



The Poplars Development, Jerrabomberra, NSW

Biodiversity Certification Assessment Report

Final 02 – 2 August 2023

Prepared for Poplars Developments Pty Ltd

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Prepared by: Sam Reid, Shannon Thompson, and Robert Speirs
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We acknowledge the Traditional Custodians of the land on which we work. We pay our respects to Elders past and present.

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Executive Summary

Poplars Developments Pty Ltd (Poplars Developments) is currently progressing the planning and approval process for the development of the remaining stages of the Poplars Development in Lot 1 DP1243031 and portions of Lot 1 DP1126721, Lot 6 DP1246134, and Lot 1 DP1263364 Jerrabomberra, NSW (the 'proposed development' of the 'subject land'). Capital Ecology Pty Ltd (Capital Ecology) has been commissioned by Poplars Developments to complete the necessary biodiversity surveys and prepare this Biodiversity Certification Assessment Report (BCAR) to identify and assess the significance of the impacts that the proposed development will have on the biodiversity values of the subject land.

Background

The property known as "The Poplars" occupies land to the north (known as the "North Poplars") and south (known as the "South Poplars") of Tompsitt Drive, Jerrabomberra, NSW. The ecological values of "The Poplars" property have been investigated since the early 1990s. Each study identified the western portions of the land as supporting significant ecological values and recommended conservation of the land, and each study also identified the eastern portions of the land as supporting highly degraded vegetation of little conservation significance and noted the suitability of the land for development. Consistent with these findings, the *Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013* (West Jerrabomberra LEP) allocated land to either conservation or development in a manner that protected the vast majority of the land supporting significant biodiversity conservation values. This land has since been formally conserved under two BioBanking Agreements.

Scope

Although general biodiversity values are identified and considered, the primary purpose of this BCAR is to present the results of Capital Ecology's application of the NSW Biodiversity Assessment Method 2020 (BAM) to assess the significance of the impacts of the proposed development on biota listed as threatened under the NSW *Biodiversity Conservation Act 2016* (BC Act).

This BCAR also includes the assessment of the potential impact of the proposed development on Matters of National Environmental Significance (MNES) listed pursuant to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Note that the impact of the Poplars Development on MNES (the 'proposed action') was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEW) on 28 September 2020 (EPBC Act Referral No. 2020/8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation). The proposed action was approved by DCCEW on 13 September 2021, subject to certain conditions.

The Subject Land and Development Footprint

As defined in the BAM, the subject land is "*land subject to a development, activity, clearing, biodiversity certification or a biodiversity stewardship proposal*". Accordingly, the subject land¹ for

¹ With reference to the biodiversity certification process, the subject land in this BCAR is equivalent to the 'biodiversity certification assessment area' (refer to Section 3.6).

this BCAR is 60.91 ha and encompasses the whole of Lot 1 DP1243031 and portions of Lot 6 DP1246134 and Lot 1 DP1263364, Jerrabomberra, NSW.

As defined in the BAM, the development footprint is “*the area of land that is directly impacted by a proposed development, including access roads and areas used to store construction materials. The term development footprint is also taken to include clearing footprint, except where the reference is to a small area development or a major project development*”. The 52.46 ha development footprint² for this BCAR therefore encompasses all of the land in “The Poplars” that is currently proposed for development, minus those areas that have already been approved for development (i.e. Environa Drive, the Poplars Innovation Precinct [Stage 1] and the Jerrabomberra High School).

Survey Overview

Vegetation and potential flora/fauna habitat were surveyed and mapped in accordance with the BAM. This involved the following nine ecological surveys performed by Capital Ecology between 27 September 2019 and 5 May 2022.

- Plant Community Type and Vegetation Zone assessment and mapping.
- BAM plots.
- A remnant tree survey.
- Threatened flora surveys via transect surveys, surveys of rocky areas, and opportunistic observations.
- Threatened bird surveys via areas searches and opportunistic observations.
- A fauna nesting survey via inspections of each tree for signs of fauna breeding in hollows or nests.
- A full program of targeted Striped Legless Lizard *Delma impar* surveys, involving 10 checks of 10 grids (50 tiles per grid) following methodology consistent with the Commonwealth guidelines.
- Surveys for the Pink-tailed Legless Lizard *Aprasia parapulchella* via an intensive rock turning survey consistent with the Commonwealth guidelines.
- A full program of targeted Golden Sun Moth *Synemon plana* surveys involving belt transects on four separate days following methodology consistent with the Commonwealth guidelines.

Results

Native vegetation

The subject land supports two Plant Community Types (PCT).

- PCT320 – *Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion.*

² With reference to the biodiversity certification process, the development footprint in this BCAR is equivalent to the ‘land proposed for biodiversity certification’ (refer to Section 3.6).

- PCT1334 – *Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion.*

Before European occupation, the whole of the subject land would have been characterised by an open grassy woodland PCT (i.e. PCT1334), merging with grassland lower in the landscape to the west (i.e. PCT320).

The subject land has been substantially modified by its current and past land use, which has primarily been grazing (sheep and cattle). Approximately 97% of the original woody vegetation (canopy, midstorey, and shrubstorey) has been historically cleared across the subject land to promote the pastoral productivity of the land. The areas which retain some of the original canopy occur as isolated paddock trees or small, scattered patches of vegetation. The majority of the subject land has been historically pasture improved and is dominated by exotic pasture grasses (especially *Phalaris aquatica*) and a variety of weeds. There is a severe infestation of Serrated Tussock *Nassella trichotoma* in the low-lying land in the south-western corner of the subject land.

Some portions of the groundstorey across the subject land have a dominance of native grasses and forbs; these areas are largely restricted to the northern section of the subject land, the northern boundary of the southern section, and the south-western corner of the southern section. However, the prolonged period of stock grazing combined with historic pasture improvement has greatly depleted the native species diversity in the groundstorey across these areas.

The riparian vegetation in the subject land is generally dominated by exotic species and only occurs around two dams that occur along the drainage line in the south-east of the subject land and the single dam that occurs in the northern most corner of the subject land.

The majority of the vegetation in the subject land is therefore largely characterised by an absent or low-density canopy of mature remnant eucalypts, an absent midstorey and shrubstorey, and a low diversity groundstorey dominated by disturbance tolerant native species or exotic grasses and weeds.

Finally, the subject land is bordered to the east and south-east by urban development, to the south by Jerrabomberra Creek, and to the north and west by relatively intact grassland and woodland vegetation (i.e. two BioBanking Sites).

Threatened ecological communities

EPBC Act Natural Temperate Grassland of the South Eastern Highlands

PCT320 is identified as the potential EPBC Act listed threatened ecological community (TEC) *Natural Temperate Grassland of the South Eastern Highlands*. PCT320 Zone 1 meets the listing criteria for NTG-SEH as it is characterised by a native groundstorey with moderate to high native forb diversity. PCT320 Zone 1 does not occur in the development footprint and so will not be impacted by the proposed development. PCT320 Zone 2 does not meet the listing criteria for NTG-SEH as it is characterised by a clearly exotic groundstorey. PCT320 Zone 2 does occur in the development footprint and so will be impacted by the proposed development. As such, while the wider subject land supports Natural Temperate Grassland of the South Eastern Highlands in the areas defined by PCT320 Zone 1, the development footprint does not.

EPBC Act Box-Gum Woodland

PCT1334 is identified as the potential EPBC Act listed TEC *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. PCT1334 Zone 1 meets the criteria for the EPBC Act listed TEC, while PCT1334 Zones 3 to 5 do not.

The proposed development will impact 0.42 ha of PCT1334 Zone 1.

BC Act Box-Gum Woodland

PCT1334 is identified as the potential BC Act listed TEC *White Box – Yellow Box – Blakely's Red Gum Woodland* (BC Act Box-Gum Woodland). PCT1334 Zone 1 and Zone 3 support vegetation which meets the criteria for this TEC in moderate to high condition, and PCT1334 Zone 4 supports vegetation which meets the criteria for this TEC in low condition. PCT1334 Zone 5 lacks a native overstorey and has a groundstorey that is highly modified and dominated by perennial exotic grasses and herbaceous weeds. As such, PCT1334 Zone 5 does not support vegetation which meets the criteria for this TEC under the BC Act.

The proposed development will impact 8.15 ha of BC Act Box-Gum Woodland, 87% (7.05 ha) of which is in low condition (i.e. PCT1334 Zone 4).

Threatened species

Threatened flora

One EPBC Act threatened species, Hoary Sunray *Leucochrysum albicans* var. *tricolor* (EPBC Act endangered) was recorded in the northern-most corner of the subject land. Approximately 130 plants were recorded in 700 m² of the relatively intact PCT1334 Zone 1 located immediately adjacent to the Poplars North BioBanking Site. However, this area does not occur in the development footprint and so will not be impacted by the proposed development.

None of the remaining threatened flora species credit species were recorded in the subject land and none are considered likely to occur.

Threatened fauna

The historic activities which have occurred across the development footprint have substantially degraded the habitat value for native fauna. As a result, the majority of the threatened fauna species credit species identified by the BAM were considered unlikely to occur in the development footprint. However, targeted surveys did detect Golden Sun Moth (EPBC Act vulnerable, BC Act endangered).

A total of 141 Golden Sun Moths were recorded in the subject land across the four surveys. Golden Sun Moths were recorded at low to moderate density across those zones with a native dominant groundstorey (i.e. PCT320 Zone 1 and PCT1334 Zones 1 and 4). The exception to this is the patch of Golden Sun Moth habitat immediately to the north-east of Environa Drive, which supported a greater density of moths.

The areas of confirmed habitat are generally flat or gently sloping, dominated by a mix of Tall Speargrass and Wallaby Grasses, and contain low herbage mass and extensive patches of bare ground. The three patches of habitat to the east of Environa Drive are likely to be functionally isolated from all other patches of habitat. In contrast, the remaining patches of habitat are likely to be functionally connected to the 83.48 ha of known habitat outside of the subject land (i.e. in the BioBanking Sites).

The extent of habitat in the subject land is based on the extent of the zones that possess a native dominant groundstorey (i.e. PCT320 Zone 1 and PCT1334 Zones 1 and 4). Following this method, the subject land was assessed as supporting 12.08 ha of Golden Sun Moth habitat. When the 83.48 ha of Golden Sun Moth habitat in the Poplars North and Poplars South BioBanking are also considered, “The Poplars” property therefore supports a total of 95.56 ha of Golden Sun Moth habitat.

The proposed development will impact 7.47 ha of Golden Sun Moth habitat, which equates to an impact of 8% of the remaining habitat in “The Poplars”.

Avoidance and Minimisation

The proposed development will clear 52.46 ha. Of that, 52.21 ha will clear all of the vegetation and habitat and 0.25 ha will only clear the groundstorey vegetation and associated threatened species (i.e. the remnant trees will be retained).

The proposed development includes the full retention of a 0.20 ha patch of vegetation in the northern tip of the subject land which supports high diversity EPBC Act Box-Gum Woodland, Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants. It is proposed that this 0.20 ha area will be protected and managed as part of the Poplars North BioBanking Site. In addition, the proposed development will retain the remnant trees that occur within a 0.25 ha patch adjoining this area. Finally, the portions of the land in the south-western corner of “The Poplars” that support significant ecological values are also included as ‘Avoided Land’. By doing so, the proposed development avoids impacts to 4.43 ha of NTG-SEH, 4.43 ha of Golden Sun Moth habitat, 2.46 ha of Pink-tailed Legless Lizard habitat, and potential Grassland Earless Dragon habitat.

In addition to the above, it is important to recognise that planning for “The Poplars”, both for development and conservation, has been a process that has progressed over more than three decades, and which has been informed by a substantial number of ecological studies. The ultimate outcome from this process was the establishment of the ‘The Poplars North’ and ‘The Poplars South’ as BioBanking Sites under BioBanking Agreements. These agreements are considered to be one of the primary avoidance measure related to the proposed development as the early establishment of these offset sites has ensured a formal, legally binding, and audited conservation focussed management regime for the portions of “The Poplars” property recognised as supporting significant biodiversity values.

The establishment of the ‘The Poplars North’ and ‘The Poplars South’ BioBanking Sites protects approximately 50% (98.46 ha) of “The Poplars” property, including the vast majority of the identified significant biodiversity values. Protected values include:

- 87.42 ha of grassland vegetation (i.e. MR631/PCT1202 and PC686/PCT1289), 57.35 ha of which meets the listing criteria for EPBC Act listed Natural Temperate Grassland or the South Eastern Highlands (NTG-SEH);
- 10.65 ha of woodland vegetation (i.e. MR648/PCT1330), 8.48 ha of which meets the listing criteria for EPBC Act Box-Gum Woodland;
- 83.48 ha of Golden Sun Moth habitat;
- 71.86 ha of Grassland Earless Dragon habitat; and
- 18.63 ha of Pink-tailed Legless Lizard habitat.

In addition, the BioBanking Sites protect habitat for threatened flora (i.e. Button Wrinklewort *Rutidosis leptorrhynchoides* and Hoary Sunray), a variety of threatened birds, and ACT listed and 'rare and uncommon species' (i.e. Perunga Grasshopper *Perunga ochracea*).

Impacts

Native vegetation

The proposed development will result in the clearance of the following native vegetation.

- 0.42 ha of PCT1334 Zone 1 – mature canopy, regeneration, native dominant understorey with moderate to high diversity (BC Act native vegetation, EPBC Act and BC Act Box-Gum Woodland);
- 0.68 ha of PCT1334 Zone 3 – mature canopy, regeneration, exotic dominant understorey with low diversity (BC Act native vegetation, BC Act Box-Gum Woodland); and
- 7.05 ha of PCT1334 Zone 4 – low diversity native pasture (BC Act native vegetation, BC Act Box-Gum Woodland).
- 35 mature remnant trees, 7 of which support at least one functional hollow.

The proposed development will also result in the clearance of:

- 9.53 ha of PCT320 Zone 2 – low diversity exotic pasture.
- 34.25 ha of PCT1334 Zone 5 – low diversity exotic pasture.

In total, the proposed development will result in the clearance of 8.15 ha of BC Act native vegetation, 0.42 ha of which meets the listing criteria of EPBC Act Box-Gum Woodland and 8.15 ha of which meets the listing criteria BC Act Box-Gum Woodland.

The development footprint contains the following vegetation with a vegetation integrity score that requires offsetting for impacts on ecosystem credits.

- PCT1334 Zone 1 – vegetation integrity score of 47.7, proposed clearance of 0.42 ha.
- PCT1334 Zone 3 – vegetation integrity score of 30.3, proposed clearance of 0.68 ha

PCT320 Zone 2, PCT1334 Zone 4, and PCT1334 Zone 5 do not have a vegetation integrity score that requires offsetting for impacts on ecosystem credits.

- PCT320 Zone 2 – vegetation integrity score of 5.9.
- PCT1334 Zone 4 – vegetation integrity score of 5.7.
- PCT1334 Zone 5 – vegetation integrity score of 0.5.

PCT1334 is listed as a serious and irreversible impacts (SAIL) entity ('BC Act Box-Gum Woodland'). Accordingly, the proposed development could result in a SAIL on a BC Act listed entity. However, as detailed in this BCAR, following substantial avoidance, minimisation, and mitigation measures, the proposed removal of 8.15 ha of BC Act Box-Gum Woodland (comprised of 1.10 ha of moderate to high condition BC Act Box-Gum Woodland and 7.05 ha of low condition BC Act Box-Gum Woodland) is unlikely to constitute a SAIL.

The proposed development will not result in any other direct impacts on native vegetation and is unlikely to result in biodiversity impacts that are unforeseen or uncertain.

Threatened species habitat

The proposed development will result in the clearance of the following threatened species habitat.

- 7.47 ha of Golden Sun Moth habitat (BC Act endangered, EPBC Act critically endangered) located in PCT1334 Zone 1 and Zone 4.

The clearance of 7.47 ha of Golden Sun Moth in PCT1334 Zone 1 and Zone 4 requires offsetting for impacts on species credits.

- Golden Sun Moth – habitat condition (vegetation integrity) loss of 5.7 – 47.7, proposed impact of 7.47 ha.

The proposed development will not result in any other direct impacts on threatened species habitat and is unlikely to result in biodiversity impacts that are unforeseen or uncertain.

Assessment and Approval Requirements

Commonwealth EPBC Act

As mentioned previously, the impact of the Poplars Development on MNES was referred to DCCEW on 28 September 2020 (EPBC Act Referral No. 2020/8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation). The proposed action was approved by DCCEW on 13 September 2021, subject to certain conditions.

NSW BC Act – Biodiversity offset credit calculations

The proposed development will involve the clearance of vegetation which generates the following ecosystem credits.

- PCT1334 Zone 1 – clearance of 0.42 ha generates 12 ecosystem credits.
- PCT1334 Zone 3 – clearance of 0.68 ha generates 12 ecosystem credits.

The proposed development will involve the clearance of threatened species habitat which generates the following species credits.

- Golden Sun Moth *Synemon plana* – clearance of 7.47 ha generates 22 species credits.

As mentioned previously, “The Poplars” includes two established BioBanking Sites that encompass 98.46 ha (50%) of the site. The combined BioBanking Sites generate the following classes and numbers of credits.

- 125 credits of PCT1202 *Speargrass grassland of the South Eastern Highlands Bioregion.*
- 275 credits of PCT1289 *Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion.*
- 40 credits of PCT1330 *Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion.*
- 312 Golden Sun Moth credits.

- 337 Grassland Earless Dragon credits.
- 85 Pink-tailed Legless Lizard credits.

The credits generated by the BioBanking Sites will be used to meet the credit obligation generated by the impacts associated with all stages of the Poplars Development. The below table details the credit obligation generated by all stages of the Poplars Development (Stage 1 of the Innovation Precinct, the Jerrabomberra High School, and this BCAR), the credits generated by the combined BioBanking Sites, and the resultant credit balance.

As shown in the below table, the credit obligation can be met for both PCT1334 and Golden Sun Moth.

Entity	Credit Obligation	Credits Generated	Credit Balance
PCT1330 Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion. OR PCT1334 Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	29 ³	40	+ 11
Golden Sun Moth <i>Synemon plana</i>	65 ⁴	312	+ 247

NSW Koala SEPP – Koala Habitat Protection Requirements

Regarding the application of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 4 Koala Habitat protection* (the 'Koala Habitat Protection SEPP 2021') for the proposed development of the subject land, the following points are noted.

1. The subject land is located within the Queanbeyan-Palerang Local Government Area (LGA), which is an LGA to which the Koala Habitat Protection SEPP 2021 applies as listed in Schedule 2.
2. The subject land has an area of greater than 1 hectare and there is no approved Koala Plan of Management.
3. The subject land support a number of the tree species listed in Schedule 3 of the Koala Habitat Protection SEPP 2021. Accordingly, the subject land supports 'potential koala habitat'.
4. "The Poplars" property is separated by over 6 km from the nearest Koala records, all of which occur in intact vegetation to the west; the intervening areas are characterised by urban development and include a substantial number of significant impediments to Koala movement (e.g. large roads, urban expanses, human disturbance).
5. The ecological values of "The Poplars" property have been investigated since the early 1990s (refer to Section 1.3.1). No Koala or signs of Koala occupation have ever been detected.

³ 5 credits from Stage 1 of the Innovation Precinct and 24 credits from this BCAR.

⁴ 34 credits from Stage 1 of the Innovation Precinct, 9 from the Jerrabomberra High School, and 22 credits from this BCAR

With regard to the above and with respect to the Koala Habitat Protection SEPP, the subject land is therefore considered unlikely to support Koala habitat and as such is unlikely to constitute important or occupied Koala habitat now or in the future.

In light of the above, Council can be satisfied that the subject land is not Koala habitat, and it is therefore not prevented by the Koala Habitat Protection SEPP from granting consent to a development application within the subject land.

1 Introduction

Poplars Developments Pty Ltd (Poplars Developments) is currently progressing the planning and approval process for the development of the remaining stages of the Poplars Development in Lot 1 DP1243031 and portions of Lot 1 DP1126721, Lot 6 DP1246134, and Lot 1 DP1263364 Jerrabomberra, NSW (the ‘proposed development’ of the ‘subject land’, Figure 1, Figure 2, and Figure 3). Capital Ecology Pty Ltd (Capital Ecology) has been commissioned by Poplars Developments to complete the necessary biodiversity surveys and prepare this Biodiversity Certification Assessment Report (BCAR) to identify and assess the significance of the impacts that the proposed development will have on the biodiversity values of the subject land.

Although general biodiversity values are identified and considered, the primary purpose of this BCAR is to present the results of Capital Ecology’s application of the NSW Biodiversity Assessment Method 2020 (BAM) (NSW Government 2020a⁵) to assess the significance of the impacts of the proposed development on biota listed as threatened under the NSW *Biodiversity Conservation Act 2016* (BC Act).

This BCAR includes the assessment of the potential impact of the proposed development on Matters of National Environmental Significance (MNES) listed pursuant to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Note that the impact of the Poplars Development on MNES (the ‘proposed action’) was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEW) on 28 September 2020 (EPBC Act Referral No. 2020/8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation). The proposed action was approved by DCCEW on 13 September 2021, subject to certain conditions. A previous version of this BCAR (Capital Ecology 2021a⁶), combined with additional assessments of the impact of the Poplars Development on MNES (Capital Ecology 2020a⁷,⁸, 2022⁹), were the primary reports that informed the preliminary documentation (Capital Ecology 2021b¹⁰).

1.1 The Subject Land and Development Footprint

As shown in Figure 3, the property known as “The Poplars” property occupies land to the north (known as the “North Poplars”) and south (known as the “South Poplars”) of Tomsitt Drive, Jerrabomberra, NSW.

⁵ NSW Government (2020a). *Biodiversity Assessment Method*. NSW Department of Planning, Industry and Environment. Published October 2020

⁶ Capital Ecology (2021a). *The Poplars Development, Jerrabomberra, NSW – Biodiversity Certification Assessment Report*. Draft 02 – May 2021. Prepared for Poplars Developments Pty Ltd. Authors: S. Reid, S. Thompson, and R. Speirs. Project no. 3027.

⁷ Capital Ecology (2020a). *Poplars Innovation Precinct (Stage 1), Jerrabomberra, NSW – Biodiversity Development Assessment Report*. Final 01 – August 2020. Prepared for Poplars Developments Pty Ltd. Authors: S. Reid, S. Thompson, and R. Speirs. Project no. 2971.

⁸ Capital Ecology (2020b). “The Poplars”, Jerrabomberra, NSW – *Matters of National Environmental Significance Assessment Report*. Final 01 – September 2020. Prepared for Poplars Developments Pty Ltd. Authors: R. Speirs and S. Reid. Project no. 2971.

⁹ Capital Ecology (2022a). *New High School in Jerrabomberra, NSW – Biodiversity Development Assessment Report*. Final 2.3 – 18 February 2022. Prepared for the NSW Department of Education. Authors: S. Reid, S. Thompson, and R. Speirs. Project no. 3036

¹⁰ Capital Ecology (2021b). *The Poplars Development – EPBC Act Preliminary Documentation*. Final 01 – July 2021. Prepared for Poplars Developments Pty Ltd. Authors: S. Reid and R. Speirs. Project no. 3027.

As defined in the BAM, the subject land is “*land subject to a development, activity, clearing, biodiversity certification or a biodiversity stewardship proposal*”. Accordingly, the subject land¹¹ for this BCAR is 60.91 ha and encompasses the whole of Lot 1 DP1243031 and portions of Lot 6 DP1246134 and Lot 1 DP1263364, Jerrabomberra, NSW (Figure 1, Figure 2, and Figure 3). As shown in Figure 3, the northern and southern sections of the subject land are bisected by Tomsitt Drive, and the southern section is bisected by Environa Drive (recently constructed with the proponent being Queanbeyan-Palerang Regional Council [QPRC]).

As defined in the BAM, the development footprint is “*the area of land that is directly impacted by a proposed development, including access roads and areas used to store construction materials. The term development footprint is also taken to include clearing footprint, except where the reference is to a small area development or a major project development*”. As discussed in more detail in Section 1.4, the 52.46 ha development footprint¹² for this BCAR therefore encompasses all of the land in “The Poplars” that is proposed for development, minus those areas that have already been approved for development (i.e. Environa Drive, the Poplars Innovation Precinct [Stage 1], and the Jerrabomberra High School, refer to Capital Ecology 2020a and Capital Ecology 2022a) (Figure 2, Figure 3 and Figure 4).

The subject land, as shown in Figure 1 and Figure 3, is bordered by:

- urban development to the east and south-east;
- ‘C2 – Environmental Conservation’ zoned land to the north and west that supports relatively intact grassland and woodland vegetation (i.e. the BioBanking Sites, see Section 1.3); and
- Jerrabomberra Creek to the south, beyond which lies B7, IN2, and RU2 zoned land that supports moderately to highly disturbed grassland vegetation.

Located in the Queanbeyan-Palerang Local Government Area (LGA), pursuant to the *Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013* (West Jerrabomberra LEP), the subject land is zoned¹³ ‘B1 – Neighbourhood Centre’, ‘B7 – Business Park’, and ‘RE2 – Private Recreation’, with a minimum lot size¹⁴ of ‘W – 4,000 m²’ (Figure 4).

The subject land is not identified on the *Queanbeyan Local Environmental Plan 2012* (Queanbeyan LEP) Terrestrial Biodiversity Map¹⁵ or NSW Government Biodiversity Values Map¹⁶. The adjoining C2 zoned land immediately to the west of the subject land (i.e. the BioBanking Sites) and Jerrabomberra Creek immediately to the south of the subject land are identified on the NSW Government Biodiversity Values Map.

The topography across the southern section of the subject land falls steadily from 625 m Australian Height Datum (AHD) in approximately the centre to 580 – 590 m AHD along the southern boundary adjoining Jerrabomberra Creek. The topography across the northern section of the subject land is relatively flat, ranging from approximately 610 – 620 m AHD.

¹¹ With reference to the biodiversity certification process, the subject land in this BCAR is equivalent to the ‘biodiversity certification assessment area’ (refer to Section 3.6).

¹² With reference to the biodiversity certification process, the development footprint in this BCAR is equivalent to the ‘land proposed for biodiversity certification’ (refer to Section 3.6).

¹³ Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013. *Land Zoning Map - Sheet LZN_001*.

¹⁴ Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013. *Lot Size Map - Sheet LSZ_001*.

¹⁵ Queanbeyan Local Environmental Plan 2012. *Terrestrial Biodiversity Map – Sheet BIO_001*.

¹⁶ <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap>

As mentioned previously, the northern and southern sections of the subject land are bisected by Tomsitt Drive, and the southern section is bisected by Envirova Drive (recently constructed with the proponent being QPRC) (Figure 3). Otherwise, the built infrastructure in the subject land is restricted to existing boundary and internal fences, which are in a generally functional condition.

The subject land supports one tributary which joins Jerrabomberra Creek immediately to the south, and one drainage line that terminates in the south-east of the subject land (Figure 5). The tributary was dry at the time of survey and is only likely to convey water following substantial rain events. There are five small to moderately sized dams in the subject land. All of the dams held a small to moderate amount water at the time of survey. The two dams that occur along the drainage line in the south-east of the subject land and the single dam that occurs in the northern-most corner of the subject land support modified riparian vegetation that is primarily dominated by exotic species.

Before European occupation, the subject land would have been characterised by an open grassy woodland that merges with grassland lower in the landscape to the west. However, the subject land has been substantially modified by its current and past land use, which has primarily been grazing (sheep and cattle). Approximately 97% of the original woody vegetation (canopy, midstorey, and shrubstorey) has been historically cleared across the subject land to promote the pastoral productivity of the land. The areas which retain some of the original canopy occur as isolated paddock trees or small, scattered patches of vegetation. The majority of the subject land has been historically pasture improved and is dominated by exotic pasture grasses (especially *Phalaris aquatica*) and a variety of weeds. Some portions of the groundstorey across the subject land have a dominance of native grasses and forbs; these areas are largely restricted to the northern section of the subject land and the northern boundary of the southern section. However, the prolonged period of stock grazing combined with historic pasture improvement has greatly depleted the native species diversity in the groundstorey across these areas. The majority of the vegetation in the subject land is therefore characterised by an absent or low-density canopy of mature remnant eucalypts, an absent midstorey and shrubstorey, and a low diversity groundstorey dominated by disturbance tolerant native species or exotic grasses and weeds.

1.2 Council Consultation and Public Exhibition

1.2.1 Council Consultation

Queanbeyan-Palerang Regional Council were provided with a draft version of this BCAR for comment in December 2022. A formal response was provided by QPRC in March 2023 (attached to this BCAR as Appendix J). The key comments from QPRC have been addressed as follows.

- Council Resources / Expertise. The BCAR has been prepared by an Accredited Assessor under the BC Act (Robert Spiers – Accreditation No. BAAS17089) in accordance with the BAM. Council can be assured that a detailed assessment of the adequacy of the BCAR has been conducted by the NSW Department of Planning and Environment – Biodiversity Conservation Division (DPE-BCD).
- Planning. It is noted that the BCAR focuses on environmental impacts only and has been undertaken in accordance with the current environmental legislation.
- Land Ownership. The BCAR does not require or imply a change of land ownership for the subject land.
- Local Planning Agreement. Obligations under the current LPA with council are ongoing and noted.
- Land Use Zone Changes. It is not proposed to change any existing land use zones due to the BCAR.

1.2.2 Public Exhibition

In accordance with Division 2, Part 8.6 (3) of the BC Act, a previous version of the BCAR (Capital Ecology 2022b¹⁷) was publicly exhibited from 22 April 2023 to 22 May 2023 and submissions were invited from the public via notifications placed in The Canberra Times and Queanbeyan Age on 22 April 2023 and 26 April 2023. No submissions were received.

1.3 Background to the Proposed Development

1.3.1 Previous studies

The ecological values of “The Poplars” property have been investigated since the early 1990s. As such, there are a large number of reports which describe the ecological values of the subject land and surrounding land. The reports of most relevance to the subject land are summarised in Capital Ecology (2020c¹⁸)(attached here as Appendix G) and include Davis (1991¹⁹), Kevin Mills & Associates (1994²⁰), Biosis Research (2003²¹), Kevin Mills & Associates (2009²²), Kevin Mills & Associates (2015²³), Umwelt (2015²⁴), Umwelt (2019²⁵), and Capital Ecology (2019²⁶).

In combination, these reports have involved the following surveys across “The Poplars” property.

- Plant Community Type (PCT) and vegetation zone mapping.
- Vegetation plots and transects.
- Habitat assessment for threatened flora, fauna, and ecological communities.
- Threatened flora surveys.
- Grassland Earless Dragon *Tympanocryptis pinguicolla* spider-tube surveys.
- Pitfall trapping for Striped Legless Lizard *Delma impar* and Grassland Earless Dragon.
- Pink-tailed Legless Lizard *Aprasia parapulchella* rock-turning surveys.

¹⁷ Capital Ecology (2022b). *The Poplars Development, Jerrabomberra, NSW – Biodiversity Certification Assessment Report*. Draft 04 – 7 December 2022. Prepared for Poplars Developments Pty Ltd. Authors: S. Reid, S. Thompson, and R. Speirs. Project no. 3027.

¹⁸ Capital Ecology (2020c). *“The Poplars” – Review of previous ecological studies and rationale behind the allocation of land for development or conservation*. Project No. 2945, 18 June 2020.

¹⁹ Davis, M.S. (1991). *The Poplars, Queanbeyan. Preliminary Vegetation Survey and Delineation of Fauna Habitat*. Prepared for Scott & Furphy Pty Ltd, Belconnen, August.

²⁰ Kevin Mills & Associates (1994). *Fauna Survey and Assessment “The Poplars” Queanbeyan, NSW*. Prepared for Mr D.H.T. Larcombe.

²¹ Biosis Research (2003). *Final Draft: Flora & Fauna Assessment at 300 Lanyon Drive, Queanbeyan*. Report for Queanbeyan City Council, June 2003. Project No. S3777/M3225

²² Kevin Mills & Associates (2009). *Proposed New Road. The Poplars – North Tralee. City of Queanbeyan*. Prepared for The Village Building Company, August 2009.

²³ Kevin Mills & Associates (2015). *Ecological Assessment. Northern Road Access Route. Stage 3, South Tralee, Queanbeyan. The Village Building Company, Canberra*. Prepared for The Village Building Company, December 2015.

²⁴ Umwelt (2015). *BioBanking Agreement for ‘The Poplars’, Jerrabomberra, NSW*. Prepared on behalf of Robin Pty Limited, March 2015.

²⁵ Umwelt (2019). *Briefing Note – Poplars Environmental Assessment*. 01 March 2019.

²⁶ Capital Ecology (2019). *Proposed modification of the approved layout for Stage 3 of the Poplars Northern Entry Road – Preliminary Ecological Impact Assessment*. Project No. 2921, 30 September 2019.

- Active searches for threatened reptiles.
- Golden Sun Moth *Synemon plana* surveys (southern and central sections of North Poplars, west of the ridgeline of South Poplars).
- Threatened woodland bird surveys.
- Threatened microbat *Anabat* surveys.
- Spotlight surveys.
- Nocturnal frog call surveys.

The ecological/biodiversity values of “The Poplars” property have been identified and described in a generally consistent manner since the early 1990s. As the condition of the vegetation and flora/fauna habitat varies significantly across “The Poplars” property, the biodiversity values of distinct areas are summarised separately below (refer to Figure 16 and Figure 17).

North Poplars – western and northern sections (i.e. the Poplars North BioBanking Site)

- Relatively intact native grassland, much of which meets the listing criteria for the EPBC Act listed ‘Natural Temperate Grassland of the South Eastern Highlands’ (NTG-SEH).
- Relatively intact woodland vegetation, much of which meets the listing criteria for the BC Act and EPBC Act listed ‘White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland’ (Box-Gum Woodland).
- Threatened flora, specifically populations of Button Wrinklewort *Rutidosis leptorrhynchoides* and Hoary Sunray *Leucochrysum albicans* var. *tricolor*.
- Grassland Earless Dragon habitat.
- Golden Sun Moth habitat.
- Threatened woodland bird habitat. Threatened species recorded in or immediately adjacent to “The Poplars” property include Dusky Woodswallow *Artamus cyanopterus*, Gang-gang Cockatoo *Callocephalon fimbriatum*, Varied Sitella *Daphoenositta chrysoptera*, Little Eagle *Hieraaetus morphnoides*, Scarlet Robin *Petroica boodang*, Flame Robin *Petroica phoenicea*, Speckled Warbler *Pyrrholaemus sagittatus*, Diamond Firetail *Stagonopleura guttata*, and the migratory White-throated Needletail *Hirundapus caudacutus* and Rainbow Bee-eater *Merops ornatus*.
- Habitat for ACT listed species, including Perunga Grasshopper *Perunga ochracea*.
- There are signs that portions of this area have historically been cultivated and/or pasture improved.

North Poplars – south-eastern section

- Scattered remnant trees.
- Signs of historic cultivation and/or pasture improvement, heavily grazed, and a highly disturbed understorey that is dominated by a variety of exotic grasses and weeds.
- Some areas are heavily infested with Serrated Tussock.

- This portion of “The Poplars” property does not contain any NTG-SEH or EPBC Act Box-Gum Woodland and was considered unlikely to support habitat of significance to any threatened flora or fauna species.
- Aerial photography shows that within this area a homestead, shearing shed, and a number of other structures once stood.

South Poplars – west of the central ridge line (i.e. the Poplars South BioBanking Site)

- Relatively intact native grassland, much of which meets the listing criteria for the EPBC Act listed NTG-SEH.
- Grassland Earless Dragon habitat.
- Golden Sun Moth habitat.
- Pink-tailed Legless Lizard habitat.
- Habitat for ACT listed species, including Perunga Grasshopper.
- Scattered trees and disturbed woodland vegetation, some of which meets the listing criteria for BC Act Box-Gum Woodland.
- Large areas infested by a variety of by exotic shrubs.
- Substantial areas are heavily infested with Serrated Tussock.
- There are signs that portions of this area have historically been cultivated and/or pasture improved.

South Poplars – east of the central ridge line

- Scattered trees and disturbed woodland vegetation, some of which meets the listing criteria for BC Act Box-Gum Woodland.
- Large areas infested by a variety of exotic shrubs.
- Signs of historic cultivation and/or pasture improvement, heavily grazed, and a highly disturbed understorey that is dominated by a variety of exotic grasses and weeds.
- Substantial areas are heavily infested with Serrated Tussock.
- This portion of “The Poplars” property did not contain any NTG-SEH or Box-Gum Woodland and was considered unlikely to support habitat of significance to any threatened flora or fauna species.

In summary, each study identified the western portions of the land as supporting significant ecological values and recommended conservation of the land, and each study also identified the eastern portions of the land as supporting highly degraded vegetation of little conservation significance and noted the suitability of the land for development.

1.3.2 Re-zoning of “The Poplars”

Development at “The Poplars” has been considered for many decades since planning first commenced for the suburb of Jerrabomberra. It is noted that the original layouts included allowance for connections between the two developments. To maintain suitable land supply, in the late 1980’s the local council prompted the then landowner to commence investigations into potential re-zoning

of the land from rural to urban. Since that time, numerous studies were conducted to determine the ecological values of the area and potential opportunities for development.

In early 2009, prior to the formal recognition of the current conservation areas, discussions were held with the then NSW Department of Environment and Climate Change (DECC) regarding the potential to establish BioBanking Agreements over the land with the highest biodiversity value, thereby conserving these areas in perpetuity. These discussions included defining the boundary between the development and conservation lands and also undertaking an impact assessment to determine the offset required for the proposed development. At approximately the same time a biodiversity assessment was conducted by Kevin Mills & Associates into a proposed new road which would link between Lanyon Drive / Tomsitt Drive to North Tralee. This road was initially proposed along the western edge of South Poplars adjacent to the ACT/NSW border and rail corridor. After consideration of the Kevin Mills & Associates study findings and further planning, the road was shifted to the current alignment of Environa Drive and the areas under the initially proposed alignment were instead proposed for conservation.

In 2013, the *Queanbeyan Local Environmental Plan (Poplars)* commenced as part of NSW legislation. The stated aims for the plan included:

- to rezone certain land at “The Poplars” to achieve economically, environmentally, and socially sustainable urban development that complements and provides a range of facilities for the benefit of the adjoining Jerrabomberra community; and
- to identify, protect, and manage environmentally and culturally sensitive areas within “The Poplars”, including but not limited to waterways and riparian corridors, habitat corridors, native vegetation and associated buffers, and heritage items.

In 2020 the *Queanbeyan Local Environmental Plan (Poplars)* was renamed the *Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013*. Under this amendment planning requirements for “The Poplars” remained largely unchanged with the exception of:

- areas zoned RE2 immediately north and south of Tomsitt Drive were amended to B7 Business Park; and
- an additional permitted use (Educational Establishment) was added to areas of South Poplars

In late 2022 the *Queanbeyan Palerang Regional Local Environmental Plan* came into existence which consolidated individual LEP’s into a single comprehensive plan. At the time of writing, this LEP governs the permitted uses for the land under consideration for certification.

As part of the rezoning process, two large tracts of land, one at North Poplars and one at South Poplars, were rezoned to C2 Environmental Conservation with the objectives of this zoning being:

- to protect, manage, and restore areas of high ecological values;
- to prevent development that could destroy, damage, or otherwise have an adverse effect on those values; and
- to protect threatened species and ecosystems.

Preservation of areas of high conservation value were also recognised in the South Jerrabomberra Development Control Plan (DCP) adopted by QPRC on 11 February 2015. Again, masterplan maps included in the DCP reinforce ‘Environmental Conservation’ for these areas.

Based on numerous studies, the extent of developable area within “The Poplars” was defined with approximately 100 ha of the 185 ha set aside for conservation.

1.3.3 BioBanking Sites

The establishment of the ‘The Poplars North’ and ‘The Poplars South’ as BioBanking Sites under BioBanking Agreements provides a formal, legally binding, and audited conservation focussed management regime for the portions of “The Poplars” property recognised as supporting significant biodiversity values (a copy of each BioBanking Agreement is attached in Appendix H). In exchange for actively managing the land for these values, Robin Pty Ltd (the landowner) has obtained the stipulated credits which they may retire at their discretion (i.e. use to offset an impact elsewhere or sell to another party).

As described in the following two sections, ‘The Poplars North’ and ‘The Poplars South’ BioBanking Sites protect approximately 50% (98.46 ha) of “The Poplars” property, including the vast majority of the identified significant biodiversity values. As show in Figure 16 and Figure 17, protected values include:

- 87.42 ha of grassland vegetation (i.e. MR631/PCT1202 and PC686/PCT1289), 57.35 ha of which meets the listing criteria for EPBC Act listed NTG-SEH;
- 10.65 ha of woodland vegetation (i.e. MR648/PCT1330), 8.48 ha of which meets the listing criteria for EPBC Act Box-Gum Woodland;
- 83.48 ha of Golden Sun Moth habitat;
- 71.86 ha of Grassland Earless Dragon habitat; and
- 18.63 ha of Pink-tailed Legless Lizard habitat.

In addition, the BioBanking Sites also protect habitat for threatened flora (i.e. Button Wrinklewort and Hoary Sunray), threatened birds (i.e. Dusky Woodswallow, Gang-gang Cockatoo, Varied Sitella, Little Eagle, Scarlet Robin, Flame Robin, Speckled Warbler, Diamond Firetail, and the migratory White-throated Needletail and Rainbow Bee-eater), and ACT listed or ‘rare and uncommon species’ (i.e. Perunga Grasshopper).

1.3.3.1 BioBanking / BAM credits

Poplars North BioBanking Site

On 23 August 2018, a BioBanking Agreement was made between the NSW Minister for the Environment and Robin Pty Ltd to establish ‘The Poplars North’ BioBanking Site²⁷ (attached here as Appendix H). The Poplars North BioBanking Site encompasses 42.91 ha of “The Poplars” property and is roughly consistent with the area zoned ‘C2 – Environmental Conservation’.

As determined via the completed assessment of reasonable equivalence²⁸ (attached here as Appendix I), the BioBanking Credits generated by The Poplars North BioBanking Site have been transformed into BAM credits under the current NSW Biodiversity Offset Scheme (BOS). The outcome of this is summarised in Table 1.

²⁷ NSW Office of Environment & Heritage (2018a). *BioBanking Agreement ID: BA310 – Poplars North*.

²⁸ *Biodiversity Credit Ownership Report – Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme* (ref: DOC19/495776-4). Dated 12 September 2019.

Table 1. Poplars North BioBanking / BAM Credits.

BioBanking Scheme			Biodiversity Offset Scheme		
Value	Area (ha)	Credits	Value	Area (ha)	Credits
MR631	10.27	71	PCT1202	10.27	57
MR686	22.34	103	PCT1289	22.34	102
MR648	9.91	46	PCT1330	9.91	38
Golden Sun Moth	38.10	174	Golden Sun Moth	38.10	111
Grassland Earless Dragon	30.27	215	Grassland Earless Dragon	30.27	145

Poplars South BioBanking Site

On 23 August 2018, a BioBanking Agreement was made between the NSW Minister for the Environment and Robin Pty Ltd to establish ‘The Poplars South’ BioBanking Site²⁹ (attached here as Appendix H). The Poplars South BioBanking Site encompasses 55.55 ha of “The Poplars” property and is roughly consistent with the area zoned ‘C2 – Environmental Conservation’.

As determined via the completed assessment of reasonable equivalence³⁰ (attached here as Appendix I), the BioBanking Credits generated by The Poplars South BioBanking Site have been transformed into BAM credits under the current BOS. The outcome of this is summarised in Table 2.

Table 2. Poplars South BioBanking / BAM Credits.

BioBanking Scheme			Biodiversity Offset Scheme		
Value	Area (ha)	Credits	Value	Area (ha)	Credits
MR631	16.42	120	PCT1202	16.42	68
MR686	38.39	271	PCT1289	38.39	173
MR648	0.74	5	PCT1330	0.74	2
Golden Sun Moth	45.38	322	Golden Sun Moth	45.38	201
Grassland Earless Dragon	41.59	295	Grassland Earless Dragon	41.59	187
Pink-tailed Legless lizard	18.63	132	Pink-tailed Legless Lizard	18.63	85

1.4 The Proposed Development

1.4.1 The Poplars Development

“The Poplars” has been highlighted as an economic development area by both the NSW State and Local Governments. In March 2021, the NSW Government announced that the area would be deemed a Regional Job Precinct. To trigger employment and educational opportunities at “The

²⁹ NSW Office of Environment & Heritage (2018b). *BioBanking Agreement ID: BA309 – Poplars South*.

³⁰ *Biodiversity Credit Ownership Report – Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme* (ref: DOC19/495776-3). Dated 12 September 2019.

Poplars” property, the NSW Government has committed a grant of \$23M to trunk infrastructure for the site with QPRC contributing up to \$8M. As part of this process, the developers are gifting land to the NSW Government under a voluntary planning agreement.

As detailed on the Poplars website³¹ –

Positioned on the border of New South Wales and the ACT, Poplars takes full advantage of its proximity to Parliament House, Federal Government Departments, Canberra’s CBD and the region’s international airport. Poplars is positioned at the confluence of a number of key transport routes including the Monaro Highway and the soon to be completed Edwin Land Parkway/Ellerton Drive link. These transport links allow the business park to be a hub with convenient access for business travel and the movement of freight. The local council and NSW State Government have highlighted the Poplars area as a location for economic development and employment, while infrastructure grants have also been issued.

Poplars has been designed to foster a centre of collaboration and out-of-the-box thinking. The development will provide a working environment where organisations can meet and explore concepts that change our future. By taking cues from the best workplaces, the Innovation Precinct provides for worker wellbeing with open greenspaces, landscaped verges and a masterplan based upon sustainable development practices.

The Poplars Development is designed around the following four precincts: Retail + Services Precinct (Stage 1 completed); Innovation Precinct; Learning Precinct; and Grasslands Reserve (i.e. the BioBanking Sites).

Retail + Services Precinct

Poplars Retail + Services precinct has opened the doors to local and national brands, which will service the Innovation Precinct and surrounding area. The marketplace style offering will provide a fun destination for people to meet, shop, eat and unwind.

Innovation Precinct

The Innovation Precinct understands the advantages of co-locating with like-minded businesses. While Poplars will be a base for a range of organisations, we are focused on the following sectors: Space and Defence Sectors; Information and communication technologies; and Scientific Research Services.

Learning Precinct

The Poplars Learning Precinct is set to be a networking hub for Poplars residents, where knowledge is shared and ideas are formed. The precinct’s innovation centre, for entrepreneurs, start-ups, businesses and investors, will sit between the existing primary school and the future STEM-based high school.

Grassland Reserve

The Poplars Grassland Reserve comprises over 100 ha of conservation area. The area is protected under a Biodiversity Stewardship agreement with the NSW Office of Environment and Heritage.

³¹ <https://www.poplars.com.au/>

1.4.2 The proposed development – biodiversity certification

The proposed development seeks to subdivide the development footprint to construct the remaining elements of the Retail + Services Precinct, Innovation Precinct, and Learning Precinct. The proposed development will comprise a number of commercial buildings, associated parking areas, open space, and road reserves. In addition, the existing pond in the north of the development footprint, which is located in a low point and captures and treats stormwater from the residential catchment above, will be enlarged to treat runoff from the development area before discharging into the adjacent 'The Poplars North' BioBanking Site.

As mentioned previously, the 52.46 ha development footprint for this BCAR only relates to the portions of the subject land that will be directly impacted by the proposed development. While it is assumed that the proposed development will clear all of the vegetation and habitat across the majority of the development footprint, only the groundstorey vegetation and associated threatened species habitat within a 0.25 ha area located in the north of the subject land will be impacted (i.e. the remnant trees will be retained, refer to Figure 3 and Figure 16); these impacts are therefore assessed via management zones in the online BAM Calculator.

The proposed development also includes the full retention of an additional 0.20 ha patch of vegetation in the northern tip of the subject land which supports high diversity EPBC Act Box-Gum Woodland, Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants (Figure 3, Figure 16, and Figure 17). As detailed in Section 3.1 and Section 3.3, it is proposed that this 0.20 ha area will be protected and managed as part of the Poplars North BioBanking Site.

Furthermore, the portions of the land in the south-western corner of "The Poplars" that support significant ecological values are included as 'Avoided Land' (refer to Section 3.6). By doing so, the proposed development avoids impacts to substantial areas of NTG-SEH, Golden Sun Moth habitat, Pink-tailed Legless Lizard habitat, and potential Grassland Earless Dragon habitat.

Finally, the establishment of the 'The Poplars North' and 'The Poplars South' as BioBanking Sites under BioBanking Agreements is considered to be one of the primary avoidance measures related to the proposed development as the early establishment of these offset sites have ensured a formal, legally binding, and audited conservation focussed management regime for the portions of "The Poplars" property recognised as supporting significant biodiversity values. As such, the ecological values that these areas support are referred to throughout this BCAR when assessing the significance of the impact associated with the proposed development.

Note: that the location of certain lot boundaries has been refined in this BCAR based on updated spatial information that has been provided to Capital Ecology. In comparison to the submitted BDARs for Stage 1 of the Poplars Innovation Precinct (Capital Ecology 2020a) and the Jerrabomberra High School (Capital Ecology 2022a), these updates have changed the calculated areas for some elements of the Poplars Development. However, these updates have not altered any of the calculated impacts for Stage 1 of the Poplars Innovation Precinct or the Jerrabomberra High School, and so have not altered the conclusions or calculated offset liabilities for either of those proposed developments.

