling	The clearing of topsoil may impact the seedbank as well as the soil nutrients available to the surrounding vegetation.	Unlikely	Minor	Very low
5.5	Poor soil quality of fill	If fill used during road construction is poor quality or improperly sourced, it may result in contamination of the surrounding soils or regulatory penalties.	Unlikely	Moderate	Low
6.0 Water Quality and Hydrology					
6.1	Interception and altered drainage regimes of groundwater and surface water	The project will not utilise groundwater resources, however, construction of the retardation basin is expected to alter surface water hydrology, by slowing the release of water into Flemington Ponds The project will not extend below ground to an extent which would impact the aquifers or sub-surface hydrology.	Likely	Minor	Medium
6.2	Failure to properly implement WSUD (water sensitive urban design) results in increased run-off from road surface has negative impact on water quality –	Pollutants from traffic utilising the completed roadway may impact surface water quality in the area during heavy rainfall.	Unlikely	Moderate	Low
6.3	Introduction of retardation basin at Sullivans Creek has negative impact on wildlife downstream	Construction of the retardation basin may result in downstream impacts on Sullivans Creek or Flemington Wetland. However, the majority of the downstream system is a constructed channel, and the ecological value of this area is considered minimal.	Possible	Minor	Low

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
6.4	Pollution in retardation basin results in low water quality	Pollution captured in the retardation basin may reduce the water quality downstream in Sullivans Creek.	Possible	Minor	Low
6.5	Pollution from construction vehicles	Unwashed construction vehicles may introduce pollutants and sediments onto the project site, which could impact water quality. Improper maintenance of vehicles could result in oil or mechanical fluid leaks, polluting the project area.	Possible	Minor	Low
6.6	Increased run-off of sedimentation during construction activities reduces water quality	Construction activities have the potential to generate sediments, which can run-off and pollute the surface water during rainfall events.	Possible	Minor	Low
7.0 Climate Change and Air Quality					
7.1	Failure of CEMP causes excessive generation of dust during construction reducing air quality	Construction activities are likely to generate dust and fumes which may negatively impact air quality in the surrounding area.	Unlikely	Minor	Very low
7.2	Project contributes to greenhouse gas emissions	Construction and operation of the project will contribute to greenhouse gas emissions. A more efficient transport system will reduce the impacts.	Likely	Minimal	Low
7.3	Operation of road as a heavy vehicle route decreases air quality of surrounding area	Increased heavy vehicle traffic in the area may reduce localised air quality due to vehicle emissions. However, this road will divert this heavy vehicle traffic from less suitable routes (i.e. those with more residential impacts or traffic lights) resulting in a net positive for air quality in those locations.	Possible	Minor	Low
7.4	Net loss of trees	Removal of trees for the project will result in the loss of these "carbon sinks", contributing to global warming. New trees will be planted as part of landscaping process post-construction	Likely	Minimal	Low
7.5	Flood modelling based on historical models doesn't allow sufficient factors of safety for future climate scenarios	Flood modelling for the project was based on historical models, and significant changes to weather as a result of climate change could result in the flood modelling becoming less accurate.	Remote	Moderate	Very low
7.6	Localised temperature increase from dark surfaces / vegetation clearing	The construction of a new roadway and shared use paths and the associated dark asphalt	Likely	Minimal	Low

RISK		COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
		surfaces may cause a localised increase in temperature due to radiation from the sun.			
8.0 Noise, Vibration, and Lighting					
8.1	Construction activities result in noise, vibration, and general disturbance to the public	The noise and vibration generated by the project may create a nuisance to the surrounding public. Given the generally agricultural surroundings, these disturbances are expected to be minimal.	Possible	Minor	Low
8.2	Construction noise, vibration and lighting has negative impact on fauna	Construction noise, vibration, and lighting can disturb local fauna, causing them to leave the area and potentially abandon foraging, breeding, or nesting sites.	Possible	Moderate	Medium
8.3	Construction lighting for night works has negative impact on nocturnal fauna	Bright lights to facilitate night works may disturb the behaviour patterns of nocturnal species, including threatened species such as the Grey-headed Flying-fox. Night works are scheduled to be minimal.	Unlikely	Minor	Very low
8.4	Increased street lighting throughout road upgrade	The road upgrade will result in increased street lighting, particularly at the Federal Highway Roundabout and the intersection with Old Well Station Road. This has the potential to disrupt nearby residents and fauna, although the surrounds are primarily agricultural.	Likely	Minor	Medium
8.5	Operation of the road: noise, vibration impacts	Once operational, the road will result in increased noise and vibration impacts to the surrounding areas, however modelling has indicated that this will remain below day and night threshold criteria.	Likely	Minor	Medium
9.0 Biodiversity and Nature Conservation					
9.1	Vegetation clearing results in the loss of Box-Gum Woodland	While the majority of the project area is disturbed grasslands, approximately 3.66 ha of Box-Gum Woodland listed under the NC Act will be cleared.	Almost certain	Major	Significant
9.2	Vegetation clearing results in loss of Striped Legless Lizard, Superb Parrot, and Golden Sun Moth habitats as well as potential foraging habitat for other threatened species	Clearing of vegetation will result in the loss of potential habitat areas for SLL, Golden Sun Moth, and other threatened species, as well as wildlife in general.	Almost certain	Major	Significant