1.4.3 Anticipated timing and duration

The entire Poplars development is expected to be delivered over a 10–20-year timeframe. The indicative timings are as follows.

2022 – 2023

Innovation Precinct Stage 1. Subdivision works for Stage 1 of the Innovation Precinct commenced in late 2021 and were completed early in 2022. Building works commenced in 2022, with occupation starting in 2023.

Jerrabomberra High School. It is proposed that this site will be developed and the new school open to students in 2023.

2023 – 2025

Innovation Precinct Stage 2.

Retail and Services Precinct.

2025 – 2030

Balance of developable areas.

1.4.4 Occupation

When complete, the Poplars Development will have a number of uses as described below.

- Retail + Services Precinct – This area will comprise a supermarket, specialty shops, food, and drink premises, as well as potentially services such as gyms, a hairdresser, medical services, and financial services.
- Innovation Precinct – This area is focused on the Defence, Space, Cyber-security, and high-tech manufacturing sectors. Businesses operating in these areas would comprise office space with some manufacturing/warehousing areas.
- Education Precinct – This area will include the new Jerrabomberra High School and QPRC's Innovation Hub.

1.5 Assessment of the Current and Previous Stages of the Poplars Development

As described in Section 1.3, the ecological/biodiversity values of “The Poplars” property have been identified and described in a generally consistent manner since the early 1990s. Each study identified the western portions of the property as supporting significant ecological values and recommended conservation of the land (now BioBanking Sites, refer to Figure 3, Figure 16, and Figure 17). Each study also identified the eastern portions of the property as supporting highly degraded vegetation of little conservation significance and noted the suitability of the land for development. Consistent with these recommendations, the allocation of land for either conservation (i.e. C2 zoned land across the BioBanking Sites) or development (i.e. B1, B7, and RE2 zoned land) via the *Queanbeyan Local Environmental Plan (West Jerrabomberra) 2013* aligns with the known significant ecological values of “The Poplars” property (Figure 4). As such, from the early planning stages the Poplars Development has been designed to avoid the known significant ecological values of the area.

Since that time, Environa Drive and the first phase of the Retail + Services have been completed and Stage 1 of the Innovation Precinct is currently under construction. Commitments have also been made for a high school, which was also the subject of a previous BDAR (Capital Ecology 2022a), to be

constructed and operational by 2023 in the south-eastern corner of Lot 1 DP126134. The remainder of the Poplars Development, which is the subject of this BCAR, is expected to occur over a subsequent 10-to-20-year timeframe.

However, surveys performed for this BCAR recorded Golden Sun Moth across patches of native dominant vegetation in some of the areas earmarked for development (refer to Section 2.3.5.2 of this BCAR). This finding, which was unexpected given the modified condition of the vegetation in the subject land and the substantial number of previous ecological studies of “The Poplars” property, had the potential to substantially delay Stage 1 of the Innovation Precinct and the planned school. Accordingly, Poplars Developments and Capital Ecology liaised with both DCCEW and DPE-BCD and proposed the following staged assessment and approval strategy.

- Proceed with a BDAR for Stage 1 of the Poplars Innovation Precinct (i.e. Capital Ecology 2020a).
- The BDAR for Stage 1 of the Poplars Innovation Precinct occurred concurrently with the EPBC Act referral (EPBC Act Referral No. 2020/8801) and assessment process for the broader development (i.e. the combined impact of current and future stages of the Poplars Development, Capital Ecology 2021b). This ensured that the full impact of the entire Poplars development on MNES was appropriately assessed.
- Proceed with a second BDAR for the high school that is planned in the south-east corner of Lot 1 DP126134 (i.e. Capital Ecology 2022a).
- Develop a Biodiversity Certification Assessment Report (i.e. this BCAR) and pursue biodiversity certification for the remainder of the Poplars Development, incorporating the remainder of the proposed development area.

The suitability of this staged assessment has been discussed with representatives of DCCEW and DPE-BCD and in-principle support has been received. It is important to note that the biodiversity offset obligation (determined via the NSW Biodiversity Offsets Scheme) generated by the two initial developments will be addressed in a proportionate manner as a condition of consent for each DA. The remaining (majority) of the obligation will be addressed when Biodiversity Certification is conferred over the remaining land in “The Poplars” that is currently proposed for development. Accordingly, while occurring in an incremental manner, this approach will ensure that 100% of the offset obligation will be addressed.

1.6 Commonwealth and State Assessment and Approval Processes

1.6.1 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the key Commonwealth Government legislation for the protection and conservation of Australia’s environment and biodiversity. The EPBC Act provides the legislative framework for the assessment and approval mechanism requiring that proposed ‘actions’ to be assessed in terms of their potential to impact upon ‘Matters of National Environmental Significance’ (MNES). MNES currently listed under the EPBC Act are:

- world heritage properties;
- national heritage places;
- wetlands of international importance (listed under the Ramsar Convention);

- threatened species and ecological communities;
- migratory species (protected under international agreements);
- Commonwealth marine areas;
- the Great Barrier Reef Marine Park;
- nuclear actions (including uranium mining); and
- a water resource, in relation to coal seam gas development and large coal mining development.

Where a potential impact on a MNES may occur as a result of a proposed action, the significance of that impact must be assessed. Guidelines for determining whether an impact is significant are provided by the DCCEW (Commonwealth of Australia 2013a³²). If it is determined that a proposed action will, or is likely to, have a significant impact on a MNES, the action must be referred to the Minister. The Department will then consider the referred action and the Minister (or their Delegate) will make a decision regarding whether the action requires assessment and approval under the EPBC Act and associated conditions and controls.

As mentioned previously, the impact of the Poplars Development on MNES was referred to DCCEW on 28 September 2020 (EPBC Act Referral No. 2020/8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation). The proposed action was approved by DCCEW on 13 September 2021, subject to certain conditions.

The following website provides further information regarding the EPBC Act referral and approval process: <http://www.environment.gov.au/epbc/index.html>

1.6.2 NSW Biodiversity Conservation Act 2016

The NSW *Biodiversity Conservation Act 2016* (BC Act) commenced on 25 August 2017, the purpose of which is 'to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development' (BC Act Part 1, Section 1.3). The BC Act outlines the NSW framework for addressing impacts on biodiversity from development and clearing. Supported by the NSW *Biodiversity Conservation Regulation 2017* (BC Regulation), the BC Act establishes a framework to avoid, minimise and offset impacts on biodiversity from development through the Biodiversity Offsets Scheme (BOS).

1.6.2.1 NSW Biodiversity Offset Scheme

The BOS creates a transparent, consistent, and scientifically based approach to biodiversity assessment and offsetting for all types of development that are likely to have a significant impact on biodiversity. The BOS aims to ensure a no-net-loss outcome for biodiversity by applying a framework which requires that impacts are first avoided and minimised, and where this cannot be fully achieved, residual impacts must be offset. The BOS also establishes Biodiversity Stewardship Agreements (BSAs), which are voluntary in-perpetuity agreements entered into by landholders, to

³² Commonwealth of Australia (2013a). *Matters of National Environmental Significance - Significant Impact Guidelines 1.1. Environment Protection and Biodiversity Conservation Act 1999*. Commonwealth Department of the Environment.

secure and manage offset sites for biodiversity conservation. The two key elements of the BOS are as follows.

1. A developer, landholder etc. who undertakes an activity (i.e. development, clearing, other impact) which generates a credit obligation must retire the necessary credits to offset their activity.
2. A landholder who establishes a biodiversity stewardship site on their land generates credits which may be sold to developers or landholders who require those credits to offset their credit obligation.

Under the BC Act, the BOS is triggered for proposed development or clearing which:

- will involve clearance of native vegetation (including trees, understorey plants, groundcover plants, and wetland plants) or a prescribed impact (as set out in clause 6.1 of the BC Regulation) on land identified on the Biodiversity Values Map; and/or
- will exceed the native vegetation clearance threshold for the smallest minimum lot size associated with the subject land; and/or
- may significantly impact one or more BC Act listed entities (i.e. threatened species or ecological communities).

1.6.2.2 NSW Biodiversity Assessment Method

The NSW Biodiversity Assessment Method (BAM) is the assessment manual that outlines how an accredited person (i.e. a BAM Assessor) assesses impacts on biodiversity at development sites or assesses the biodiversity values of stewardship sites. The BAM is a scientific document that provides:

- a consistent (standard) method for the assessment of the biodiversity values of a proposed development site, major project site, or vegetation clearing site, or stewardship site;
- guidance on how a proponent (i.e. developer, landholder) can avoid and/or minimise potential biodiversity impacts, or assessment of the management requirements at a proposed biodiversity stewardship site and the likely improvement in biodiversity values that are predicted to occur over time; and
- the number and class of biodiversity credits that need to be offset to achieve a standard of 'no net loss' of biodiversity values for a development site, or the number and class of biodiversity credits to be generated by a proposed stewardship site.

The BAM is supported by the online BAM Calculator, into which a BAM Assessor enters the data from desktop and field investigations to determine the number and class of biodiversity credits generated:

- as an obligation for development/clearance, this obligation must be addressed by the proponent to secure approval for the development/clearance; or
- by the establishment and management of a biodiversity stewardship site, these credits being a commodity that may be sold.

The BAM determines the following two types of credits on both development/clearance sites and stewardship sites.

- Ecosystem credits, these are credits generated for impacts on, or conservation of:
 - threatened ecological communities; and
 - threatened species habitat for species that can be reliably predicted to occur within a given plant community type (PCT) (referred to in the BAM as ‘ecosystem credit species’).
- Species credits, these are credits generated for impacts on, or conservation of, individuals and/or the habitat of threatened species which cannot be reliably predicted to occur in a given PCT (referred to in the BAM as ‘species credit species’).

The BAM Assessor documents the results of the biodiversity assessment in a Biodiversity Assessment Report (BAR), of which there are the following three types.

- Biodiversity Development Assessment Report (BDAR). A BDAR is developed to assess the likely biodiversity impacts of a development or vegetation clearing proposal.
- Biodiversity Certification Assessment Report (BCAR). A BCAR is developed to assess the likely biodiversity impacts of conferring biodiversity certification over a specific area of land.
- Biodiversity Stewardship Site Assessment Report (BSSAR). A BSSAR is developed to assess the likely biodiversity conservation gain of establishing a specific area of land as a biodiversity stewardship site under a formal Biodiversity Stewardship Agreement.

1.6.3 NSW State Environmental Planning Policy (Koala Habitat Protection) 2021

The *State Environmental Planning Policy (Koala Habitat Protection) 2021* was made and commenced on 17 March 2021. This SEPP is now contained in Chapter 4 of the State Environmental Planning Policy (Biodiversity and Conservation) 2021.

The development control provisions of the Koala Habitat Protection SEPP apply to development applications relating to land within a council area listed in Schedule 2 of the Koala Habitat Protection SEPP and:

1. *Where there is an approved Koala Plan of Management for the land*
 - a. *the development application must be consistent with the approved koala plan of management that applies to the land.*
2. *Where there is no approved Koala Plan of Management for the land, if the land*
 - a. *has an area of at least 1 hectare (including adjoining land within the same ownership)*

Pursuant to the Koala Habitat Protection SEPP, the council may grant development consent if the applicant provides to the council—

1. *information, prepared by a suitably qualified and experienced person, the council is satisfied demonstrates that the land subject of the development application—*

- a. *does not include any trees belonging to the koala use tree species listed in Schedule 3 for the relevant koala management area, or*
 - b. *is not core koala habitat, or*
2. *information the council is satisfied demonstrates that the land subject of the development application—*
- a. *does not include any trees with a diameter at breast height over bark of more than 10 centimetres, or*
 - b. *includes only horticultural or agricultural plantations.*

Core koala habitat is defined as:

1. *an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or*
2. *an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.*

The Koala SEPP applies in addition to any assessments required under the EPBC Act or the BC Act (i.e. BAM assessment).

1.7 Biodiversity Certification Assessment Report

As prescribed under Part 6, Division 3, Section 6.13 of the BC Act, a BCAR is –

a report prepared by an accredited person in relation to the proposed biodiversity certification of land under Part 8 that, that:

- (a) assesses in accordance with the biodiversity assessment method the biodiversity values of the land proposed for biodiversity certification, and*
- (b) assesses in accordance with that method the impacts on biodiversity values of the actions to which the biodiversity offsets scheme applies on the land proposed for biodiversity certification, and specifies the number and class of biodiversity credits to be retired to offset those impacts as determined in accordance with that method, and*
- (c) that specifies other proposed conservation measures on or in respect of other land to offset those impacts on biodiversity values and their value (in terms of biodiversity credits) determined in accordance with that method.*

A BCAR prepared applying the BAM by an accredited BAM Assessor must accompany any biodiversity certification application.

The BAM provides a standard method for assessing the impacts of a development/clearance proposal. This theme should carry over to the resulting BCAR such that it is as concise as possible whilst still addressing all of the relevant elements of the BAM in order to provide a complete assessment of the proposed development/clearance. The size of the BCAR should reflect the complexity of the subject land's biodiversity values and the scale and nature of the proposed development/clearance.

1.7.1 Objectives and Format

Developed to reflect the format of the BAM, this BCAR comprises the following two broad parts.

- Part 1 – Biodiversity Assessment (BAM Stage 1), includes assessment of the:
 - landscape context;
 - native vegetation, threatened ecological communities (TECs), vegetation integrity; and
 - habitat suitability for threatened species.
- Part 2 – Impact Assessment (BAM Stage 2), details the:
 - proposed measures to avoid, minimise and mitigate biodiversity impacts;
 - residual impacts (direct and indirect) of the proposed development; and
 - offset requirements relevant to the proposed development.

1.7.2 Technical Resources and Qualifications

This BCAR has been prepared by the following technical personnel:

- Robert Speirs – Director / Principal Ecologist
BAppSc (Ecology), DipPM, MEIANZ, CEnvP-E, Accredited BAM Assessor (No: BAAS17089)
Robert was project manager for this assessment and completed or closely supervised all field surveys, data entry, GIS mapping, BAM credit calculations, and report preparation.
- Dr Sam Reid – Senior Ecologist
BSc (Hons), PhD, MEIANZ, Accredited BAM Assessor (No: BAAS20006)
Sam undertook field surveys, BAM credit calculations, and report preparation.
- Shannon Thompson – Field Ecologist
BSc
Shannon undertook field surveys, data entry, and GIS mapping.
- Kristy Lee – Field Ecologist
BSc
Kristy undertook field surveys and data entry.
- Matthew Gale – Field Ecologist
BSc (Hons)
Matthew undertook field surveys.

All surveys for this assessment were undertaken in accordance with the following.

- Capital Ecology's (Robert Speirs – Principal Investigator) Animal Research Authority (ARA) granted under the NSW *Animal Research Act 1985* by the Animal Care and Ethics Committee of the Secretary of the Department of Regional NSW (CSB 15/2046).
- Capital Ecology's NSW Scientific Licence issued by the NSW Department of Planning and Environment under Part 2 of the NSW *Biodiversity Conservation Act 2016* (SL101623).

1.7.3 Certification under clause 6.15 of the Biodiversity Conservation Act 2016

I certify that this report has been prepared based on the requirements of, and information provided under, the NSW Biodiversity Assessment Method 2020 and clause 6.15 of the NSW *Biodiversity Conservation Act 2016*.

Name: Robert Speirs

Signature:

A handwritten signature in black ink, appearing to read "Robert Speirs", written over a light grey rectangular background.

Date: 2 August 2023

BAM Assessor Accreditation no: BAAS17089

1.7.4 Conflict of interest declaration

I declare that I have considered the circumstances and there is no actual, perceived, or potential conflict of interest.

This declaration has been made in the interests of full disclosure to the decision-maker. Full disclosure has also been provided to the client.

Name: Robert Speirs

Signature:

A handwritten signature in black ink, appearing to read "Robert Speirs", written over a light grey rectangular background.

Date: 2 August 2023

BAM Assessor Accreditation no: BAAS17089

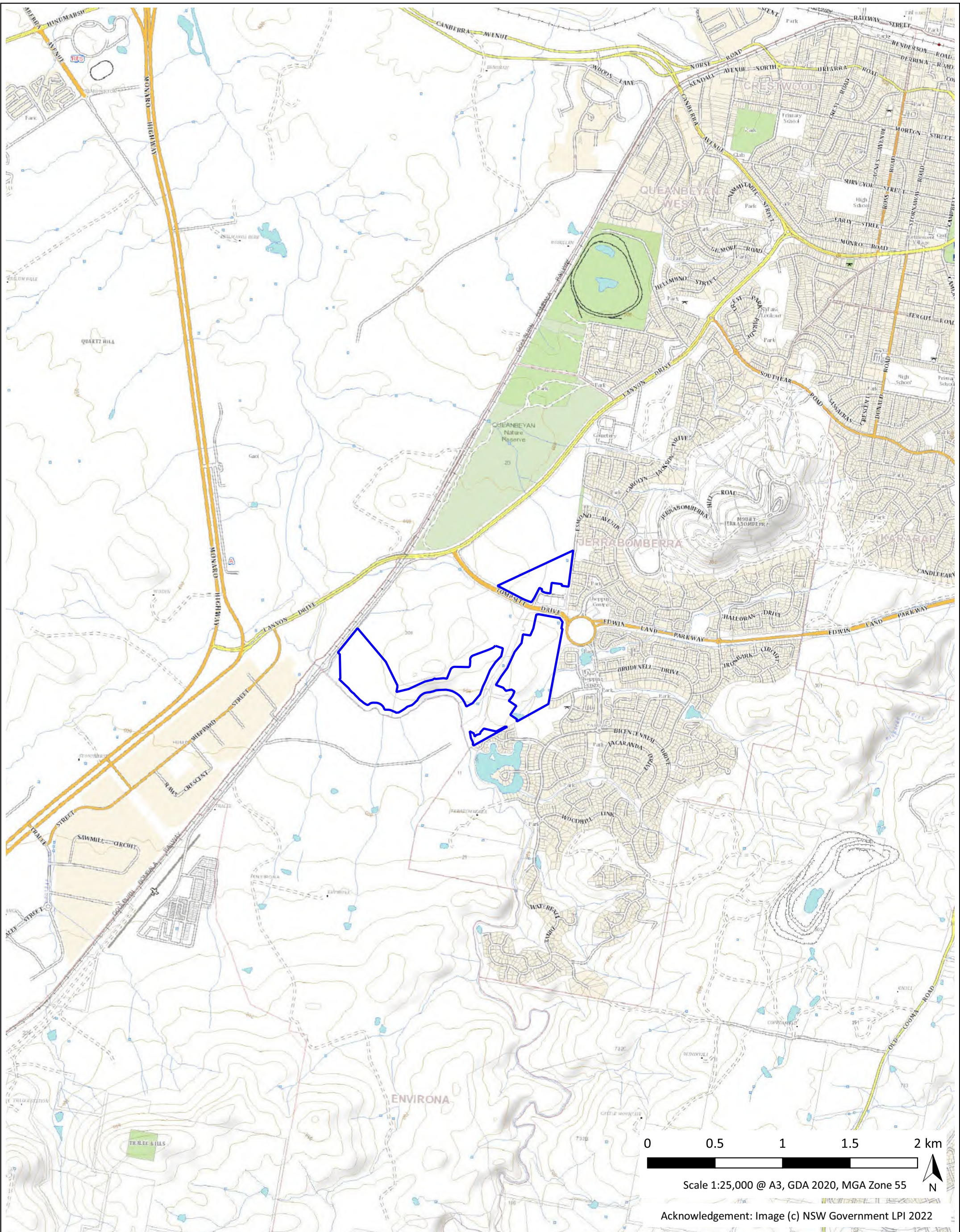


Figure 1. Locality Plan

Legend


 Subject Land



Figure 2. The Poplars Development



CONCEPT MASTER PLAN
 (subject to approval) May 2022



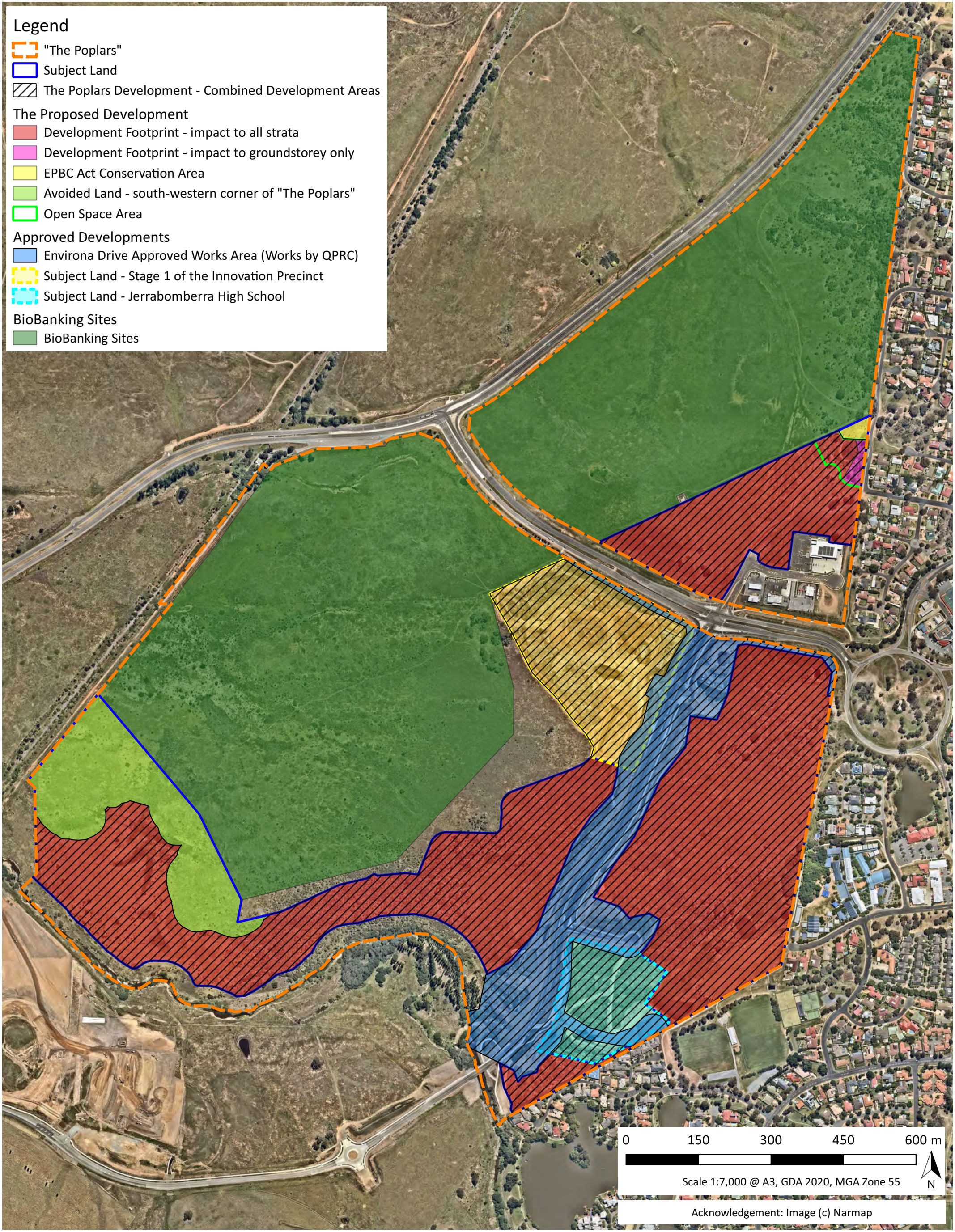





Figure 3. The Subject Land and Development Footprint on Aerial Imagery

Legend

-  "The Poplars"
-  Subject Land
-  Development Footprint

Land Zoning Map - Sheet LZN_001A

- Zone**
-  B1 Neighbourhood Centre
 -  B2 Local Centre
 -  B3 Commercial Core
 -  B4 Mixed Use
 -  B5 Business Development
 -  B7 Business Park
 -  C1 National Parks and Nature Reserves
 -  C2 Environmental Conservation
 -  C3 Environmental Management
 -  C4 Environmental Living
 -  IN1 General Industrial
 -  IN2 Light Industrial
 -  R1 General Residential
 -  R2 Low Density Residential
 -  R3 Medium Density Residential
 -  R4 High Density Residential
 -  R5 Large Lot Residential
 -  RE1 Public Recreation
 -  RE2 Private Recreation
 -  RU1 Primary Production
 -  RU2 Rural Landscape
 -  RU3 Forestry
 -  RU5 Village
 -  SP1 Special Activities
 -  SP2 Infrastructure
 -  W1 Natural Waterways
- Cadastre**
-  Base data 01/11/2021 © Spatial Services

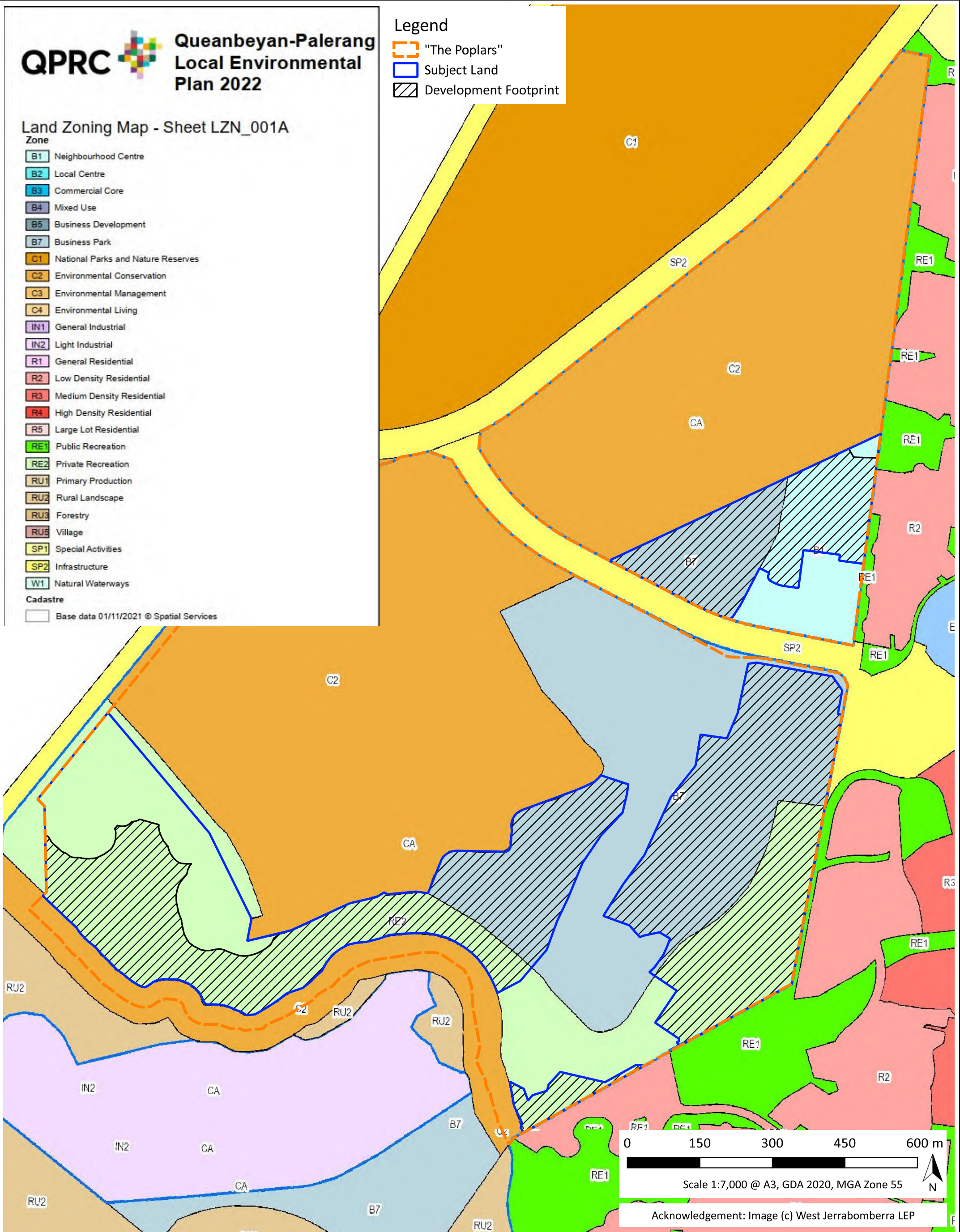


Figure 4. The Subject Land and West Jerrabomberra LEP

2 Part 1 – Biodiversity Assessment (BAM Stage 1)

Part 1 of this BCAR provides an assessment of the biodiversity values of the subject land as set out in Stage 1 of the BAM.

2.1 Landscape Context

As detailed in the BAM, a range of landscape features must be identified where they occur in the subject land or within the assessment area surrounding the subject land. These features may contain/support biodiversity values that are important for the site context of the subject land, or for informing the likely habitat suitability of the subject land. Table 3 outlines the landscape features and overall landscape context of relevance to the subject land.

Table 3. Landscape features.

Landscape Feature	Description	Figure Reference
IBRA bioregion	The subject land occurs in the South Eastern Highlands IBRA bioregion.	-
IBRA subregion	The subject land occurs in the Murrumbateman IBRA subregion.	-
BioNet NSW landscapes (Mitchell landscapes)	The subject land contains one Mitchell Landscape: Canberra Plains .	Figure 1
Rivers, streams and estuaries (Strahler ³³ stream order)	The subject land supports one 1 st order tributary (defined based on the NSW LPI Hydrology Map and as per Appendix 3 of the BAM) which joins Jerrabomberra Creek immediately to the south, and one 2 nd order drainage line that terminates in the south-east of the subject land. The tributary was dry at the time of survey and is only likely to convey water following substantial rain events. There are five small to moderately sized dams in the subject land. All of the dams held a small to moderate amount water at the time of survey. The two dams that occur along the drainage line in the south-east of the subject land and the single dam that occurs in the northern most corner of the subject land support modified riparian vegetation that is primarily dominated by exotic species. The lack of native riparian vegetation indicates that the tributaries and drainage line are unlikely to provide habitat of significance to aquatic/riparian flora or fauna and are only likely to be of limited value to the common native water birds, reptiles, and amphibians which occur in the locality.	Figure 5 Figure 8
Wetlands (important wetlands)	The subject land does not contain any important wetlands as listed in the Directory of Important Wetlands in Australia (DIWA) or coastal wetlands protected under <i>State Environmental Planning Policy No 14</i> .	-
Connectivity	Before European occupation, the subject land would have been characterised by an open grassy woodland that merges with grassland lower in the landscape to the west. However, the subject land has been substantially modified by its current and past land use, which has primarily been grazing (sheep and cattle). Approximately 97% of the original woody vegetation (canopy, midstorey, and shrubstorey) has been	Figure 6 Figure 8

³³ Strahler, AN (1952). *Hypsometric (area-altitude) analysis of erosional topology*. Geological Society of America Bulletin 63 (11): 1117–1142.

Landscape Feature	Description	Figure Reference
	<p>historically cleared across the subject land to promote the pastoral productivity of the land. The areas which retain some of the original canopy occur as isolated paddock trees or small, scattered patches of vegetation. The majority of the subject land has been historically pasture improved and is dominated by exotic pasture grasses (especially Phalaris) and a variety of weeds.</p> <p>Some portions of the groundstorey across the subject land have a dominance of native grasses and forbs; these areas are largely restricted to the northern section of the subject land and the northern boundary of the southern section. However, the prolonged period of stock grazing combined with historic pasture improvement has greatly depleted the native species diversity in the groundstorey across these areas.</p> <p>The riparian vegetation in the subject land is dominated by exotic species. The lack of native riparian vegetation indicates that these areas are unlikely to provide habitat of significance to aquatic/riparian flora or fauna.</p> <p>The majority of the vegetation in the subject land is therefore characterised by an absent or low-density canopy of mature remnant eucalypts, an absent midstorey and shrubstorey, and a low diversity groundstorey dominated by disturbance tolerant native species or exotic grasses and weeds.</p> <p>Finally, the subject land is bordered to the east and south-east by urban development, to the south by Jerrabomberra Creek, and to the north and west by relatively intact grassland and woodland vegetation (i.e. the BioBanking Sites).</p> <p>In light of the above, while the remnant trees and native and exotic pasture in the subject land are likely to be of some habitat value to a variety of native fauna, the subject land is unlikely to constitute or comprise part of an important biodiversity corridor or other notable habitat connectivity feature. This is supported by the fact that the subject land does not contain 'Local Links' or 'Regional Linkage Value' on the ACT Government's ACTmapi³⁴.</p>	
Areas of geological significance and soil hazard	The subject land does not contain/support any karst, caves, crevices, cliffs, or other areas/features of geological significance. There are no hazard soil features.	-
Areas of outstanding biodiversity value	The subject land does not support or occur near any declared area of outstanding biodiversity value (AOBV).	-
Percent native vegetation cover (buffer area)	<p>A 1,500 m buffer was applied to the subject land resulting in an overall buffer area of 1,358 ha. This buffer area contains both woody PCTs (i.e. woodland, dry sclerophyll forest) and non-woody PCTs (i.e. natural grassland). Accordingly, the following two categories of native vegetation were defined to identify the total are of native vegetation in the buffer.</p> <ol style="list-style-type: none"> 1. Woody vegetation – The areas which have a woody PCT and retain remnant woody vegetation or woody regrowth. 	Figure 6

³⁴ <http://app.actmapi.act.gov.au/actmapi/index.html?viewer=ssvcrct>

Landscape Feature	Description	Figure Reference
	<p>2. Non-woody vegetation – The areas which either:</p> <ol style="list-style-type: none"> a. have a grassland PCT and retain at least a substantial proportionate cover (i.e. > 35%) of native groundstorey species; or b. have a woody PCT from which the woody vegetation has been cleared, yet at least a substantial proportionate cover (i.e. > 35%) of native groundstorey species remains (often referred to as derived or secondary grassland). <p>Native vegetation cover was first identified and mapped via interpretation of the available aerial imagery (ACT Government aerial imagery and NSW LPI) and publicly available spatial datasets (ACTmapi³⁵). The presence of remnant canopy trees, cultivation patterns in paddocks, unnaturally green and/or uniform groundstorey vegetation etc., were important factors considered during aerial interpretation. Field reconnaissance was then undertaken to ground truth and refine the mapping where possible. This field reconnaissance involved driving the publicly accessible roads within the buffer area and making observations across paddocks etc. from the roadside.</p> <ol style="list-style-type: none"> 1. Woody vegetation cover – 281 ha (21%) of the buffer area was determined to support native woody vegetation cover. 2. Non-woody vegetation cover – 250 ha (18%) of the buffer area was determined to support native non-woody vegetation cover. <p style="text-align: center;">↓</p> <p>Total native vegetation cover – the total area of native vegetation cover in the buffer area is 531 ha (39%). This falls into the >30–70% cover class in the BAM Calculator.</p>	

³⁵ <http://app.actmapi.act.gov.au/actmapi/index.html?viewer=ssvcrt>

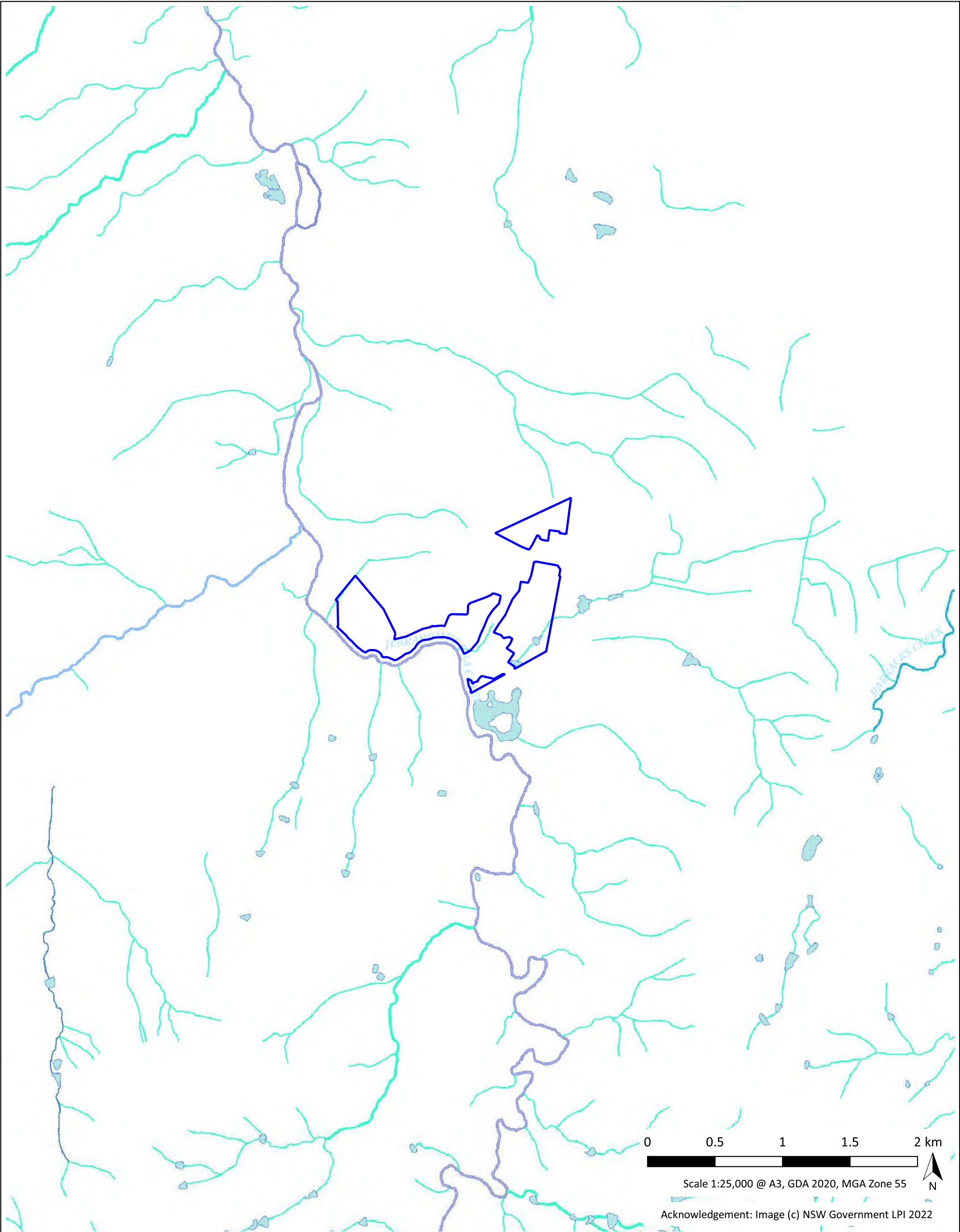
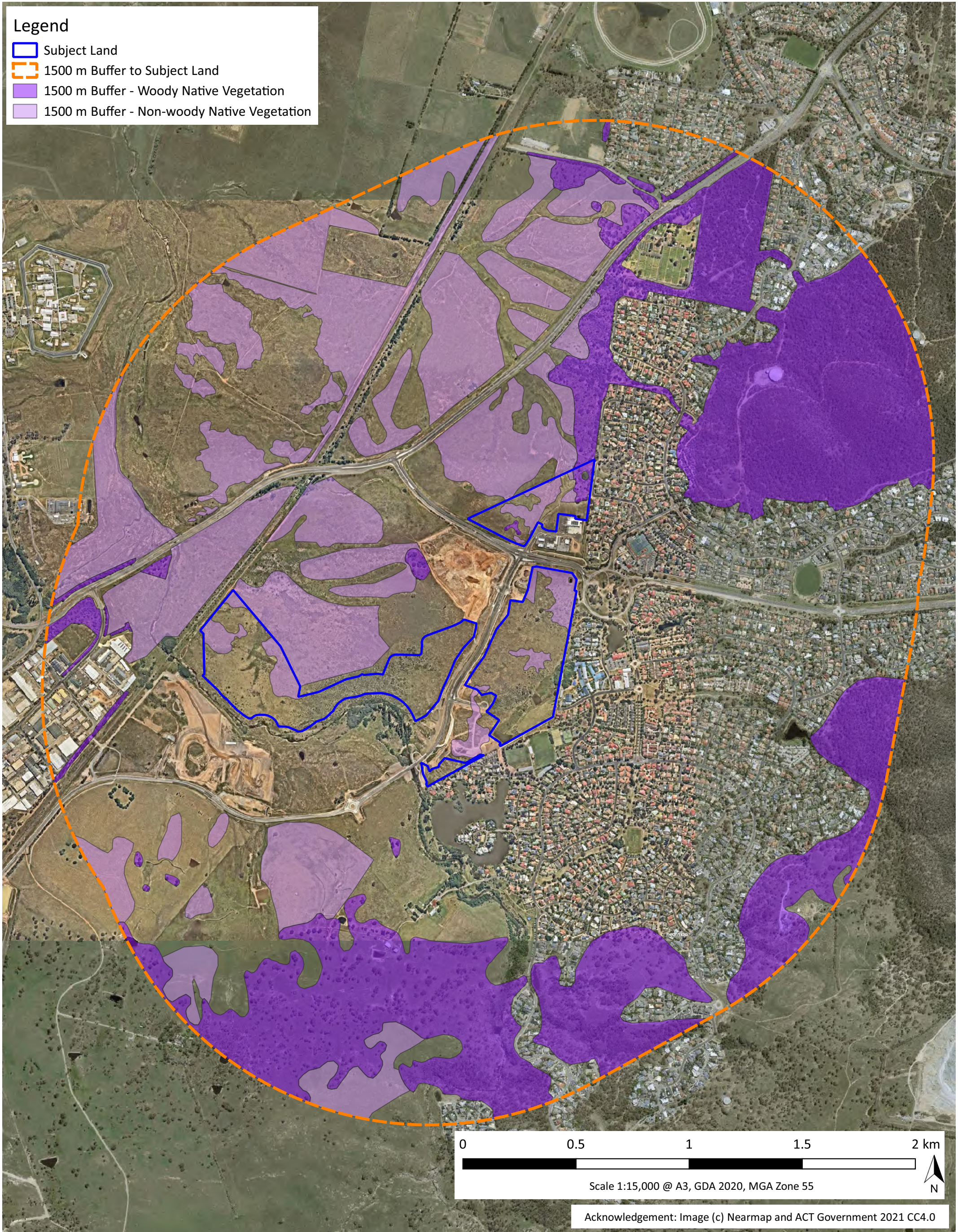


Figure 5. Hydrology

Legend
 Subject Land



Legend

- Subject Land
- 1500 m Buffer to Subject Land
- 1500 m Buffer - Woody Native Vegetation
- 1500 m Buffer - Non-woody Native Vegetation

0 0.5 1 1.5 2 km
 Scale 1:15,000 @ A3, GDA 2020, MGA Zone 55

Acknowledgement: Image (c) Nearmap and ACT Government 2021 CC4.0

Figure 6. Site Map

2.2 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity

2.2.1 Native vegetation extent

As per the BC Act, native vegetation is defined according to Part 5A of the *Local Land Services Act 2013* (LLS Act), which states –

(1) For the purposes of this Part, native vegetation means any of the following types of plants native to New South Wales:

- (a) trees (including any sapling or shrub or any scrub),*
- (b) understorey plants,*
- (c) groundcover (being any type of herbaceous vegetation),*
- (d) plants occurring in a wetland.*

(2) A plant is native to New South Wales if it was established in New South Wales before European settlement. The regulations may authorise conclusive presumptions to be made of the species of plants native to New South Wales by adopting any relevant classification in an official database of plants that is publicly accessible.

As per this definition, planted vegetation which comprises plant species native to NSW, regardless of whether or not the species are indigenous to the specific region and/or PCT of the subject land, is classified as native vegetation.

The Commonwealth Government^{36,37}, ACT Government³⁸, and previous NSW Government³⁹ assessment guidelines for the temperate grassland and woodland PCTs of the NSW/ACT Southern Tablelands region each declare vegetation as native dominant if 50% or more of the perennial groundlayer is comprised of native species. However, no such threshold is defined by the BAM, and advice from the DPE-BCD has been that the criteria for use in determining native vs. exotic dominance must be more stringent than the previously applied 50/50 rule. It is understood that this is due to the potential for seasonal variation and/or assessor disparity to substantially alter the BAM mapping result. For example, a patch of vegetation that is classified as 55% native in one season may be classified as 45% native in another.

With regard to the above, for the purposes of this BCAR (and the supporting BAM assessment):

1. 'Native vegetation' is defined as any plant, naturally occurring or planted, which is native to NSW.
2. Exotic vegetation is defined as any plant which is not native to NSW.

³⁶ Commonwealth of Australia (2006). *Policy Statement 3.5: White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands*. Commonwealth Department of Environment and Heritage.

³⁷ Commonwealth of Australia (2016). *Approved conservation advice for the Natural Temperate Grassland of the South Eastern Highlands (NTG–SEH) ecological community*.

³⁸ ACT Government (2010). *Survey guidelines for determining lowland vegetation classification and condition in the ACT*. Environment and Sustainable Development Directorate – Conservation Planning and Research.

³⁹ NSW Government (2014). *BioBanking Assessment Methodology 2014*. NSW Government Office of Environment and Heritage.

3. A polygon of vegetation is 'native vegetation' if:
 - a. 35% (i.e. approximately one-third) or more of the perennial groundlayer comprises species native to NSW; and/or
 - b. species native to NSW are present in one or more of the other strata.

2.2.2 Vegetation survey and mapping methods

The vegetation throughout the subject land was surveyed and mapped in accordance with the BAM. Vegetation survey dates and survey effort are detailed in Table 4. The methodology involved the following.

- Mapping of the on-ground boundaries of the Plant Community Types (PCTs).
- Stratification of each PCT into vegetation zones reflecting the broad condition state of vegetation.
- The completion of a series of surveys to measure the composition, structure, and function attributes of the vegetation.

These steps are described in more detail below. The full BAM and supplementary resources are available online via the DPE website <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/accredited-assessors/biodiversity-assessment-method-2020>.

It is important to note that the information and data collected during vegetation survey and mapping (Section 2.2.2.1 to 2.2.2.4) were also used to assess the subject land for the presence/absence of habitat constraints and/or microhabitats for EPBC Act only listed species (Section 2.3.3), ecosystem credits species (Section 2.3.4), and species credit species (Section 2.3.5).

Table 4. Vegetation survey dates and survey effort.

Task	Method	Date	Personnel	Survey effort
PCT and Zone mapping	Random meander	27/09/2019	1 person	1 hour
		28/10/2019	1 person	8 hours
Vegetation assessment	BAM plot	05/11/2019	2 people	16 hours
		03/05/2022	2 people	2 hours
Remnant tree survey	Tree assessment	05/11/2019	2 people	8 hours
		23/07/2020	2 people	2 hours

2.2.2.1 Plant Community Type (PCT) mapping

The on-ground boundaries of each of the Plant Community Types (PCTs) present in the subject land were mapped by marking boundaries directly onto high resolution orthorectified aerial photograph field maps. The PCTs and their characteristics are provided in the NSW Vegetation Information System (VIS) <https://www.environment.nsw.gov.au/research/Vegetationinformationsystem.htm>.

The PCTs were identified, and their boundaries defined, based on the:

- presence, species, growth form and density of remnant canopy trees and/or stags or stumps of these;
- presence and species of midstorey shrubs and trees;

- floristic composition of the groundstorey; and
- the landscape position and other geographical features (elevation, aspect, soils, apparent hydrology).

2.2.2.2 Vegetation zone definition and mapping

The mapped PCTs were further divided into vegetation zones based on the structure, floristic composition, and overall condition ('condition state') of the vegetation. The vegetation zones were mapped in the field and then digitised using GIS which provided accurate calculations of the total area of each vegetation zone in the subject land.

Note: for consistency across "The Poplars", vegetation zones are defined in this BCAR as per the previous vegetation mapping by Capital Ecology (2020a, 2021a,b, and 2022). As such, vegetation zone numbering in this BCAR is not sequential.

2.2.2.3 Survey Plots/Transects

A series of a BAM plots (i.e. vegetation assessment survey plot/transect sets) were completed to adequately sample each vegetation zone. As illustrated in NSW Government (2020b⁴⁰), each BAM Plot involved:

- a. one 20 x 20 m (400 m²) plot, used to assess the composition and structure attributes;
- b. one 20 x 50 m plot (1,000 m²) plot, used to assess the function attributes; and
- c. five 1 m² sub-plots, used to assess average little cover (and other optional groundcover components) for the plot.

BAM plot locations were spread throughout the entire subject land and all BAM plot locations were selected randomly within the vegetation zone by marking on a map and walking to the location. The number of BAM plots completed in each vegetation zone of the subject land was determined as per the minimum required plot numbers specified in Table 3 of the BAM. As shown in Figure 8, a total of 15 plots were completed across the six vegetation zones present in the subject land.

As stated in Section 4.1.2 of the BAM:

*Any part of the subject land that does not contain native vegetation does not need to be assessed under this chapter, **unless** the land is:*

- a. proposed for restoration as part of a biodiversity stewardship site (see Stage 3), or*
- b. assessed as habitat for threatened species according to Chapter 5.*

*All parts of the subject land that do not contain native vegetation must be clearly shown on the Site Map. Justification as to why these areas do not support **any** native vegetation must be provided in the BAR.*

While PCT320 Zone 2 and PCT1334 Zone 5 are not classified as BC Act 'native vegetation' (refer to Section 2.2.1, Figure 8, and Figure 9), they still support a very small native component (Appendix A and Appendix B). As such, as per the BAM, all vegetation zones were assessed in this BCAR. In

⁴⁰ NSW Government (2020b). *Biodiversity Assessment Method 2020 Operational Manual – Stage 1*. NSW Department of Planning, Industry and Environment. Published December 2020.

addition, surveying all zones ensured that the vegetation composition (including an accurate determination of BC Act native vegetation presence/absence) and potential threatened species habitat were accurately assessed across all of the vegetation condition types present in the development footprint and subject land.

It is important to note that all vegetation zones present in the development footprint, regardless of whether or not they are classified as BC Act native vegetation and/or threatened species habitat, are used to determine the impact of the proposed development (refer to Section 2.2.4.4 and Section 3.2).

2.2.2.4 Remnant tree survey

All of the mature remnant trees (i.e. >20 cm DBH) present in the subject land were assessed. During the tree assessment, all mature remnant trees were identified to species level and assessed for their value to native fauna. Particular attention was given to observations on the presence of stick nests, hollows, or fauna nesting in hollows. The location of each tree was recorded via hand-held GPS. Data collected for each tree are detailed in Appendix C and included:

- tree number;
- tree species;
- diameter at breast height DBH (cm);
- approximate height (m); and
- presence and characteristics of any hollows and other habitat values such as nests, mistletoe etc.

The data collected during this process is also used to determine the number of hollow bearing trees in each vegetation zone.

2.2.3 BAM targeted survey methods

A number of threatened flora and fauna species were identified by the BAM as potentially occurring in the subject land (referred to as ‘species credit species’, see Section 2.3.5). Some of these species were excluded from further consideration based on factors such as habitat constraints, degraded habitat, geographical limitations, or the absence of required microhabitat features (refer to Table 21). Survey dates and survey effort for the remaining species credit species considered to have the potential to occur in the subject land are detailed in Table 5.

When combined with vegetation survey and mapping (Table 4), the survey effort for this BCAR totalled 128-person hours. Weather conditions for all survey dates are detailed in Table 6.

Table 5. Flora and fauna survey dates and survey effort.

Task	Method	Date	Personnel	Survey effort
Threatened flora survey	Transect Survey	28/10/2019	4 people	8 hours
	Survey of rocky areas	28/10/2019	4 people	28 hours
	Opportunistic observations ⁴¹	-	1-4 people	25 hours

⁴¹ During PCT and Zone mapping and BAM plots.

Task	Method	Date	Personnel	Survey effort
Threatened bird survey	Area search	27/09/2019	1 person	0.33 hours
		17/10/2019	2 people	3 hours
28/10/2019		1 person	2 hours	
	Opportunistic observations ⁴²	-	1-4 people	111 hours
Fauna nesting survey	Tree survey	05/11/2019	2 people	8 hours
		23/07/2019	2 people	2 hours
Striped Legless Lizard tile survey	10-week tile survey program	27/09/2019	2 people	4.5 hours
		03/10/2019	2 people	4.33 hours
		10/10/2019	2 people	4.33 hours
		17/10/2019	2 people	2.0 hours
		22/10/2019	2 people	2.33 hours
		28/10/2019	2 people	3.33 hours
		05/11/2019	2 people	2.0 hours
		13/11/2019	2 people	3.0 hours
		22/11/2019	2 people	3.0 hours
		29/11/2019	2 people	3.0 hours
Pink-tailed Legless Lizard survey	Rock turning survey	28/10/2019	4 people	28 hours
Golden Sun Moth survey	Random meander through likely habitat	30/10/2019	2 people	3.0 hours
		13/11/2019	2 people	7.0 hours
		22/11/2019	2 people	4.5 hours
		29/11/2019	2 people	3.33 hours

Table 6. Survey weather conditions (Canberra Airport, ACT).

Date	Temperature Min-Max	Wind @ 9am	Cloud (8 th)	Rain
27/09/2019	0.7 – 20.8°C	7 km/h	0	0 mm
03/10/2019	4.2 – 28.0°C	2 km/h	0	0 mm
10/10/2019	1.0 – 19.2°C	9 km/h	0	0 mm
17/10/2019	9.5 – 16.1°C	26 km/h	8	4.8 mm
22/10/2019	5.8 – 28.5°C	6 km/h	0	0 mm
28/10/2019	3.7 – 22.9°C	9 km/h	0	0 mm
30/10/2019	8.8 – 29.3°C	6 km/h	0	0 mm
05/11/2019	8.6 – 19.0°C	24 km/h	2	0.2 mm
13/11/2019	6.7 – 20.8°C	20 km/h	0	0 mm
22/11/2019	16.9 – 34.9°C	15 km/h	8	0 mm
29/11/2019	12.6 – 33.1°C	2 km/h	0	0 mm
23/07/2020	-3.1 – 11.8°C	4 km/h	8	0 mm
03/05/2022	1.9 – 20.1°C	2 km/h	0	0 mm

⁴² During PCT and Zone mapping, BAM plots, threatened flora surveys, Golden Sun Moth surveys, Striped Legless Lizard surveys, and Pink-tailed Legless Lizard surveys.

2.2.3.1 Threatened flora survey

Based on the location and the ecological communities present, the subject land was assessed as having the potential to support EPBC Act and/or BC Act listed threatened flora species. Some threatened flora species are identified by the BAM as a species credit species (refer to Section 2.3.5), which is a species for which presence/absence and habitat value cannot be reliably predicted by location, vegetation type, and vegetation condition. Accordingly, targeted surveys are required to determine the species credit value of the subject land for these species.

Therefore, a targeted threatened flora transect survey was conducted across the portions of the subject land identified as potentially supporting threatened flora species, these being the vegetation zones of PCT320 and PCT1334 with a native dominant groundstorey (Figure 11). The transect survey involved four ecologists walking multiple transects across the identified areas (totalling 8 hours of effective survey effort), targeting threatened flora species. If detected, significant species identified were recorded via a GPS waypoint and, if a population, the population boundary was delineated via GPS.

In farmland which has been pasture improved, cultivated, and/or intensively grazed for a prolonged period, threatened flora are only likely to persist in those areas which are difficult to pasture improve/cultivate or which are subject to a low level of grazing pressure. Often, these areas are characterised by the presence of imbedded and/or loose surface rock. As such, targeted threatened flora surveys were conducted concurrently with Pink-tailed Legless Lizard surveys (Figure 11). These targeted searches involved one full day of surveys by four ecologists, totalling an additional 28 hours of effective survey effort.

Threatened flora surveys were timed to coincide with the flowering period for the significant flora species with the potential to occur in the subject land

A thorough inventory of the flora species occurring at a site on the NSW Southern Tablelands cannot be compiled from a small number of surveys undertaken at any particular time. For example, many groundstorey flora species, notably the orchids, lilies, and peas, are only readily identifiable during their short and seasonally variable flowering period. As such, an inventory of all species identified in the subject land was commenced during the preliminary field inspection (27 September 2019) and supplemented across all of the subsequent surveys undertaken until the final field survey (3 May 2022). This inventory is presented in Appendix B (flora). Maintaining an inventory in this manner ensures that the maximum possible diversity of species is recorded, and if present, any significant species are flagged. If detected, all significant species identified are recorded via a GPS waypoint and, if possible, the population size is counted or estimated.

2.2.3.2 Threatened bird survey

Based on the location and the ecological communities present, the subject land was assessed as having the potential to support EPBC Act and/or BC Act listed threatened bird species. Some threatened bird species are identified by the BAM as a species credit species (refer to Section 2.3.5). Accordingly, targeted surveys are required to determine the species credit value of the subject land for these species. Therefore, three targeted threatened bird surveys were conducted across the portions of the subject land identified as potentially supporting threatened bird habitat, these being areas with a moderate to high canopy cover or dense cover of exotic shrubs (Figure 12). As described

in Section 5 of DEC (2004⁴³), these surveys involved 'area searches' (Loyn 1986⁴⁴) to identify and record the terrestrial birds occurring in the subject land (totalling 5.33 hours of effective survey effort). If detected, significant species identified were recorded via a GPS waypoint and notes were taken on any nesting/breeding activity.

Threatened bird surveys were timed to coincide with the nesting period for the significant bird species with the potential to occur in the subject land.

A thorough inventory of the bird species occurring at a site on the NSW Southern Tablelands cannot be compiled from a small number of surveys undertaken at any particular time. As such, an inventory of all species identified in the subject land was commenced during the preliminary field inspection (27 September 2019) and supplemented across all of the subsequent surveys undertaken until the final field survey (3 May 2022). This inventory is presented in Appendix D (fauna). Maintaining an inventory in this manner ensures that the maximum possible diversity of species is recorded, and if present, any significant species are flagged. If detected, all significant species identified are recorded via a GPS waypoint and, if possible, the population size is counted or estimated.

2.2.3.3 Fauna nesting survey

As mentioned in Section 2.2.2.4, all of the mature remnant trees (i.e. >20 cm DBH) present in the subject land were assessed for fauna habitat features (Figure 12). At that time, these trees were also inspected for signs of fauna nesting in hollows and/or on large stick nests (e.g. individuals in hollows, scratch/chew marks, birds flying off nests, birds 'on station'), totalling 10 hours of effective survey effort. Particular attention was given to any signs of species credit species breeding in the subject land.

Surveys were timed to coincide with the nesting period for the significant bird species with the potential to occur in the subject land

2.2.3.4 Striped Legless Lizard survey

At the time field surveys were conducted for this BCAR, the NSW Government had not developed survey guidelines for the Striped Legless Lizard. As such, a program of roof tile surveys was undertaken in accordance with both the Commonwealth Government survey guidelines (Commonwealth of Australia 2011⁴⁵) and the ACT Government survey guidelines (ACT Government 2015⁴⁶).

As per the ACT Government survey guidelines, tiles were placed in grids of 50 (10 rows of 5) with 5 m spacing. The guidelines state that sites with greater than 30 ha of potential habitat require 10 grids for the survey program. As the subject land contains greater than 30 ha of potential habitat, 11 grids were established. Therefore, 550 tiles were placed for the survey. The location of each grid was chosen to spatially separate the grids as much as practicable to obtain an adequate coverage of

⁴³ DEC (2004). *Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft)*. New South Wales Department of Environment and Conservation, Hurstville, NSW.

⁴⁴ Loyn, R.H. (1986). 'Birds in fragmented forests in Gippsland, Victoria'. In Keast, A., Recher, H.F., Ford, H. and Saunders, D. (eds.). In *Birds of Eucalypt Forests and Woodlands; Ecology, Conservation Management*, RAOU; and Surrey Beatty and Sons.

⁴⁵ Commonwealth of Australia (2011). *Environment Protection and Biodiversity Conservation Act 1999 referral guidelines for the vulnerable striped legless lizard, Delma impar – EPBC Act policy statement 3.28*.

⁴⁶ ACT Government (2015). *Survey Guidelines for Striped Legless Lizard*. Conservation, Planning and Research, Environment and Sustainable Development Directorate.

the subject land whilst still ensuring grids were placed in locations with appropriate Striped Legless Lizard habitat characteristics. Where possible, grids were therefore placed in open grassland with a well-defined grass tussock structure⁴⁷. The location of each corner of the grid was marked with a GPS (accurate +/- 3m) and each tile was assigned a unique number (refer to Figure 13).

Following a two week 'settling in' period, each tile was checked once per week for 10 weeks. Surveys commenced on 27 September 2019 and were completed on 29 November 2019. All tiles were checked between 0730 hrs and 1130 hrs, with the exact timing of each check chosen to reflect the weather conditions. In this regard, checks were timed to occur when the tiles were warm to the touch, but not hot. Start time, finish time, and weather conditions were recorded for each check.

Any captured Striped Legless Lizard had the following data recorded.

- Location (tile number).
- Snout-to-vent (SVL) length (mm).
- Total length (mm).
- Tail condition (Full/Regrowth).
- Other relevant biometrics (markings, colour, age, etc.).
- A macro photograph of the dorsal head scales. This photo was taken as the dorsal head scales of Striped Legless Lizard are unique to each individual and can therefore be used to determine the number of unique captures across the 10-week survey period.

Once processed, captured Striped Legless Lizards are released beside the tile of capture, allowing them to move back beneath the tile or to a tussock adjacent to the tile. All other vertebrate fauna found under the tiles were visually identified to species level.

2.2.3.5 Pink-tailed Legless Lizard survey

A targeted survey was completed on Monday 28 October 2019, a sunny day with minimum temperature of 3.7 °C and maximum of 22.9 °C (Bureau of Meteorology records for Canberra Airport). As search success appears to be greatest following substantial rain, the survey was timed to occur following the 23.7 mm of rain received across the locality over the preceding three weeks. These conditions were considered optimal for Pink-tailed Legless Lizard survey.

Prior to the on-ground surveys, Capital Ecology analysed 2018 and 2019 aerial imagery in order to identify areas of potential habitat (i.e. areas containing surface rock) across the subject land. These areas are included in Figure 14.

As shown in Figure 14, each patch of potential Pink-tailed Legless Lizard habitat in the subject land was surveyed for Pink-tailed Legless Lizard individuals. Approximately 28 person-hours were spent during the survey (four ecologists for approximately seven hours) and involved the following.

- Searches for Pink-tailed Legless Lizard individuals or sloughed skins by carefully turning rocks over and then placing them back into position.

⁴⁷ **Note:** since the date that the Striped Legless Lizard survey occurred, portions of The Poplars have been developed. As such, when displayed on recent aerial imagery, it appears that grids are located in inappropriate areas. However, at the time of survey, all grids were located in open grassland with a well-defined grass tussock structure.

- Turning a minimum of 500 rocks per patch (considered adequate for confirming occurrence at large sites based on averages for detection presented in Jones 1999⁴⁸), or until a Pink-tailed Legless Lizard was found and thus presence in the patch confirmed. Where it was not possible to turn 500 rocks because of a shortage of surface rock, all possible rocks were turned.

If discovered, each Pink-tailed Legless Lizard is classified as either an adult (≥ 12 cm total length), juvenile (< 12 cm total length), or sloughed skin, and the position recorded via a handheld GPS.

At the time field surveys were conducted for this BCAR, the NSW Government had not developed survey guidelines for the Pink-tailed Legless Lizard. As such, the above survey methodology was designed to be consistent with the Commonwealth Survey Guidelines⁴⁹.

2.2.3.6 Golden Sun Moth survey

The NSW Government has not developed survey guidelines for the Golden Sun Moth. As such, a program of four targeted Golden Sun Moth surveys was undertaken in accordance with the Commonwealth Government survey guidelines (Commonwealth of Australia 2009a⁵⁰) and the ACT Government survey guidelines (ACT Government 2014⁵¹).

Each survey involved one to two ecologists walking transects approximately 50-100 m apart across the estimated extent of potential habitat (refer to Figure 15). All observed male Golden Sun Moth flights (usually up to 20 m ahead or to either side of the ecologist) were marked via a hand-held GPS.

On each survey day, moths were confirmed to be flying in the ACT region via pre-survey checks of known habitat and/or email and phone communication with other ecologists conducting Golden Sun Moth surveys in the region.

The details of the four survey days and relevant survey conditions are provided in Table 7. In summary, the targeted surveys were undertaken during good to optimal survey conditions on days when moderate to high numbers of Golden Sun Moth were confirmed to be flying.

A GPS track was recorded for each survey; these are illustrated in Figure 15. As shown on Figure 15, effort was made to vary the alignment of the transects between surveys in order to achieve the best possible coverage of the subject land. Whilst the surveys are primarily focused on recording male Golden Sun Moth flights, the ecologists also examined the ground for female moths and pupal cases, particularly in the areas considered to have the highest potential for Golden Sun Moth occurrence.

Based on observations from the subject land and additional Golden Sun Moth survey sites throughout the ACT and NSW, it is important to note that the 2019 Golden Sun Moth flying season was unusual in comparison to previous years in that it started early (from late October), was short (ending by approximately the first week of December), and included large numbers of moths flying during non-ideal conditions (e.g. during windy days). This unusual season was likely due to the dry

⁴⁸ Jones, S.R. (1999). *Conservation biology of the pink-tailed worm lizard (Aprasia parapulchella)*. PhD thesis Applied Ecology research group, University of Canberra.

⁴⁹ Department of Sustainability Environment, Water, Population and Communities (2011). *Survey guidelines for Australia's threatened reptiles*. Commonwealth of Australia, Canberra.

⁵⁰ Commonwealth of Australia (2009a). *Background Paper to EPBC Act Policy Statement 3.12 - Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana)*. Department of Environment, Water, Heritage and the Arts.

⁵¹ ACT Government (2014). *Survey Guidelines for Golden Sun Moth*. Conservation, Planning and Research, Environment and Sustainable Development Directorate.

winter and early spring followed by dry and hot conditions prior to and throughout the flying season. In addition, Capital Ecology found that Golden Sun Moths were widely observed at moderate to high densities across most of our project sites in 2019, including sites in Yass, Murrumbateman, Sutton, and various locations across the ACT.

Table 7. Golden Sun Moth survey conditions.

Date: 30/10/2019 (Survey 1)				Observer/s: RES
Survey Site: The Poplars, Jerrabomberra, NSW				
Time	Air Temp.	Wind	Cloud cover	Other weather information
Start: 1250	26.9	13 W	6/8	Very Dry Conditions, warm and sunny.
Finish: 1415	27.6	11 NNW	6/8	
General site notes:				
Good conditions. Male GSM recorded flying in low - mod numbers. Males confirmed flying near Sutton (NSW) and at multiple locations in the ACT (via ACT GSM email forum).				
Date: 13/11/2019 (Survey 2)				Observer/s: ST, KL
Survey Site: The Poplars, Jerrabomberra, NSW				
Time	Air Temp.	Wind	Cloud cover	Other weather information
Start: 1030	14.1	15 N	Fine	Calm at start of survey. Wind increasing. Warm and sunny.
Finish: 1400	19.1	20 NW	Fine	
General site notes:				
Plenty of male and female GSM recorded, mostly spontaneously flying with some flushed. Some GSM looking old and damaged. Males confirmed flying near Sutton (NSW) and at multiple locations in the ACT (via ACT GSM email forum).				
Date: 22/11/2019 (Survey 3)				Observer/s: ST, JM
Survey Site: The Poplars, Jerrabomberra, NSW				
Time	Air Temp.	Wind	Cloud cover	Other weather information
Start: 1000	28.1	6 WSW	8/8	Wind increasing towards end of survey. Smoke haze.
Finish: 1215	31.5	30 N	8/8	
General site notes:				
Male GSM flushed and flying in low numbers. Few (5-10) recorded incidentally near entrance (SLL Grid 6). Males confirmed flying at multiple locations in the ACT (via ACT GSM email forum).				
Date: 29/11/2019 (Survey 4)				Observer/s: ST, JM
Survey Site: The Poplars, Jerrabomberra, NSW				
Time	Air Temp.	Wind	Cloud cover	Other weather information
Start: 0920	20.5	6 N	Fine	Very dry conditions. Smoke haze from North Black Range Fire.
Finish: 1100	26.9	13 NNE	Fine	
General site notes:				
Male GSM observed flying in low numbers. Males observed flying at Yarralumla Brickworks (ACT) and near Queanbeyan Nature Reserve (NSW).				

2.2.4 Vegetation survey and mapping results

2.2.4.1 Plant Community Type (PCT) mapping

Before European occupation, the whole of the subject land would have been characterised by an open grassy woodland PCT (i.e. PCT1334), merging with grassland lower in the landscape to the west. (i.e. PCT320) (Figure 8, Table 8).

The PCT boundary between the woodland and grassland PCTs was determined with particular reference to:

- remnant canopy trees and/or stags or stumps;
- elevation, aspect, soils; and
- current and historic aerial imagery.

As shown in Figure 7 and Figure 8, the woodland PCT (i.e. PCT1334) therefore aligns with those areas that historically or currently support an overstorey and/or with the hills and higher elevated portions of the subject land.

The subject land has been substantially modified by its current and past land use, which has primarily been grazing (sheep and cattle). Approximately 97% of the original woody vegetation (canopy, midstorey, and shrubstorey) has been historically cleared across the subject land to promote the pastoral productivity of the land. The areas which retain some of the original canopy occur as isolated paddock trees or small, scattered patches of vegetation. The majority of the subject land has been historically pasture improved and is dominated by exotic pasture grasses (especially *Phalaris*) and a variety of weeds. There is a severe infestation of Serrated Tussock in the low-lying land in the south-western corner of the subject land.

Some portions of the groundstorey across the subject land have a dominance of native grasses and forbs; these areas are largely restricted to the northern section of the subject land, the northern boundary of the southern section, and the south-western corner of the southern section. However, the prolonged period of stock grazing combined with historic pasture improvement has greatly depleted the native species diversity in the groundstorey across these areas.

The riparian vegetation in the subject land is generally dominated by exotic species and only occurs around two dams that occur along the drainage line in the south-east of the subject land and the single dam that occurs in the northern most corner of the subject land.

The majority of the vegetation in the subject land is therefore largely characterised by an absent or low-density canopy of mature remnant eucalypts, an absent midstorey and shrubstorey, and a low diversity groundstorey dominated by disturbance tolerant native species or exotic grasses and weeds.

Table 8. PCTs recorded in the subject land.

PCT	PCT name	PCT description	Occurrence in subject land	TEC status Commonwealth / NSW	PCT % cleared
320	Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	This PCT is characterised by a mid-height to tall tussock grassland dominated by a variety of native grasses (including Kangaroo Grass, Redleg Grass, Wallaby Grasses, and Speargrasses) and forbs. Shrubs are very sparse. Surrounding scattered trees include Yellow Box, Blakely's Red Gum, and Apple Box. It occurs on fertile brown to black loam or clay soils derived from fine-grained sedimentary, metamorphic, or volcanic substrates on gentle slopes and flats between 500 and 620 m. This PCT mainly occurs in the ACT and surrounding districts of NSW.	This PCT was mapped on the low-lying gently slopes and flats in the south-western corner of the subject land	Not listed (NSW). Critically Endangered (Commonwealth) when occurring in a condition consistent with the listing criteria of the TEC.	96%
1334	Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	This PCT occurs on valley flats, midslopes, and occasionally on crests. It is found in the Murrumbidgee River valley south of Royalla, the upper Shoalhaven River valley south of Bungonia, east of Queanbeyan, and south of Bungendore. It is characterised by an open woodland with a grassy groundlayer and sparse shrubstorey and midstorey. Dominant overstorey species include Yellow Box and Apple Box.	This PCT was mapped across the majority of the subject land.	Critically Endangered (NSW and Commonwealth) when occurring in a condition consistent with the listing criteria of the TEC.	92%

2.2.4.2 Vegetation zones

Note: for consistency across “The Poplars”, vegetation zones are defined in this BCAR as per the previous vegetation mapping by Capital Ecology (2020a, 2021a,b, and 2022). As such, vegetation zone numbering in this BCAR is not sequential

As detailed in Table 9 to Table 10 and shown in Figure 8, PCT320 was determined to comprise the following two discernible vegetation zones.

- PCT320 Zone 1 – native dominant understorey with moderate to high diversity (NTG-SEH); and

- PCT320 Zone 2 –exotic dominant understorey with low diversity.

As detailed in Table 11 to Table 14 and shown in Figure 8, PCT1334 was determined to comprise the following five discernible vegetation zones.

- PCT1334 Zone 1 – mature canopy, regeneration, native dominant understorey with moderate to high diversity (EPBC Act and BC Act Box-Gum Woodland);
- PCT1334 Zone 3 – mature canopy, regeneration, exotic dominant understorey with low diversity (BC Act Box-Gum Woodland);
- PCT1334 Zone 4 – no canopy, native dominant understorey with low diversity (BC Act Box-Gum Woodland); and
- PCT1334 Zone 5 – no canopy, exotic dominant understorey with low diversity.

PCT320 Zone 1 and PCT1334 Zone 1 to Zone 4 meet the definition of BC Act ‘native vegetation’. PCT320 Zone 1 does not occur in the development and so will not be impacted by the proposed development.

PCT320 Zone 2 does not meet the definition of BC Act ‘native vegetation’ as it has a groundstorey clearly dominated by exotic grasses and forbs (i.e. > 65% perennial exotic) and does not contain a cover of native trees and/or shrubs. PCT1334 Zone 5 does not meet the definition of BC Act ‘native vegetation’ as it has a groundstorey clearly dominated by exotic grasses and forbs (i.e. > 65% perennial exotic) and does not contain a cover of native trees and/or shrubs. However, both PCT320 Zone 2 and PCT1334 Zone 5 occur in the development footprint and so will be impacted by the proposed development. As both PCT320 Zone 2 and PCT1334 Zone 5 support a very small native component (Appendix A and Appendix B) they must be assessed to determine the impact of the proposed development.

As such, PCT320 Zone 2 and PCT1334 Zone 1, Zone 3, Zone 4, and Zone 5 are assessed to determine a vegetation integrity score and the impact associated with the proposed development.

2.2.4.3 Remnant Trees

The subject land supports 50 remnant trees in PCT1334, seven of which contain at least one functional hollow (Figure 8, Appendix C). No trees in the subject land support large hollows greater than 20 cm.

The proposed development will impact 35 of the remnant trees, seven of which contain at least one functional hollow. Of the remaining trees, 15 will be protected and retained in the northern tip of the subject land (refer to Figure 16, Section 3.1, and Section 3.3 for more information). Furthermore, 10.65 ha of woodland vegetation that supports an estimated 200+ mature remnant trees/stags (many of which support functional hollows) is already protected and managed as part of the Poplars North BioBanking Site (refer to Figure 16).

Table 9. PCT320 Zone 1 results summary.

PCT320 Zone 1	
Description	<u>Natural Temperate Grassland of the South Eastern Highlands</u> Scattered patches of moderate to high diversity native grassland dominated by Wallaby Grasses <i>Rhytidosperma</i> spp., Red-leg Grass <i>Bothriochloa macra</i> , Kangaroo Grass <i>Themeda triandra</i> , Common Everlasting <i>Chrysocephalum apiculatum</i> , and a variety of native forbs. Moderate to high Serrated Tussock infestation and heavily grazed by Eastern Grey Kangaroo <i>Macropus giganteus</i> . This zone is restricted to the low-lying land in the south-western corner of the subject land.
Area – subject land	4.43 ha (3 BAM plots assessed).
Area – impact	0 ha.
Perennial Groundlayer	77% - 92% native.
Native Species Richness	9 - 23 total native species, 4 - 18 native non-grass species, 2 - 10 indicator species (as per Rehwinkel 2015 ⁵²).
Exotic Species Richness	7 - 9 total exotic species.
Significant Weeds	Sheep’s Sorrel <i>Acetosella vulgaris</i> , Saffron Thistle <i>Carthamus lanatus</i> , African Lovegrass <i>Eragrostis curvula</i> , St John’s Wort <i>Hypericum perforatum</i> , African Boxthorn <i>Lycium ferocissimum</i> , Serrated Tussock, and Briar Rose <i>Rosa rubiginosa</i> .
EPBC Act and/or BC Act listed TEC	Yes (EPBC Act).
BC Act Native Vegetation	Yes.

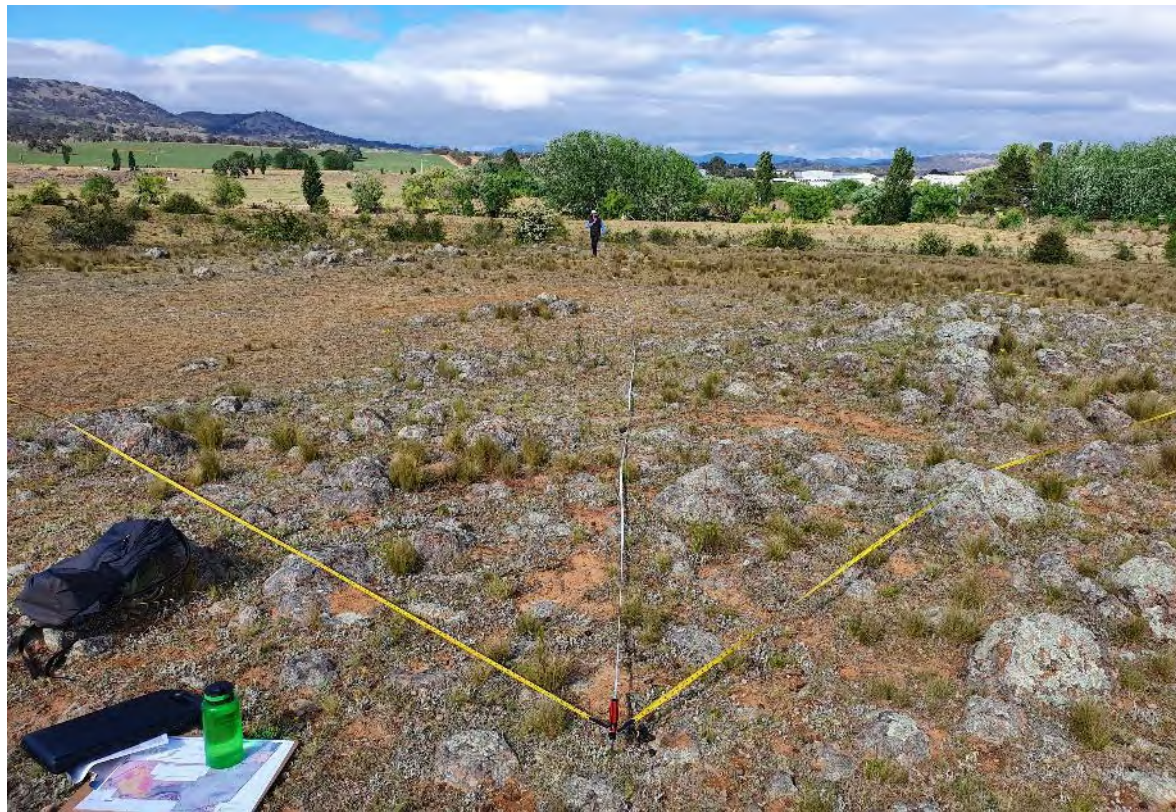
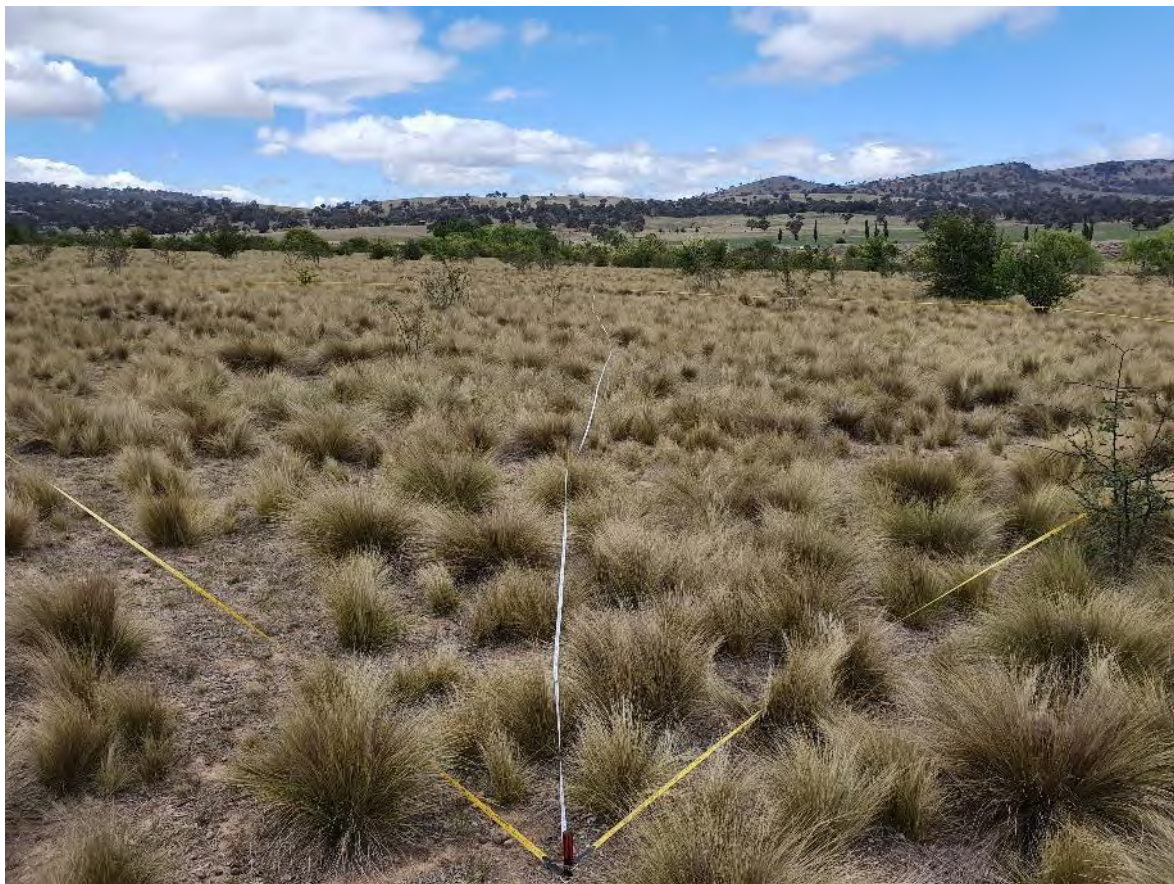


Table 10. PCT320 Zone 2 results summary.

PCT320 Zone 2	
Description	<u>Exotic pasture – low diversity</u> Highly modified exotic pasture dominated by a near monoculture of Serrated Tussock. Lightly to moderately grazed by Eastern Grey Kangaroo. This zone is restricted to the low-lying land in the south-western corner of the subject land.
Area – subject land	13.36 ha (3 BAM plots assessed).
Area – impact	9.53 ha.
Perennial Groundlayer	6% - 33% native.
Native Species Richness	8 - 11 total native species, 4 - 8 native non-grass species, 0 - 2 indicator species (as per Rehwinkel 2015).
Exotic Species Richness	7 - 9 total exotic species.
Significant Weeds	Tree of Heaven <i>Ailanthus altissima</i> , Saffron Thistle, Common Hawthorn <i>Crataegus monogyna</i> , St John's Wort, African Boxthorn, Serrated Tussock, Briar Rose, and Blackberry <i>Rubus fruticosus</i> .
EPBC Act and/or BC Act listed TEC	No.
BC Act Native Vegetation	No.



⁵² Rehwinkel (2015). *A Revised Floristic Value Scoring Method to assess grassland condition, an addendum to Friends of Grasslands Forum Proceedings* (30 October – 1 November 2014).

Table 11. PCT1334 Zone 1 results summary.

PCT1334 Zone 1	
Description	<p><u>Southern Tableland Grassy Woodland – Moderate to High Diversity</u> A small patch of relatively intact vegetation, with a canopy representative of the climax community. Some scattered shrubs and regeneration of the overstorey. Moderate to high diversity groundlayer dominated by perennial native grasses and a variety of forbs, including approximately 130 Hoary Sunray plants. Moderately grazed by Eastern Grey Kangaroos.</p> <p>This zone is restricted to the northern-most section of the subject land adjoining the more intact vegetation retained within the Poplars North BioBanking Site.</p>
Area – subject land	0.60 ha.
Area – impact	0.42 ha.
BAM plots assessed	1.
Overstorey Species	Dominant = <i>E. blakelyi</i> . Associate = <i>E. melliodora</i> and <i>E. bridgesiana</i> .
Overstorey Cover	2%.
Overstorey Regeneration	Yes.
Perennial Groundlayer	92% native, with 19 native non-grass understorey species.
Significant Weeds	African Love Grass, St John’s Wort, Serrated Tussock, and Briar Rose.
EPBC Act and/or BC Act listed TEC	Yes (EPBC Act and BC Act).
BC Act Native Vegetation	Yes.

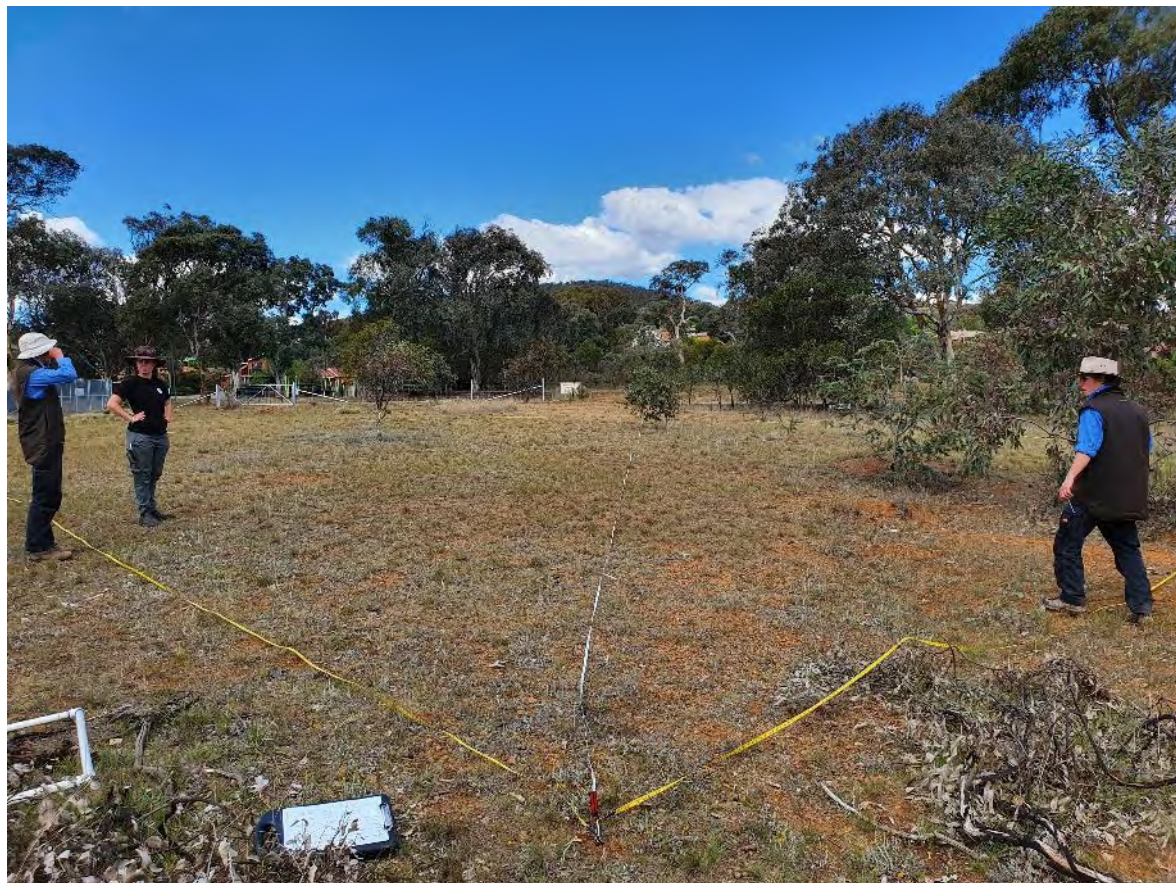


Table 12. PCT1334 Zone 3 results summary.

PCT1334 Zone 3	
Description	<u>Southern Tableland Grassy Woodland – Exotic Groundstorey</u> Canopy with the components of the climax community, but there is evidence of historic thinning and the midstorey and shrubstorey are absent. Low diversity exotic groundlayer dominated by a variety of exotic grasses, notably Phalaris. Moderate to high density of significant weed species. Lightly grazed by Eastern Grey Kangaroos.
Area – subject land	0.70 ha.
Area – impact	0.68 ha.
BAM plots assessed	1.
Overstorey Species	Co-dominant = <i>E. blakelyi</i> and <i>E. melliodora</i> . Associate = <i>E. bridgesiana</i> .
Overstorey Cover	20%.
Overstorey Regeneration	Yes.
Perennial Groundlayer	4% native, with 4 native non-grass understorey species.
Significant Weeds	Tall Flat-sedge <i>Cyperus eragrostis</i> , St John’s Wort, and Serrated Tussock.
EPBC Act and/or BC Act listed TEC	Yes (BC Act).
BC Act Native Vegetation	Yes.



Table 13. PCT1334 Zone 4 results summary.

PCT1334 Zone 4	
Description	<u>Southern Tableland Grassy Woodland – Low Diversity Derived Grassland</u> Overstorey and midstorey are absent. Low diversity native groundlayer dominated by disturbance tolerant native grasses, notably Tall Speargrass and Wallaby Grasses <i>Rhytidosperma</i> spp. Low to high density of significant weed species. Moderately to heavily grazed by Eastern Grey Kangaroos.
Area – subject land	7.05 ha.
Area – impact	7.05 ha.
BAM plots assessed	3.
Overstorey Species	None.
Overstorey Cover	0%.
Overstorey Regeneration	No.
Perennial Groundlayer	44% - 80% native, with 1 - 7 native non-grass understorey species.
Significant Weeds	Sheep’s Sorrel, Saffron Thistle, Common Hawthorn, African Lovegrass, St John’s Wort, Serrated Tussock, Orange Firethorn <i>Pyracantha angustifolia</i> , Briar Rose, and Blackberry.
EPBC Act and/or BC Act listed TEC	Yes (BC Act).
BC Act Native Vegetation	Yes.



Table 14. PCT1334 Zone 5 results summary.

	PCT1334 Zone 5
Description	<u>Southern Tableland Grassy Woodland – Low Diversity Exotic Groundstorey</u> Overstorey and midstorey are absent. Low diversity exotic groundlayer dominated by a variety of exotic grasses, notably Phalaris. Evidence of historic cultivation and/or pasture improvement. High density of significant weed species. Lightly to highly grazed by Eastern Grey Kangaroos
Area – subject land	34.25 ha.
Area – impact	34.25 ha.
BAM plots assessed	4.
Overstorey Species	None.
Overstorey Cover	0%.
Overstorey Regeneration	No.
Perennial Groundlayer	0% - 3% native, with 1 - 3 native non-grass understorey species.
Significant Weeds	Sheep’s Sorrel, Saffron Thistle, African Lovegrass, St John’s Wort, Serrated Tussock, and Briar Rose.
EPBC Act and/or BC Act listed TEC	No.
BC Act Native Vegetation	No.



2.2.4.4 Patch size

As defined in the BAM, patch size is –

an area of native vegetation that:

a) occurs on the development site or biodiversity stewardship site, and

b) includes native vegetation that has a gap of less than 100 m from the next area of native vegetation (or $\leq 30\text{m}$ for non-woody ecosystems).

Patch size may extend onto adjoining land that is not part of the development site or biodiversity stewardship site.

With respect to the above, all of the vegetation in the subject land meets the definition of ‘native vegetation’ as per the BAM apart from PCT320 Zone 2 and PCT1334 Zone 5; the patch size for PCT320 Zone 2 and PCT1334 Zone 5 is therefore 0 ha.

For the remaining vegetation zones, the native vegetation outside of the subject land extends to the north, east, and west for > 100 ha (Figure 6); the patch size for these vegetation zones therefore falls into the ≥ 100 ha class as defined by the BAM.

2.2.4.5 Vegetation integrity scores

As stated in Section 1.1, the ‘development footprint’ only relates to the portions of the ‘subject land’ which will be impacted by the proposed development (refer to Figure 3). Zones which support any amount of ‘native vegetation’, regardless of how small, and which occur in the development footprint are used to determine vegetation integrity scores and the impacts associated with the proposed development (refer to Figure 9). Zones which do not support **any** native vegetation do not require further assessment in the BAM except where:

(a) they are proposed for restoration as part of a biodiversity stewardship site; or

(b) they are assessed as habitat for threatened species.

As detailed in Table 9 to Table 14 and shown in Figure 8, PCT320 Zone 1 does not occur in the development footprint and so will not be impacted by the proposed development.

PCT320 Zone 2 and PCT1334 Zone 1, Zone 3, Zone 4, and Zone 5 do occur in the development footprint. While PCT1334 Zone 1, Zone 3, and Zone 4 are classified as BC Act ‘native vegetation’, PCT320 Zone 2 and PCT1334 Zone 5 are not as they have a groundstorey clearly dominated by exotic grasses and forbs (i.e. $> 65\%$ perennial exotic) and do not contain a cover of native trees and/or shrubs. However, both PCT320 Zone 2 and PCT1334 Zone 5 do support a very small native component (Appendix A and Appendix B) and so must be assessed as per the BAM.

Table 15 therefore presents the results of the BAM plot assessments and details the composition, structure, function, and resulting vegetation integrity score for PCT320 Zone 2 and PCT1334 Zone 1, Zone 3, Zone 4, and Zone 5.

Table 15. Vegetation integrity scores.

	PCT320	PCT1334			
	Zone 2	Zone 1	Zone 3	Zone 4	Zone 5
Native Canopy	No	Yes	Yes	No	No
Groundstorey	Exotic	Native	Exotic	Native	Exotic
Native Diversity	Low	Mod - High	Low	Low	Low
Patch size	0 ha	> 100 ha	> 100 ha	> 100 ha	0 ha
Area in the subject land	13.36 ha	0.60 ha	0.70 ha	7.05 ha	34.25 ha
Area impacted by the proposed development	9.53 ha	0.42 ha	0.68 ha	7.05 ha	34.25 ha
BAM plots assessed in the subject land	3	1	1	3	4
Composition condition score	40.7	66.4	23.0	14.5	1.6
Structure condition score	0.9	47.9	29.6	50.6	0.0
Function condition score	N/A – grassland	34.2	41.0	0.3	1.9
Current vegetation integrity score	5.9	47.7	30.3	5.7	0.5

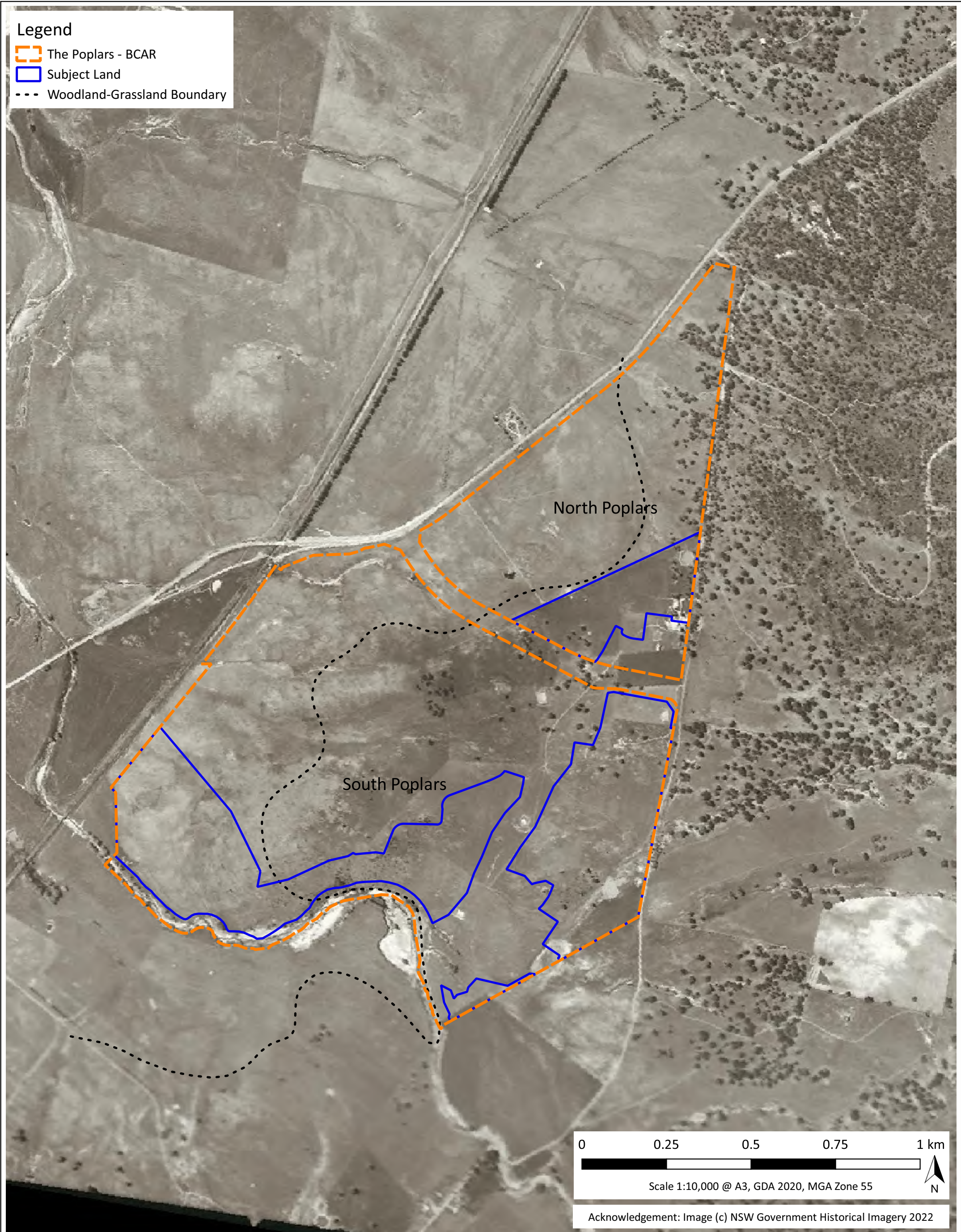


Figure 7. The Subject Land on Historic Aerial Imagery

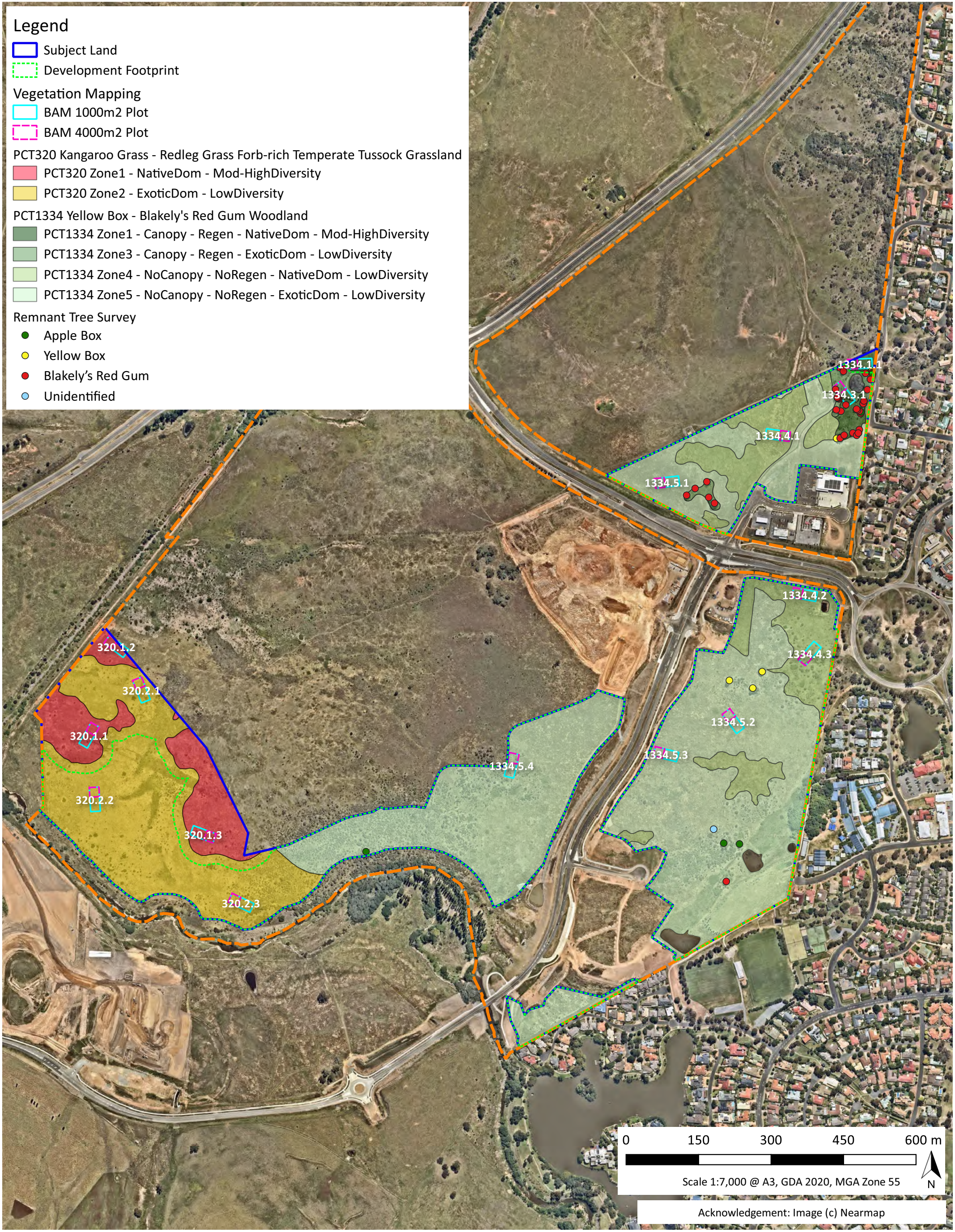


Figure 8. BAM Vegetation Mapping and Survey



Figure 9. BC Act Native Vegetation

2.2.5 Threatened Ecological Communities

2.2.5.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Two EPBC Act critically endangered listed threatened ecological communities have the potential to occur in the locality, both listed as critically endangered under the EPBC Act: Natural Temperate Grassland of the South Eastern Highlands (Natural Temperate Grassland) and White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Woodland).