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
9.3	Construction activities result in direct harm or death to SLL or other threatened species within the project footprint	Wildlife present in the project area may be inadvertently harmed by construction machinery.	Likely	Major	Very high
9.4	Creation of retardation basin results in temporary flooding of SLL habitat	SLL habitat may be damaged when heavy rains cause the retardation basin to fill, or individual SLLs may be caught in the inundated basin and drown.	Remote	Moderate	Very low
9.5	Retardation basin causes plant die-back when inundated for long periods of time	The retardation basin has been designed for maximum 8-hours of inundation; however longer-term submergence could result in death of vegetation.	Remote	Moderate	Very low
9.6	Failure to follow CEMP results in the unauthorised clearing of registered/protected trees	During construction, there is the risk that registered trees are unintentionally harmed.	Remote	Major	Low
9.7	Fragmentation of a habitat corridor	Box-Gum Woodland next to the Federal Highway acts as a potential movement corridor for wildlife, which may be disrupted by any tree clearing. Additionally, Morisset Road intersects the likely SLL movement corridor between the Kenny Offset Area and Block 799. Although this corridor is already interrupted by Morisset Road, the proposed upgrade will widen the road and result in increased traffic through the area.	Likely	Major	Very high
9.8	Failure of CEMP results in introduction of invasive species	Construction vehicles and future human activities could increase the spread of invasive pest species.	Unlikely	Major	Medium
9.9	Fauna mortality due to vehicle collision results in collapse of population of local species or communities	Fauna attempting to cross the upgraded roadway (both during construction and after) may be struck by vehicles	Remote	Major	Low
10.0 Heritage					
10.1	Unexpected impact on European cultural heritage places or objects	Unexpected impacts on Old Well Station Road could impact the historical alignment	Unlikely	Moderate	Low
10.2	Unexpected impact on Aboriginal heritage places or artifacts	Unexpected impacts on identified aboriginal heritage items, although outside the project footprint, have the potential to occur.	Remote	Major	Low

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
10.3	Unexpected discovery of heritage item not handled correctly following the Unexpected Find Protocol	Unexpected discovery or damage of a heritage item could result in accidental damage to the item and project delays.	Remote	Major	Low
11.0 Social					
11.1	Community interests not appropriately acknowledged and catered for	Lack of information provided to the public and to stakeholders may result in public dissatisfaction with the project and negative media attention.	Unlikely	Moderate	Low
11.2	Public comment during EIS process raises significant issues that delay release of the final EIS report	Unexpected issues raised by the public may delay the EIS report, causing delays to the project delivery.	Unlikely	Moderate	Low
11.3	Failure to adequately design recreational facilities, particularly for equestrian users	The design includes maintaining connection along an existing equestrian trail, however provision needs to be fit for purpose.	Unlikely	Moderate	Low
12.0 Health & Safety					
12.1	Accidental harm to the public during construction	Intrusion of members of the public onto the construction site may result in injury.	Remote	Major	Low
12.2	Accidental harm to the public during road operation / Traffic accidents	All operational roads present a degree of risk to the public from vehicle collision and road accidents.	Unlikely	Major	Medium
12.3	Cyclists on Federal Highway	After project completion, the new entrance/exit to the roundabout on the Federal Highway could pose a risk for cyclists travelling that route.	Unlikely	Major	Medium
12.4	Accidental drowning in retardation basin	When flooded, the retardation basin poses an accidental drowning risk	Remote	Major	Low
12.5	Dam failure	Failure of the berms on the retardation basin during a heavy rainfall event could result in a rapid release of large volumes of water downstream,	Remote	Major	Low
13.0 Economic Impacts					
13.1	Project exceeded budget	Unexpected costs could result in late delivery, incomplete delivery, and public dissatisfaction with the ACT Government.	Unlikely	Minor	Very low
13.2	Ongoing maintenance costs exceed expectations	Unexpected maintenance costs could result in improper upkeep of the road, resulting in safety risks and loss of visual amenity.	Unlikely	Minor	Very low
14.0 Compliance					

	RISK	COMMENTS	LIKELIHOOD	CONSEQUENCE	UNMITIGATED RISK
14.1	Failure to adhere to guiding documentation	Failure to follow limits on vegetation and habitat removal may result in penalties under the EPBC Act. Failure to follow the CEMP may result in unintentional environmental and safety impacts.	Unlikely	Major	Medium
15.0 Bushfire Risk					
15.1	Morisset Road is located in a Bushfire Prone Area	Morisset Road is located within an area highlighted by the ACT Government as at risk of bushfire. Bushfire in the area could disrupt the project and pose a safety risk to workers.	Unlikely	Moderate	Low
15.2	Failure to follow CEMP results in hot work during construction starting a bushfire	Hot work resulting in sparks could start a fire within the surrounding grasslands, particularly during hot, dry, and windy weather.	Remote	Major	Low
15.3	Vehicle accidents pose increase to bushfire risk	Road accidents, particularly those involving heavy vehicles, have the potential to start a bushfire.	Remote	Major	Low

7. Conclusion

The Morisset Road Upgrade and retardation basin is an important project for the connection of Canberra's freight network and the further development of the Gungahlin precinct. Given the existing landscape is primarily modified agricultural land, it is not expected that the project will pose a significant risk to heritage elements or visual amenity of the area. Additionally, social risks are expected to be minimal given the lack of nearby sensitive receivers and the existing roadway that covers half of the project footprint. The most significant risks posed by the project are related to biodiversity, with areas of Box-Gum Woodland present within the project footprint, as well as the confirmed presence of Striped Legless Lizard and Golden Sun Moth. These potentially significant risks need to be addressed in the EIS.

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Morisset Road Application for EIS Scoping Document Report_Rev01.docx

Appendix A Design Plans

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