Natural Temperate Grassland of the South Eastern Highlands – listed as critically endangered pursuant to the EPBC Act

Description – As detailed in Commonwealth of Australia (2016a⁵³), the Natural Temperate Grassland threatened ecological community is characterised by grassy vegetation dominated by moderately tall (25–50cm) to tall (50–100cm), dense to open tussock grasses in the genera *Austrodanthonia* (note: now *Rytidosperma*), *Austrostipa*, *Bothriochloa*, *Poa* and *Themeda*. Up to 70% of all plant species may be forbs. The community may be treeless or contain up to 10% cover of trees, shrubs or sedges.

The *Approved conservation advice for the Natural Temperate Grassland of the South Eastern Highlands (NTG–SEH) ecological community* (Commonwealth of Australia 2016a) provides the key diagnostic characteristics and condition thresholds for determining whether a patch is the listed community. A patch is the listed community, assessed via a standard sampling plot of 400 m² (i.e. 20x20 m), if it meets either of the following scenarios.

Scenario A – *The patch is characterised by at least 50 % foliage cover of the ground of either Themeda triandra, Poa labillardierei, or Carex bichenoviana.*

Scenario B – *When the cover of the grassland is not evidently dominated by the species highlighted under Scenario A:*

1. *The percentage cover of native vascular plants (including annual and perennial species) in the patch is greater than the percentage cover of perennial exotic species.*

And

2. *When assessed during favourable sampling times (i.e. spring-summer), the patch has:*

- *At least 8 non-grass native species*

OR

- *At least 2 indicator species*

OR

- *A floristic value score (FVS) of at least 5.*

Presence in the subject land – Confirmed – The entire portion of the subject land mapped as PCT320 would have once supported the climax community of this TEC.

PCT320 Zone 1 meets the listing criteria for NTG-SEH as it is characterised by a native groundstorey with moderate to high native forb diversity, supporting an average of 12.3 (range of 4 – 18) native

⁵³ Commonwealth of Australia (2016a). *Approved conservation advice for the Natural Temperate Grassland of the South Eastern Highlands (NTG–SEH) ecological community.*

non-grass species and 7 (range of 2 – 10) indicator species. PCT320 Zone 1 does not occur in the development footprint and so will not be impacted by the proposed development.

PCT320 Zone 2 does not meet the listing criteria for NTG-SEH as it is characterised by a clearly exotic groundstorey (Table 10, Appendix B). PCT320 Zone 2 does occur in the development footprint and so will be impacted by the proposed development.

As such, while the wider subject land supports Natural Temperate Grassland of the South Eastern Highlands in the areas defined by PCT320 Zone 1, the development footprint does not.

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland – listed as critically endangered pursuant to the EPBC Act

Description – The White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland TEC is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs (where shrub cover comprises less than 30% cover), and a dominance or prior dominance of White Box and/or Yellow Box and/or Blakely's Red Gum trees. This TEC occurs along the western slopes and tablelands of the Great Dividing Range from southern Queensland through New South Wales and the Australian Capital Territory to Victoria.

Presence in the subject land – Confirmed – The entire portion of the subject land mapped as PCT1334 would have once supported the climax community of this TEC.



Assessments of structure and floristic composition were undertaken in each of the four condition categories (Vegetation Zones) of PCT1334 present in the subject land. The purpose of these assessments was to determine whether the patches of each Vegetation Zone support characteristics sufficient to meet the listing criteria for the EPBC Act listed TEC. The assessment process follows that provided in the Commonwealth EPBC Act Policy Statement 3.5 – White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands (Commonwealth of Australia 2006). The results of this assessment are provided in Table 16. As detailed in Table 16, the area mapped as PCT1334 Zone 1 meets the criteria for the EPBC Act listed TEC, while PCT1334 Zone 3 to Zone 5 do not meet the listing criteria.

Conclusion

The subject land supports EPBC Act Box Gum Woodland in the areas defined by PCT1334 Zone 1. The proposed development will impact 0.42 ha of PCT1334 Zone 1.

Table 16. Assessment against the listing criteria for the EPBC listed TEC – White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

Criterion	Assessment results			
	PCT1334 Zone 1	PCT1334 Zone 3	PCT1334 Zone 4	PCT1334 Zone 5
1. <i>Is, or was previously, at least one of the most common overstorey species White Box, Yellow Box or Blakely's Red Gum?</i>	Yes Red Gum is dominant throughout this zone and Yellow Box occurs as an associated species.	Yes Yellow Box and Red Gum are co-dominant throughout this zone.	Yes Yellow Box and Red Gum are expected to have been historically dominant or co-dominant throughout this zone.	Yes Yellow Box and Red Gum are expected to have been historically dominant or co-dominant throughout this zone.
2. <i>Does the patch have a predominantly native understorey?</i>	Yes The understorey was recorded as 92% native species cover.	No The understorey was recorded as 4% native species cover.	Yes The understorey was recorded as ranging from 44% to 80% native species cover, with an average of 67%.	No The understorey was recorded as ranging from 0% to 3% native species cover, with an average of 2%.
3. <i>Is the patch 0.1 ha (1000 m²) or greater in size with 12 or more native understorey species present (excluding grasses)? There must be at least one important species.</i>	Yes The patch is greater than 0.1 ha in size and 19 native non-grass understorey species were recorded across the single plot.	N/A Refer Criterion 2 results.	No While the patches are greater than 0.1 ha in size, only an average 4.33 (range of 1 to 7) native non-grass understorey species were recorded across three plots.	N/A Refer Criterion 2 results.
Or				
<i>Is the patch 2 ha or greater in size with an average of 20 or more mature trees per hectare, or is there natural regeneration⁵⁴ of the dominant overstorey eucalypts?</i>	Yes When directly adjoining intact Box-Gum Woodland outside the subject land is also considered, the patch is greater than 2 ha and supports mature trees and natural regeneration of the overstorey.	N/A Refer Criterion 2 results.	No PCT1334 Zone 4 does not support mature trees or regeneration of the overstorey.	N/A Refer Criterion 2 results.
<i>Does the patch meet the criteria for the listed TEC?</i>	Yes	No	No	No

⁵⁴ Defined in Commonwealth of Australia (2006) as 'natural regeneration of the dominant overstorey eucalypts when there are mature trees [circumference of at least 125 cm at 130 cm above the ground] plus regenerating trees of at least 15 cm circumference at 130 cm above the ground.'

2.2.5.2 Biodiversity Conservation Act 2016 (NSW)

Two BC Act listed ecological communities have the potential to occur in the subject land: *White Box – Yellow Box – Blakely's Red Gum Woodland* (BC Act Box-Gum Woodland) and *Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion*.

BC Act Box-Gum Woodland

This community, listed as critically endangered in NSW, is described below, together with an assessment of its presence and condition in the subject land.

The below description is extracted from the NSW *Final Determination: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (NSW Threatened Species Scientific Committee 2020, gazetted 17 July 2020a⁵⁵).

4.2. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characterised by widely-spaced trees with canopies not touching and projected foliage cover generally less than 30% (Prober et al. 2017) ...Understorey shrubs are typically sparse or absent (Prober et al. 2017). The groundcover is dominated by perennial tussock grasses interspersed with a diverse range of forb species with the families Asteraceae and Fabaceae, and the orders Liliales and Asparagales well represented (Prober et al. 2017).

4.3. White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characteristically dominated by one or more of the species Eucalyptus albens (White Box), E. melliodora (Yellow Box) and E. blakelyi (Blakely's Red Gum) ...A number of understorey species are typically found throughout almost the entire range of the community, with the exception of the extreme north of its distribution and areas where they have been excluded by grazing.

4.10. The distribution of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland spans a range in elevation from approximately 170 m ASL on the western slopes of the Great Dividing Range to approximately 1200 m on the Northern Tablelands of NSW (Beadle 1981), although occurrences on the ranges are typically at lower elevations (Prober et al. 2017). The topography on which the community occurs ranges from flat in the west of its range to hilly and undulating in the east (Prober and Thiele 2004).

4.12. ...For the purpose of establishing the risk of ecosystem/community collapse due to ongoing decline in distribution, it is not possible on the basis of available data, to specify thresholds in either tree cover or species diversity which are indicative of loss of function because: i) no single threshold is appropriate for the range of circumstances and pathways leading to different states of degradation (and hence the potential for recovery); ii) the point at which an ecological community has ceased to function in its original form is inherently uncertain, and the scientific basis upon which symptoms such as loss of tree cover and diversity can be related to ecological function is not established in this case; and iii) recovery may be dependent on active remediation, therefore thresholds can not be determined in absolute terms because they depend on social (collective will) and economic (cost of remediation) factors.

3.1.4. The condition of remnants ranges from relatively good to highly degraded, such as paddock remnants with weedy understories and only a few hardy natives left. Some remnants of

⁵⁵ NSW Threatened Species Scientific Committee (2020a). *Final Determination: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Gazetted 17 July 2020.

the community may consist of only an intact overstorey or an intact understorey but may still have high conservation value due to the flora and fauna they support.

The final determination does not provide specific listing criteria against which to assess a patch of vegetation. However, as described in the final determination, the definition for the BC Act Box-Gum Woodland TEC is extremely broad. In effect, any land for which the climax community is Box-Gum Woodland that has not been cultivated, become a stock camp, or otherwise been entirely modified, is likely to meet the minimum definition of the BC Act listed TEC.

Presence in the subject land – Confirmed – The entire portion of the subject land mapped as PCT1334 would have once supported the climax community of this TEC. PCT1334 Zone 1 is characterised by a native overstorey with a moderate to high diversity native understorey, PCT1334 Zone 3 by a native overstorey with a low diversity exotic understorey, PCT1334 Zone 4 by no overstorey with a low diversity native understorey, and PCT1334 Zone 5 by no overstorey with a low diversity exotic understorey.

PCT1334 Zones 1 and Zone 3, support vegetation which meets the criteria for this TEC in moderate to high condition, and PCT1334 Zone 4 supports vegetation which meets the criteria for this TEC in low condition. This condition classification is reflected in the respective vegetation integrity score for each zone (Table 15).

PCT1334 Zone 5 lacks a native overstorey and has a groundstorey that is highly modified and dominated by perennial exotic grasses and herbaceous weeds. As such, PCT1334 Zone 5 does not support vegetation which meets the criteria for this TEC under the BC Act.

The portions of the development footprint that support BC Act Box-Gum Woodland are defined by the extent of PCT1334 Zone 1, Zone 3, and Zone 4. The proposed development will therefore impact 1.10 ha of moderate to high condition BC Act Box-Gum Woodland and 7.05 ha of low condition BC Act Box-Gum Woodland.

BC Act Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion

The Monaro Tableland Cool Temperate Grassy Woodland (CTGW) in the South East Highlands Bioregion community, listed as critically endangered in NSW, is described below, together with an assessment of its presence and condition within the subject land.

The below description is extracted from the NSW *Final Determination for the TSC Act critically endangered listed ecological community Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion* (NSW Threatened Species Scientific Committee 2019⁵⁶).

Monaro Tableland Cool Temperate Grassy Woodland ranges in structure from woodland to low open woodland. It is characterised by a sparse to very sparse tree stratum dominated by Eucalyptus pauciflora either in monospecific stands or with any of Acacia melanoxylon, E. rubida subsp. rubida, E. stellulata or E. viminalis as codominants. A number of other tree species have been recorded within the community, although very infrequently and always as canopy subdominants. These include E. bridgesiana, E. dives, E. blakelyi and E. melliodora. Tree height and cover vary as a function of moisture availability, drainage and past land management. The tree stratum becomes shorter and sparser with declining moisture availability or increasing levels of soil waterlogging... Trees may be absent as a consequence of tree removal under

⁵⁶ NSW Threatened Species Scientific Committee (2019). *Final Determination: Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion*. Department of Planning, Industry and Environment, Sydney. Gazetted 28 June 2019.

pastoral management and grazing by domestic stock. A continuous herbaceous ground stratum is usually present, although this is highly variable in composition and cover as a function of grazing pressure from wild herbivores (native and exotic) and domestic stock. Ground cover species include *Themeda triandra*, *Poa sieberiana*, *Elymus scaber*, *Hydrocotyle laxiflora*, *Scleranthus biflorus*, *Oxalis perennans*, *Plantago varia*, *Euchiton japonicus*, *Poa labillardieri*, *Hypericum gramineum*, *Desmodium varians*, *Geranium solanderi*, *Acaena echinata*, *Gonocarpus tetragynus*, *Microlaena stipoides*, *Dichondra repens*, *Solenogyne gunnii*, *Asperula conferta*, *Asperula scoparia*, *Rumex brownii*, *Rytidosperma laeve*, *Rytidosperma pilosum*, *Chrysocephalum apiculatum* and *Chrysocephalum semipapposum*. The Community may develop a shrub or bracken layer as a consequence of the opening up of the ground stratum following excessive grazing by rabbits and sheep. This may include species such as *Pimelea pauciflora*, *Acacia dealbata*, *Acacia melanoxylon*, *Acacia rubida* subsp. *rubida*, *Cassinia longifolia* and *Pteridium esculentum* (Costin 1954).

As stated in Part 4 of the Final Determination, the occurrence or historical occurrence of Snow Gum *Eucalyptus pauciflora* is the primary characteristic for determining the presence of the community. The final determination provides a Monaro & Werriwa CTGW Assessment Spreadsheet Tool to be used in conjunction with an Advisory Layer indicating potential extent. Presence of Snow Gum, characteristic species, non-characteristic species, stumps, and the proximity to nearest Snow Gum, are entered into the assessment tool to determine the likelihood of occurrence of the community. Part 1 of the Final Determination provides a list of an assemblage of species characteristic of the Monaro Tableland CTGW.

Presence in the subject land – Absent – The dominant tree species in the subject land are not characteristic of the dominant or co-dominant species of the BC Act Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion TEC. As such, the subject land does not support vegetation which meets the criteria for this community under the BC Act.

Conclusion

The development footprint supports the BC Act listed ecological community *White Box Yellow Box Blakely's Red Gum Woodland* in the areas mapped as PCT1334 Zone 1, Zone 3, and Zone 4. No part of the development footprint or wider subject land supports the BC Act listed ecological community *Monaro Tableland Cool Temperate Grassy Woodland in the South East Highlands Bioregion*.

2.2.6 High threat weeds

Table 17 lists the 15 high threat weeds that occur in the subject land. Common Hawthorn, African Boxthorn, Orange Firethorn, Briar Rose, and Serrated Tussock were very widespread and often occurred at high densities.

Table 17. High threat weeds.

Species Name	Common Name	Status
Trees		
<i>Ailanthus altissima</i>	Tree of Heaven	LM
<i>Salix</i> sp.	Willow	WoNS, LM/AP
Shrubs		
<i>Crataegus monogyna</i>	Common Hawthorn	-
<i>Lycium ferocissimum</i>	African Boxthorn	WoNS, AP

Species Name	Common Name	Status
<i>Pyracantha angustifolia</i>	Orange Firethorn	-
<i>Rosa rubiginosa</i>	Briar Rose	-
<i>Rubus fruticosus aggregate</i>	Blackberry	WoNS, LM/AP
Forb		
<i>Acetosella vulgaris</i>	Sheep's Sorrey	-
<i>Carthamus lanatus</i>	Saffron Thistle	-
<i>Cyperus Eragrostis</i>	Tall Flat-sedge	-
<i>Echium plantagineum</i>	Paterson's Curse	-
<i>Hypericum perforatum</i>	St John's Wort	LM
Grass		
<i>Eragrostis curvula</i>	African Lovegrass	AP
<i>Nassella trichotoma</i>	Serrated Tussock	WoNS, C
<i>Paspalum dilatatum</i>	Paspalum	-

Table key. Commonwealth Weed of National Significance = **WoNS**. Regional Priority Weed in the South East Local Land Services region under the NSW *Biosecurity Act 2015*: **P** = Prevention; **E** = Eradication; **C** = Containment; **AP** = Asset Protection; **LM** = Species subject to Local Management programs.

2.3 Habitat Suitability for Threatened Species

2.3.1 Fauna habitat

The habitat features in the subject land were identified during the field surveys and assessed regarding their potential value to native fauna species, both threatened and common. The fauna habitat features of the subject land are described in Table 18. It is important to note that the information presented in Table 18 is also used to assess the presence/absence of habitat constraints and/or microhabitats for EPBC Act only listed species (Section 2.3.3), ecosystem credits species (Section 2.3.4), and species credit species (Section 2.3.5).

Table 18. Fauna habitat features.

Habitat Feature	Description	Relevant Native Fauna Species/Assemblages
Remnant eucalypts	Historic clearing has removed approximately 97% of the native overstorey across the subject land, and the remaining small patches of woodland have been historically thinned or occur as isolated paddock trees. The subject land supports 50 remnant trees, 7 of which contain at least one functional hollow (Figure 8, Appendix C). No trees in the subject land support large hollows greater than 20 cm.	All remnant trees are likely to provide foraging resources for a variety of birds and marsupials when in flower, including threatened species. The hollow bearing remnant trees are likely to provide a nesting resource for birds, bats, and marsupials.

Habitat Feature	Description	Relevant Native Fauna Species/Assemblages
Other native vegetation (i.e. native shrubs, grasses, and forbs)	<p>The midstorey and shrubstorey are almost entirely absent throughout the subject land.</p> <p>Approximately 20% of the subject land supports native dominant grassy vegetation in the form of derived grassland. The value of these areas to native fauna, particularly threatened species, depends largely on the degree of modification.</p>	<p>The absent midstorey and shrubstorey are likely to limit the habitat value of the subject land for some of the region's threatened and rare woodland birds, which generally prefer to inhabit woodland where such features are more intact.</p> <p>The grasses and forbs are likely to provide a foraging resource to a variety of native birds, reptiles, and herbivorous mammals, such as the Eastern Grey Kangaroo. In addition, as detailed in Section 2.3.5.2, the areas of PCT320 Zone 1, PCT1334 Zone 1, and PCT1334 Zone 4 support habitat for the threatened Golden Sun Moth.</p> <p>Open areas are likely to provide a hunting resource for raptors and other predatory birds.</p>
Exotic pasture	<p>Approximately 80% the subject land supports a highly modified pasture dominated by exotic grasses and forbs (i.e. PCT320 Zone 2 and PCT1334 Zone 5).</p>	<p>The exotic dominant pasture would provide a foraging resource of limited value for common birds, reptiles, and herbivores.</p> <p>Open areas are likely to provide a hunting resource for raptors and other predatory birds.</p>
Surface rocks and rocky outcrops	<p>Loose surface rock and embedded rocky outcrops are scattered across a substantial portion of the subject land.</p>	<p>The loose surface rock is likely to provide refuge and foraging habitat for common herpetofauna and invertebrates. In addition, as detailed in Section 2.3.5.2, the areas of PCT320 Zone 1 in the subject land that contain loose surface rock support habitat for the threatened Pink-tailed Legless Lizard</p>
Creeks, streams, dams	<p>The subject land supports one tributary which joins Jerrabomberra Creek immediately to the south, and one drainage line that terminates in the south-east of the subject land. The tributary was dry at the time of survey and is only likely to convey water following substantial rain events.</p> <p>There are five small to moderately sized dams in the subject land. All of the dams held a small to moderate amount water at the time of survey.</p> <p>The two dams that occur along the drainage line in the south-east of the subject land and the single dam that occurs in the northern most corner of the subject land support modified riparian vegetation that is primarily dominated by exotic species.</p>	<p>The lack of reliable water flows and native riparian vegetation indicates that the tributary and drainage line are unlikely to provide habitat of potential value to aquatic/riparian flora or fauna.</p> <p>The small to moderately sized farm dams are only likely to be of limited value to the common native herbivores, water birds, reptiles, and amphibians that occur in the locality.</p>

2.3.2 Threatened Biodiversity Data

2.3.2.1 Definitions of conservation significance

The conservation significance of a species, population or community is determined by its current listing pursuant to Commonwealth and/or State legislation and associated policy, more specifically:

- National – Listed as threatened (critically endangered, endangered, vulnerable, or conservation dependent) pursuant to the EPBC Act; and
- State (NSW) – Listed as threatened (critically endangered, endangered, or vulnerable) pursuant to the BC Act.

Species listed as 'migratory' under the EPBC Act are also considered where relevant.

2.3.2.2 Database and literature review

Information regarding the suitability of the habitat in the subject land for threatened species was obtained from the Threatened Biodiversity Data Collection (TBDC), BioNet (e.g. the profile of a threatened species), the BAM Calculator, listing determinations, and/or recovery plans prepared for the species by the Commonwealth Government and NSW Government. This information is used to assess the presence/absence of habitat constraints and/or microhabitats for species identified by the DCEW's online EPBC Act Protected Matters Search Tool (PMST) (Section 2.3.3) or flagged by the BAM as ecosystem credits species (Section 2.3.4) and species credit species (Section 2.3.5).

A database search and literature review were completed to inform likelihood of occurrence assessments and provide useful background information for this assessment. This review included obtaining:

- a list of threatened species (flora and fauna), threatened populations and threatened ecological communities (TECs) listed pursuant to the EPBC Act with the potential to occur in the subject land obtained using the Department of the Environment's online EPBC Act Protected Matters Search Tool (PMST) on 9 July 2019 and updated on 6 May 2022; and
- ecological point data from the NSW Wildlife Atlas (BioNet), downloaded on 11 September 2019 and updated on 21 January 2022, providing a list of threatened species which have previously been recorded in the broad locality of the subject land (i.e. within 10 km) (refer to Figure 10).

Literature referred to during the conduct of the surveys for this study and/or during the preparation of this BCAR is listed under References.

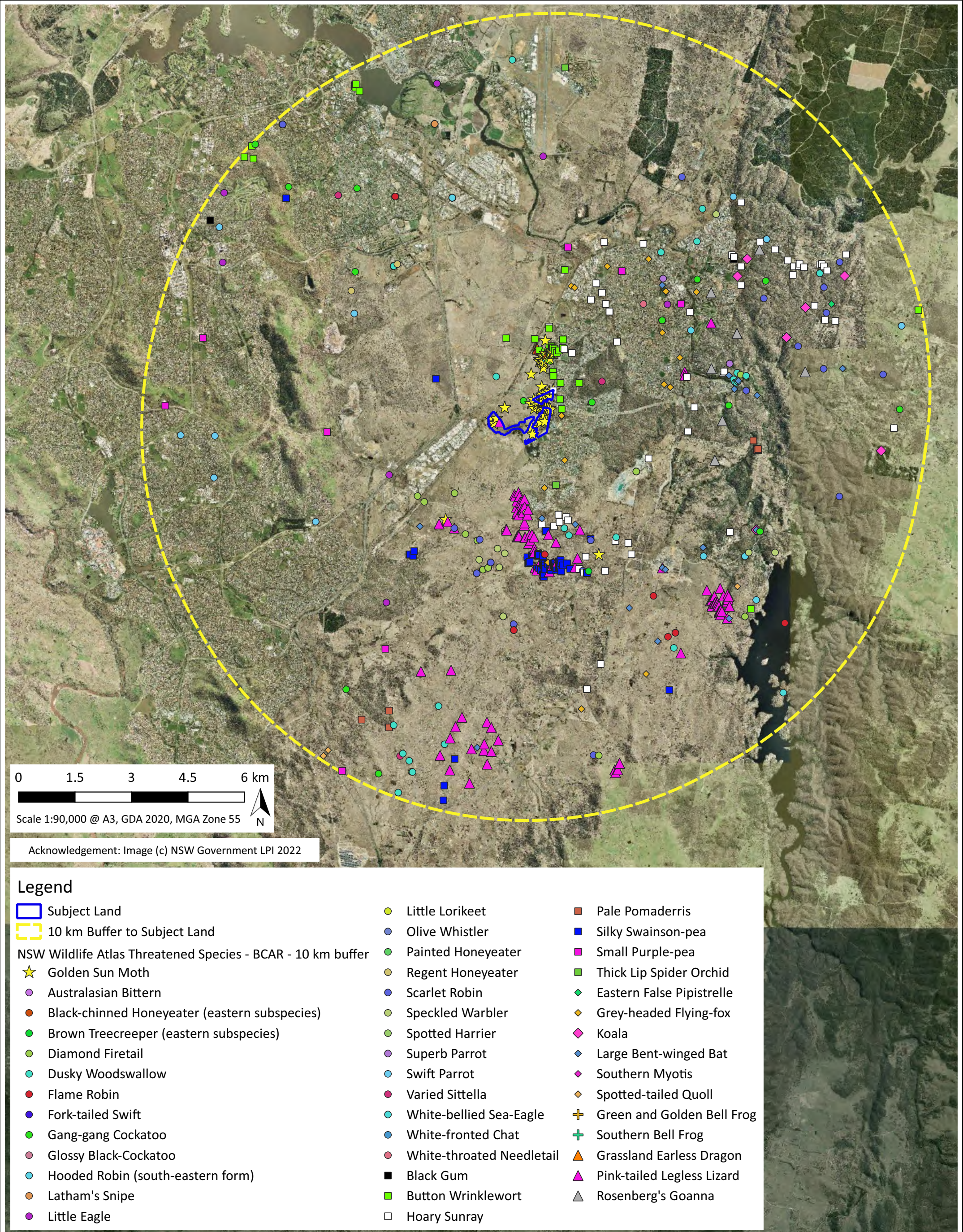


Figure 10. NSW Wildlife Atlas Threatened Species Search

2.3.3 Habitat suitability for species only listed under the EPBC Act

Threatened species identified by the BAM Calculator and/or the PMST as potentially occurring in the subject land and listed under the EPBC Act only (i.e. not listed under the BC Act) are included in Table 19. Species listed under both the EPBC Act and BC Act are addressed in Table 20 and/or Table 21. The likelihood of these species occurring in the subject land is determined based the presence/absence of specific habitat constraints, microhabitat requirements, geographic limitations, vagrancy, species records (BioNet and ecological reports), and/or the results of targeted surveys. Information regarding habitat constraints, microhabitat requirements, geographic limitations, and vagrancy were obtained from the TBDC, BioNet (e.g. the profile of a threatened species), the BAM Calculator, listing determinations, and/or recovery plans prepared for the species by the Commonwealth Government and NSW Government. A summary of the findings from each targeted survey is given in Section 2.3.5.2.

Table 19. Candidate EPBC Act only listed species identified as potentially occurring in the subject land.

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Leucochrysum albicans</i> <i>subsp. tricolor</i> Hoary Sunray	Endangered	Endangered	This species occurs in a wide variety of grassland, woodland, and forest habitats, generally on relatively heavy soils. It can occur in modified habitats such as semi-urban areas and roadsides. It is highly dependent on the presence of bare ground for germination, and in some areas disturbance is required for successful establishment.	Yes – surveyed	As detailed in Section 2.3.5.2, approximately 130 Hoary Sunray plants were recorded in 700 m ² of the relatively intact PCT1334 Zone 1 located immediately adjacent to the Poplars North BioBanking Site. <u>Conclusion - the subject land supports habitat for this species.</u>
<i>Numenius madagascariensis</i> Eastern Curlew	-	Critically Endangered	Within Australia, the Eastern Curlew has a primarily coastal distribution and are rarely recorded inland. It generally occupies coastal lakes, inlets, bays and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats and sometimes saltmarsh of sheltered coasts. It forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed. It roosts on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. The species breeds in Russia and north-eastern China. The TBDC lists ‘as per mapped areas’ as a foraging habitat constraint for this species.	No – microhabitat features	The subject land is far from coastal regions and does not support lakes, insets, bays, estuarine habitats, mudflats, or saltmarshes. While it is possible that the species may periodically visit the subject land during movements through the landscape, the species was not recorded in the subject land. Finally, the subject land does not contain nesting resources or potentially significant foraging resources for the species. <u>Conclusion - the species is unlikely to occur in the subject land.</u>

2.3.4 Habitat suitability for ecosystem credit species

Threatened species classified as ecosystem credit species and identified by the BAM as potentially occurring in the subject land are listed in Table 20. The value of the habitat in the subject land for ecosystem credit species is determined based on the type and condition (i.e. vegetation integrity) of the vegetation present together with the landscape context (refer to Section 2.1). The likelihood of these species occurring in the subject land is determined based the presence/absence of specific habitat constraints, geographic limitations, and vagrancy. Information regarding habitat constraints, geographic limitations, and vagrancy were obtained from the TBDC, BioNet (e.g. the profile of a threatened species), and through the BAM Calculator.

Table 20. Predicted ecosystem credit species identified by the BAM as potentially occurring in the subject land.

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Presence	Justification for exclusion
<i>Anthochaera phrygia</i> Regent Honeyeater (Foraging)	Critically Endangered	Critically Endangered	Yes – assumed	-
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo (Foraging)	Vulnerable	Endangered	Yes – confirmed See Section 1.3	-
<i>Chthonicola sagittata</i> Speckled Warbler	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Circus assimilis</i> Spotted Harrier	Vulnerable	-	Yes – assumed	-
<i>Climacteris picumnus victoriae</i> Brown Treecreeper (eastern subspecies)	Vulnerable	-	Yes – assumed	-
<i>Daphoenositta chrysoptera</i> Varied Sittella	Vulnerable	-	Yes – confirmed See Section 1.3	-

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Presence	Justification for exclusion
<i>Dasyurus maculatus</i> Spotted-tailed Quoll	Vulnerable	Endangered	Yes – assumed	-
<i>Epthianura albifrons</i> White-fronted Chat	Vulnerable	-	Yes – assumed	-
<i>Glossopsitta pusilla</i> Little Lorikeet	Vulnerable	-	Yes – assumed	-
<i>Grantiella picta</i> Painted Honeyeater	Vulnerable	Vulnerable	No – habitat constraint	<p>The BAM Calculator and TBDC lists the following habitat constraint:</p> <ul style="list-style-type: none"> Mistletoes present at a density of greater than five mistletoes per hectare. <p>A small number of mistletoes were recorded in the subject land (far less than five per hectare). As such, the absence of this habitat constraint removes this species as an ecosystem credit species.</p>
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Foraging)	Vulnerable	-	Yes – assumed	-
<i>Hieraaetus morphnoides</i> Little Eagle (Foraging)	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Hirundapus caudacutus</i> White-throated Needletail	-	Vulnerable	Yes – assumed	-
<i>Lathamus discolor</i> Swift Parrot (Foraging)	Endangered	Critically Endangered	Yes – assumed	-
<i>Lophoictinia isura</i> Square-tailed Kite (Foraging)	Vulnerable	-	Yes – assumed	-

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Presence	Justification for exclusion
<i>Melanodryas cucullata cucullata</i> Hooded Robin (south-eastern form)	Vulnerable	-	Yes – assumed	-
<i>Melithreptus gularis gularis</i> Black-chinned Honeyeater (eastern subspecies)	Vulnerable	-	Yes – assumed	-
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat (Foraging)	Vulnerable	-	Yes – assumed	-
<i>Neophema pulchella</i> Turquoise Parrot	Vulnerable	-	Yes – assumed	-
<i>Petroica boodang</i> Scarlet Robin	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Petroica phoenicea</i> Flame Robin	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Stagonopleura guttata</i> Diamond Firetail	Vulnerable	-	Yes – confirmed See Section 1.3	-
<i>Suta flagellum</i> Little Whip Snake	Vulnerable	-	Yes – assumed	-
<i>Varanus rosenbergi</i> Rosenberg's Goanna	Vulnerable	-	Yes – assumed	-

2.3.5 Habitat suitability for species credit species

2.3.5.1 Candidate species credit species

Threatened species classified as species credit species and identified by the BAM as potentially occurring in the subject land are listed in Table 21. The value of the habitat in the subject land for species credit species is determined based on the type and condition (i.e. vegetation integrity) of the vegetation present together with the landscape context (refer to Section 2.1). The likelihood of these species occurring in the subject land is determined based the presence/absence of specific habitat constraints, microhabitat requirements, geographic limitations, vagrancy, species records (BioNet and ecological reports), and/or the results of targeted surveys. Information regarding habitat constraints, microhabitat requirements, geographic limitations, and vagrancy were obtained from the TBDC, BioNet (e.g. the profile of a threatened species), and through the BAM Calculator. A summary of the findings from each targeted survey is given in Section 2.3.5.2.

Table 21. Candidate species credit species identified by the BAM as potentially occurring in the subject land.

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Anthochaera phrygia</i> Regent Honeyeater (Breeding)	Critically Endangered	Critically Endangered	This species inhabits dry open forest and woodland (particularly Box-Ironbark woodland and riparian forests of River Sheoak) that have significantly large numbers of mature trees, high canopy cover, and abundance of mistletoes. The species breeds in Box-Ironbark and other temperate woodlands, and in riparian gallery forest dominated by River Sheoak. The species usually nests in tall mature eucalypts, Sheoaks, or mistletoe haustoria. There are only three known key breeding regions: north-east Victoria (Chiltern-Albury) and NSW (Capertee Valley and the Bundarra-Barraba region). The TBDC lists ' <i>as per important habitat map</i> ' as a breeding habitat constraint for this species.	No – habitat constraint	The subject land is not identified on the 'BAM – Important Areas viewer' map ⁵⁷ . <u>Conclusion - the subject land lacks the breeding habitat constraints required for this species.</u>
<i>Aprasia parapulchella</i> Pink-tailed Legless Lizard	Vulnerable	Vulnerable	This species inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass. Sites are typically well-drained, with rocky outcrops or scattered, partially buried rocks. The TBDC lists ' <i>rocky areas or within 50 m of rocky areas</i> ' as a habitat constraint for this species. Some of the main threats to this species listed in the TBDC are habitat loss through bush-rock removal and vegetation clearing for agricultural purposes (e.g. pasture improvement including slashing, ploughing, and sowing of non-native species), overgrazing by domestic stock, and invasion of habitat by weeds.	No – surveyed	As detailed in Section 2.3.5.2, the species was detected in the subject land in PCT320 Zone 1 during targeted surveys. However, the species was not detected in the development footprint. These findings are consistent with previous ecological surveys across the subject land and adjoining land, which recorded habitat for the species in the Poplars South BioBanking Site (see Section 1.3). <u>Conclusion - the development footprint does not support habitat for this species.</u>
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo (Breeding)	Vulnerable	Endangered	In spring and summer, this species is generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas. Gang-Gang Cockatoos favour old growth forest and woodland for nesting and roosting. The TBDC lists ' <i>Eucalypt tree species with hollows at least 3 m above the ground and with hollow diameter of 7 cm or larger</i> ' as a breeding habitat constraint for this species.	No – surveyed	The subject land does not support tall mountain forests or woodlands, heavily timbered or mature wet sclerophyll forests, or old growth forest or woodland. In addition, the grassy woodland across the subject land is heavily degraded as approximately 97% of the overstorey has been cleared and the midstorey and shrubstorey are almost entirely absent. Finally, targeted bird surveys were conducted across the wider subject land in the patches of more intact woody vegetation, and remnant trees were assessed for the presence/absence of habitat features and for signs of fauna nesting in hollows (Figure 12). No Gang-gang Cockatoos were recorded in the subject land and no sign of Gang-gang Cockatoos nesting in tree hollows was detected. <u>Conclusion - The species is considered unlikely to breed in the subject land.</u>

⁵⁷ https://webmap.environment.nsw.gov.au/Html5Viewer291/index.html?viewer=BAM_ImportantAreas

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Delma impar</i> Striped Legless Lizard	Vulnerable	Vulnerable	Striped Legless Lizard is mainly found in Natural Temperate Grassland but has also been captured in grasslands that have a high exotic component. It is also found in secondary grassland near Natural Temperate Grassland and occasionally in open Box-Gum Woodland. Habitat is characterised by perennial, tussock-forming grasses such as Kangaroo Grass <i>Themeda triandra</i> , Speargrasses <i>Aurola stipa</i> spp., Poa Tussocks <i>Poa</i> spp., and occasionally Wallaby Grasses <i>Rhytidosperra</i> spp.. The species can sometimes be found in modified grasslands with a significant content of exotic grasses, and in grasslands with significant amounts of surface rocks (used for shelter). Some of the main threats to this species listed in the TBDC are habitat loss through vegetation clearing for agricultural purposes (e.g. pasture improvement including slashing, ploughing, and sowing of non-native species), habitat degradation through invasion by weeds or escaped pasture species, and overgrazing by domestic stock.	No – surveyed	As described in Section 2.3.5.2, targeted surveys did not detect this species in the development footprint or wider subject land. This is consistent with previous targeted surveys for the species in “The Poplars” property (see Section 1.3). <u>Conclusion - the subject land does not support habitat for this species.</u>
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Breeding)	Vulnerable	-	Breeding habitat consists of mature tall open forest, open forest, tall woodland, and swamp sclerophyll forest close to foraging habitat. Nest trees are typically large emergent eucalypts and often have emergent dead branches or large dead trees nearby which are used as ‘guard roosts’. Nests are large structures built from sticks and lined with leaves or grass. The TBDC lists ‘living or dead mature trees in suitable vegetation within 1km of a river, lake, large dam, creek, wetland, or coastline’ as a breeding habitat constraint.		Targeted bird surveys were conducted across the subject land in the patches of more intact woody vegetation, and remnant trees were assessed for the presence/absence of habitat features and for signs of fauna nesting in stick nests (Figure 12). No large stick nests or White-bellied Sea-eagles were recorded in the subject land. <u>Conclusion - The species is considered unlikely to breed in the subject land.</u>
<i>Hieraetus morphnoides</i> Little Eagle (Breeding)	Vulnerable	-	This species occupies open eucalypts forest, woodland, or open woodland. Sheoak or <i>Acacia</i> woodlands and riparian woodlands of interior NSW are also used. The species nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. The TBDC lists ‘Nest trees - live (occasionally dead) large old trees within vegetation’ as a breeding habitat constraint for this species.	No – surveyed	Targeted bird surveys were conducted across the subject land in the patches of more intact woody vegetation, and remnant trees were assessed for the presence/absence of habitat features and for signs of fauna nesting in stick nests (Figure 12). No large stick nests or Little Eagles were recorded in the subject land. <u>Conclusion – The species is considered unlikely to breed in the subject land.</u>
<i>Keyacris scurra</i> Key’s Matchstick Grasshopper	Endangered	Endangered	Key’s Matchstick Grasshopper is usually found in native grasslands, but it has also been recorded in other vegetation associations containing a native grass understory (especially Kangaroo Grass <i>Themeda triandra</i>) and known food plants (particularly Asteraceae, indicator species include the daisy <i>Chrysocephalum apiculatum</i>). Although it does not appear to feed on Kangaroo Grass, it may be important for providing protection from predators. More recently, however, opportunistic sightings of Key’s Matchstick Grasshopper have been reported in a wide range of vegetation types in south-east NSW including wet sclerophyll forest, montane low forest, dry woodlands, heathland and montane grasslands. In some reported locations there is an absence of Kangaroo Grass and very few or no Asteraceae. Where the understory is favourable for the species, habitat under scattered trees could be suitable. Being flightless, this species does not disperse large distances (< 10 m).	No – habitat degraded	Approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extend period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos. Finally, the species has not been recorded in the subject land or adjacent BioBanking Sites by previous ecological surveys of “The Poplars” property (see Section 1.3). <u>Conclusion - the subject land has been degraded to the extent that the species is considered unlikely to occur.</u>

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Lathamus discolor</i> Swift Parrot (Breeding)	Endangered	Critically Endangered	This species breeds in Tasmania from September to January, nesting in old trees with hollows and feeding in forests dominated by Tasmanian Blue Gum <i>Eucalyptus globulus</i> . The species migrates between February and October to south-eastern Australia from Victoria and the eastern parts of South Australia to south-east Queensland. On the mainland, they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. In NSW, the species mostly occurs on the coast and south west slopes. The TBDC lists 'as per Important Habitat Map' as a breeding habitat constraint for this species.	No – habitat constraint	The subject land is not identified on the 'BAM – Important Areas viewer' map ⁵⁸ . <u>Conclusion - the subject land lacks the breeding habitat constraints required for this species.</u>
<i>Lophoictinia isura</i> Square-tailed Kite (Breeding)	Vulnerable	-	This species is found in a variety of timbered habitats including dry woodlands and open forests. It shows a particular preference for timbered watercourses. Breeding is from July to February, with nest sites generally located along or near watercourses, in a fork or on large horizontal limbs. The TBDC lists 'nest trees' as a breeding habitat constraint. The TBDC general notes state 'it will be difficult to identify a Kite nest (there are lots of comparable sized stick nests built by other species), especially given Kites have large territories and other stick nesters will undoubtedly also be nesting where Kites might be recorded. Kites will need be in attendance to confirm breeding sites.'	No – surveyed	The subject land does not contain timbered watercourses and the species has not been recorded within 10 km of the subject land (Figure 10). In addition, targeted bird surveys were conducted across the subject land in the patches of more intact woody vegetation, and remnant trees were assessed for the presence/absence of habitat features and for signs of fauna nesting in stick nests (Figure 12). No large stick nests or Square-tailed Kites were recorded in the subject land. <u>Conclusion - The species is considered unlikely to breed in the subject land.</u>
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat (Breeding)	Vulnerable	-	Caves are the primary roosting habitat, but the species also use derelict mines, storm-water tunnels, buildings, and other man-made structures. The species forms discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. Maternity caves have very specific temperature and humidity regimes. Breeding or roosting colonies can number from 100 to 150,000 individuals. The TBDC list the following breeding habitat constraint, 'Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave", observation type code "E nest-roost", with numbers of individuals >500.'	No – habitat constraint	The subject land does not contain potential breeding habitat (caves, tunnels, mines, culverts, etc.). <u>Conclusion - the subject land lacks the breeding habitat constraints required for this species.</u>
<i>Myotis macropus</i> Southern Myotis	Vulnerable	-	The Southern Myotis occurs from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. The species roosts close to water in caves, hollow-bearing trees, man-made structures (bridges, culverts etc) and in dense foliage. Colonies occur close to water bodies, ranging from rainforest streams to large lakes and reservoirs. The species is dependent on waterways (i.e. medium to large permanent creeks, rivers, lakes, or other waterways with pools/stretchers 3 m wide or greater ⁵⁹), where it catches aquatic insects and small fish with their large hind claws, and also catches flying insects. The TBDC lists 'Waterbodies with permanent pools/stretchers 3m or wider, including rivers, large creeks, billabongs, lagoons, estuaries, dams and other, on or within 200m of the site' as habitat constraints for this species.	No – habitat constraint	There are no suitable major water bodies (i.e. medium to large permanent creeks, rivers, lakes, or other waterways with pools/stretchers 3 m wide or greater) in the subject land and the species is not known to venture far from such habitat features. The subject land does not contain 'bridges, caves or artificial structures', and the grassy woodland across the subject land is heavily degraded as approximately 97% of the overstorey has been cleared and the midstorey and shrubstorey are almost entirely absent (i.e. there are not areas that support 'dense foliage'). The subject land therefore lacks the required habitat constraints and microhabitat features required to support this species. <u>Conclusion - the subject land lacks the habitat constraints required for this species.</u>

⁵⁸ https://webmap.environment.nsw.gov.au/Html5Viewer291/index.html?viewer=BAM_ImportantAreas

⁵⁹ Anderson, J., Law, B., and Tidemann (2005). *Stream use by the Large-footed Myotis Myotis Macropus in relation to environmental variables in Northern New South Wales*. Australian Mammalogy 28:15-26.

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Phascolarctos cinereus</i> Koala (Breeding)	Endangered	Endangered	This species inhabits eucalypt woodlands and forests, feeding on the foliage of more than 70 eucalypt species and 30 non-eucalypt species. Home range size varies with quality of habitat, ranging from less than 2 hectares to several hundred hectares in size. The TBDC lists 'Presence of koala use trees - refer to the Koala (<i>Phascolarctos cinereus</i>): Biodiversity Assessment Method Survey Guide for information on targeted survey requirements and mapping species polygons' as a habitat constraint for breeding for this species.	No - habitat constraint	Approximately 97% of the subject land has been historically cleared and the remaining vegetation is thinned, isolated, and fragmented (Figure 8). In addition, the subject land is isolated from the nearest areas of intact vegetation that contain Koala records by a number of major roads and expanses or urban development (see Figure 10). Finally, despite being conspicuous when present, no Koalas or signs of Koala presence were detected during the surveys conducted for this BCAR, or by previous ecological surveys of "The Poplars" property (see Section 1.3). The degraded vegetation and lack of Koala observations indicates that the subject land could not be classified as 'important habitat' for breeding. <u>Conclusion - the species is considered unlikely to breed in the subject land.</u>
<i>Rutidosis leptorrhynchoides</i> Button Wrinklewort	Endangered	Endangered	This species occurs in Box-Gum Woodland, secondary grassland derived from Box-Gum Woodland, or in Natural Temperate Grassland. It often occurs in the ecotone between Box-Gum Woodland and Natural Temperate Grassland. The species grows on soils that are usually shallow, stony red-brown clay loams and tends to occupy areas where there is relatively less competition from herbaceous species (either due to the shallow nature of the soils, or at some sites due to the competitive effect of woodland trees). It exhibits an ability to colonise disturbed areas (e.g. vehicle tracks, bulldozer scrapings and areas of soil erosion). The species is apparently susceptible to grazing, being retained in only a small number of populations on roadsides, rail reserves, and other un-grazed or very lightly grazed sites. Some of the main threats to this species listed in the TBDC are: 1) loss and degradation of habitat and/or populations by intensification of grazing regimes; 2) loss and degradation of habitat and/or populations by invasion of weeds; and 3) increased competition from other native grassland species within the habitat because of adverse increases of biomass due to absence of fire or grazing and the resultant closing up of the inter-tussock spaces that this species requires.	No – surveyed, habitat degraded	Approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extend period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos. Finally, targeted threatened flora surveys through potential habitat did not detect the species (Figure 11), and, while the species is known to occur in the Poplars North BioBanking Site, the species has not been recorded in the subject land by previous ecological surveys of "The Poplars" property (see Section 1.3). <u>Conclusion - the species is considered unlikely to occur in the subject land.</u>
<i>Swainsona recta</i> Small Purple-pea	Endangered	Endangered	Before European settlement Small Purple-pea occurred in the grassy understorey of woodlands and open-forests dominated by Blakely's Red Gum <i>E. blakelyi</i> , Yellow Box <i>E. melliodora</i> , Candlebark Gum <i>E. rubida</i> , and Long-leaf Box <i>E. goniocalyx</i> . It grows in association with understorey dominants that include Kangaroo Grass <i>Themeda australis</i> , Poa tussocks <i>Poa</i> spp. and Speargrasses <i>Austrostipa</i> spp.. Some of the main threats to this species listed in the TBDC are: 1) grazing and trampling by cattle, sheep and goats; and 2) loss, degradation and fragmentation of habitat and/or populations for residential developments, agricultural developments, and by weed invasion (including exotic grasses mostly, as well as bridal creeper and St John's wort).	No – surveyed, habitat degraded	Approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extend period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos. Finally, targeted threatened flora surveys through potential habitat did not detect the species (Figure 11), and the species has not been recorded in the subject land by previous ecological surveys of "The Poplars" property (see Section 1.3). <u>Conclusion - the subject land has been degraded to the extent that the species is considered unlikely to occur.</u>

Species	NSW (BC Act) listing status	National (EPBC Act) listing status	Habitat requirements	Presence	Justification for exclusion
<i>Swainsona sericea</i> Silky Swainson-pea	Vulnerable	-	This species is found in Natural Temperate Grassland and Snow Gum <i>Eucalyptus pauciflora</i> Woodland on the Monaro, and in Box-Gum Woodland in the Southern Tablelands and South West Slopes. It is sometimes found in association with Cypress-pines <i>Callitris</i> spp.. Some of the main threats to this species listed in the TBDC are loss and degradation of habitat and/or populations for: 1) residential developments; 2) invasion of weeds; 3) intensification of grazing regimes; and 4) agricultural developments.	No – surveyed, habitat degraded	Approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extend period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos. Finally, targeted threatened flora surveys through potential habitat did not detect the species (Figure 11), and the species has not been recorded in the subject land by previous ecological surveys of “The Poplars” property (see Section 1.3). <u>Conclusion - the subject land has been degraded to the extent that the species is considered unlikely to occur.</u>
<i>Synemon plana</i> Golden Sun Moth	Vulnerable	Vulnerable	The species occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands in which the groundlayer is dominated by Wallaby grasses <i>Rhynchospora</i> spp.. Grasslands dominated by Wallaby grasses are typically low and open and the bare ground between the tussocks is thought to be an important microhabitat feature for the Golden Sun Moth as it is typically these areas on which the females are observed displaying to attract males. Habitat may contain several Wallaby grass species, which are typically associated with other grasses particularly Speargrasses <i>Austrostipa</i> spp. or Kangaroo Grass <i>Themeda australis</i> . The TBDC lists ‘Wallaby grass (<i>Rhynchospora</i> sp), Speargrass (<i>Austrostipa</i> sp) or Chilean needlegrass (<i>Nassella neesiana</i>)’ as a habitat constraint. Some of the main threats to this species listed in the TBDC are loss and degradation of habitat by urban, residential, infrastructure, and agricultural development, modifications to agricultural practices (e.g. fertiliser application, ploughing, and inappropriate grazing), overgrazing by domestic stock, and invasive grasses.	Yes – surveyed	As detailed in Section 2.3.5.2, the species was detected in PCT320 Zone 1, PCT1334 Zone 1, and PCT1334 Zone 4 during targeted surveys. <u>Conclusion - the subject land supports habitat for this species.</u>
<i>Thesium australe</i> Austral Toadflax	Vulnerable	Vulnerable	This species is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern tablelands. It occurs in grassland and grassy woodland. Austral Toadflax is a root parasite that takes water and some nutrients from other plants, especially Kangaroo Grass. It is therefore often found in association with Kangaroo Grass. Some of the main threats to this species listed in the TBDC are loss and degradation of habitat and/or populations by: 1) residential, infrastructure, and agricultural developments; 2) intensification of grazing regimes; and 3) invasion of weeds.	No – surveyed, habitat degraded	Approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extend period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos. Finally, targeted threatened flora surveys through potential habitat did not detect the species (Figure 11), and the species has not been recorded in the subject land by previous ecological surveys of “The Poplars” property (see Section 1.3). <u>Conclusion - the subject land has been degraded to the extent that the species is considered unlikely to occur.</u>

2.3.5.2 BAM targeted survey results

As described in Table 21, targeted surveys were completed to confirm the occurrence and/or habitat potential for the species credit species identified as having the potential to occur in the subject land.

Threatened flora

As detailed in Table 21, all of the threatened flora species credit species flagged by the BAM are considered unlikely to occur in the subject land given that approximately 78% of the climax vegetation across the subject land has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 13.36 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 22% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extended period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos.

Notwithstanding this, targeted threatened flora surveys were conducted across rocky areas and the less disturbed vegetation zones (Figure 11). A total of 107 flora species were recorded during field surveys, comprising 50 native species and 57 exotic species (Appendix B).

One EPBC Act listed threatened species, Hoary Sunray, was recorded in the northern-most corner of the subject land (Figure 11). Approximately 130 plants were recorded in 700 m² of the relatively intact PCT1334 Zone 1 located immediately adjacent to the Poplars North BioBanking Site. As detailed in Section 3.1 and Section 3.3, it is proposed that this area and surrounding portion of PCT1334 Zone 1 will be protected and managed as part of the Poplars North BioBanking Site. As such, the proposed development of will not impact Hoary Sunray.

None of remaining threatened flora species credit species identified in Table 21 were recorded in the subject land and none are considered likely to occur.

Threatened fauna

A total of 42 native fauna species were recorded during field surveys, comprising 31 bird species, 4 reptile species, 3 amphibian species, 3 mammal species, and 1 invertebrate species (Appendix D). Golden Sun Moth and Pink-tailed Legless Lizard were the only threatened fauna species detected in the subject land for this BCAR during field surveys (see below for further information).

Threatened birds

A total of 35 bird species were recorded across all surveys, comprising 31 native species and 4 exotic species (Appendix D). No threatened bird species were recorded.

As detailed in Section 1.3, while not detected during the current surveys, a number of threatened bird species have previously been recorded foraging in or immediately adjacent to "The Poplars" property, including Dusky Woodswallow, Gang-gang Cockatoo, Varied Sitella, Little Eagle, Scarlet Robin, Flame Robin, Speckled Warbler, Diamond Firetail, and the migratory White-throated Needle-tail and Rainbow Bee-eater. Apart from the migratory species (which are only likely to visit the subject land and surrounds on a transitory basis) all of the above species are assumed to be present as ecosystem credit species (Table 20).

None of the threatened candidate species credit species identified in Table 21 were, or have previously been, recorded nesting/breeding in the subject land. In light of the above, all of the threatened bird species credit species flagged by the BAM are considered unlikely to breed in the subject land.

Striped Legless Lizard *Delma impar*

No Striped Legless Lizard individuals were recorded during the survey program between 27 September 2019 and 29 November 2019. All grids were placed in areas with suitable habitat characteristics⁶⁰, notably areas with a well-defined grass tussock structure (refer to Figure 13).

A number of non-target herpetofauna were observed during the survey program, including Rainbow Skink *Carlia tetradactyla*, Delicate Skink *Lampropholis delicata*, Common Dwarf Skink *Menetia greyii*, and Boulenger's Skink *Morethia boulengeri*. The full survey results are attached as Appendix E.

In light of the above, it is concluded that the subject land does not support the Striped Legless Lizard.

Pink-tailed Legless Lizard *Aprasia parapulchella*

Across the 28 hours of survey effort, one Pink-tailed Legless Lizard sloughed skin was recorded in the south-western corner of the subject land in a patch of PCT320 Zone 1 that supports a high cover of loose surface rock. No individuals or sloughed skins were recorded in the development footprint or remainder of the subject land.

Pink-tailed Legless Lizard habitat in the subject land has therefore been estimated based on the portions of PCT320 Zone 1 that support loose surface rock. As shown in Figure 14, the subject land is therefore estimated to support 2.46 ha of Pink-tailed Legless Lizard habitat, all of which occurs in the south-western corner of the subject land. These findings are consistent with previous ecological surveys across the subject land and adjoining land, which recorded habitat for the species in the south-western corner of the Poplars South BioBanking Site (see Section 1.3).

In light of the above, while the wider subject land supports habitat for the Pink-tailed Legless Lizard, the development footprint does not.

Grassland Earless Dragon *Tympanocryptis pinguicolla*

Previous surveys for Grassland Earless Dragon in "The Poplars" were carried out by Kevin Mills & Associates (1994) and Biosis Research (2003) (refer to Appendix G for a detailed description of the results of these studies). Both studies determined that Grassland Earless Dragon habitat was restricted to areas of moderate to good condition native grassland in the portions of "The Poplars" now occupied by the Poplars North and Poplars South BioBanking Sites (refer to Figure 17).

The restricted extent of suitable Grassland Earless Dragon habitat in "The Poplars" is likely due to the historic agricultural activities that have occurred across the property, in particular the prolonged periods of pasture improvement and/or cultivation of the groundstorey. As shown in Figure 7, the impact of these activities across the development footprint for this BCAR (and also for Stage 1 of the Innovation Precinct and Jerrabomberra High School) can clearly be seen in historic aerial imagery from 1968⁶¹. These historically pasture improved and/or cultivated areas are now dominated by exotic pasture grasses (especially *Phalaris*) and a variety of weeds (Figure 8).

⁶⁰ **Note:** since the date that the Striped Legless Lizard survey occurred, portions of The Poplars have been developed. As such, when displayed on recent aerial imagery, it appears that grids are located in inappropriate areas. However, at the time of survey, all grids were located in open grassland with a well-defined grass tussock structure.

⁶¹ Disturbed groundstorey vegetation presents as darker areas with a homogeneous texture. In comparison, less disturbed groundstorey vegetation presents as a mosaic of light and dark areas with a heterogeneous texture.

In contrast, the portions of “The Poplars” now occupied by the Poplars North and Poplars South BioBanking Sites have not undergone such historic disturbances and as a result have retained habitat for a variety of threatened flora, fauna, and ecological communities (Figure 16 and Figure 17).

Based on previous studies and the impact of historic land practices, the development footprint is therefore considered unlikely to support potential habitat for the Grassland Earless Dragon. However, it is possible that the wider subject land supports habitat for the species, in particular the areas defined by PCT320 Zone 1 (Figure 8).

Golden Sun Moth *Synemon plana*

Surveys were conducted through all patches of suitable habitat during suitable survey conditions when Golden Sun Moth activity was confirmed at other ACT/NSW sites (Figure 15, Table 7).

A total of 141 Golden Sun Moths (17 females and 124 males) were recorded in the subject land across the four surveys (Figure 15, Plate 1). Ten were recorded on 30 October 2019, 92 were recorded on 13 November 2019, 26 were recorded on 22 November 2019, and 13 were recorded on 29 November 2019.

As shown in Figure 15, Golden Sun Moths were recorded at low to moderate density across those zones with a native dominant groundstorey (i.e. PCT320 Zone 1 and PCT1334 Zones 1 and 4). The exception to this is the patch of Golden Sun Moth habitat immediately to the north-east of Environa Drive, which supported a greater density of moths.

It is important to note that a small number of Golden Sun Moths were recorded in exotic dominant vegetation zones (i.e. PCT320 Zone 2 and PCT1334 Zone 5). However, as detailed in Section 2.2.4, Appendix A, and Appendix B, PCT320 Zone 2 and PCT1334 Zone 5 are not considered Golden Sun Moth habitat as they have a low cover of appropriate Golden Sun Moth feed species, a low cover of associated native species (i.e. Tall Speargrass), a high cover of exotic species, a high overall ground cover (indicating a low cover of bare ground), and have been subject to many of the key identified threats to Golden Sun Moth habitat over an extended period. This classification as non-habitat is supported by the fact that, despite surveys occurring in areas far from native dominant vegetation zones, all Golden Sun Moth records in PCT320 Zone 2 and PCT1334 Zone 5 were within 60 m of a native dominant vegetation zone, with the vast majority occurring within 25 m of a native dominant vegetation zone. As stated in the NSW Government Golden Sun Moth profile⁶², ACT native grassland conservation strategy and action plans (ACT Government 2017⁶³), and the TBDC⁶⁴, Golden Sun Moth males are known to fly up to 50 – 100 m from suitable habitat before turning back. As such, the Golden Sun Moth recorded in PCT320 Zone 2 and PCT1334 Zone 5 all occur well within the expected distance from suitable habitat.

The extent of habitat in the subject land is therefore based on the extent of the zones that possess a native dominant groundstorey (i.e. PCT320 Zone 1 and PCT1334 Zones 1 and 4). Following this method, the subject land was assessed as supporting 12.08 ha of Golden Sun Moth habitat (Figure 15). When the 83.48 ha of Golden Sun Moth habitat in the Poplars North and Poplars South

⁶² <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10791>

⁶³ ACT Government (2017). *ACT native grassland conservation strategy and action plans*. Environment, Planning and Sustainable Development, Canberra. Available at https://www.environment.act.gov.au/_data/assets/pdf_file/0004/1136056/Grassland-Strategy-Final-WebAccess-Part-B-5-Golden-Sun-Moth.pdf

⁶⁴ <http://www.bionet.nsw.gov.au/>

BioBanking are also considered (refer to Figure 17), “The Poplars” property therefore supports a total of 95.56 ha of Golden Sun Moth habitat.

The proposed development will impact 7.47 ha of Golden Sun Moth habitat, which equates to an impact of 8% of the remaining habitat in “The Poplars”.



Plate 1. Female Golden Sun Moth recorded in the subject land.

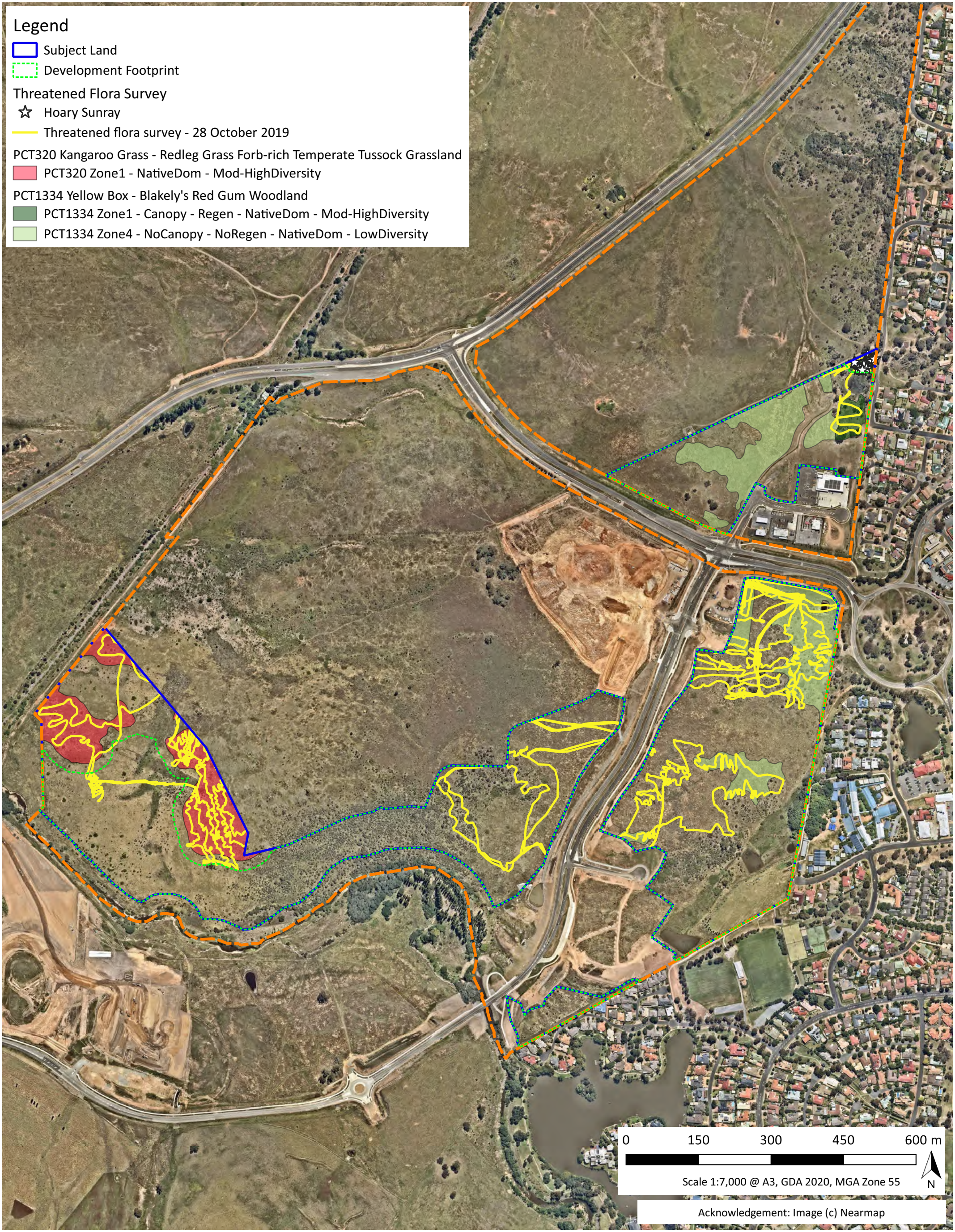


Figure 11. Threatened Flora Survey Results

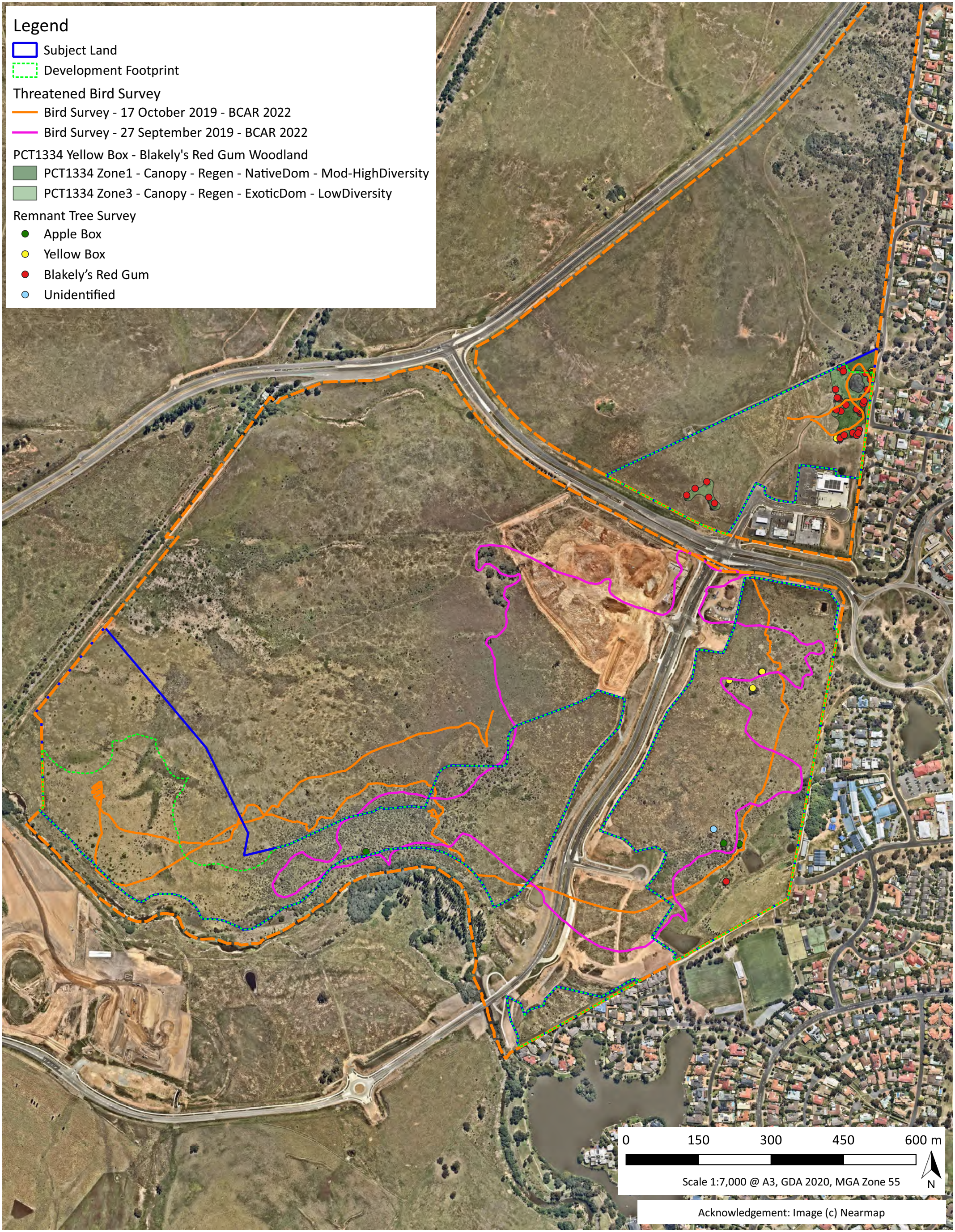


Figure 12. Threatened Bird Survey Results

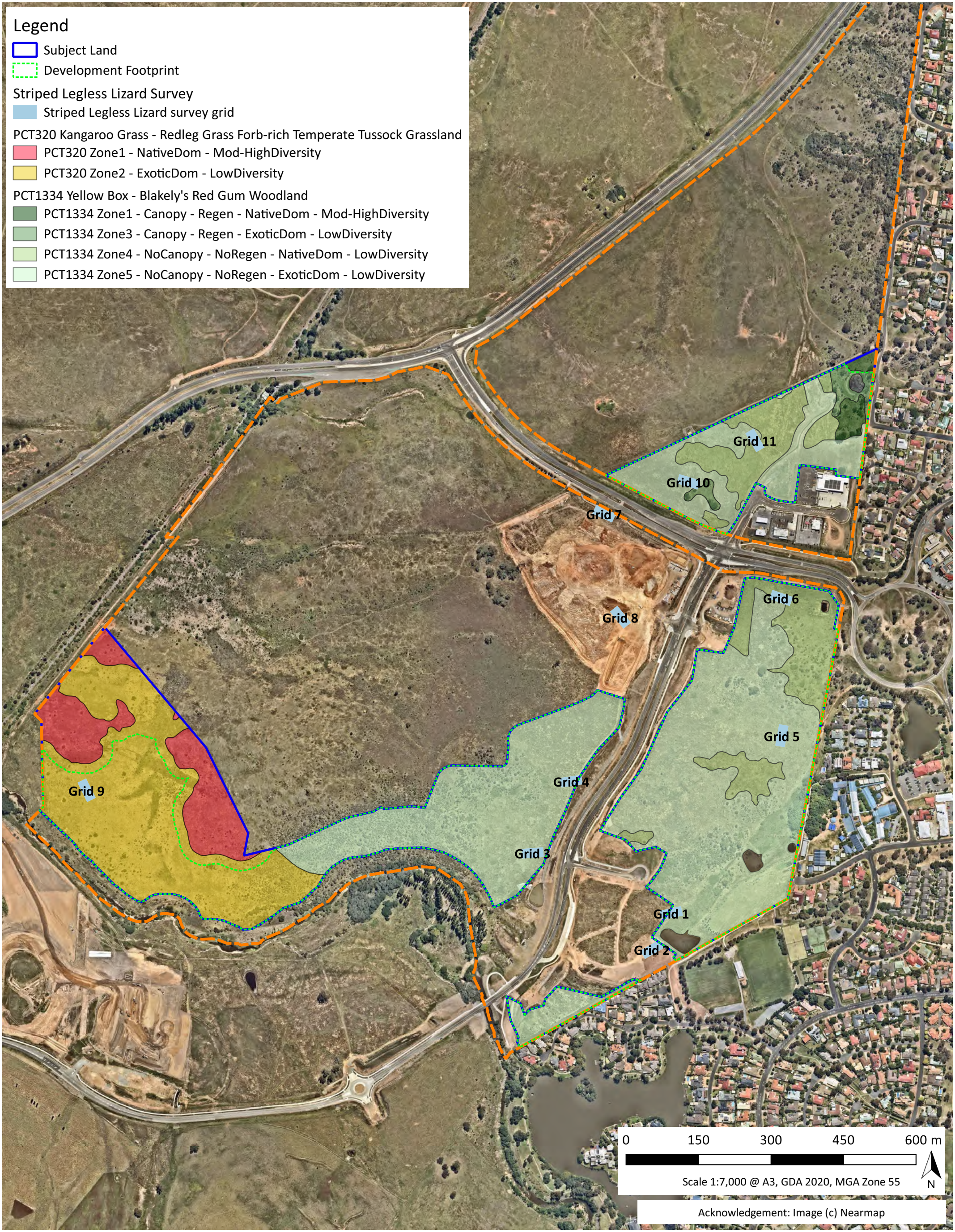
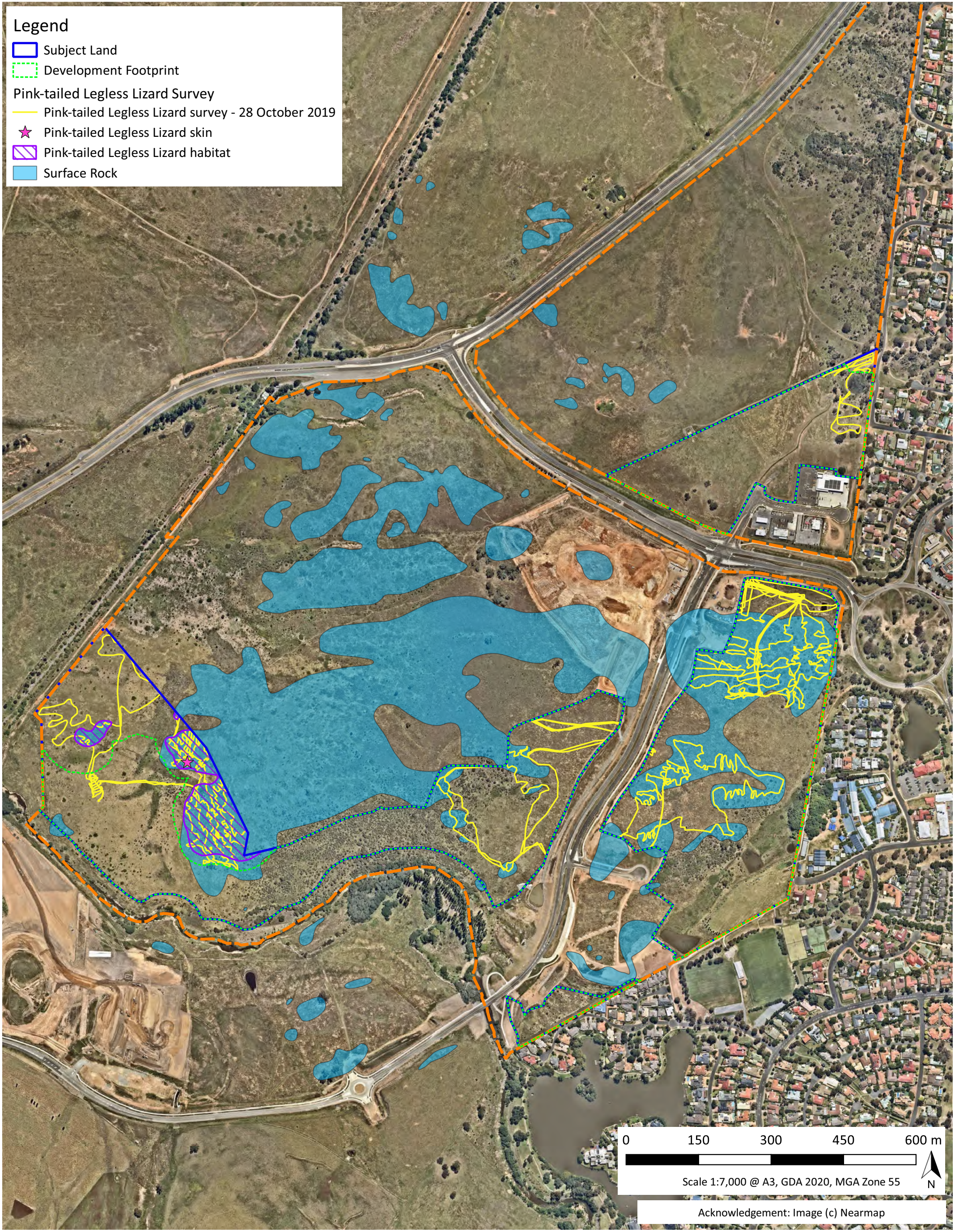


Figure 13. Striped Legless Lizard Survey Results



Legend

- Subject Land
- Development Footprint

Pink-tailed Legless Lizard Survey

- Pink-tailed Legless Lizard survey - 28 October 2019
- ★ Pink-tailed Legless Lizard skin
- Pink-tailed Legless Lizard habitat
- Surface Rock

0 150 300 450 600 m

Scale 1:7,000 @ A3, GDA 2020, MGA Zone 55

N

Acknowledgement: Image (c) Nearmap

Figure 14. Pink-tailed Legless Lizard Survey



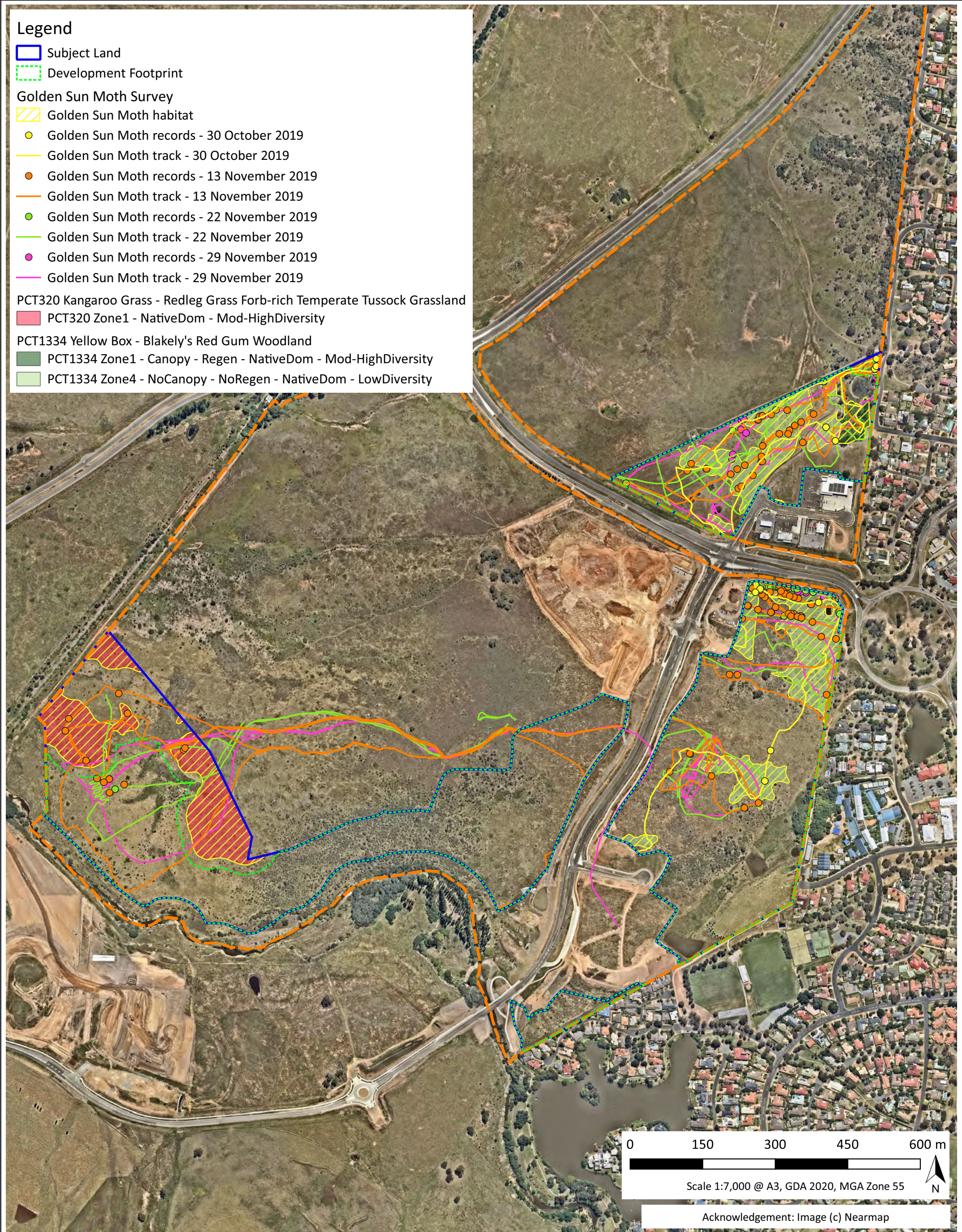


Figure 15. Golden Sun Moth Survey Results

3 Part 2 – Impact Assessment (BAM Stage 2)

Part 2 of this BCAR provides an assessment of the impacts of the proposed development as set out in Stage 2 of the BAM.

3.1 Avoidance and Minimisation of Impacts on Biodiversity Values

In accordance with the BAM, a proponent is required to demonstrate that all reasonable and practicable measures have been employed to avoid and minimise the impacts of a project on biodiversity values. Accordingly, this section outlines the avoidance and minimisation measures that have been incorporated into the project design of the proposed development.

As mentioned in Section 1.4, the proposed development will clear 52.46 ha. Of that, 52.21 ha will clear all of the vegetation and habitat and 0.25 ha will only clear the groundstorey vegetation and associated threatened species habitat (i.e. the remnant trees will be retained, Figure 3 and Figure 16). In addition, the proposed development includes the full retention of a 0.20 ha patch of vegetation in the northern tip of the subject land which supports high diversity EPBC Act Box-Gum Woodland, Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants (Figure 3, Figure 16, and Figure 17). It is proposed that this 0.20 ha area will be protected and managed as part of the Poplars North BioBanking Site. Finally, the portions of the land in the south-western corner of “The Poplars” that support significant ecological values are also included as ‘Avoided Land’ (refer to Section 3.6). By doing so, the proposed development avoids impacts to substantial areas of NTG-SEH, Golden Sun Moth habitat, Pink-tailed Legless Lizard habitat, and potential Grassland Earless Dragon habitat.

In addition to the above, it is important to recognise that planning for “The Poplars”, both for development and conservation, has been a process that has progressed over more than three decades, and which has been informed by a substantial number of ecological studies (refer to Section 1.3). The ultimate outcome from this process was the establishment of the ‘The Poplars North’ and ‘The Poplars South’ as BioBanking Sites under BioBanking Agreements. These agreements are considered to be one of the primary avoidance measures related to the proposed development as the early establishment of these offset sites has ensured a formal, legally binding, and audited conservation focussed management regime for the portions of “The Poplars” property recognised as supporting significant biodiversity values. This approach was specifically discussed with DPE-BCD during a meeting on 6 May 2020 and in-principle support was provided. This approach was also presented in the EPBC Act referral (EPBC Ref: 220-8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation, and approved by DCCEW on 13 September 2021) following its agreement as the most appropriate approach during the 18 June 2020 pre-referral meeting and other communication with DCCEW.

3.1.1 Location

3.1.1.1 Locating the project where there are low or no biodiversity values

As mentioned in Section 1.3, the ecological values of “The Poplars” property have been investigated since the early 1990s. One of the key outcomes of this work was the decision that any future development in “The Poplars” property would be designed around the existing ecological values of the land. As a result, the West Jerrabomberra LEP allocated land to either conservation or development in a manner that protected the vast majority of the land supporting significant biodiversity conservation values. As shown in Figure 3, Figure 16, and Figure 17, this land has since been formally conserved under two BioBanking Agreements.

The establishment of the 'The Poplars North' and 'The Poplars South' BioBanking Sites protects approximately 50% (98.46 ha) of "The Poplars" property, including the vast majority of the identified significant biodiversity values. As shown in Figure 16 and Figure 17, protected values include:

- 87.42 ha of grassland vegetation (i.e. MR631/PCT1202 and PC686/PCT1289), 57.35 ha of which meets the listing criteria for EPBC Act listed NTG-SEH;
- 10.65 ha of woodland vegetation (i.e. MR648/PCT1330), 8.48 ha of which meets the listing criteria for EPBC Act Box-Gum Woodland;
- 83.48 ha of Golden Sun Moth habitat;
- 71.86 ha of Grassland Earless Dragon habitat; and
- 18.63 ha of Pink-tailed Legless Lizard habitat.

In addition, the BioBanking Sites protect habitat for threatened flora (i.e. Button Wrinklewort and Hoary Sunray), threatened birds (i.e. Dusky Woodswallow, Gang-gang Cockatoo, Varied Sitella, Little Eagle, Scarlet Robin, Flame Robin, Speckled Warbler, Diamond Firetail, and the migratory White-throated Needletail and Rainbow Bee-eater), and ACT listed and 'rare and uncommon species' (i.e. Perunga Grasshopper).

In contrast, approximately 83% of the climax vegetation across the development footprint has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 9.53 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 17% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extended period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos.

When considered together, the vast majority of the land allocated impacted by the proposed development is located in areas that support very low or no biodiversity values.

3.1.1.2 Locating the project in areas where the native vegetation or threatened species habitat is in the poorest condition

As mentioned previously, the two BioBanking Sites protect the vast majority of higher quality vegetation and threatened species habitat in "The Poplars", including (refer to Figure 16 and Figure 17):

- 93% of the EPBC Act listed Box-Gum Woodland;
- 93% of the EPBC Act listed NTG-SEH;
- 87% of the Golden Sun Moth habitat;
- 88% of the Pink-tailed Legless Lizard habitat;
- >95% of the potential Grassland Earless Dragon habitat;
- >95% of the threatened flora habitat; and
- the vast majority of the threatened woodland bird habitat.

In contrast, approximately 83% of the climax vegetation across the development footprint has been historically cleared and is now entirely dominated by exotic grasses and weeds (i.e. 9.53 ha of

PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5). The remaining 17% of the vegetation is moderately to highly disturbed, shows signs of historic cultivation and/or pasture improvement, supports a variety of weeds, has been heavily grazed over an extended period by stock, and is currently moderately to heavily grazed by Eastern Grey Kangaroos.

When considered together, the proposed development has therefore been located in areas where the native vegetation and threatened species habitat is in the poorest condition.

3.1.2 Design

3.1.2.1 Making provision for the demarcation, ecological restoration, rehabilitation, and/or ongoing maintenance of retained native vegetation and habitat

As mentioned in Section 1.3, the 'The Poplars North' and 'The Poplars South' are established as BioBanking Sites under BioBanking Agreements (Figure 16). These agreements provide a formal, legally binding, and audited conservation focussed management regime for the portions of "The Poplars" property recognised as supporting significant biodiversity values (a copy of each BioBanking Agreement is attached in Appendix H). These agreements also stipulate a wide variety of management activities that are designed to protect and enhance the significant biodiversity values that these areas support. These management activities include the following.

- Retention of remnant native vegetation, regrowth, dead timber, and rocks.
- Replanting or supplementary planting where natural regeneration will not be sufficient (Poplars South BioBanking Site only).
- An integrated weed management plan, including weed control, monitoring, and inspection of existing and new weeds.
- Control of feral and overabundant native herbivores using a variety of methods (e.g. biocontrol, baiting, warren destruction, fumigation, shooting, trapping, and harbour destruction), including monitoring and inspection requirements.
- Vertebrate pest management (foxes and other miscellaneous feral species) using a variety of methods (baiting, den destruction, shooting, and trapping), including monitoring and inspections of existing and new vertebrate pests.
- A fire management plan, including prescribed ecological burns if required.
- Stock are not permitted to graze in any area of the BioBanking Sites.
- Erosion control.
- Management of site drainage from urban stormwater catchments.
- Management of human disturbance, including fencing (to deter human and vehicular access) and signage, and restrictions on permitted activities.
- Monitoring, reporting, and record keeping requirements, including:
 - site inspection and monitoring, recording ground cover, stock numbers, condition of fencing and gates, human disturbance, erosion, and waste;
 - annual reporting, detailing the completed management actions and the results of any monitoring, inspections, or survey; and

- Record keeping, including photographs, management actions, inspections, monitoring, and surveys.
- Adaptive management, including a review of management plans every 4 to 6 years. This process considers the effectiveness of the matters contained in the current plan.

Furthermore, the proposed development will protect a 0.20 ha patch of vegetation that occurs in the northern tip of the subject land adjoining the Poplars North BioBanking Site. This area supports 0.18 ha of EPBC Act Box-Gum Woodland, 0.18 of Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants, and is proposed to be protected and managed as part of the Poplars North BioBanking Site (Figure 16 and Figure 17). In addition, the proposed development will also retain the remnant trees that occur within a 0.25 ha patch adjoining this area (Figure 16). Finally, the portions of the land in the south-western corner of “The Poplars” that support significant ecological values are also included as ‘Avoided Land’ (refer to Section 3.6). By doing so, the proposed development avoids impacts to 4.43 ha of NTG-SEH, 4.43 ha of Golden Sun Moth habitat, 2.46 ha of Pink-tailed Legless Lizard habitat, and potential Grassland Earless Dragon habitat.

When considered together, the proposed development therefore includes provision for the demarcation, ecological restoration, rehabilitation, and ongoing maintenance of the retained native vegetation and habitat across “The Poplars” property.

3.1.2.2 Locating ancillary facilities in areas: where there are no biodiversity values; where the native vegetation or threatened species habitat is in the poorest condition; and that avoid habitat for species and vegetation in high threat status categories

Given that the “The Poplars” is located immediately adjacent to existing urban and industrial development, many of the biodiversity impacts associated with a new development will be reduced (i.e. impacts related to services, roads, bushfire protection, flood planning, etc.). In addition, all ancillary facility associated with the construction and operation of the proposed development will be located to avoid all of the significant biodiversity values that will be retained by the proposed development.

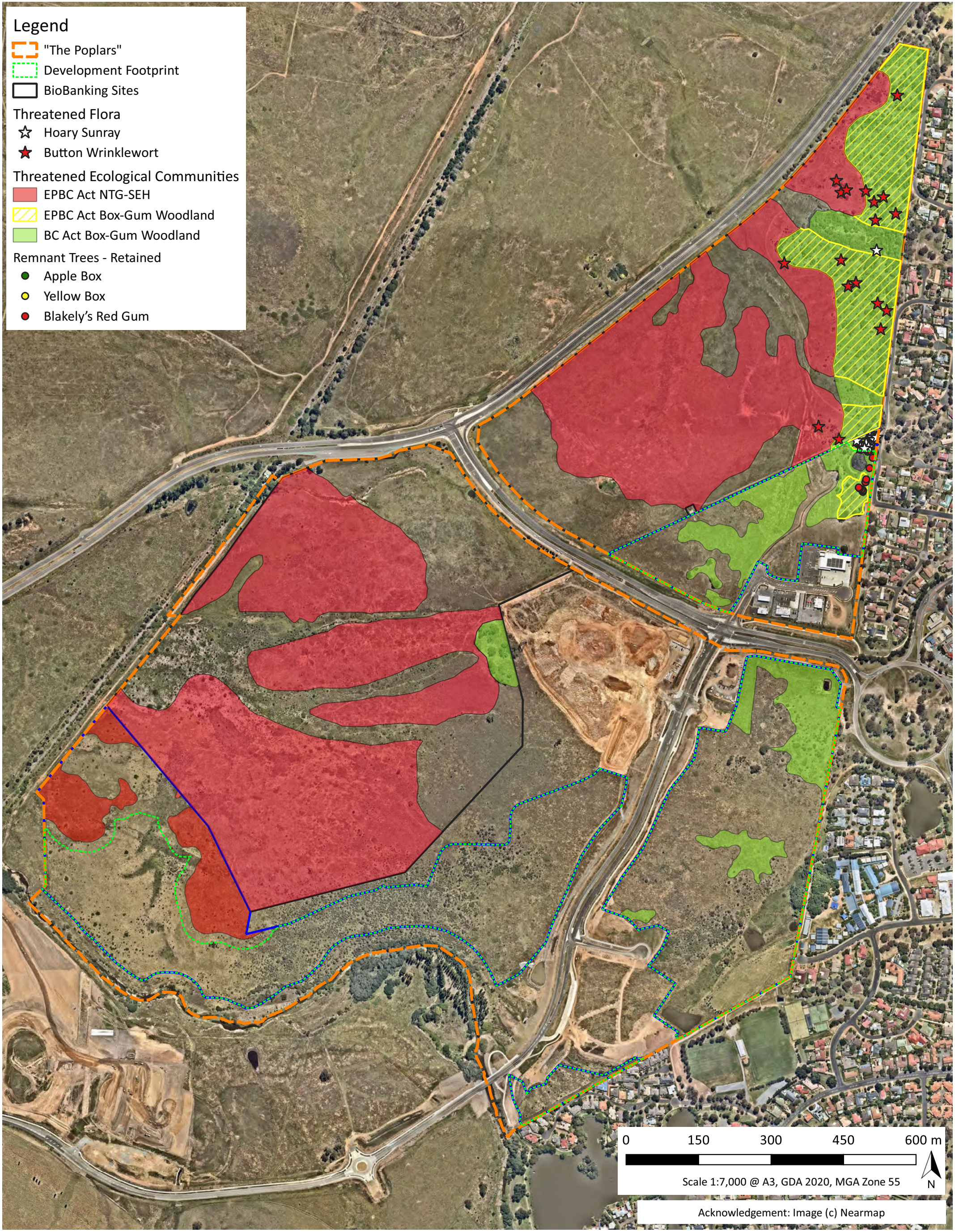


Figure 16. Avoidance, Minimisation, and Mitigation Measures - Vegetation and Flora

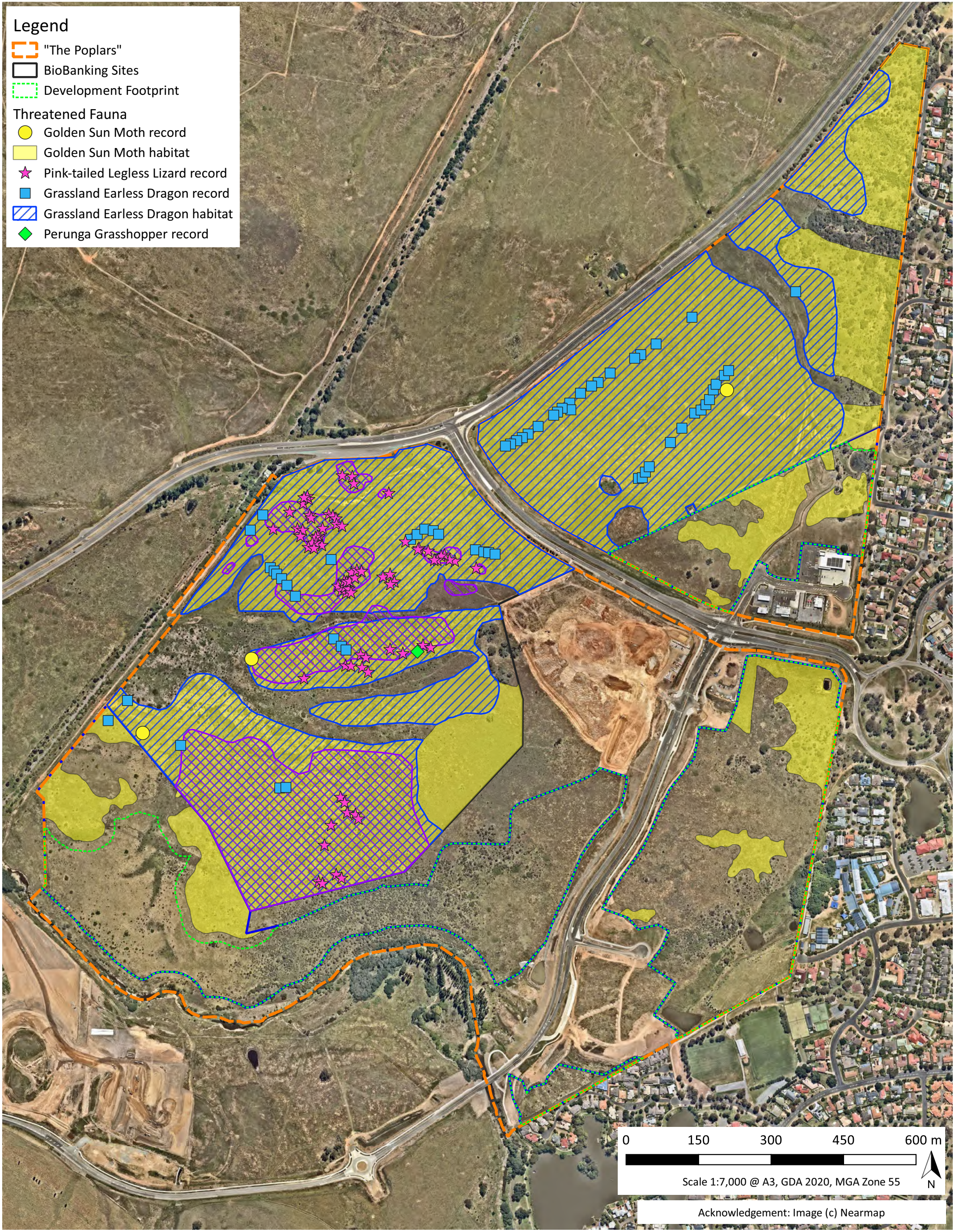


Figure 17. Avoidance, Minimisation, and Mitigation Measures - Fauna

3.2 Residual Biodiversity Impacts of the Proposed Development

3.2.1 Direct impacts on native vegetation and habitat

As shown in Figure 18, the proposed development will result in the clearance of:

- 0.42 ha of PCT1334 Zone 1 – mature canopy, regeneration, native dominant understorey with moderate to high diversity (BC Act native vegetation, EPBC Act and BC Act Box-Gum Woodland);
- 0.68 ha of PCT1334 Zone 3 – mature canopy, regeneration, exotic dominant understorey with low diversity (BC Act native vegetation, BC Act Box-Gum Woodland);
- 7.05 ha of PCT1334 Zone 4 – low diversity native pasture (BC Act native vegetation, BC Act Box-Gum Woodland); and
- 7.47 ha of Golden Sun Moth habitat (BC Act endangered, EPBC Act critically endangered) located in PCT1334 Zone 1 and Zone 4.
- 35 mature remnant trees, 7 of which support at least one functional hollow.

In total, the proposed development will result in the clearance of 8.15 ha of BC Act native vegetation, 0.42 ha of which meets the listing criteria of EPBC Act Box-Gum Woodland, 8.15 ha of which meets the listing criteria BC Act Box-Gum Woodland, and 7.47 ha of which supports Golden Sun Moth habitat. The proposed development will not result in any other direct impacts on native vegetation or habitat.

As shown in Figure 18, the proposed development will also result in the clearance of:

- 9.53 ha of PCT320 Zone 2 – low diversity exotic pasture.
- 34.25 ha of PCT1334 Zone 5 – low diversity exotic pasture.

The 9.53 ha of PCT320 Zone 2 and 34.25 ha of PCT1334 Zone 5 are clearly dominated by exotic grasses and forbs, do not meet the definition of BC Act native vegetation, and are not identified as habitat for threatened species.

3.2.2 Indirect impacts on native vegetation and habitat

The proposed development has the potential to indirectly impact retained or adjacent native vegetation and habitat. Potential indirect impacts are listed below.

- Increased sedimentation of receiving waterways (i.e. Jerrabomberra Creek) during construction.
- Increased noise, vibration, and dust during construction.
- Weed introduction and/or spread during construction and occupation.
- Incidental damage or removal of retained native vegetation and habitat during construction and occupation.
- Increase in pest animal populations as a result of increased human activity during occupation.

The above potential indirect impacts could occur during the construction and/or occupation of the subject land and are likely to reduce the extent and/or condition of the surrounding native

vegetation and habitat. This may occur in the short-term during the construction phase of the proposed development and in the long-term during the occupation phase of the proposed development. By impacting native vegetation and habitat, indirect impacts also have the potential to impact the following threatened species and ecological communities.

- EPBC Act Box-Gum Woodland, BC Act Box-Gum Woodland, Golden Sun Moth, and Hoary Sunray.
- The threatened species listed in Table 20.
- The retained vegetation and threatened species protected in the two BioBanking Sites (refer to Section 1.3).

However, the proposed development reduces the likelihood of indirect impacts by enacting the following principles detailed in Section 3.1 to avoid and minimise impacts to native vegetation and habitat.

- Locating the project where there are low or no biodiversity values.
- Locating the project in areas where the native vegetation or threatened species habitat is in the poorest condition.
- Making provision for the demarcation, ecological restoration, rehabilitation, and/or ongoing maintenance of retained native vegetation and habitat.
- Locating ancillary facilities in areas: where there are no biodiversity values; where the native vegetation or threatened species habitat is in the poorest condition; and that avoid habitat for species and vegetation in high threat status categories.

In addition, potential indirect impacts will be minimised and mitigated during construction by the measures outlined in Section 3.3 and during occupation by the measures outlined in Section 3.1 and Section 3.3. These measures:

- control potential sedimentation of receiving waterways during construction and operation;
- control noise, vibration, and dust spill during construction;
- control weed introduction and/or spread during construction and occupation;
- control incidental damage of retained native vegetation and habitat during construction and occupation; and
- control pest animal populations as a result of increased human activity during occupation.

In combination, the above measures are considered sufficient to reduce the risk of indirect impacts to an acceptably low level. As such, the proposed development is unlikely to result in any indirect impacts on native vegetation or habitat.

3.2.3 Prescribed biodiversity impacts

As described in the BAM, some types of projects may have impacts on biodiversity values in addition to, or instead of, impacts from clearing vegetation and/or loss of habitat. For many of these impacts the biodiversity values may be difficult to quantify, replace or offset, making avoiding and

minimising impacts critical. Clause 6.1 of the BC Regulation identifies the following as impacts that are ‘prescribed biodiversity impacts’ that must be assessed using the BOS.

- (a) impacts of development on the habitat of threatened species or ecological communities associated with:*
- (i) karst, caves, crevices, cliffs and other geological features of significance;*
 - (ii) rocks;*
 - (iii) human made structures;*
 - (iv) non-native vegetation;*
- (b) impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range;*
- (c) impacts of development on movement of threatened species that maintains their life cycle;*
- (d) impacts of development on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining);*
- (e) impacts of wind turbine strikes on protected animals; and*
- (f) impacts of vehicle strikes on threatened species or on animals that are part of a TEC.*

A potential ‘prescribed biodiversity impact’ due to the proposed development was identified during the development of this BCAR. As described in the following section, this potential impact was not determined to be a ‘prescribed biodiversity impact’ due to the fact that it did not impact threatened species habitat or threatened ecological communities in addition to that described in Section 3.2.1 and Section 3.2.2.

Notwithstanding this, the avoidance and minimisation measures detailed in Section 3.1 and the mitigation measures detailed in Section 3.3 will reduce the impact of the proposed development on the below potential ‘prescribed biodiversity impact’.

3.2.3.1 Rocks

As detailed in Section 2.3 and shown on Figure 14, the development footprint contains patches of loose surface rock, the removal of which is identified as a potential prescribed biodiversity impact. As detailed in Section 2.2.3.5 and 2.3.5.2, a rock turning survey was performed across the development footprint and wider subject land in order to determine the value of the loose surface rock to threatened fauna (particularly with respect to Pink-tailed Legless Lizard, the species credit species associated with loose surface rock).

One Pink-tailed Legless Lizard sloughed skin was recorded in the south-western corner of the subject land in a patch of PCT320 Zone 1 that supports a high cover of loose surface rock. No individuals or sloughed skins were recorded in the development footprint or remainder of the subject land. Pink-tailed Legless Lizard habitat in the subject land was therefore estimated based on the portions of PCT320 Zone 1 that support loose surface rock. As shown in Figure 14, the subject land is therefore estimated to support 2.46 ha of Pink-tailed Legless Lizard habitat, all of which occurs in the south-western corner of the subject land. These findings are consistent with previous ecological surveys

across the subject land and adjoining land, which recorded habitat for the species in the south-western corner of the Poplars South BioBanking Site (see Section 1.3).

In light of the above, while the wider subject land supports habitat for the Pink-tailed Legless Lizard, the development footprint does not. It is therefore unlikely that the removal of rocks in the development footprint will have a prescribed biodiversity impact on any threatened species or ecological community.

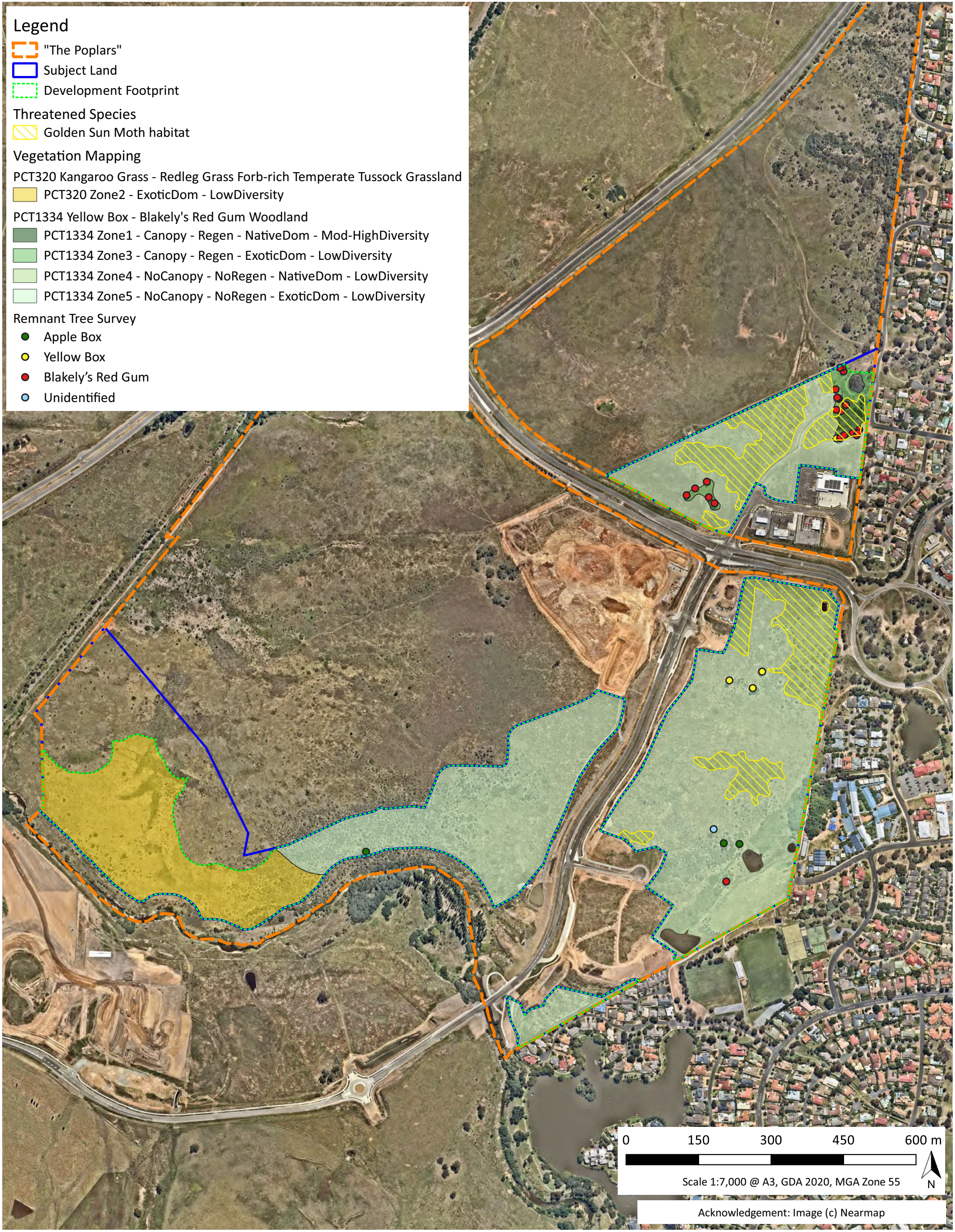


Figure 18. Residual Biodiversity Impacts of the Proposed Development

3.3 Mitigation of Residual Impacts on Biodiversity Values

The following mitigation techniques will be implemented to address the residual impacts on biodiversity values during and after the construction phase of the proposed development. In combination, these mitigation measures are considered sufficient to reduce the risk of residual impacts to an acceptably low level.

3.3.1 Construction

A Construction Environmental Management Plan (CEMP) will be developed to guide the proposed development from before construction commences and until construction is completed. At a minimum the CEMP will include:

- appropriate definition of clearing boundaries;
- protective fencing around sensitive values;
- buffer zones around sensitive values;
- clearing procedures;
- weed management procedures;
- sediment and erosion controls to prevent site run-off;
- noise, vibration, and dust control;
- flow controls;
- pollution and waste management;
- water treatment standards before release; and
- monitoring, reporting, and compliance requirements.

All trees to be retained will be protected and managed in accordance with the CEMP.

Trees to be cleared will be removed in accordance with the CEMP. At a minimum this will include pre-clearance surveys, clearing outside of the breeding season of most of the locally occurring native fauna (i.e. August to December), and fauna rescue procedures.

Where appropriate, any large logs and/or tree sections will be recovered for the purpose of fauna habitat enhancement in the adjacent North Poplars and South Poplars BioBanking Sites.

Best practice sediment and erosion control, such as the use of sediment traps, sediment interception ponds, silt fences and haybale fences, will be implemented as required during construction to minimise the flow of water and associated material into the surrounding areas and water sources.

The key potential risk to the biodiversity values of the development footprint and adjoining areas during construction of the proposed development is the facilitated spread of the high threat weeds

currently occurring in the locality and/or the introduction of new weeds. Therefore, at a minimum, the following weed management measures will be implemented during construction.

- Appropriate vehicle hygiene will be maintained. Vehicles and machinery entering the development footprint will be clean of weed seed or propagules.
- Only sterile materials such as hessian/jute or rice straw will be used for soil stabilisation or similar purposes.
- High threat weeds will be prevented from establishing on newly created road verges, landscaped areas, and other open space

3.3.2 Occupation

As mentioned in Section 3.1, the 'The Poplars North' and 'The Poplars South' are established as BioBanking Sites under BioBanking Agreements (Figure 16). These agreements provide a formal, legally binding, and audited conservation focussed management regime for the portions of "The Poplars" property recognised as supporting significant biodiversity values (a copy of each BioBanking Agreement is attached in Appendix H). These agreements also stipulate a wide variety of management activities that are designed to protect and enhance the significant biodiversity values that these areas support. These management activities are summarised in Section 3.1.2.1 and included in full in Appendix H.

Furthermore, the proposed development will protect a 0.20 ha patch of vegetation that occurs in the northern tip of the subject land adjoining the Poplars North BioBanking Site. This area supports 0.18 ha of EPBC Act Box-Gum Woodland, 0.18 of Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants, and is proposed to be protected and managed as part of the Poplars North BioBanking Site (Figure 16 and Figure 17). In addition, the proposed development will also retain the remnant trees that occur within a 0.25 ha patch adjoining this area (Figure 16). Finally, the portions of the land in the south-western corner of "The Poplars" that support significant ecological values are also included as 'Avoided Land' (refer to Section 3.6). By doing so, the proposed development avoids impacts to 4.43 ha of NTG-SEH, 4.43 ha of Golden Sun Moth habitat, 2.46 ha of Pink-tailed Legless Lizard habitat, and potential Grassland Earless Dragon habitat.

3.3.3 Adaptive management for uncertain impacts

As per the BAM, an adaptive management strategy is required for impacts on biodiversity values that are infrequent or difficult to measure prior to commencement of the proposed development. Such impacts are referred to as uncertain biodiversity impacts. If uncertain biodiversity impacts are identified, the proponent must develop an adaptive management strategy.

The proposed development is unlikely to result in biodiversity impacts that are unforeseen or uncertain, especially given that:

- the subject land does not support karst, caves, crevices, cliffs and other geological features of significance;
- the proposed development does not include underground mining;
- the proposed development does not include wind turbines;
- the proposed development is unlikely to substantively increase the incidence of vehicle strikes; and

- the minimisation and mitigation detailed in Section 3.1 and 3.3 are considered sufficient to reduce the risk of indirect impacts to an acceptably low level.

As such, an adaptive management strategy is not required for the proposed development. Notwithstanding this, as detailed in Section 3.1.2.1 and Appendix H, the two BioBanking Agreements include adaptive management strategies. As such, the adaptive management approach outlined in those two documents will act to address any potential unforeseen biodiversity impacts on the significant vegetation and habitat retained within the two BioBanking Sites.

3.4 Serious and irreversible impacts

The guidance to assist a decisionmaker to determine a serious and irreversible impact (NSW Government 2019⁶⁵) provides a list of threatened species and ecological communities which are likely to be the subject of serious and irreversible impacts (SAIL). The potential for a project to impact these SAIL entities must be assessed in the BCAR.

The subject land does not contain habitat of potential significance to any flora or fauna species listed as an SAIL entity. However, the subject land does support the following biodiversity value which is listed as a SAIL entity.

- PCT1334 – Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion ('BC Act Box-Gum Woodland').

The proposed development will result in the removal of a total of 8.15 ha of BC Act Box-Gum Woodland (comprised of 1.10 ha of moderate to high condition BC Act Box-Gum Woodland [i.e. PCT1334 Zone 1 and Zone 3] and 7.05 ha of low condition BC Act Box-Gum Woodland [i.e. PCT1334 Zone 4]).

The DPE-BCD have advised that a decision has been made not to develop entity specific thresholds for SAIL. Instead, decisions will be made on a case-by-case basis. Accordingly, the below additional information is provided to support the decision maker to determine if the proposed removal of 8.15 ha of BC Act Box-Gum Woodland constitute an SAIL.

However, as detailed in the following sections, the substantial avoidance, minimisation, and mitigation measures incorporated into the Poplars Development reduce the likelihood of a SAIL on BC Act Box-Gum Woodland.

3.4.1 Box-Gum Woodland

The following information is presented according to the requirements outlined in Section 9.1 of the BAM and has been informed by the following databases and documents.

- ACT Government's ACTmapi *Significant Species, Vegetation Communities & Registered Trees*⁶⁶ threatened woodland spatial data, accessed on 3 March 2021.
- NSW Government Saving Our Species (SOS) profile⁶⁷, project report⁶⁸, and Googong-Burra Region priority management information⁶⁹.
- *Final Determination: White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Gazetted 17 July 2020 (NSW Threatened Species Scientific Committee 2020a).
- *Notice of and reason for the Final Determination* (NSW Threatened Species Scientific Committee 2020b⁷⁰).

⁶⁵ NSW Government (2019). *Guidance to assist a decision-maker to determine a serious and irreversible impact*. State of New South Wales and Office of Environment and Heritage

⁶⁶ <http://app.actmapi.act.gov.au/actmapi/index.html?viewer=ssvcrt>

⁶⁷ <https://www.environment.nsw.gov.au/savingourspeciesapp/project.aspx?ProfileID=10837>

⁶⁸ <https://www.environment.nsw.gov.au/savingourspeciesapp/ViewFile.aspx?ReportProjectID=988&ReportProfileID=10837>

⁶⁹ <https://www.environment.nsw.gov.au/savingourspeciesapp/ManagementSite.aspx?SiteID=3052>

⁷⁰ NSW Threatened Species Scientific Committee (2020b), *Notice of and reason for the Final Determination*.

- *Conservation Assessment of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (NSW Threatened Species Scientific Committee 2020c⁷¹).
- NSW Government Office of Environment & Heritage White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland profile⁷².
- *ACT native woodland conservation strategy and action plans* (ACT Government 2019⁷³).
- *White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands listing advice and conservation advice* (Department of the Environment and Heritage 2006⁷⁴).
- *White box - Yellow box - Blakely's red gum grassy woodlands and derived native grasslands* (Commonwealth of Australia 2006⁷⁵).
- *National Recovery Plan for White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (DECCW 2010⁷⁶).

3.4.1.1 Box-Gum Woodland – SAI additional information

1. **the action and measures taken to avoid the direct and indirect impact on the TEC at risk of an SAI**

The proposed development enacts the principles detailed in Section 3.1 to avoid and minimise impacts to Box-Gum Woodland. Potential indirect impacts, including indirect impacts to Box-Gum Woodland, will be minimised and mitigated by the measures outlined in Section 3.3.

The subject land supports 8.35 ha of BC Act Box-Gum Woodland (Figure 8), composed of:

- 0.60 ha of high condition EPBC Act Box-Gum Woodland (i.e. PCT1334 Zone 1), with a vegetation integrity of 47.7;
- 0.70 ha of moderate condition BC Act Box-Gum Woodland (i.e. PCT1334 Zone 3), with a vegetation integrity of 30.3; and
- 7.05 ha of low condition BC Act Box-Gum Woodland (i.e. PCT1334 Zone 4), with a vegetation integrity of 5.7.

The subject land also supports an additional 34.25 ha of PCT1334 (i.e. PCT1334 Zone 5) that has been disturbed to the extent that it no longer meets the listing criteria for BC Act Box-Gum Woodland.

⁷¹ NSW Threatened Species Scientific Committee (2020c). *Conservation Assessment of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*.

⁷² <https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10837>

⁷³ ACT Government (2019). *ACT native woodland conservation strategy and action plans*. Environment, Planning and Sustainable Development.

⁷⁴ Department of the Environment and Heritage (2006). *White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands listing advice and conservation advice*. Nationally threatened species and ecological communities guidelines. EPBC Act policy statement.

⁷⁵ Commonwealth of Australia (2006). *White box - Yellow box - Blakely's red gum grassy woodlands and derived native grasslands*. EPBC Act Policy Statements, Nationally threatened species and ecological communities.

⁷⁶ DECCW (2010). *National Recovery Plan for White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Department of Environment, Climate Change and Water NSW, Sydney

With reference to the 42.40 ha of PCT1334 that occurs in the development footprint (Figure 18):

- 81% of the impact is located in areas that support vegetation disturbed to the extent that it no longer meets the listing criteria for BC Act Box-Gum Woodland (i.e. 34.25 ha of PCT1334 Zone 5);
- 17% of the impact is located in areas that support vegetation that meets the listing criteria for BC Act Box-Gum Woodland in its lowest possible condition state (i.e. 7.05 ha of PCT1334 Zone 4); and
- 3% of the impact is located in areas that support vegetation that meets the listing criteria for BC Act Box-Gum Woodland in moderate to high condition (i.e. 0.42 ha of PCT1334 Zone 1 and 0.68 ha of PCT1334 Zone 3).

When considered together, the proposed development has almost entirely been located in the portions of the subject land that support highly degraded and low condition vegetation.

In addition, the Poplars North and Poplars South BioBanking Sites support 10.65 ha of BC Act Box-Gum Woodland (Figure 16), comprised of:

- 8.48 ha of high condition EPBC Act Box-Gum Woodland; and
- 2.17 ha of moderate condition BC Act Box-Gum Woodland.

In total, “The Poplars” property therefore supports (Figure 16):

- 9.08 ha of EPBC Act Box-Gum Woodland;
- 2.87 ha of moderate condition BC Act Box-Gum Woodland; and
- 7.05 ha of low condition BC Act Box-Gum Woodland (i.e. PCT1334 Zone 4).

With respect to the entirety of “The Poplars”, the proposed development will therefore impact:

- 5% (0.42 ha) of the EPBC Act Box-Gum Woodland in “The Poplars”;
- 24% (0.68 ha) of the moderate condition Box-Gum Woodland in “The Poplars”; and
- 100% (7.05 ha) of the low condition Box-Gum Woodland in “The Poplars”.

The 10.65 ha of BC Act Box-Gum Woodland in the two BioBanking Sites, including the vast majority of the higher quality Box-Gum Woodland in “The Poplars”, will be protected and managed in accordance with the BioBanking Agreements, which includes the management actions summarised in Section 3.1.2.1 and detailed in Appendix H. Management actions of particular benefit to Box-Gum Woodland include the following.

- Retention of remnant native vegetation, regrowth, dead timber, and rocks.
- Replanting or supplementary planting where natural regeneration will not be sufficient (Poplars South BioBanking Site only).
- An integrated weed management plan, including weed control, monitoring, and inspection of existing and new weeds.

- Control of feral and overabundant native herbivores using a variety of methods (e.g. biocontrol, baiting, warren destruction, fumigation, shooting, trapping, and harbour destruction), including monitoring and inspection requirements.
- Vertebrate pest management (foxes and other miscellaneous feral species) using a variety of methods (baiting, den destruction, shooting, and trapping), including monitoring and inspections of existing and new vertebrate pests.
- A fire management plan, including prescribed ecological burns if required.
- Stock are not permitted to graze in any area of the BioBanking Sites.
- Management of site drainage from urban stormwater catchments.
- Management of human disturbance, including fencing (to deter human and vehicular access) and signage, and restrictions on permitted activities.
- Monitoring, reporting, and record keeping requirements.
- Adaptive management, including a review of management plans every 4 to 6 years. This process considers the effectiveness of the matters contained in the current plan.

Finally, the proposed development will protect a 0.20 ha patch of vegetation that occurs in the northern tip of the subject land adjoining the Poplars North BioBanking Site. This area supports 0.18 ha of EPBC Act Box-Gum Woodland, 0.18 of Golden Sun Moth habitat, and approximately 130 Hoary Sunray plants, and is proposed to be protected and managed as part of the Poplars North BioBanking Site (Figure 16 and Figure 17). The proposed development will also retain the remnant trees that occur within a 0.25 ha patch adjoining this area (Figure 16).

When all of the above is considered together, the proposed development has therefore been designed to avoid and minimise impacts to BC Act Box-Gum Woodland while simultaneously ensuring the protection and management of the vast majority of the higher condition vegetation.

2. The current status of the TEC including:

- a. evidence of reduction in geographic distribution (Principle 1, clause 6.7(2)(a) BC Regulation) as the current total geographic extent of the TEC in NSW and estimated reduction in geographic extent of the TEC since 1970 (not including impacts of the proposal).**
- b. extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes (Principle 2, clause 6.7(2)(b) BC regulation) indicated by:**
 - i. change in community structure**
 - ii. change in species composition**
 - iii. disruption of ecological processes**
 - iv. invasion and establishment of exotic species**
 - v. degradation of habitat, and**

- vi. *fragmentation of habitat*
- c. *evidence of restricted geographic distribution (Principle 3, clause 6.7(2)(c) BC Regulation), based on the TEC's geographic range in NSW according to the*
 - i. *Extent of occurrence*
 - ii. *Area of occupancy, and*
 - iii. *Number of threat-defined locations*
- d. *evidence that the TEC is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation).*

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland is listed under the NSW BC Act as a Critically Endangered Ecological Community. It is considered to be an SAIL entity based on Principles 1 and 2⁷⁷. As stated in the Final Determination (NSW Threatened Species Scientific Committee 2020b) –

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland has undergone a very large reduction in geographic distribution. The Community has been extensively cleared throughout its range and remnants typically are small, isolated, highly fragmented, occur in predominantly cleared landscapes and exhibit highly modified understoreys (TSSC 2006). Based on a compilation of available maps depicting the current extent of the community, TSSC (2006) estimated that less than 5% of the original distribution remained, however the extent to which remaining examples continue to support characteristic biota, their interactions and function is unknown...

...White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland is subject to a number of threatening processes that have caused severe declines in biotic processes and interactions throughout its range and are likely to cause continuing decline in the future.

3. Is the TEC 'Unknown' or 'Data deficient' for Principles 1 to 4?

The TEC is not data deficient.

4. in relation to the impacts from the proposal on the TEC at risk of an SAIL:

- a. *the impact on the geographic extent of the TEC (Principles 1 and 3) by estimating the total area of the TEC to be impacted by the proposal:*
 - i. *in hectares, and*
 - ii. *as a percentage of the current geographic extent of the TEC in NSW*

Data and information should include direct impacts (i.e. from clearing) and indirect impacts where partial loss of the TEC is likely as a result of the proposal.

The current geographic extent of the TEC in NSW varies widely between estimates. The following information was taken from Table 2a of the *Conservation Assessment of White Box-Yellow Box-*

⁷⁷ <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/local-government-and-other-decision-makers/serious-and-irreversible-impacts-of-development>

Blakely's Red Gum Grass Woodland and Derived Native Grassland (NSW Threatened Species Scientific Committee 2020c).

- Former (pre-1750) extent in NSW = 3,717,366 ha.
- Current extent in NSW = 250,729 ha (93% cleared).
- Former extent (pre-1750) in South-Eastern NSW = 1,012,052 ha.
- Current extent in South-Eastern NSW = 59,468 ha (94% cleared).

The proposed development will impact 8.15 ha of BC Act Box-Gum Woodland. This impact represents 0.01% of the TEC in South-Eastern NSW and 0.003% of the total extent in NSW.

However, it is also important to note that the impact to 8.15 ha of Box-Gum Woodland is comprised of:

- 0.42 ha of high condition EPBC Act Box-Gum Woodland (i.e. PCT1334 Zone 1), with a vegetation integrity of 47.7;
- 0.68 ha of moderate condition BC Act Box-Gum Woodland (i.e. PCT1334 Zone 3), with a vegetation integrity of 30.3; and
- 7.05 ha of low condition BC Act Box-Gum Woodland (i.e. PCT1334 Zone 4), with a vegetation integrity of 5.7.

With respect to the above, 87% of the impact to BC Act Box-Gum Woodland is therefore directed towards vegetation that meets the listing criteria for BC Act Box-Gum Woodland in its lowest possible condition state (i.e. PCT1334 Zone 4).

b. The extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes (Principle 2) of the TEC by:

- i. Estimating the size of any remaining, but now isolated, areas of the TEC; including areas of the TEC within 500m of the development footprint or equivalent area for other types of proposals**

The proposed development is surrounded by:

- cleared agricultural land to the south;
- residential development to the east;
- grasslands to the west (i.e. the Poplars South BioBanking Site); and
- a mix of grassland and woodland to the north (i.e. the Poplars North BioBanking Site).

As shown in Figure 19, a 500 m buffer around the development footprint contains approximately 27.33 ha of BC Act Box-Gum Woodland.

- All of the BC Act Box-Gum Woodland outside the development footprint is in moderate to high condition as it supports a remnant canopy, and 8.48 ha in the Poplars North BioBanking Site meets the listing criteria for EPBC Act Box-Gum Woodland.

- In contrast, 87% (7.05 ha) of the BC Act Box-Gum Woodland in the development footprint only meets the listing criteria for this TEC in its lowest possible condition state (i.e. PCT1334 Zone 4, vegetation integrity of 5.7).

The areas to be cleared therefore largely consist of patches of low-quality vegetation that lack a native overstorey, midstorey, and shrubstorey.

The proposed development is therefore unlikely to significantly reduce the size or result in an increase in isolation of the remaining patches of BC Act Box-Gum Woodland

ii. Describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by:

- **Distance between isolated areas of the TEC, presented as the average distance if the remnant is retained AND the average distance if the remnant is removed as proposed, and**

The average minimum distance between all patches of BC Act Box-Gum Woodland within 500 m of the development footprint (including vegetation within the development footprint, refer to Figure 19) is:

- if the remnant is retained = 83 m; and
- if the remnant is removed as proposed = 103 m.

The proposed development would therefore result in an average increase of 20 m (24%) for the minimum distance between all patches of BC Act Box-Gum Woodland within 500 m of the development footprint. However, it is important to note that 87% of the impact to BC Act Box-Gum Woodland occurs in PCT1334 Zone 4, which is a low-diversity vegetation zone that does not support an overstorey, midstorey, or shrubstorey. The removal of such degraded BC Act Box-Gum Woodland is therefore considered unlikely to further isolate retained and adjacent areas of the TEC.

- **Estimated maximum dispersal distance for native flora species characteristic of the TEC, and**

The vegetation across the development footprint is highly disturbed as approximately 97% of the overstorey has been cleared and the midstorey and shrubstorey are almost entirely absent. The proposed development is therefore largely located in an area that largely supports low-quality vegetation and flora habitat. In addition, the proposed development will not significantly reduce the size or result in an increase in isolation of the remaining patches of the TEC.

In contrast, the two BioBanking Sites protect the vast majority of higher quality vegetation and threatened species habitat in "The Poplars", including (refer to Figure 16 and Figure 17):

- 93% of the EPBC Act listed Box-Gum Woodland;
- 93% of the EPBC Act listed NTG-SEH;
- 87% of the Golden Sun Moth habitat;
- 88% of the Pink-tailed Legless Lizard habitat;
- >95% of the potential Grassland Earless Dragon habitat;

- >95% of the threatened flora habitat; and
- the vast majority of the threatened woodland bird habitat

As a result, the proposed development is considered unlikely to impact the dispersal of any flora species characteristic of the TEC.

- **Other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development**

The average area to perimeter ratio for all patches of BC Act Box-Gum Woodland within 500 m of the development footprint (including vegetation within the development footprint, refer to Figure 19) is:

- if the remnant is retained = 16.79; and
- if the remnant is removed as proposed = 19.36.

The proposed development would therefore result in an average decrease of 2.57 (15%) for the average area to perimeter ratio for all patches of BC Act Box-Gum Woodland within 500 m of the development footprint.

- iii. **Describing the condition of the TEC according to the vegetation integrity score for the relevant vegetation zones(s). Include the relevant composition, structure and function condition scores for each vegetation zone.**

The proposed development will directly impact (i.e. remove) of a total of 8.15 ha of BC Act listed Box-Gum Woodland, comprised of the following vegetation condition zones.

- PCT1334 Zone 1 (0.42 ha). Vegetation Integrity Score of 47.7 (composition 66.4, structure 47.9, and function 34.2). As described in Table 11, this zone is characterised as '*A small patch of relatively intact vegetation, with a canopy representative of the climax community. Some scattered shrubs and regeneration of the overstorey. Moderate to high diversity groundlayer dominated by perennial native grasses and a variety of forbs, including approximately 130 Hoary Sunray plants. Moderately grazed by Eastern Grey Kangaroos*'.
- PCT1334 Zone 3 (0.68 ha). Vegetation Integrity Score of 30.3 (composition 23.0, structure 29.6, and function 41.0). As described in Table 12, this zone is characterised as '*Canopy with the components of the climax community, but there is evidence of historic thinning and the midstorey and shrubstorey are absent. Low diversity exotic groundlayer dominated by a variety of exotic grasses, notably Phalaris. Moderate to high density of significant weed species. Lightly grazed by Eastern Grey Kangaroos*'.
- PCT1334 Zone 4 (7.05 ha). Vegetation Integrity Score of 5.7 (composition 14.5, structure 50.6, and function 0.3). As described in Table 13, this zone is characterised as '*Overstorey and midstorey are absent. Low diversity native groundlayer dominated by disturbance tolerant native grasses, notably Tall Speargrass and Wallaby Grasses Rhytidosperma spp. Low to high density of significant weed species. Moderately to heavily grazed by Eastern Grey Kangaroos*'.

As discussed previously, 87% of the impact to BC Act Box-Gum Woodland therefore occurs in vegetation that has been substantially degraded by historic and current agricultural activities and only meets the definition of the TEC in a highly modified form (i.e. PCT1334 Zone 4).

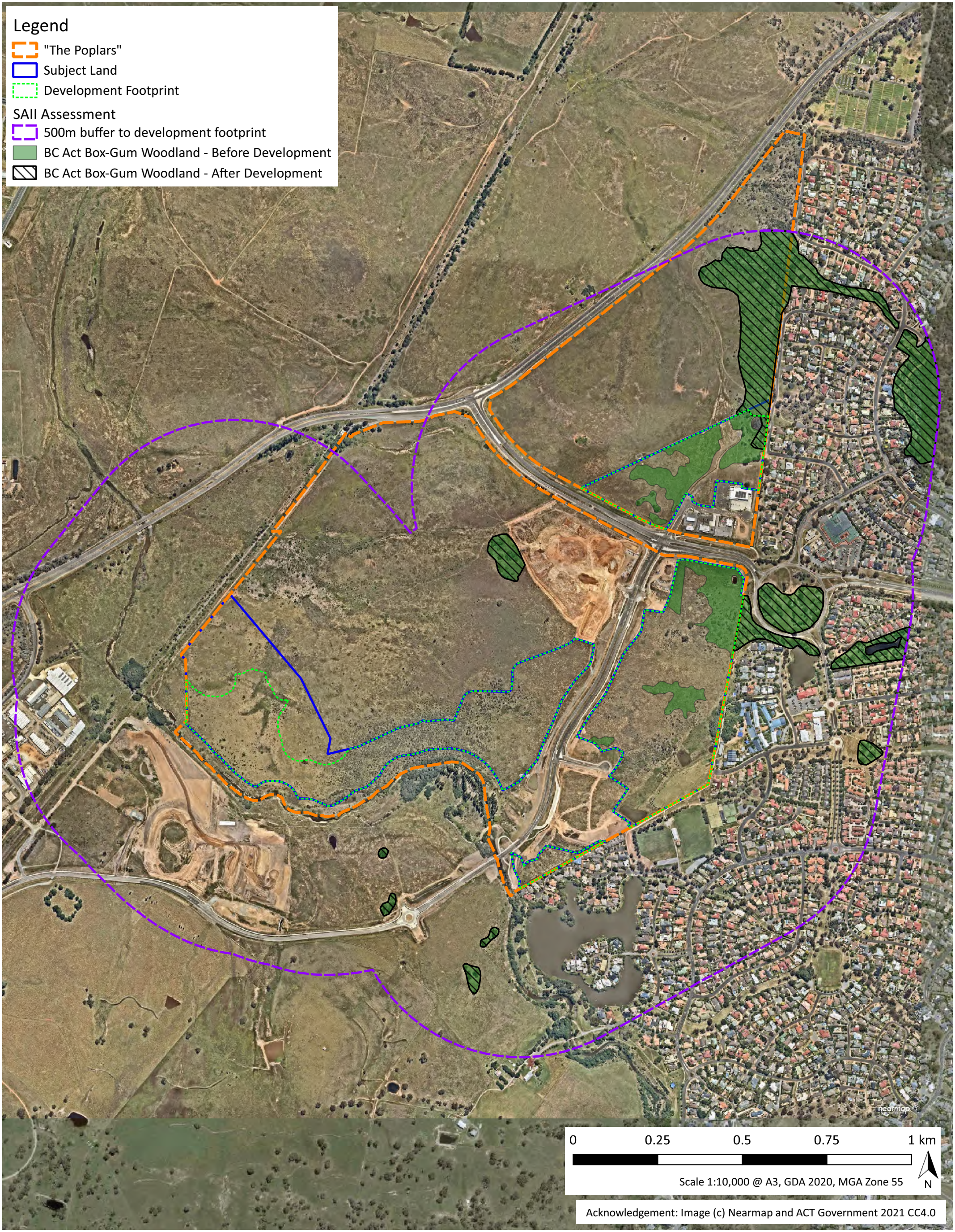


Figure 19. Box-Gum Woodland within 500 m of the Development Footprint

3.5 Legislative Requirements

3.5.1 Commonwealth EPBC Act – Referral

As mentioned in Section 1, the impact of the Poplars Development on MNES was referred to DCCEW on 28 September 2020 (EPBC Act Referral No. 2020/8801, determined to be a controlled action on 20 November 2020 to be assessed by preliminary documentation). The proposed action was approved by DCCEW on 13 September 2021, subject to certain conditions.

3.5.2 NSW BC Act – Biodiversity Offset Requirements

The BAM Calculator is the tool for quantifying the offset requirements for a project, the output being expressed as ecosystem credits and species credits. The results of the BAM credit calculations completed for the proposed development are provided below and detailed in Appendix F.

3.5.2.1 Biodiversity risk weighting

The biodiversity risk weighting is a tool used in the BOS to mitigate the risk in offsetting the loss of vegetation, threatened entities and/or their habitat. The biodiversity risk weighting does this by increasing the quantum of credits required at an impact site. The biodiversity risk weighting is derived from two components:

- sensitivity to loss – based on threat status under legislation or evidence-based information that suggests the entity is at an increased risk of loss; and
- sensitivity to potential gain – based on life history characteristics and ecological information for a species.

The development footprint contains vegetation with a vegetation integrity score that requires offsetting for impacts on ecosystem credits. The development footprint also contains threatened species habitat that requires offsetting for impacts on species credits. The biodiversity risk weighting for the identified ecosystem credits and species credits are shown below.

- PCT320 – Biodiversity risk rating of 2.5.
- PCT1334 – Biodiversity risk rating of 2.5.
- *Synemon plana* Golden Sun Moth – Biodiversity risk rating of 1.5.

3.5.2.2 Ecosystem credit requirements

The results of the BAM ecosystem credit calculations completed for the proposed development are provided in Table 22. As shown in Table 22, a subset of the assessed vegetation zones in the proposed biodiversity certification area have a vegetation integrity score sufficient for their clearance to result in generation of ecosystem credits, as outlined in Section 9.2.1 of the BAM, these being vegetation zones that have a vegetation integrity score of:

- a. ≥ 15 , where the PCT is representative of an EEC or a CEEC*
- b. ≥ 17 , where the PCT is associated with threatened species habitat (as represented by ecosystem credits) or represents a vulnerable ecological community*
- c. ≥ 20 , where the PCT does not represent a TEC and is not associated with threatened species habitat.*

Accordingly, the proposed development does generate an ecosystem credit obligation.

Table 22. Ecosystem credit requirements.

PCT & Vegetation Zone	Vegetation Integrity Score	Proposed Clearance Area (ha)	Credits Required
PCT320 Zone 2	5.9	9.53	0
Total			0
PCT1334 Zone 1	47.2	0.42	12
PCT1334 Zone 3	28.7	0.68	12
PCT1334 Zone 4	5.7	7.05	0
PCT1334 Zone 5	0.5	34.25	0
Total			24

3.5.2.3 Species credit requirements

The development footprint supports habitat of potential significance to the Golden Sun Moth, which is species credit species. Accordingly, as detailed in Table 23, the proposed development does generate a species credit obligation.

Table 23. Species credit requirements.

Species	PCT & Vegetation Zone	Habitat Condition (Vegetation Integrity) Loss	Proposed Clearance Area (ha)	Credits Required
<i>Synemon plana</i>	PCT1334 Zone 1	47.2	0.42	7
Golden Sun Moth	PCT1334 Zone 4	5.7	7.05	15
Total				22

3.5.2.4 Credit obligation options

As detailed by the NSW Department of Planning and Environment⁷⁸, the proponent can address the estimated offset obligation outlined in the following two ways (options).

1. The proponent can ‘*identify and purchase the required ‘like for like’ credits in the market and then retire those credits via OEH BOAMS [Biodiversity Offsets and Agreement Management System]. For example, credits could be located by using the OEH registers or by retaining a broker to locate credits for them.*’
2. The proponent can ‘*use the Offsets Payment Calculator to determine the cost of its credit obligation, and transfer this amount to the Biodiversity Conservation Fund via OEH BOAMS. The Biodiversity Conservation Trust is then responsible for identifying and securing the credit obligation.*’

When the proponent has completed these steps for all credits that the proponent is required to retire, they can proceed with their activity in accordance with their approval. The consent authority is responsible for ensuring compliance with credit obligations, and any other conditions of the consent or approval.

⁷⁸ <https://www.environment.nsw.gov.au/biodiversity/offsetsscheme.htm>

If the proponent chooses Option 2 to meet the credit obligations, the amount which must be paid into the Biodiversity Conservation Fund is determined at the time the proponent applies for an invoice from the Biodiversity Conservation Trust. A risk premium is included in that calculation to account for fact that the risks and costs involved in securing the offset have effectively been transferred to the Biodiversity Conservation Trust. The benefits associated with Option 2 include a more streamlined process and no ongoing obligations once the required amount has been paid to the Biodiversity Conservation Fund.

If the proponent chooses Option 1 to meet the credit obligations, the cost per credit purchased from the market is likely to be lower than that to pay into the Biodiversity Conservation Fund, and as such, the total monetary cost of the offset obligation is likely to be lower than Option 2. However, the disadvantages associated with Option 1 include a more complicated process and potential delays associated with sourcing credits from the BOS credit market.

3.5.2.5 Proposed means of addressing the offset requirements for the Poplars Development

As mentioned previously, “The Poplars” includes two established BioBanking Sites that encompass 98.46 ha (50%) of the site. As detailed in Section 1.3.3.1, the combined BioBanking Sites generate the following classes and numbers of credits.

- 125 credits of PCT1202 *Speargrass grassland of the South Eastern Highlands Bioregion*.
- 275 credits of PCT1289 *Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion*.
- 40 credits of PCT1330 *Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion*.
- 312 Golden Sun Moth credits.
- 337 Grassland Earless Dragon credits.
- 85 Pink-tailed Legless Lizard credits.

The credits generated by the BioBanking Sites will be used to meet the credit obligation generated by the impacts associated with all stages of the Poplars Development. Table 24 details the credit obligation generated by all stages of the Poplars Development (Stage 1 of the Innovation Precinct [Capital Ecology 2020d⁷⁹], the Jerrabomberra High School [Capital Ecology 2022a], and this BCAR), the credits generated by the combined BioBanking Sites, and the resultant credit balance.

As shown in Table 24 the credit obligation can be met for both PCT1334 and Golden Sun Moth.

Table 24. Addressing the offset requirements for all stages of the Poplars Development.

Entity	Credit Obligation	Credits Generated	Credit Balance
PCT1330 Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion.	29 ⁸⁰	40	+ 11

⁷⁹ Capital Ecology (2020d). *Poplars Innovation Precinct (Stage 1), Jerrabomberra, NSW – addendum addressing comments from DPIE-BCD on the Biodiversity Development Assessment Report*. 12 February 2021, Project No. 2971.

⁸⁰ 5 credits from Stage 1 of the Innovation Precinct and 24 credits from this BCAR.

Entity	Credit Obligation	Credits Generated	Credit Balance
OR PCT1334 Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion			
Golden Sun Moth <i>Synemon plana</i>	65 ⁸¹	312	+ 247

3.5.2.6 Staged retirement of credits

With reference to the development stages included in Figure 2, the proposed staging for the retiring of credit obligations to be included in the Biodiversity Certification Agreement are detailed in Table 25.

Table 25. Offset requirements for each stage of the proposed development

Entity	Credits Required			Total
	Retail and Services Precinct - Stage 2	Innovation Precinct - Stage 2	Innovation Precinct - Stage 3	
PCT1334	24	0	0	24
Golden Sun Moth	13	9	0	22

3.5.3 NSW Koala SEPP – Koala Habitat Protection Requirements

Regarding the application of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 4 Koala Habitat protection* (the ‘Koala Habitat Protection SEPP 2021’) for the proposed development of the subject land, the following points are noted.

1. The subject land is located within the Queanbeyan-Palerang Local Government Area (LGA), which is an LGA to which the Koala Habitat Protection SEPP 2021 applies as listed in Schedule 2.
2. The subject land has an area of greater than 1 hectare and there is no approved Koala Plan of Management.
3. The subject land support a number of the tree species listed in Schedule 3 of the Koala Habitat Protection SEPP 2021. Accordingly, the subject land supports ‘potential koala habitat’.
4. “The Poplars” property is separated by over 6 km from the nearest Koala records, all of which occur in intact vegetation to the west; the intervening areas are characterised by urban development and include a substantial number of significant impediments to Koala movement (e.g. large roads, urban expanses, human disturbance).
5. The ecological values of “The Poplars” property have been investigated since the early 1990s (refer to Section 1.3.1). No Koala or signs of Koala occupation have ever been detected.

⁸¹ 34 credits from Stage 1 of the Innovation Precinct, 9 from the Jerrabomberra High School, and 22 credits from this BCAR

With regard to the above and with respect to the Koala Habitat Protection SEPP, the subject land is therefore considered unlikely to support Koala habitat and as such is unlikely to constitute important or occupied Koala habitat now or in the future.

In light of the above, Council can be satisfied that the subject land is not Koala habitat, and it is therefore not prevented by the Koala Habitat Protection SEPP from granting consent to a development application within the subject land.

3.6 Information Requirements for the Biodiversity Certification Agreement

The information in Table 26, Table 27, Figure 20, and Figure 21 is required by DPE-BCD in order to inform the Biodiversity Certification Agreement that will be sent to the NSW Minister for Planning for approval.

While the establishment of the ‘The Poplars North’ and ‘The Poplars South’ as BioBanking Sites under BioBanking Agreements are considered to be one of the primary avoidance measures related to the proposed development, feedback from DPE-BCD indicates that the two BioBanking Sites cannot be officially included as ‘Avoided Land’. This is because the early establishment and protection of these two BioBanking Sites means that they can no longer be considered as ‘developable land’ and thus can no longer be technically considered as ‘Avoided Land’ in the current BCAR. As such, the BioBanking Sites and the values they support are not included in Table 26, Table 27, Figure 20, or Figure 21.

Table 26. Biodiversity Certification Areas.

General Area	Area (ha)	Native Vegetation (ha)
Biodiversity Certification Assessment Area		
- Subject Land	60.91	12.78
Land Proposed for Certification		
- Development Footprint	52.46	8.15
Avoided Land		
- 0.20 ha retained area	0.20	0.20
- South-western corner of “The Poplars”	8.25	4.43
TOTAL	8.45	4.63
Retained Land not Proposed for Certification		
- N/A	0	0

Table 27. Biodiversity Values within each Biodiversity Certification Area.

Biodiversity Value	Biodiversity Certification Assessment Area	Land Proposed for Certification	Avoided Land	Retained Land not Proposed for Certification
Vegetation				
PCT320 Zone 1	4.43 ha	0 ha	4.43 ha	0 ha
PCT320 Zone 2	13.36 ha	9.53 ha	3.83 ha	0 ha
Natural Temperate Grassland	4.43 ha	0 ha	4.43 ha	0 ha
PCT1334 Zone 1	0.60 ha	0.42 ha	0.18 ha	0 ha
PCT1334 Zone 3	0.70 ha	0.68 ha	0.02 ha	0 ha
PCT1334 Zone 4	7.05 ha	7.05 ha	0 ha	0 ha
PCT1334 Zone 5	34.25 ha	34.25 ha	0 ha	0 ha
BC Act Box-Gum Woodland	8.35 ha	8.15 ha	0.20 ha	0 ha
EPBC Act Box-Gum Woodland	0.60 ha	0.42 ha	0.18 ha	0 ha
Mature Remnant Trees	50	48 (13 retained)	2	0
Threatened species				
Golden Sun Moth	12.08 ha	7.47 ha	4.61 ha	0 ha
Grassland Earless Dragon	4.43 ha (Potential habitat in PCT320 Zone 1)	0 ha	4.43 ha (Potential habitat in PCT320 Zone 1)	0 ha
Pink-tailed Legless Lizard	2.46 ha	0 ha	2.46 ha	0 ha
Hoary Sunray	130 plants	0 plants	130 plants	0 plants

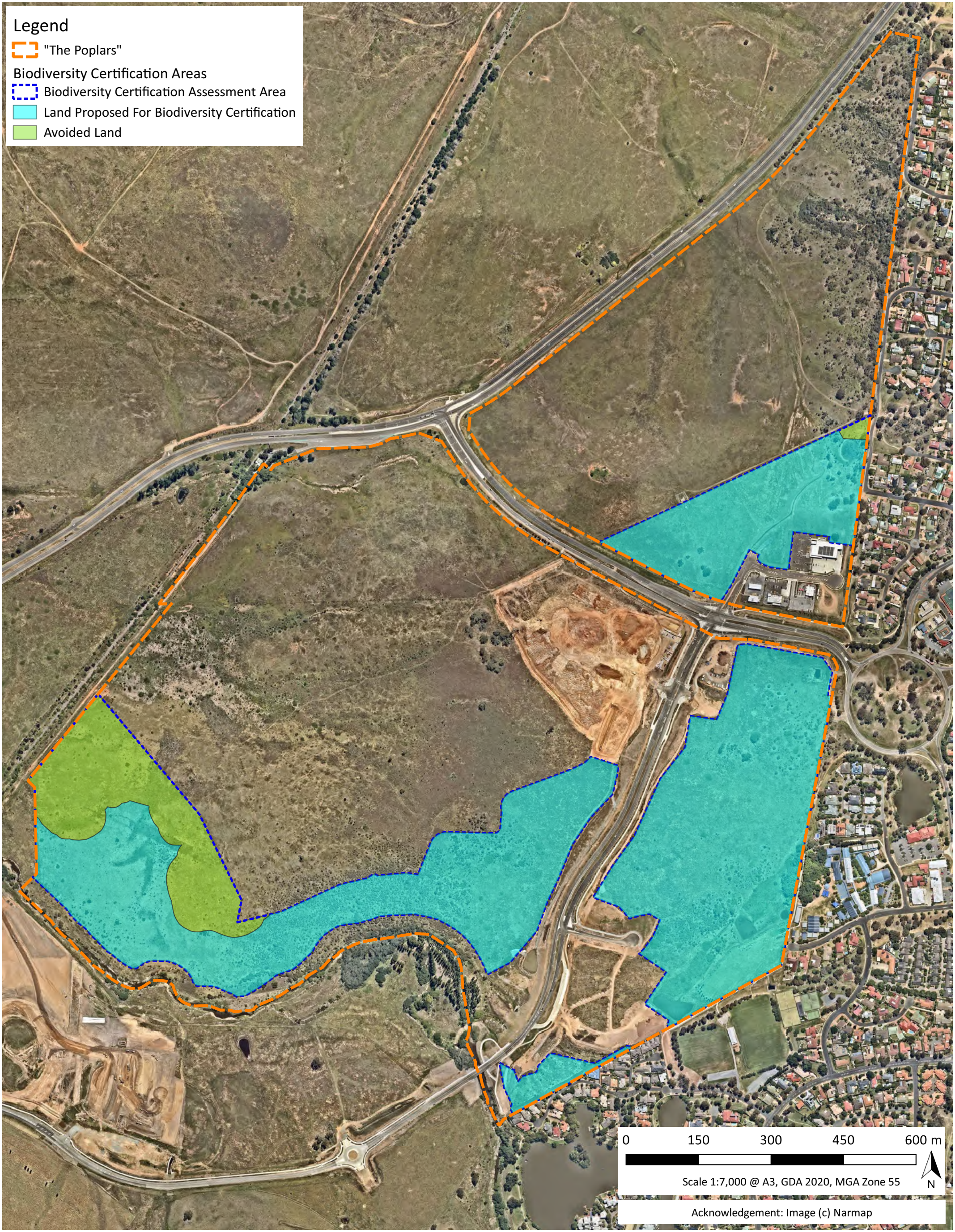


Figure 20. Biodiversity Certification Areas

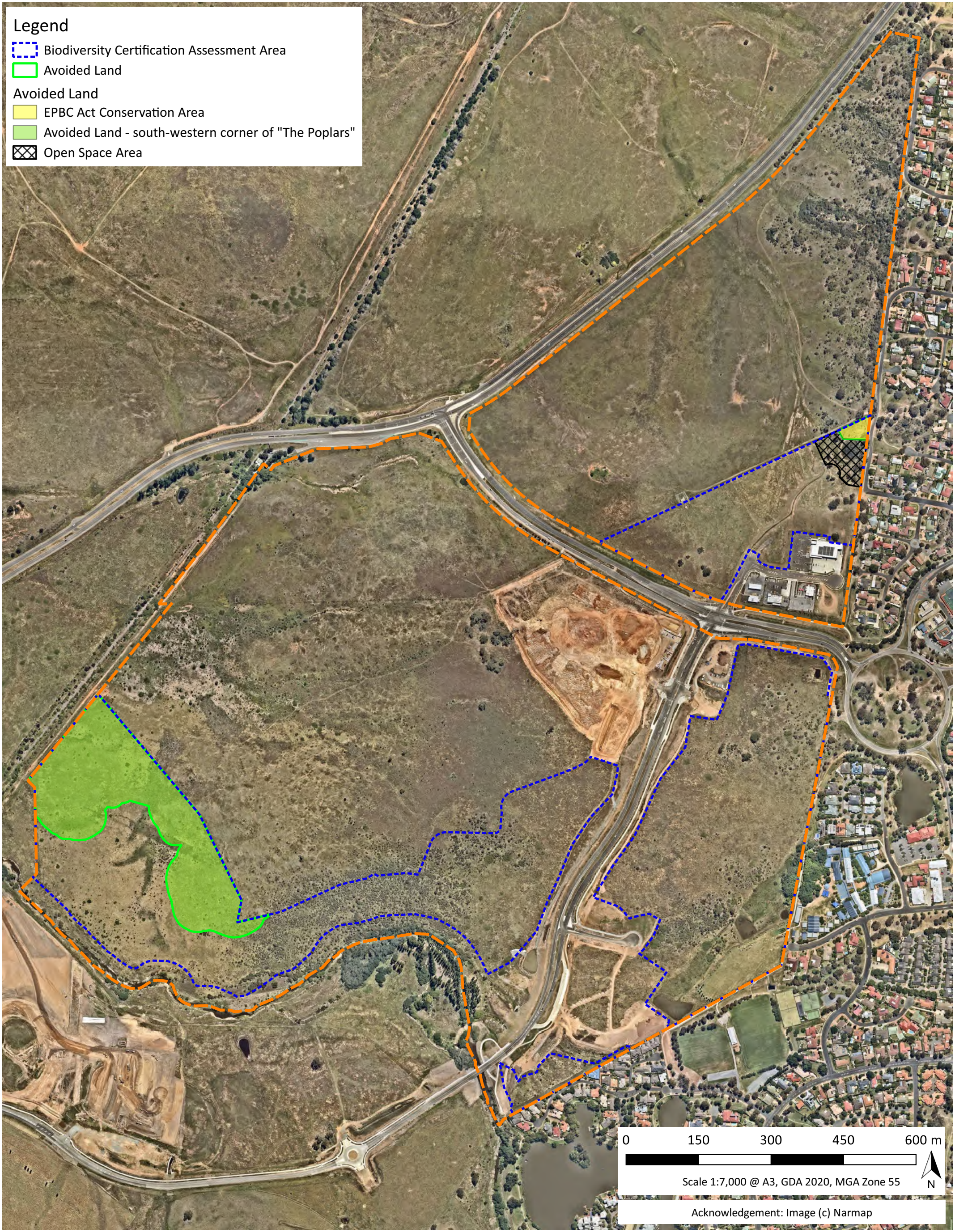


Figure 21. Biodiversity Certification Areas – Avoided Land

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Appendices

Appendix A. BAM Plot/Transect Scores

PCT code	Veg. Zone	Plot No.	Composition (species richness)					
			Tree	Shrub	Grass & grass like	Forb	Fern	Other
320	1	1	0	1	8	10	1	1
		2	0	0	6	3	0	0
		3	0	1	9	11	1	1
	2	1	0	0	7	1	0	0
		2	0	0	7	3	0	0
		3	0	0	6	4	0	1
1334	1	1	1	1	6	13	1	2
	3	1	1	0	7	1	0	0
	4	1	0	0	3	0	0	0
		2	0	0	6	2	1	1
		3	0	0	5	3	0	0
	5	1	0	0	2	0	0	0
		2	0	0	2	0	0	0
		3	0	0	3	1	0	0
		4	0	0	0	1	0	0

PCT code	Veg. Zone	Plot No.	Structure (% cover)					
			Tree	Shrub	Grass & grass like	Forb	Fern	Other
320	1	1	0	0.1	33.5	11.6	0.2	0.1
		2	0	0	35.3	0.3	0	0
		3	0	0.1	34.5	3.7	0.1	0.1
	2	1	0	0	4.3	0.1	0	0
		2	0	0	16.4	0.3	0	0
		3	0	0	20.3	0.4	0	0.1
1334	1	1	2	0.1	27.2	4.1	0.1	0.2
	3	1	20	0	2.8	0.1	0	0
	4	1	0	0	44	0	0	0
		2	0	0	53.2	0.2	0.1	0.1
		3	0	0	29.6	0.3	0	0
	5	1	0	0	2.2	0	0	0
		2	0	0	2.1	0	0	0
		3	0	0	0.3	0.1	0	0
4		0	0	0	0.1	0	0	

PCT code	Veg. Zone	Plot No.	Function									
			Stem classes					No. of large trees	Hollow bearing trees	% Litter cover	Coarse woody debris (m)	% High threat weed cover
			Regen.	5-9	10-19	20-29	30-49					
320	1	1	-	-	-	-	-	0	0	1.4	0	3.3
		2	-	-	-	-	-	0	0	4.4	0	15.3
		3	-	-	-	-	-	0	0	7	0	3.7
	2	1	-	-	-	-	-	0	0	46	0	65.7
		2	-	-	-	-	-	0	0	31	0	61.5
		3	-	-	-	-	-	0	0	27	0	49.5
1334	1	1	Y	Y	Y	-	-	1	0	6.8	1	1.4
	3	1	Y	Y	Y	Y	Y	1	0	8.2	5	2.2
	4	1	-	-	-	-	-	0	0	0.2	0	16.5
		2	-	-	-	-	-	0	0	0.6	0	20.3
		3	-	-	-	-	-	0	0	13	0	1.3
	5	1	-	-	-	-	-	0	0	2	0	0.4
		2	-	-	-	-	-	0	0	0.4	0	3.5
		3	-	-	-	-	-	0	0	22	0	1
		4	-	-	-	-	-	0	0	18	2	10.7

Appendix B. Flora Species Recorded by Plot and Percent Cover or Presence

Scientific Name	Common Name	320.1.1	320.1.2	320.1.3	320.2.1	320.2.2	320.2.3	1334.1.1	1334.3.1	1334.4.1	1334.4.2	1334.4.3	1334.5.1	1334.5.2	1334.5.3	1334.5.4	Recorded elsewhere in the subject land
Exotic																	
<i>Acetosella vulgaris</i>	Sheep's Sorrel	0.1									0.1	1.0		1.0			
<i>Aira sp.</i>	Hair-grass	0.1			0.1			0.1									
<i>Ailanthus altissima</i>	Tree of Heaven						0.2										
<i>Avena sp.</i>	Wild Oats									1.0					0.2	5.0	
<i>Briza maxima</i>	Greater Quaking-grass				0.1			1.0									
<i>Briza minor</i>	Lesser Quaking-grass								0.1								
<i>Bromus sp.</i>	Brome Grass		0.1		0.1	0.1	0.1		2.0	0.1	1.0	0.1	0.2	0.2	0.2	5.0	
<i>Capsella bursa-pastoris</i>	Shepherd's Purse																X
<i>Carthamus lanatus</i>	Saffron Thistle			0.1	0.1	0.1	0.1			0.1	1.0	0.2			0.2	0.2	
<i>Centaurium sp.</i>	Common Centaury			0.1							1.0						
<i>Chondrilla juncea</i>	Rush Skeleton-weed																X
<i>Conyza sp.</i>	Fleabane										0.2			0.2			X
<i>Crataegus monogyna</i>	Common Hawthorn					0.1	3.0				10.0						X
<i>Cyperus eragrostis</i>	Tall Flat-sedge								0.1								
<i>Dactylis glomerata</i>	Cock's Foot														0.1		
<i>Echium plantagineum</i>	Paterson's Curse					0.1	0.1		0.2	0.1		0.1	0.1		0.1	1.0	
<i>Eleusine tristachya</i>	Goose Grass								0.1	30.0							
<i>Eragrostis curvula</i>	African Lovegrass		0.1					1.0		5.0			0.2				
<i>Erodium botrys</i>	Long Stocks-bill																
<i>Erodium cicutarium</i>	Common Stork's-bill												0.1				
<i>Festuca arundinacea</i>	Tall Fescue								5.0								
<i>Gnaphalium americanum</i>	Purple Cudweed								0.1								
<i>Hirschfeldia incana</i>	Buchan Weed					0.1	0.1			0.1		0.1	0.1	0.2	1.0	0.2	
<i>Holcus lanatus</i>	Yorkshire Fog							0.1	2.0	0.1							
<i>Hordeum sp.</i>	Barley Grass												0.2				
<i>Hypericum perforatum</i>	St John's Wort	0.2	0.2	0.5	0.2	0.2	0.2	0.1	0.1	0.2	2.0		0.1	0.5	0.2	0.5	
<i>Hypochaeris glabra</i>	Smooth Cats-ear																X
<i>Hypochaeris radicata</i>	Flatweed	0.1		0.1	0.2	0.1	0.1	0.1		1.0	0.5			0.2			
<i>Lactuca serriola</i>	Prickly Lettuce					0.1					0.1		0.1				
<i>Lepidium africanum</i>	Exotic Peppergrass											0.1			0.1	2.0	
<i>Lolium perenne</i>	Perennial Ryegrass										0.1						
<i>Lycium ferocissimum</i>	African Boxthorn		5.0			0.1	3.0										
<i>Malva sp.</i>	Mallow / Marshmallow Weed														0.1	0.2	
<i>Marrubium vulgare</i>	White Horehound								0.1				0.2		0.1		
<i>Nassella trichotoma</i>	Serrated Tussock	3.0	10.0	3.0	65.0	60.0	40.0	0.2	2.0	10.0	0.2	0.1	0.1	1.0	0.1		
<i>Oenothera stricta</i>	Common Evening Primrose					0.1											
<i>Onopordum acanthium</i>	Scotch Thistle											0.1	0.1		5.0	5.0	
<i>Orobanche minor</i>	Lesser Broomrape										0.1						
<i>Paronychia brasiliiana</i>	Brazilian Whitlow											0.1			0.2		
<i>Paspalum dilatatum</i>	Paspalum Grass																
<i>Petrorhagia nanteuillii</i>	Proliferous Pink	0.1			0.1	0.1					0.1	0.1				0.2	
<i>Phalaris aquatica</i>	Phalaris				1.0				55.0	5.0	1.0	3.0	70.0	80.0	35.0	20.0	

Scientific Name	Common Name	320.1.1	320.1.2	320.1.3	320.2.1	320.2.2	320.2.3	1334.1.1	1334.3.1	1334.4.1	1334.4.2	1334.4.3	1334.5.1	1334.5.2	1334.5.3	1334.5.4	Recorded elsewhere in the subject land
<i>Plantago lanceolata</i>	Plantain / Lamb's Tongue		0.2	0.1	0.1	0.1	0.1	0.1	0.5	2.0	2.0	0.2		1.0	0.1		
<i>Portulaca oleracea</i>	Pigweed								0.1								
<i>Prunus sp.</i>	Plum														0.1	1.0	
<i>Pyracantha angustifolia</i>	Orange Firethorn										5.0						
<i>Rosa rubiginosa</i>	Briar Rose			0.1	0.4	1.0	2.0	0.1		1.0	1.0			1.0	0.5	10.0	
<i>Rubus fruticosus</i>	Blackberry						1.0			0.2	1.0						X
<i>Salix sp.</i>	Willow																X
<i>Salvia verbenaca</i>	Wild Sage											0.1					
<i>Sonchus sp.</i>	Milk/Sow Thistle								0.1								
<i>Taraxacum officinale</i>	Common Dandelion												0.1				
<i>Tolpis umbellata</i>	Yellow Hawkweed	0.1		0.1													
<i>Tragopogon dubius</i>	Yellow Salsify				0.1												
<i>Trifolium sp.</i>	Clover	0.1	0.1	0.1	0.1	0.1	2.0			1.0	5.0	2.0	1.0	5.0	0.2	5.0	
<i>Verbascum thapsus</i>	Common Mullein				0.1						2.0	0.1		1.0			
<i>Vulpia sp.</i>	Rat's Tail Fescue				0.1		0.1		0.2		0.1	0.1					
Native																	
<i>Acacia baileyana</i>	Cootamundra Wattle							0.1									
<i>Acaena ovina</i>	Sheep's Burr																X
<i>Amyema sp.</i>	Box Mistletoe																X
<i>Aristida ramosa</i>	Purple Wiregrass	1.0	0.2	0.1		0.1		2.0									
<i>Austrostipa bigeniculata</i>	Tall Speargrass		5.0	2.0	1.0	5.0	5.0	10.0		40.0	30.0	25.0	0.2	2.0	0.1		
<i>Austrostipa scabra</i>	Rough Spear-grass	1.0	5.0	2.0	1.0	1.0		0.1	1.0			2.0					
<i>Bothriochloa macra</i>	Red-leg Grass	10.0	15.0	10.0	1.0	5.0	5.0	5.0	0.2	2.0	20.0						
<i>Calocephalus citreus</i>	Lemon Beauty-heads							1.0									
<i>Carex inversa</i>	Knob Sedge			0.1			0.1								0.1		
<i>Cheilanthes sieberi</i>	Rock Fern	0.2		0.1				0.1			0.1						
<i>Chloris truncata</i>	Windmill Grass																X
<i>Chrysocephalum apiculatum</i>	Common Everlasting	10.0	0.1	2.0			0.1	2.0	0.1								
<i>Convolvulus erubescens</i>	Australian Bindweed			0.1			0.1	0.1									
<i>Crassula sieberiana</i>	Austral Stonecrop	0.2		0.1			0.1					0.1					
<i>Desmodium varians</i>	Slender Tick-trefoil	0.1						0.1			0.1						
<i>Einadia nutans</i>	Climbing Saltbush											0.1				0.1	
<i>Eleocharis acuta</i>	Common Spikerush								0.1								
<i>Elymus scaber</i>	Common Wheat Grass	0.2	0.1			0.1											
<i>Eryngium ovinum</i>	Blue Devil							0.1									
<i>Eucalyptus blakelyi</i>	Blakely's Red Gum							2.0	20.0								
<i>Eucalyptus bridgesiana</i>	Apple Box																X
<i>Eucalyptus melliodora</i>	Yellow Box																
<i>Euchiton sp.</i>	Cudweed				0.1												
<i>Gonocarpus tetragynus</i>	Common Raspwort			0.1													
<i>Goodenia hederacea</i>	Ivy Goodenia			0.1				0.1									
<i>Goodenia pinnatifida</i>	Cut-Leaved Goodenia	0.2	0.1					0.1									
<i>Hypericum gramineum</i>	Native St John's Wort			0.1													
<i>Juncus australis</i>	Austral Rush				0.1												

Scientific Name	Common Name	320.1.1	320.1.2	320.1.3	320.2.1	320.2.2	320.2.3	1334.1.1	1334.3.1	1334.4.1	1334.4.2	1334.4.3	1334.5.1	1334.5.2	1334.5.3	1334.5.4	Recorded elsewhere in the subject land
<i>Juncus filicaulis</i>	Pinrush				0.1				0.1								
<i>Leptorhynchus squamatus</i>	Scaly Buttons			0.3													
<i>Leucochrysum albicans</i>	Hoary Sunray							0.1									
<i>Lomandra coriacea</i>	Wattle Mat-rush	0.2		0.2			0.1	0.1			0.1	0.1		0.1			
<i>Lomandra multiflora</i>	Many-flowered Mat-rush			0.1							0.1						
<i>Melichrus urceolatus</i>	Urn Heath	0.1		0.1													
<i>Microtis unifolia</i>	Common Onion Orchid							0.1									
<i>Oxalis perennans</i>	Woody-Root Oxalis	0.1				0.1											
<i>Panicum effusum</i>	Hairy Panic	1.0			0.1	0.2	0.1		0.2		1.0	0.5					
<i>Plantago varia</i>	Variable Plantain	0.5						0.1									
<i>Rumex brownii</i>	Swamp Dock	0.1		0.1			0.1				0.1	0.1				0.1	
<i>Rytidosperma carphoides</i>	Short Wallaby Grass								1.0								
<i>Rytidosperma laeve</i>	Smooth Wallaby-Grass								0.2								
<i>Rytidosperma sp.</i>	Wallaby Grass	20.0	10.0	10.0	1.0	5.0	10.0	10.0		2.0	2.0	2.0	2.0		0.1		
<i>Solenogyne dominii</i>	Smooth Solenogyne							0.1									
<i>Stackhousia monogyna</i>	Creamy Candles			0.2													
<i>Themeda triandra</i>	Kangaroo Grass	0.1		10.0													
<i>Tricoryne elatior</i>	Yellow Rush-lily	0.2						0.1									
<i>Vittadinia cuneata</i>	Fuzzweed										0.1						
<i>Vittadinia muelleri</i>	Narrow-leaved New Holland Daisy	0.1		0.5				0.1									
<i>Wahlenbergia communis</i>	Native Bluebell	0.1	0.1	0.1		0.1	0.1	0.1									
<i>Wahlenbergia luteola</i>	Yellowish Bluebell	0.1		0.1		0.1		0.1									
Number of Species		29	16	32	23	25	26	33	25	19	31	24	16	14	22	15	
Number of Native Species		21	9	23	8	10	11	24	9	3	10	8	2	2	4	1	
No. Native Non-grass Species		15	4	18	4	4	8	19	4	1	7	5	1	2	3	2	
No. of Native Indicator Species (Rehwinkel 2015)		9	2	10	0	0	2	-	-	-	-	-	-	-	-	-	
Number of Exotic Species		8	7	9	15	15	15	9	16	16	21	16	14	12	18	14	
% Native Ground Cover		92.3	76.9	90.4	6.1	21.4	32.7	92.1	4.1	44.1	76.5	79.9	2.9	2.3	0.9	0.2	

Appendix C. Tree Survey Results

Tree number	Species Name	Common Name	DBH (cm)	Height (m)	Hollows			Alive/Dead	Notes
					S	M	L		
2	<i>E. bridgesiana</i>	Apple Box	152	10	2			A	Mistletoe x 1.
3	<i>E. sp.</i>	Unidentified	60	5	2	1		D	
4	<i>E. bridgesiana</i>	Apple Box	124	11	2			A	Beehive in hollow.
5	<i>E. bridgesiana</i>	Apple Box	37	10				A	
6	<i>E. blakelyi</i>	Blakely's Red Gum	55	7				A	
7	<i>E. melliodora</i>	Yellow Box	98	13				A	
8	<i>E. melliodora</i>	Yellow Box	113	9				A	
9	<i>E. melliodora</i>	Yellow Box	105	10				A	Beehive in base of tree.
10	<i>E. blakelyi</i>	Blakely's Red Gum	46	5				A	
11	<i>E. melliodora</i>	Yellow Box	78	10				A	
12	<i>E. blakelyi</i>	Blakely's Red Gum	75	7				A	
13	<i>E. sp.</i>	Unidentified	66	9				A	
14	<i>E. melliodora</i>	Yellow Box	45	6				A	
15	<i>E. blakelyi</i>	Blakely's Red Gum	54	7				A	
16	<i>E. blakelyi</i>	Blakely's Red Gum	104	10				A	
17	<i>E. blakelyi</i>	Blakely's Red Gum	64	9				A	
18	<i>E. blakelyi</i>	Blakely's Red Gum	74	10				A	
19	<i>E. blakelyi</i>	Blakely's Red Gum	33	8				A	
20	<i>E. blakelyi</i>	Blakely's Red Gum	42	8				A	Mistletoe x 2.
21	<i>E. blakelyi</i>	Blakely's Red Gum	42	8				A	
22	<i>E. bridgesiana</i>	Apple Box	50	8				A	
23	<i>E. blakelyi</i>	Blakely's Red Gum	29	9				A	
24	<i>E. blakelyi</i>	Blakely's Red Gum	34	9				A	
25	<i>E. blakelyi</i>	Blakely's Red Gum	40	9				A	
26	<i>E. blakelyi</i>	Blakely's Red Gum	56	7				A	2 large hollows very low to ground, likely not functional.
27	<i>E. blakelyi</i>	Blakely's Red Gum	36	8				A	
28	<i>E. blakelyi</i>	Blakely's Red Gum	41	7				A	

Tree number	Species Name	Common Name	DBH (cm)	Height (m)	Hollows			Alive/Dead	Notes
					S	M	L		
29	<i>E. blakelyi</i>	Blakely's Red Gum	42	9				A	
30	<i>E. blakelyi</i>	Blakely's Red Gum	160	9				A	Tree comprised of 3 large trunks.
31	<i>E. blakelyi</i>	Blakely's Red Gum	59	9				A	
32	<i>E. blakelyi</i>	Blakely's Red Gum	50	9				A	
33	<i>E. blakelyi</i>	Blakely's Red Gum	70	10.5				A	
34	<i>E. blakelyi</i>	Blakely's Red Gum	45	7				A	
35	<i>E. melliodora</i>	Yellow Box	93	10				A	Mistletoe x 5.
36	<i>E. blakelyi</i>	Blakely's Red Gum	29	6				A	
37	<i>E. blakelyi</i>	Blakely's Red Gum	28	7				A	
38	<i>E. bridgesiana</i>	Apple Box	65	12				A	
39	<i>E. blakelyi</i>	Blakely's Red Gum	40	6				A	
40	<i>E. blakelyi</i>	Blakely's Red Gum	65	10				A	
41	<i>E. blakelyi</i>	Blakely's Red Gum	32	8				A	
42	<i>E. blakelyi</i>	Blakely's Red Gum	75	10				A	Mud nest.
43	<i>E. blakelyi</i>	Blakely's Red Gum	40	9				A	
44	<i>E. blakelyi</i>	Blakely's Red Gum	35	7				A	
45	<i>E. blakelyi</i>	Blakely's Red Gum	50	8	1			A	
46	<i>E. blakelyi</i>	Blakely's Red Gum	80	7	1			A	Beehive in hollow.
47	<i>E. blakelyi</i>	Blakely's Red Gum	84	9		2		A	Eastern Rosella nest in hollow.
48	<i>E. blakelyi</i>	Blakely's Red Gum	86	9				A	
49	<i>E. blakelyi</i>	Blakely's Red Gum	50	7		1		A	Starling nest in hollow.
50	<i>E. blakelyi</i>	Blakely's Red Gum	72	7				A	
59	<i>E. melliodora</i>	Yellow Box	110	13				A	

Appendix D. Fauna Species Recorded

Classification	Scientific Name	Common Name	BC Status	EPBC Status
Amphibia	<i>Crinia parinsignifera</i>	Eastern Sign-bearing Froglet	Protected	-
Amphibia	<i>Crinia signifera</i>	Common Eastern Froglet	Protected	-
Amphibia	<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog	Protected	-
Aves	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	Protected	-
Aves	<i>Acridotheres tristis</i>	Indian Myna	-	-
Aves	<i>Anas gracilis</i>	Grey Teal	Protected	-
Aves	<i>Anas superciliosa</i>	Pacific Black Duck	Protected	-
Aves	<i>Anthochaera carunculata</i>	Red Wattlebird	Protected	-
Aves	<i>Aquila audax</i>	Wedge-tail Eagle	Protected	-
Aves	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Protected	-
Aves	<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-cockatoo	Protected	-
Aves	<i>Carduelis carduelis</i>	European Goldfinch	Protected	-
Aves	<i>Chenonetta jubata</i>	Australian Wood Duck	Protected	-
Aves	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Protected	-
Aves	<i>Corvus coronoides</i>	Australian Raven	Protected	-
Aves	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Protected	-
Aves	<i>Eolophus roseicapilla</i>	Galah	Protected	-
Aves	<i>Falco berigora</i>	Brown Falcon	Protected	-
Aves	<i>Grallina cyanoleuca</i>	Magpie-lark	Protected	-
Aves	<i>Gymnorhina tibicen</i>	Australian Magpie	Protected	-
Aves	<i>Hirundo neoxena</i>	Welcome Swallow	Protected	-
Aves	<i>Lalage sueurii</i>	White-winged Triller	Protected	-
Aves	<i>Malurus cyaneus</i>	Superb Fairy-wren	Protected	-
Aves	<i>Nesoptilotis leucotis</i>	White-eared Honeyeater	Protected	-
Aves	<i>Ocyphaps lophotes</i>	Crested Pigeon	Protected	-
Aves	<i>Pachycephala rufiventris</i>	Rufous Whistler	Protected	-
Aves	<i>Phalacrocorax varius</i>	Pied Cormorant	Protected	-
Aves	<i>Phaps chalcoptera</i>	Common Bronzewing	Protected	-
Aves	<i>Platycercus elegans</i>	Crimson Rosella	Protected	-
Aves	<i>Platycercus eximius</i>	Eastern Rosella	Protected	-
Aves	<i>Porphyrio porphyrio</i>	Purple Swamphen	Protected	-
Aves	<i>Psephotus haematonotus</i>	Red-rumped Parrot	Protected	-
Aves	<i>Rhipidura albiscapa</i>	Grey Fantail	Protected	-
Aves	<i>Rhipidura leucophrys</i>	Willy Wagtail	Protected	-
Aves	<i>Smicrornis brevirostris</i>	Weebill	Protected	-
Aves	<i>Sturnus vulgaris</i>	Common Starling	-	-
Aves	<i>Turdus merula</i>	European Blackbird	-	-
Aves	<i>Vanellus miles</i>	Masked Lapwing	Protected	-
Insecta	<i>Synemon plana</i>	Golden Sun Moth	V1	V
Mammalia	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Protected	-

Classification	Scientific Name	Common Name	BC Status	EPBC Status
Mammalia	<i>Vombatus ursinus</i>	Common Wombat	Protected	-
Mammalia	<i>Vulpes vulpes</i>	Red Fox	-	-
Reptilia	<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V1	V
Reptilia	<i>Carlia tetradactyla</i>	Southern Rainbow Skink	Protected	-
Reptilia	<i>Lampropholis delicata</i>	Delicate Skink	Protected	-
Reptilia	<i>Menetia greyii</i>	Common Dwarf Skink	Protected	-
Reptilia	<i>Morethia boulengeri</i>	Boulenger's Skink	Protected	-

Appendix E. Striped Legless Lizard Survey Results

CHECK	DATE	START Time	END Time	START Temp	END Temp	CLOUD	WIND	GRID	TILE_ID	SVL (mm)	Total L (mm)	Full Tail (Y/N/C)	SPECIES	COMMON NAME	OBS_TYPE	NUMBER	NOTES	
1	27/09/2019	8:15:00 AM	10:30:00 AM	8	15	Fine	slight breeze	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	2		
								11	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	3		
								7	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	2		
2	3/10/2019	7:45:00 AM	9:50:00 AM	11	18	Fine	none	10	-	-	-	-	-	Unidentified Skink	Individual	2		
								11	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
3	10/10/2019	8:55:00 AM	11:15:00 AM	8	14	Fine	slight breeze	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	2		
								11	-	-	-	-	-	-	Unidentified Skink	Individual	2	
								4	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								9	-	-	-	-	-	Unidentified Skink	Individual	3		
4	17/11/2019	9:10:00 AM	10:10:00 AM	14	14	5/8	slight breeze	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	5		
								3	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								2	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								2	-	-	-	-	-	Unidentified Skink	Individual	1		
								1	-	-	-	-	-	Unidentified Skink	Individual	2		
5	22/10/2019	7:55:00 AM	9:05:00 AM	11	15	Fine	none	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	2		
								11	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	2		
								7	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
6	28/10/2019	8:05:00 AM	9:40:00 AM	8	12	Fine	none	10	-	-	-	-	<i>Menetia greyii</i>	Common Dwarf Skink	Individual	1		
								10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	4		
								11	-	-	-	-	<i>Morethia boulengeri</i>	Boulenger's Skink	Individual	1		
								11	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	3		
								5	-	-	-	-	-	Unidentified Skink	Individual	2		
7	5/11/2019	8:30:00 AM	9:30:00 AM	10	11	3/8	light wind	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	6		
								11	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								11	-	-	-	-	-	Unidentified Skink	Individual	1		
8	13/11/2019	7:45:00 AM	10:15:00 AM	9.7	14.1	Fine	slight breeze	10	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								10	-	-	-	-	<i>Carlia tetradactyla</i>	Rainbow Skink	Individual	1		
9	22/11/2019	8:30:00 AM	10:00:00 AM	26.1	28.1	Fine	none	5	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
								9	-	-	-	-	<i>Lampropholis delicata</i>	Delicate Skink	Individual	1		
10	29/11/2019	8:00:00 AM	9:20:00 AM	16.3	20.5	Fine	none	9	-	-	-	-	-	Unidentified Skink	Individual	1		

Table key: SVL = Snout to vent length, Total L = total length.

Appendix F. BAM Credit Summary Report

Proposal Details

Assessment Id	Assessment name	BAM data last updated *
00024341/BAAS20006/21/00024342	3027 - PDPL - Poplars Development - BCAR	14/04/2023
Assessor Name	Report Created	BAM Data version *
Samuel F Reid	30/05/2023	58
Assessor Number	Assessment Type	BAM Case Status
BAAS20006	Biocertification	Finalised
Assessment Revision	Date Finalised	
5	30/05/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Vegetation Zones

#	Name	PCT	Condition	Area	Minimum number of plots	Management zones
1	1334_Zone_1	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	Zone_1	0.42	1	All Strata (0.31 ha) Ground (0.11 ha)

BAM Vegetation Zones Report

2	1334_Zone_3	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	Zone_3	0.68	1	All Strata (0.54 ha) Ground (0.14 ha)
3	1334_Zone_4	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	Zone_4	7.05	3	
4	1334_Zone_5	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	Zone_5	34.25	4	
5	320_Zone_2	320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Zone_2	9.53	3	

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00024341/BAAS20006/21/00024342	3027 - PDPL - Poplars Development - BCAR	14/04/2023
Assessor Name	Report Created	BAM Data version *
Samuel F Reid	30/05/2023	58
Assessor Number	Assessment Type	BAM Case Status
BAAS20006	Biocertification	Finalised
Assessment Revision		Date Finalised
5		30/05/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name	Vegetation Types(s)
Black-chinned Honeyeater (eastern subspecies)	Melithreptus gularis gularis	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Brown Treecreeper (eastern subspecies)	Climacteris picumnus victoriae	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Diamond Firetail	Stagonopleura guttata	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Dusky Woodswallow	Artamus cyanopterus cyanopterus	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

BAM Predicted Species Report

Flame Robin	<i>Petroica phoenicea</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Hooded Robin (south-eastern form)	<i>Melanodryas cucullata cucullata</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Little Eagle	<i>Hieraaetus morphnoides</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Little Lorikeet	<i>Glossopsitta pusilla</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Little Whip Snake	<i>Suta flagellum</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Regent Honeyeater	<i>Anthochaera phrygia</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Rosenberg's Goanna	<i>Varanus rosenbergi</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Scarlet Robin	<i>Petroica boodang</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

BAM Predicted Species Report

Speckled Warbler	<i>Chthonicola sagittata</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Spotted Harrier	<i>Circus assimilis</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Square-tailed Kite	<i>Lophoictinia isura</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Swift Parrot	<i>Lathamus discolor</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Turquoise Parrot	<i>Neophema pulchella</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Varied Sittella	<i>Daphoenositta chrysoptera</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
White-fronted Chat	<i>Epthianura albifrons</i>	320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion
White-throated Needle-tail	<i>Hirundapus caudacutus</i>	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
		320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

Threatened species Manually Added

None added

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Painted Honeyeater	Grantiella picta	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Painted Honeyeater	Grantiella picta	Habitat constraints

Proposal Details

Assessment Id 00024341/BAAS20006/21/00024342	Proposal Name 3027 - PDPL - Poplars Development - BCAR	BAM data last updated * 14/04/2023
Assessor Name Samuel F Reid	Report Created 30/05/2023	BAM Data version * 58
Assessor Number BAAS20006	Assessment Type Biocertification	BAM Case Status Finalised
Assessment Revision 5	Date Finalised 30/05/2023	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

List of Species Requiring Survey

Name	Presence	Survey Months
<i>Aprasia parapulchella</i> Pink-tailed Legless Lizard	No (surveyed)	<input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec <input type="checkbox"/> Survey month outside the specified months?
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo	No (surveyed)	<input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec <input type="checkbox"/> Survey month outside the specified months?
<i>Delma impar</i> Striped Legless Lizard	No (surveyed)	<input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input checked="" type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input checked="" type="checkbox"/> Nov <input type="checkbox"/> Dec <input type="checkbox"/> Survey month outside the specified months?

BAM Candidate Species Report

<p><i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle</p>	<p>No (surveyed)</p>	<p> <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input checked="" type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec </p> <p><input type="checkbox"/> Survey month outside the specified months?</p>
<p><i>Hieraaetus morphnoides</i> Little Eagle</p>	<p>No (surveyed)</p>	<p> <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input checked="" type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec </p> <p><input type="checkbox"/> Survey month outside the specified months?</p>
<p><i>Leucochrysum albicans subsp. tricolor</i> Hoary Sunray</p>	<p>No (surveyed)</p>	<p> <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec </p> <p><input type="checkbox"/> Survey month outside the specified months?</p>
<p><i>Lophoictinia isura</i> Square-tailed Kite</p>	<p>No (surveyed)</p>	<p> <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input checked="" type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec </p> <p><input type="checkbox"/> Survey month outside the specified months?</p>
<p><i>Synemon plana</i> Golden Sun Moth</p>	<p>Yes (surveyed) *Survey months are outside of the months specified in Bionet.</p>	<p> <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input checked="" type="checkbox"/> Nov <input type="checkbox"/> Dec </p> <p><input checked="" type="checkbox"/> Survey month outside the specified months?</p>

Threatened species Manually Added

None added

Threatened species assessed as not on site

Refer to BAR for detailed justification

BAM Candidate Species Report

Common name	Scientific name	Justification in the BAM-C
Austral Toadflax	<i>Thesium australe</i>	Habitat degraded
Button Wrinklewort	<i>Rutidosia leptorrhynchoides</i>	Habitat degraded
Key's Matchstick Grasshopper	<i>Keyacris scurra</i>	Habitat degraded
Koala	<i>Phascolarctos cinereus</i>	Habitat constraints
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	Habitat constraints
Regent Honeyeater	<i>Anthochaera phrygia</i>	Habitat constraints
Silky Swainson-pea	<i>Swainsona sericea</i>	Habitat degraded
Small Purple-pea	<i>Swainsona recta</i>	Habitat degraded
Southern Myotis	<i>Myotis macropus</i>	Refer to BAR
Swift Parrot	<i>Lathamus discolor</i>	Habitat constraints



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00024341/BAAS20006/21/00024342	3027 - PDPL - Poplars Development - BCAR	14/04/2023
Assessor Name	Assessor Number	BAM Data version *
Samuel F Reid	BAAS20006	58
Proponent Names	Report Created	BAM Case Status
	30/05/2023	Finalised
Assessment Revision	Assessment Type	Date Finalised
5	Biocertification	30/05/2023

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Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Species		



BAM Biodiversity Credit Report (Like for like)

Nil

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

Grantiella picta / Painted Honeyeater

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)



BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42.4	0	24	24
320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Natural Temperate Grassland of the South Eastern Highlands	9.5	0	0	0

320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	Natural Temperate Grassland of the South Eastern Highlands This includes PCT's: 320, 759, 766, 894, 895, 896, 1110, 1185, 1202, 1288, 1289, 3378, 3413, 3415	-	320_Zone_2	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Like for like)

320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion

Like-for-like credit retirement options

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298,	-	1334_Zone_1	No	12	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.



BAM Biodiversity Credit Report (Like for like)

	<p>302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150</p>					
	<p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW</p>		1334_Zone_3	No	12	<p>Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or</p>



BAM Biodiversity Credit Report (Like for like)

	<p>North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla</p> <p>This includes PCT's:</p> <p>74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695,</p>				<p>Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.</p>
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BAM Biodiversity Credit Report (Like for like)

	<p>1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150</p>				
	<p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla</p> <p>This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567,</p>	1334_Zone_4	No	0	<p>Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains.</p> <p style="text-align: center;">or</p> <p>Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.</p>

BAM Biodiversity Credit Report (Like for like)

	<p>571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150</p>				
	<p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267,</p>		1334_Zone_5	No	<p>0 Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.</p>



BAM Biodiversity Credit Report (Like for like)

268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
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Species Credit Summary

Assessment Id

00024341/BAAS20006/21/00024342

Proposal Name

3027 - PDPL - Poplars Development - BCAR

Page 9 of 10



BAM Biodiversity Credit Report (Like for like)

Species	Vegetation Zone/s	Area / Count	Credits
Synemon plana / Golden Sun Moth	1334_Zone_1, 1334_Zone_4	7.5	22.00

Credit Retirement Options

Like-for-like credit retirement options

Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00024341/BAAS20006/21/00024342	3027 - PDPL - Poplars Development - BCAR	14/04/2023
Assessor Name	Assessor Number	BAM Data version *
Samuel F Reid	BAAS20006	58
Proponent Name(s)	Report Created	BAM Case Status
	30/05/2023	Finalised
Assessment Revision	Assessment Type	Date Finalised
5	Biocertification	30/05/2023

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	Critically Endangered Ecological Community	1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion
Species		
Nil		

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
Grantiella picta / Painted Honeyeater

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	42.4	0	24	24.00
320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Natural Temperate Grassland of the South Eastern Highlands	9.5	0	0	0.00

BAM Biodiversity Credit Report (Variations)

320-Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Natural Temperate Grassland of the South Eastern Highlands This includes PCT's: 320, 759, 766, 894, 895, 896, 1110, 1185, 1202, 1288, 1289, 3378, 3413, 3415	-	320_Zone_2	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Variation options					
	Formation	Trading group	Zone	HBT	Credits	IBRA region
	Grasslands	Tier 1	320_Zone_2	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
1334-Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion	Like-for-like credit retirement options					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	-	1334_Zone_1	No	12	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Variations)

	<p>This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150</p>					
	<p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the</p>	-	1334_Zone _3	No	12	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or

BAM Biodiversity Credit Report (Variations)

	<p>NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla</p> <p>This includes PCT's:</p> <p>74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533,</p>				<p>Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.</p>
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BAM Biodiversity Credit Report (Variations)

	<p>4147, 4149, 4150</p> <p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla</p> <p>This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611,</p>	-	1334_Zone _4	No	0 Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
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BAM Biodiversity Credit Report (Variations)

	<p>1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150</p>				
	<p>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840,</p>	-	1334_Zone _5	No	<p>0 Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.</p>

BAM Biodiversity Credit Report (Variations)

847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698, 3314, 3359, 3363, 3373, 3376, 3387, 3388, 3394, 3395, 3396, 3397, 3398, 3399, 3406, 3415, 3533, 4147, 4149, 4150					
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Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Synemon plana / Golden Sun Moth	1334_Zone_1, 1334_Zone_4	7.5	22.00

Credit Retirement Options Like-for-like options

Synemon plana/ Golden Sun Moth	Spp		IBRA region
	Synemon plana/Golden Sun Moth		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.	

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00024341/BAAS20006/21/00024342	3027 - PDPL - Poplars Development - BCAR	14/04/2023
Assessor Name	Report Created	BAM Data version *
Samuel F Reid	30/05/2023	58
Assessor Number	BAM Case Status	Date Finalised
BAAS20006	Finalised	30/05/2023
Assessment Revision	Assessment Type	
5	Biocertification	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAI	Ecosystem credits
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Kangaroo Grass - Redleg Grass forb-rich temperate tussock grassland of the northern Monaro, ACT and upper Lachlan River regions of the NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion

5	320_Zone_2	Natural Temperate Grassland of the South Eastern Highlands	5.9	5.9	9.5	Geographic Distribution	High Sensitivity to Gain	Not Listed	Critically Endangered	2.50		0
										Subtotal	0	

Yellow Box grassy woodland of the northern Monaro and Upper Shoalhaven area, South Eastern Highlands Bioregion

1	1334_Zone_1	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	47.7	47.2	0.42	PCT Cleared - 92%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	12
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2	1334_Zone_3	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	30.3	28.7	0.68	PCT Cleared - 92%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	12
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3	1334_Zone_4	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	5.7	5.7	7	PCT Cleared - 92%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	0
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4	1334_Zone_5	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	0.5	0.5	34.2	PCT Cleared - 92%	High Sensitivity to Gain	Critically Endangered Ecological Community	Critically Endangered	2.50	True	0
										Subtotal	24	
										Total	24	

Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAIL	Species credits
Synemon plana / Golden Sun Moth (Fauna)									
1334_Zone_1	47.2	47.2	0.42			Vulnerable	Vulnerable	False	7
1334_Zone_4	5.7	5.7	7			Vulnerable	Vulnerable	False	15



BAM Credit Summary Report

									Subtotal	22
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Appendix G. Capital Ecology (2020c). “The Poplars” – Review of previous ecological studies and rationale behind the allocation of land for development or conservation.



V4 – 18 June 2020

Poplars Developments Pty Ltd (PDPL)

C/-

Chris Daly
Director
Black Mountain Construction Assurance Pty Ltd (BMCA)
1/55 Woolley Street, Dickson, ACT, 2602
M: 0459 223 958
E: chris.daly@blackmtn.com.au

“The Poplars”– Review of previous ecological studies and rationale behind the allocation of land for development or conservation
Capital Ecology project no. 2945

Dear Mr Daly,

In 2019 Capital Ecology was engaged by Poplars Developments Pty Ltd (PDPL) to apply Stage 1 of the NSW Biodiversity Assessment Method¹ (BAM) for the proposed development of the Poplars Business Park, Jerrabomberra, NSW. The ‘study area’ for the BAM Stage 1 assessment included all of the land zoned either B1 Neighbourhood Centre, B7 Business Park, or RE2 Private Recreation under the *Queanbeyan Local Environmental Plan (Poplars) 2013*² (the ‘Poplars LEP’), except the portion of B1 Neighbourhood Centre zoned land which was under development during spring 2019.

The results of the completed Stage 1 BAM assessment will inform either a series of development applications (DAs) for specific developments within the study area or an application to have biodiversity certification conferred over the study area. Under the NSW *Biodiversity Conservation Act 2016* (BC Act) each DA would require biodiversity impacts to be as assessed via a Biodiversity Development Assessment Report (BDAR), or alternatively, biodiversity certification would require biodiversity impacts to be assessed via a Biodiversity Certification Assessment Report (BCAR).

Although several studies were completed in the 1990s and 2000s to identify and assess the ecological/biodiversity values of “The Poplars” (being the property which includes the study area and the adjoining conservation land), the ecological values identified as being of specific conservation

¹ NSW Government (2017). *Biodiversity Assessment Method*. NSW Office of Environment and Heritage. Published LW 25 August 2017.

² Queanbeyan City Council (2013). [Queanbeyan Local Environmental Plan \(Poplars\) 2013 – Land Zoning Map - Sheet LZN 001](#).

Capital Ecology Pty Ltd

PO Box 854
Gungahlin ACT 2912

ACN: 607 364 358
ABN: 50 607 364 358

Phone: 0412 474 415
Email: admin@capitalecology.com.au

www.capitalecology.com.au

significance are considerably broader under current legislation and government policy. Additionally, whilst the previous studies were appropriate for the time, and for the purposes for which they were undertaken, the BAM and associated contemporary survey methods employed for the 2019 study are considerably more thorough than the survey methods employed by the previous studies. The integration of modern geographic information systems (GIS) and current high-resolution aerial imagery has also facilitated far greater accuracy in on-ground and office-based mapping of ecological values.

Notwithstanding the findings of the 2019 study, it is important to recognise that the Poplars LEP rezoned "The Poplars" informed by the findings and recommendations of the studies completed prior. As such, we have prepared this letter-report to summarise the findings and recommendations of the previous studies and then compare these with the findings of the 2019 study.

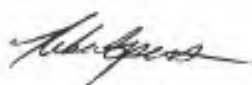
As discussed herein, the previous studies identified and broadly mapped the portions of "The Poplars" which support values of recognised conservation significance. Each study identified the western portions of the property as supporting significant ecological values and recommended conservation of the land. Each study also identified the eastern portions of the property as supporting highly degraded vegetation of little conservation significance and noted the suitability of the land for development. Consistent with these recommendations, the allocation of land for either conservation (i.e. E2) or development (i.e. B1, B7, RE2) via the Poplars LEP generally aligns with the mapped significant ecological values.

The only notable exception to the above is that the 2019 study identified substantial areas of Golden Sun Moth *Synemon plana* habitat in the eastern portions of the land zoned for development. Although listed under both the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the BC Act, the Golden Sun Moth's tendency to persist on relatively modified sites in the ACT and region has only become well known over the last decade.

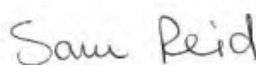
As outlined herein, our review of the ecological studies completed to date for the "The Poplars" shows a high degree of consistency across the completed studies. Whilst contemporary assessment methods and significance thresholds now necessitate specific consideration of impacts to vegetation and habitat in lower condition, the relative ecological value of the land within "The Poplars" remains consistent with that described in the previous studies. It is clear from our review of the previous studies that the Poplars LEP rezoned the land in a manner that zoned for conservation the vast majority of the land supporting significant biodiversity conservation values. Accordingly, we believe that the Poplars LEP allocation of land to either conservation or development remains an accurate reflection of the comparative significance of the ecological values of the land across the area.

We trust that this letter provides the review and advice required. If, however, you should have any questions relating to this letter, please do not hesitate to contact us.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Robert Speirs".

Robert Speirs
Director / Principal Ecologist
Accredited BAM Assessor (No: BAAS17089)

A handwritten signature in black ink, appearing to read "Sam Reid".

Dr Sam Reid
Senior Ecologist
Accredited BAM Assessor (No: BAAS20006)

Review of previous ecological studies

Reference	Summary of Study	Study Conclusions and Recommendations
<p>Davis, M.S. (1991). <i>The Poplars, Queanbeyan. Preliminary Vegetation Survey and Delineation of Fauna Habitat</i>. Prepared for Scott & Furphy Pty Ltd, Belconnen, August.</p>	<p>The aim of the study was to assess and map the vegetation throughout “The Poplars” and assess and delineate habitat suitability. Several vegetation communities were described and mapped, including:</p> <ul style="list-style-type: none"> • <i>Introduced thornbush scrub;</i> • <i>Modified open-woodland;</i> • <i>Stipa dominated native grassland – unimproved pasture;</i> • <i>three associations of Native grassland;</i> and • <i>Highly modified and improved pasture.</i> <p>The mapping prepared was reproduced and presented in the Local Environmental Study (Scott & Furphy Pty Ltd 1991³). As shown in Figure 2 of the report, the vegetation assessed as being in relatively good condition was mapped in the northwest of North Poplars and to the west of the central ridge in South Poplars. Furthermore, all of the land in the south-east corner of North Poplars and that east of the central ridge in South Poplars was mapped as ‘<i>Highly modified and improved pasture</i>’.</p> <p>As shown in Figure 3 of the report, all of the ‘fauna habitats’ identified are located in association with the above noted vegetation in relatively good condition (i.e. woodland, native grasslands, rock outcrops). Figure 3 also maps the location of the Button Wrinklewort <i>Rutidosis leptorrhynchoides</i> in the woodland in North Poplars.</p>	<p>The report presents the survey results and mapping as noted, no conclusion or recommendations are provided.</p>
<p>Kevin Mills & Associates (1994). <i>Fauna Survey and Assessment “The Poplars” Queanbeyan, NSW</i>. Prepared for Mr D.H.T. Larcombe.</p>	<p>Prepared by Kevin Mills & Associates (KMA) with the assistance of Dr Will Osborne for reptile survey and assessment, the aims of the study were to:</p> <ol style="list-style-type: none"> i. <i>undertake a trapping program to determine the status of rare reptiles in the study area;</i> ii. <i>describe the vertebrate fauna known to occur and likely to occur in the area;</i> iii. <i>identify and assess endangered and rare fauna likely to occur in the area;</i> iv. <i>determine whether a Fauna Impact Statement (FIS) is required; and</i> v. <i>make recommendations to protect important fauna and habitats found on the site.</i> <p>The study area (illustrated in Figure 1 of the report) included the entirety of North Poplars and South Poplars, approx. 205 ha. The vegetation mapping and fauna habitat mapping from Davis (1991) are reproduced and presented as the potential habitat areas for targeted surveys. These include the ‘<i>Stipa-Themeda native grassland</i>’ which is identified as potential habitat for the Striped Legless Lizard <i>Delma impar</i> and Grassland Earless Dragon, and the ‘<i>rock outcrops and scattered stones in predominantly native grassland</i>’ which is identified as potential habitat for the Grassland Earless Dragon.</p> <p>Informed by the above potential habitat mapping –</p> <p>“Detailed fauna surveys were carried out in November and December 1993. All habitat types were investigated, and all parts of the study area were visited on several occasions. The field surveys concentrated most of reptiles as it was known that a regionally rare species occurred on the property and it was considered that the study area may also provide habitat suitable for endangered reptile species”.</p> <p>No fauna species listed at the time were recorded during the completed surveys, however seven reptile species and four frog species were recorded. One of these was the Grassland Earless Dragon, now listed as endangered under the EPBC Act and BC Act. Based on the results of the surveys, Figure 5 of the study was prepared to indicate the areas considered ‘<i>better quality Eastern Earless Dragon habitat</i>’, these being located in the western extent of South Poplars.</p>	<p>On completion of the surveys, the following was concluded regarding ‘endangered species’ –</p> <p>“endangered fauna are unlikely to occur at The Poplars property. No specimens of the endangered Striped Legless Lizard <i>Delma impar</i> were trapped on the site. An assessment of the habitats suggests the grassland in the study area is unsuitable for this species. One regionally rare fauna, the Eastern Lined Earless Dragon <i>Tympanocryptis lineata pinguicolla</i>, was trapped in the grassland on the site”.</p> <p>Regarding ‘fauna habitats’, the following was concluded –</p> <p>“The fauna habitats in the study area are generally common and widespread in the region. The most significant habitat is the semi-natural grassland where the population of the Eastern Lined Earless Dragon occurs.”</p> <p>and</p> <p>“In general, the grassland has little value as native fauna habitat, except for those areas supporting Earless Dragons.</p> <p>and</p> <p>“it is considered that the habitats in the study area are not critical for endangered fauna species.”</p> <p>Notwithstanding the above, the following notable recommendations are provided –</p> <p>“The area shown on Figure 5 as prime grassland habitat for the regionally rare Eastern Lined Earless Dragon should receive protection, probably through zoning as Zone No. 7(f) (Rural Environmental Protection “F” (Flora)). This area should be linked to other open spaces to prevent it becoming an island of habitat surrounded by developed land, which would undermine the effectiveness of the environmental protection zoning.”</p> <p>and</p> <p>“The long term survival of the grassland habitat is dependent upon its proper management. This includes addressing the problems that will accompany the development of nearby areas for residential use. Management problems included predation by cats, vandalism, fires, weed invasion, tree planting and other activities that will degrade the grassland. Unless Council can establish an adequate management regime for this land, then setting it aside will not be worthwhile in the long term.”</p>

³ Scott & Furphy Pty Ltd (1991). *Local Environmental Study. “The Poplars”*. Prepared for Queanbeyan City Council, Queanbeyan, November.

Reference	Summary of Study	Study Conclusions and Recommendations																
<p>Biosis Research (2003). <i>Final Draft: Flora & Fauna Assessment at 300 Lanyon Drive, Queanbeyan.</i></p>	<p>Biosis Research was commissioned by Queanbeyan City Council to undertake a flora and fauna assessment of “The Poplars”, 300 Lanyon Drive, Queanbeyan. The study area included the entirety of North Poplars and South Poplars. The study investigated the presence/absence and distribution of threatened species and communities listed under the EPBC Act and/or the NSW <i>Threatened Species Conservation Act 1995</i> (TSC Act, now repealed). The primary aims of the study were to identify the ecological constraints and options/opportunities for development, and to evaluate the potential impact of future rezoning and development of the land.</p> <p>Section 2.1 Project Background provides useful information regarding the land use history of the study area, notably regarding the cultivation and fertiliser application which occurred in the eastern areas.</p> <p>The condition of the study area is described as follows:</p> <ul style="list-style-type: none"> - “Northern Poplars – The south eastern corner is in poor condition (it is currently used for horse agistment). The remaining habitat contains native grassland, secondary grassland, box woodland and rock outcrops and has high conservation value.” - “Southern Poplars – The vegetation east of the ridge is dominated by exotic and pasture species and is in poor condition. In contrast the area west of the ridge contains remnant native grassland and/or secondary grassland with some area of high conservation value.” <p>Although no vegetation mapping figure is provided in the report, Section 5.1.3 of the report provides detailed descriptions and it is noted that the vegetation in the study area was –</p> <p>“mapped as either degraded grassland, native grassland (including secondary grassland), gum-box woodland or intergrades between them. In most cases areas containing native grassland conformed to the definition of ‘Natural Temperate Grassland’ and gum-box woodland conformed to ‘White Box / Yellow Box / Blakely’s Red gum Woodland’, both of which are listed as endangered ecological communities under the EPBC Act and TSC Act, respectively, and warrant special protection.”</p> <p>Figure 6 of the report presents mapping of the ‘relative vegetation condition within the study area’ with the entire study area mapped as either ‘Poor’ or ‘Moderate Good’. Notably, the southeast portion of North Poplars and all of the land in South Poplars east of the central ridge is mapped as ‘Poor’.</p> <p>The previously documented Button Wrinklewort population in the woodland in North Poplars was noted as comprising at least 1500 plants when observed during the December 2002 surveys.</p> <p>Targeted surveys were carried out for the following species or species groups:</p> <ul style="list-style-type: none"> - Golden Sun Moth; - Striped Legless Lizard; - Pink-tailed Worm-lizard; - Grassland Earless Dragon; - Threatened microbats; and - Threatened woodland birds. <p>Surveys for flying Golden Sun Moth males were conducted in areas of predominantly native grassland containing <i>Austrodanthonia</i> spp. (now <i>Rytidosperma</i>) in southern and central sections of North Poplars and west of the ridgeline in South Poplars. The surveys were conducted between mid -December 2002 and February 2003. As noted in the report, it was suggested at the time by local entomologist Ted Edwards that a December survey may be too late given the drought conditions of spring-summer 2002-03. In the results section it is noted that whilst only a one moth was recorded, the species would be expected to occupy areas of native grassland from both South Poplars and North Poplars.</p> <p>As shown in Figure 3 of the report, pitfall trapping and artificial arthropod burrow surveys were conducted in the areas considered to provide habitat in ‘Moderate Good’ condition, these being located in the western and northern portions of the study area. The report does not outline the areas covered by the rock turning survey, however the wording around habitat suitability for threatened reptiles suggests that only rocky outcrops dominated by native grasses were considered potential habitat, and these areas are generally limited to the west of the study area.</p> <p>As shown in Figure 7b of the report, three threatened species: Grassland Earless Dragon; Pink-tailed Worm-lizard; and Golden Sun Moth were recorded in the study area. Figure 8 of the report was prepared presenting the estimated extent of potential occurrence of these species based on the survey results. As shown in Figure 8, the potential occurrence of these species was considered to be limited to the western and northern portions of the study area.</p> <p>The box-gum woodland in the northeast of North Poplars is the only part of the study area considered to be of potential significance to threatened microbats or threatened woodland birds.</p>	<p>In Section 6, Biosis Research (2003) concludes that –</p> <p>“Despite past impacts associated with vegetation clearing, grazing and pasture management the northern and western portions of north Poplars and the area west of the central ridge of south Poplars contain good quality habitat for the (threatened) species and communities referred to in the preceding sections. In contrast the south eastern corner of north Poplars (and) the area east of the central ridge and parts of the south western corner of south Poplars are in poor condition and unlikely to offer suitable resources for threatened species.”</p> <p>As shown in Figure 9 of the report, approximately 99 ha of the study area was identified as habitat of national conservation significance and recommended for conservation. This area is broken down in the below Table B.</p> <p>Table B. Approximate areas (in hectares) from north and south Poplars recommended for conservation (mostly high ecological constraint) or available for development (mostly low ecological constraint).</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Total Area</th> <th>Area Recommended for Conservation</th> <th>Area Available for Development</th> </tr> </thead> <tbody> <tr> <td>North Poplars</td> <td>55.95</td> <td>43.43</td> <td>12.52</td> </tr> <tr> <td>South Poplars</td> <td>146.68</td> <td>55.95</td> <td>90.73</td> </tr> <tr> <td>Total</td> <td>202.63</td> <td>99.38</td> <td>103.25</td> </tr> </tbody> </table> <p>The report notes the consistency of the above recommendation with the modelled strategic ecosystem planning approach for prioritising land use and management set out in Fallding (2002⁴) which states that areas of known or predicted conservation significance should –</p> <p>“be appropriately managed in cooperation with landowners/managers and there should be minimal development, land use changes and site disturbance in any... management plans and conservation incentives should be encouraged.”</p> <p>In line with above, the study recommends that the fundamental principles of avoid → minimise → mitigate be applied at all stages of the planning and development process. In addition to recommendations for threatened species monitoring, salvage and translocation, weed and pest animal controls, fencing etc., the study makes the following two key recommendations.</p> <ol style="list-style-type: none"> 1. Location of Development and Infrastructure – <ul style="list-style-type: none"> “Areas identified as low conservation value to the east (Figure 9) have no significant ecological features and offer no constraints to development. Development should avoid areas identified as having conservation value (depicted as high ecological constraint in Figure 9), this includes the area along the and west of the central ridgeline within south Poplars and the entire western and northern sections of north Poplars. All other areas have low conservation value and should be made available for development.” 2. Rezoning and Reservation of Conservation Areas – <ul style="list-style-type: none"> “Areas of high ecological constraint (Figure 9) should be rezoned as a nature reserve and incorporated into the existing reserve areas of north Poplars. These areas could be handed over to the NPWS for management as a formal nature reserve, however, the process and mechanism for this will require a broader discussion...” 	Location	Total Area	Area Recommended for Conservation	Area Available for Development	North Poplars	55.95	43.43	12.52	South Poplars	146.68	55.95	90.73	Total	202.63	99.38	103.25
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⁴ Fallding, M. (2002). *A Planning Framework for Natural Ecosystems of the ACT and NSW Southern Tablelands*. Natural Heritage Trust, NSW National Parks and Wildlife Service.

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<p>NSW Office of Environment & Heritage (2018a). BioBanking Agreement ID: BA309 – Poplars South.</p> <p>Incl. <i>Biodiversity Credit Ownership Report – Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme</i> (ref: DOC19/495776-3). Dated 12 September 2019.</p>	<p>Under Part 7A, Division 2 of the NSW TSC Act, on 23 August 2018 a BioBanking Agreement was made between the NSW Minister for the Environment and Robin Pty Ltd (the ‘landowner’) to establish ‘The Poplars South’ biobank site. The Poplars South biobank site encompasses approx. 55.55 ha of “The Poplars” property located south of Tomsitt Drive and roughly consistent with the area zoned E2 – Environmental Conservation.</p> <p>Determined in accordance with the BioBanking Assessment Methodology (NSW Government 2014), BioBanking Agreement 309 will generate the following biodiversity credits (referred to as BioBanking Credits) for the landowner relating to the impact or likely impact of the management actions required to be carried out under the agreement.</p> <p><u>Ecosystem Credits</u></p> <ol style="list-style-type: none"> MR631 Speargrass grassland of the South Eastern Highlands Bioregion – 120 credits. MR686 Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion – 271 credits. MR648 Yellow Box – Blakely’s Red Gum grassland woodland on the tablelands, South Eastern Highlands Bioregion – 5 credits. <p><u>Species Credits</u></p> <ol style="list-style-type: none"> Golden Sun Moth <i>Synemon plana</i> – 322 credits. Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i> – 295 credits. Pink-tailed Worm-lizard <i>Aprasia parapulchella</i> – 132 credits. <p>As determined via the completed assessment of reasonable equivalence, the BioBanking Credits generated by BA309 have been transformed into credits under the current NSW Biodiversity Offsets Scheme (BOS) (referred to as BAM Credits). The outcome of this is summarised in the below table.</p> <table border="1"> <thead> <tr> <th colspan="2">BioBanking Scheme</th> <th colspan="2">Biodiversity Offsets Scheme</th> </tr> </thead> <tbody> <tr> <td>MR631</td> <td>120</td> <td>PCT1202</td> <td>68</td> </tr> <tr> <td>MR686</td> <td>271</td> <td>PCT1289</td> <td>173</td> </tr> <tr> <td>MR648</td> <td>5</td> <td>PCT1330</td> <td>2</td> </tr> <tr> <td>Golden Sun Moth</td> <td>322</td> <td>Golden Sun Moth</td> <td>201</td> </tr> <tr> <td>Grassland Earless Dragon</td> <td>295</td> <td>Grassland Earless Dragon</td> <td>187</td> </tr> <tr> <td>Pink-tailed Worm-lizard</td> <td>132</td> <td>Pink-tailed Worm-lizard</td> <td>85</td> </tr> </tbody> </table>	BioBanking Scheme		Biodiversity Offsets Scheme		MR631	120	PCT1202	68	MR686	271	PCT1289	173	MR648	5	PCT1330	2	Golden Sun Moth	322	Golden Sun Moth	201	Grassland Earless Dragon	295	Grassland Earless Dragon	187	Pink-tailed Worm-lizard	132	Pink-tailed Worm-lizard	85	<p>The establishment of the ‘The Poplars South’ as biobank site under a BioBanking Agreement provides a formal, legally binding and audited conservation focussed management regime for the southern approx. half of “The Poplars” property recognised as supporting significant biodiversity values. In exchange for actively managing the land for these values, the landowners have obtained the stipulated credits which they may retire at their discretion (i.e. use to offset an impact elsewhere or sell to another party).</p> <p>The data and mapping presented in the ‘The Poplars South’ BioBanking Agreement has established the ecological baseline for the land subject to this agreement, and all future ecological monitoring must occur with specific comparison to this baseline.</p>
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<p>NSW Office of Environment & Heritage (2018b). BioBanking Agreement ID: BA310 – Poplars North.</p> <p>Incl. <i>Biodiversity Credit Ownership Report – Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme</i> (ref: DOC19/495776-4). Dated 12 September 2019.</p>	<p>Under Part 7A, Division 2 of the NSW TSC Act, on 23 August 2018 a BioBanking Agreement was made between the NSW Minister for the Environment and Robin Pty Ltd (the ‘landowner’) to establish ‘The Poplars North’ biobank site. The Poplars North biobank site encompasses approx. 42.91 ha of “The Poplars” property located north of Tomsitt Drive and roughly consistent with the area zoned E2 – Environmental Conservation.</p> <p>Determined in accordance with the BioBanking Assessment Methodology (NSW Government 2014), BioBanking Agreement 310 will generate the following biodiversity credits (referred to as BioBanking Credits) for the landowner relating to the impact or likely impact of the management actions required to be carried out under the agreement.</p> <p><u>Ecosystem Credits</u></p> <ol style="list-style-type: none"> MR631 Speargrass grassland of the South Eastern Highlands Bioregion – 71 credits. MR686 Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion – 103 credits. MR648 Yellow Box – Blakely’s Red Gum grassland woodland on the tablelands, South Eastern Highlands Bioregion – 46 credits. <p><u>Species Credits</u></p> <ol style="list-style-type: none"> Golden Sun Moth <i>Synemon plana</i> – 174 credits. Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i> – 215 credits. 	<p>The establishment of the ‘The Poplars North’ as biobank site under a BioBanking Agreement provides a formal, legally binding and audited conservation focussed management regime for the northern approx. half of “The Poplars” property recognised as supporting significant biodiversity values. In exchange for actively managing the land for these values, the landowners have obtained the stipulated credits which they may retire at their discretion (i.e. use to offset an impact elsewhere or sell to another party).</p> <p>The data and mapping presented in the ‘The Poplars North’ BioBanking Agreement has established the ecological baseline for the land subject to this agreement, and all future ecological monitoring must occur with specific comparison to this baseline.</p>																												

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<p>Umwelt (2019). <i>Briefing Note – Poplars Environmental Assessment</i>.</p>	<p>Umwelt (Australia) Pty Ltd (Umwelt) was commissioned by PDPL to investigate the environmental values for a site within South Poplars proposed for a high school. The site supports a Strahler Level 2 stream which may require realignment, such works being classified as a controlled action requiring a permit under the NSW <i>Water Management Act 2000</i> (WM Act). The study scope comprised an initial ecological inspection of the watercourse and the riparian corridor to identify potential constraints and inform options analysis with respect to the riparian corridor requirements under the WM Act. In the absence of specific design details or a project footprint, the report does not include any assessment of impacts of works that would take place within the riparian corridor.</p> <p>The study included a literature review, site inspection (including description of the watercourse and assessment of the vegetation and habitat), and an outline of the implications under the WM Act.</p> <p>The vegetation assessment classified the vegetation into the following categories:</p> <ul style="list-style-type: none"> - exotic riparian vegetation; - exotic pasture; - planted exotic trees; - native riparian vegetation; and - native grassland. <p>The report notes that prior to agricultural and urban disturbance, the valley floor associated with the watercourse likely supported Natural Temperate Grassland (predicted to be <i>PCT1110 – River Tussock – Tall Sedge – Kangaroo Grass moist grassland of the South Eastern Highlands</i>) and the adjacent slopes likely supported Box-Gum Woodland. However, it is noted that final PCT classification would need to be confirmed in accordance with the Biodiversity Assessment Method (BAM).</p>	<p>The study concluded that the un-named drainage line meets the requirements of a Strahler Level 2 watercourse under the WM Act. The watercourse is highly modified and with low ecological value; however, native vegetation is present within the riparian corridor and adjacent in the site. Upstream and downstream of the site the watercourse has been modified as artificial drainage due to urban and residential development, and therefore it is unlikely that modification or bridging of the watercourse within the site would have significant ecological impacts if undertaken in accordance with the relevant guidelines.</p> <p>Notwithstanding the above, any work within the riparian corridor, including watercourse crossings, would require Controlled Activity Approval for works on Waterfront Land.</p> <p>The study also concludes that potential impacts on native vegetation, threatened species and threatened ecological communities would need to be considered as part of the broader project impacts (such as via a BAM assessment).</p>																								

Findings of 2019 BAM Stage 1 ecological study

In 2019 Capital Ecology was engaged by Poplars Developments Pty Ltd (PDPL) to apply Stage 1 of the NSW Biodiversity Assessment Method (BAM) for the proposed development of the Poplars Business Park, Jerrabomberra, NSW (the 'subject land' – approx. 87 ha). As shown in Figure 1, the subject land included all of the land zoned either B1 Neighbourhood Centre, B7 Business Park, or RE2 Private Recreation under the Poplars LEP, except the portion of B1 Neighbourhood Centre zoned land which was under development during spring 2019.

The key findings of the Stage 1 BAM assessment are summarised as follows and shown in Figure 2.

- The vegetation across much of the subject land is moderately to highly modified having been historically cultivated and sown to pasture. As a result, the majority of the subject land is dominated by exotic grasses and forbs. However, there are several patches of vegetation that are dominated by native grasses and/or have retained components of the remnant canopy. These areas have a vegetation integrity score sufficient to generate an offset liability under the NSW Biodiversity Offsets Scheme (BOS). Some of these native dominant patches also support either the canopy cover or floristic diversity sufficient to meet the listing criteria for the following EPBC Act listed Threatened Ecological Communities:
 - PCT1334 Zone 1 and Zone 2 meet the criteria for *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*; and
 - PCT320 Zone 1 meets the criteria for *Natural Temperate Grassland of the South Eastern Highlands*.
- Golden Sun Moths *Synemon plana* (EPBC Act critically endangered, BC Act endangered) were recorded in low to high density in most of the native dominant patches of vegetation. In addition, a number were opportunistically recorded in the exotic dominant zone PCT320 Zone 2. As such, the extent of native vegetation plus portions of PCT320 Zone 2 define the extent of Golden Sun Moth habitat in the subject land.
- One Pink-tailed Worm-lizard *Aprasia parapulchella* (EPBC Act and BC Act vulnerable) skin was recorded in PCT320 Zone 1 of the subject land. As such, the extent of Pink-tailed Worm-lizard habitat in the subject land will be defined by the extent of PCT320 Zone 1 that supports loose surface rock.
- Approximately 130 Hoary Sunray *Leucochrysum albicans var. tricolor* (EPBC Act endangered) plants were recorded in PCT1334 Zone 1 in the north-eastern corner of the subject land.
- No Striped Legless Lizards *Delma impar* (EPBC Act and BC Act vulnerable) were recorded in the subject land.

The subject land for the 2019 BAM Stage 1 assessment did not include the E2 zoned land which comprises 'The Poplars South' and 'The Poplars North' biobank sites. As noted above, the data and mapping presented in the BioBanking Agreements (provided as Figure 3) has established the ecological baseline for the land subject to these agreements, and all future ecological monitoring must occur with specific comparison to this baseline.

The development extent and works area (i.e. impact area) for the recently approved Poplars Northern Entry Road is also shown on Figures 2 and 4.

Discussion

As demonstrated by our review of the previous ecological studies completed for “The Poplars”, the ecological/biodiversity values of the land have been identified and described in a generally consistent manner since the early 1990s. Each study identified the western portions of the land as supporting significant ecological values and recommended conservation of the land, and each study also identified the eastern portions of the land as supporting highly degraded vegetation of little conservation significance and noted the suitability of the land for development.

Whilst the previous studies were appropriate for the time, and for the purposes for which they were undertaken, the BAM and associated contemporary survey methods employed for the 2019 study are considerably more thorough than the survey methods employed by the previous studies. The integration of modern geographic information systems (GIS) and current high-resolution aerial imagery has also facilitated far greater accuracy in on-ground and office-based mapping of ecological values. These factors, together with the fact that the current Commonwealth and NSW biodiversity assessment and approval requirements necessitate specific consideration of vegetation and habitat in lower condition, has meant that portions of the eastern development zoned land are now identified as supporting biodiversity values which must be specifically considered.

In light of the above, it is noted that whilst the Commonwealth EPBC Act assessment and approval processes have changed little since commencement of the Act in 2000, the commencement of the NSW BC Act in August 2017 entailed a fundamental change in the way that impacts to biodiversity are assessed in NSW. The application of the BAM means that biodiversity values are now assessed in a far more thorough manner, and any substantial impact to these values must be offset in a prescribed and rigidly calculated manner. This is unlike the system under the former NSW *Threatened Species Conservation Act 1995* (TSC Act) which only required offsetting (via the BioBanking Scheme or appropriate alternative) if the impact was deemed (via a ‘seven-part-test’) to be significant.

Notwithstanding the findings of the 2019 study and current legislation, it is important to recognise that the Poplars LEP rezoned the land informed by the findings and recommendations of the studies completed prior to 2013. This is clearly demonstrated in Figures 5 and 6 which present the Poplars LEP conservation and development zoned areas overlain on the maps presenting the key findings of Davis (1991) / Kevin Mills & Associates (1994) and Biosis Research (2003) respectively. These figures clearly illustrate that the Poplars LEP rezoned the land in a manner that designated for conservation, all of the areas known to support significant ecological values.

The only notable exception to the above is that the 2019 study identified substantial areas of Golden Sun Moth habitat in the eastern portions of the land zoned for development. Although listed under both the EPBC Act and the BC Act, the Golden Sun Moth’s tendency to persist on relatively modified sites in the ACT and region has become well established over the last decade. Most studies completed prior to circa 2010 did not identify substantially degraded grassland or derived grassland as potential habitat for the Golden Sun Moth. This was the case with the Biosis Research (2003) study which excluded the eastern portions of the land for their Golden Sun Moth surveys based on the very poor vegetation condition, yet substantial portions of this land were found to support the species in spring-summer 2019.

The 2019 Golden Sun Moth flying season in the ACT and region started unusually early (from late October), was short (ending by approximately the first week of December), and included large numbers of moths flying during non-ideal conditions (e.g. during windy days). In addition, Golden Sun Moth activity during the short 2019 flying season was in many cases the highest observed since targeted surveys for the species began. In short, the dry winter and early spring combined with dry and hot

conditions prior to and throughout the flying season led to an early, short, and high intensity 2019 Golden Sun Moth flying season. Such a flying season is atypical for the ACT and surrounding region, and it is important to recognise this when considering the intensity of moth activity recorded in 2019 at this site and others in the region.

With regard to the above, it is noted that the drought conditions experienced across winter and spring 2002 were very similar to those experienced across the same period in 2019. Accordingly, and as suggested at the time by local entomologist Ted Edwards, it is likely that Biosis Research's December-February 2002-03 survey missed the Golden Sun Moth flying season. This is almost certain to be the driver behind their very low number of records (i.e. one moth); the lack of records is unlikely to indicate absence or low population density across the western portions of "The Poplars". This is briefly acknowledged in the report in that it is noted that *"whilst only a one moth was recorded, the species would be expected to occupy areas of native grassland from both South Poplars and North Poplars"*. Further, the majority of the two biobank site is identified as Golden Sun Moth in the respective BioBanking Agreements, and it is evident from the 2019 surveys that Golden Sun Moths occurs across substantial portions of the development zoned land. Accordingly, as shown in Figure 4, the data presented in the BioBanking Agreements combined with the 2019 survey data should be considered to define the extent of Golden Sun Moth habitat in "The Poplars".

When the BioBanking Agreements and 2019 survey data are considered in combination, it is noted that the two biobank sites contain:

- almost all of the Box-Gum Woodland in moderate to high condition;
- almost all of the Natural Temperate Grassland;
- the majority of the extent of Golden Sun Moth habitat;
- all of the habitat known to support the Grassland Earless Dragon and Pink-tailed Worm-lizard, and most the potential extent of habitat for these species (i.e. there is some potential for these species to occur upslope of Jerrabomberra Creek in the western extent of the development land); and
- all of the habitat for the Button Wrinklewort.

Given the above, whilst it is noted that the 2019 BAM Stage 1 assessment has identified values in the development zoned land which are now of conservation significance under current legislation, it is clear that the Poplars LEP rezoned the land in a manner that zoned for conservation the vast majority of the land supporting significant biodiversity conservation values. This land has since been formally conserved under BioBanking Agreements.

As outlined herein, our review of the ecological studies completed to date for the "The Poplars" shows a high degree of consistency across the completed studies. Whilst contemporary assessment methods and significance thresholds now necessitate specific consideration of impacts to vegetation and habitat in lower condition, the relative ecological value of the land within "The Poplars" remains consistent with that described in the previous studies. Accordingly, we believe that the Poplars LEP allocation of land to either conservation or development remains an accurate reflection of the comparative significance of the ecological values of the land across the area.



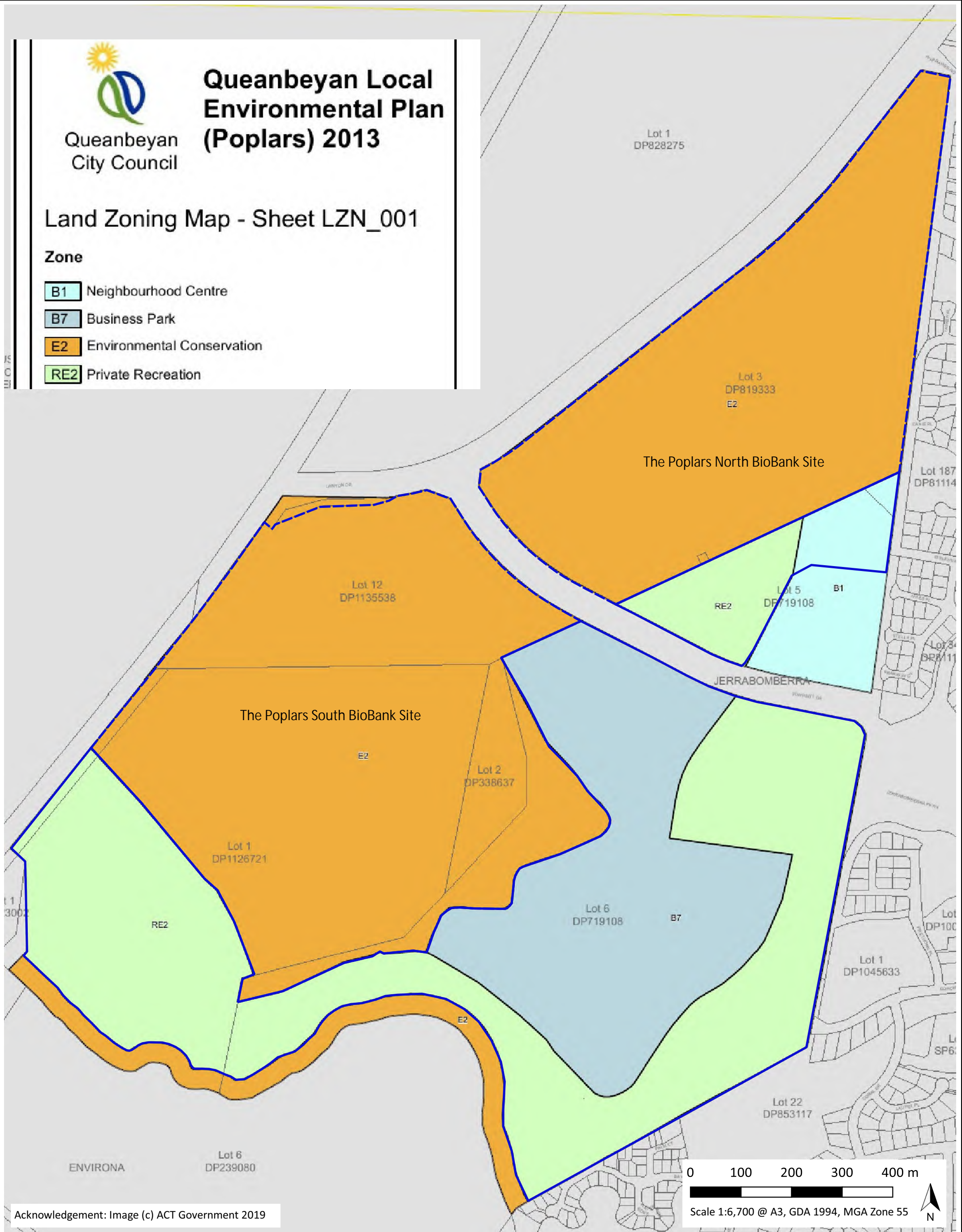
Queanbeyan City Council

Queanbeyan Local Environmental Plan (Poplars) 2013

Land Zoning Map - Sheet LZN_001

Zone

- B1 Neighbourhood Centre
- B7 Business Park
- E2 Environmental Conservation
- RE2 Private Recreation



Acknowledgement: Image (c) ACT Government 2019

Figure 1. Subject land on Poplars LEP Land Zoning Map

Capital Ecology Project No: 2928
Drawn by: S. Reid
Date: 18 December 2019

Legend

- Subject Land - Poplars Development Land
- Subject Land - Poplars Conservation Land



Legend

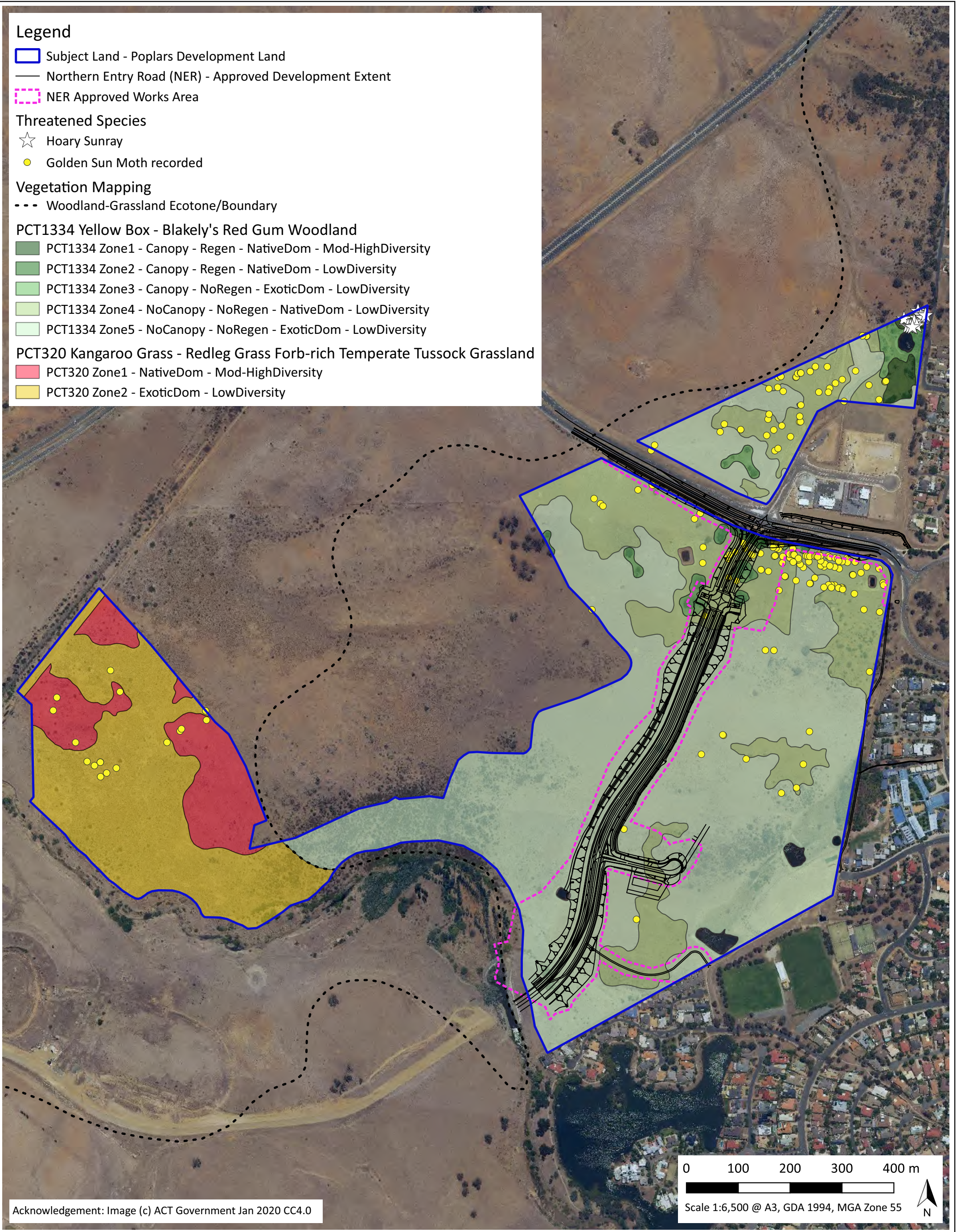
- Subject Land - Poplars Development Land
- Northern Entry Road (NER) - Approved Development Extent
- NER Approved Works Area

Threatened Species

- ☆ Hoary Sunray
- Golden Sun Moth recorded

Vegetation Mapping

- Woodland-Grassland Ecotone/Boundary
- PCT1334 Yellow Box - Blakely's Red Gum Woodland**
 - PCT1334 Zone1 - Canopy - Regen - NativeDom - Mod-HighDiversity
 - PCT1334 Zone2 - Canopy - Regen - NativeDom - LowDiversity
 - PCT1334 Zone3 - Canopy - NoRegen - ExoticDom - LowDiversity
 - PCT1334 Zone4 - NoCanopy - NoRegen - NativeDom - LowDiversity
 - PCT1334 Zone5 - NoCanopy - NoRegen - ExoticDom - LowDiversity
- PCT320 Kangaroo Grass - Redleg Grass Forb-rich Temperate Tussock Grassland**
 - PCT320 Zone1 - NativeDom - Mod-HighDiversity
 - PCT320 Zone2 - ExoticDom - LowDiversity



Acknowledgement: Image (c) ACT Government Jan 2020 CC4.0

0 100 200 300 400 m
 Scale 1:6,500 @ A3, GDA 1994, MGA Zone 55

Figure 2. Key findings of the completed Stage 1 BAM assessment

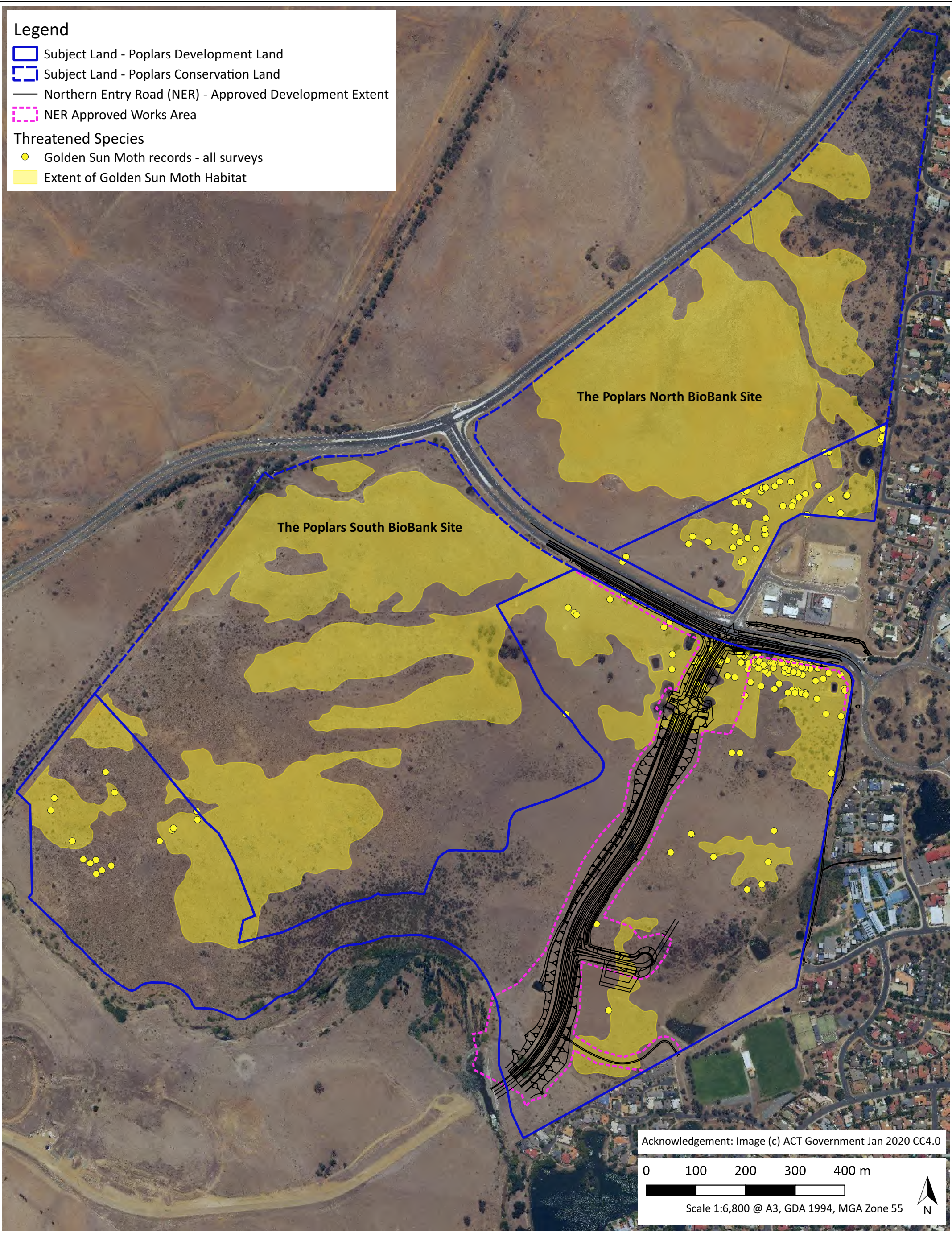
Figure 3. BioBanking Agreements – Vegetation Mapping



Legend

- Subject Land - Poplars Development Land
- Subject Land - Poplars Conservation Land
- Northern Entry Road (NER) - Approved Development Extent
- NER Approved Works Area

- Threatened Species**
- Golden Sun Moth records - all surveys
- Extent of Golden Sun Moth Habitat



Acknowledgement: Image (c) ACT Government Jan 2020 CC4.0

0 100 200 300 400 m
Scale 1:6,800 @ A3, GDA 1994, MGA Zone 55

Figure 4. Extent of Golden Sun Moth Habitat

Capital Ecology Project No: 2945
Drawn by: R. Speirs
Date: 12 June 2020

Note: Mapping of Golden Sun Moth habitat at the two BioBank Sites has been approximated based on the areas of habitat stated in the respective BioBanking Agreements and the vegetation type and condition evident in the 2020 aerial image.



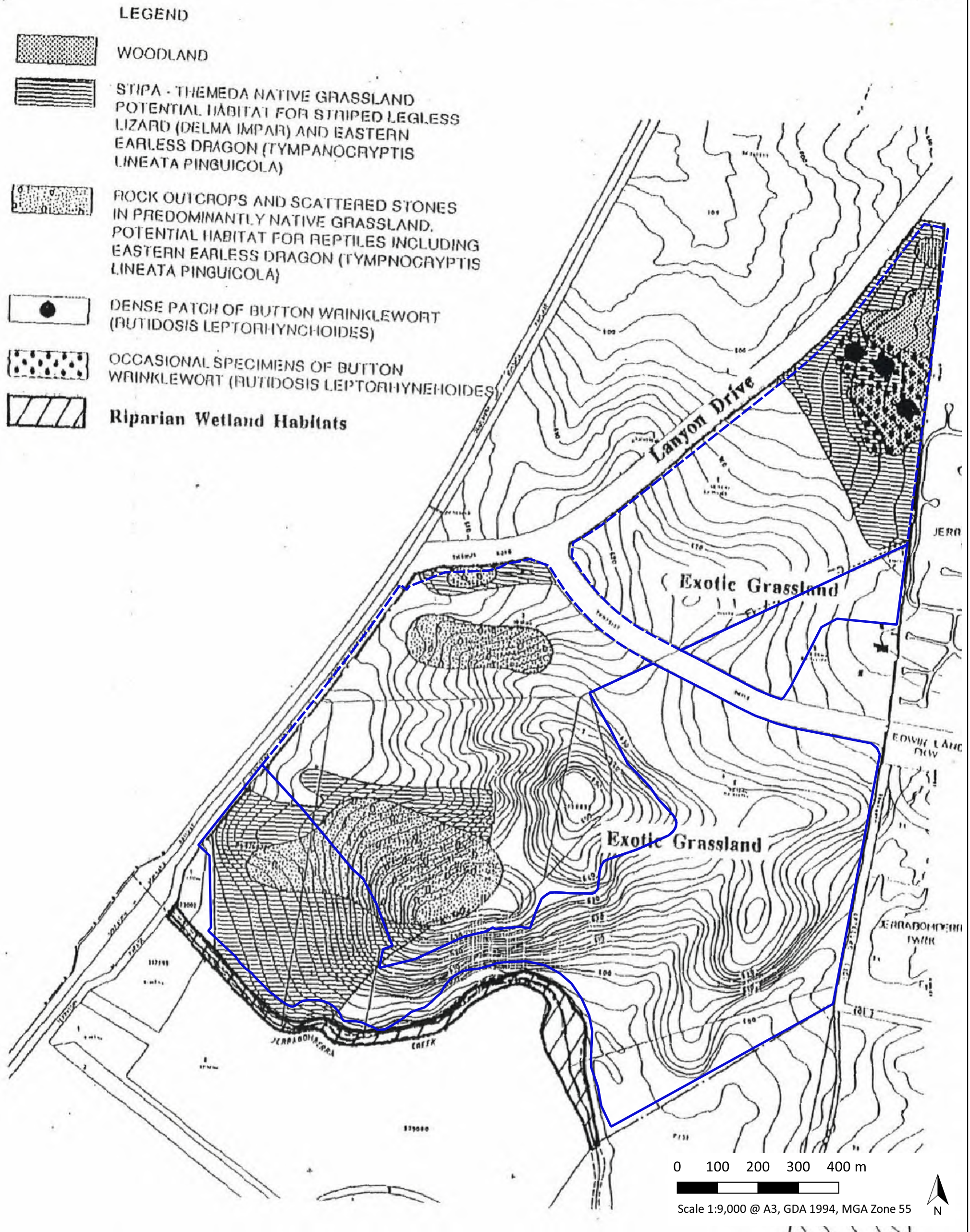




Figure 5. Poplars LEP Zoning on key findings of Davis (1991) / Kevin Mills & Associates (1994)

Legend

-  Subject Land - Poplars Development Land
-  Subject Land - Poplars Conservation Land







BIOSIS RESEARCH Pty Ltd
 10 Bartley Street
 Chippendale
 NEW SOUTH WALES 2008

Figure 9: Areas proposed for conservation (green hatching) and for development from North and South Poplars
 DATE: 24 June 2003
 Checked by: TO | File number: 02777

0 100 200 300 400 m
 Scale 1:7,500 @ A3, GDA 1994, MGA Zone 55
 Scale: 0.7

Figure 6. Poplars LEP Zoning on key findings of Biosis Research (2003)

Capital Ecology Project No: 2928
 Drawn by: R. Speirs
 Date: 11 March 2020

Legend
 Subject Land - Poplars Development Land
 Subject Land - Poplars Conservation Land



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Appendix H. BioBanking Agreements

**BioBanking agreement
ID number: BA 309**

**Under the
Threatened Species Conservation Act 1995**

for

[Redacted]

for

[Redacted]



Office of
Environment
& Heritage

BioBanking agreement under Part 7A Division 2 of the *Threatened Species Conservation Act 1995*

This agreement made on the _____ day of _____ between the Minister for the Environment of the State of New South Wales, being the Minister currently administering the *Threatened Species Conservation Act 1995* ('the Minister', which expression shall where the context admits, be deemed to include his or her successors in office) on the one part and _____ ('the landowner') _____ on the other part.

Background

A The landowner is the owner of those parcels of land being:

 _____; and
 _____.
 known as _____ ('the land').

B The biobank site that is the subject of this agreement forms part of the land and is shown on the biobank site boundary map. The biobank site covered by this agreement consists of approximately 55.55 hectares.

C The landowner has requested the Minister to enter into a biobanking agreement under clause 14 of the BioBanking Regulation for the purpose of designating the biobank site on the land.

D The Minister and landowner recognise that the landowner will receive biodiversity credits determined in accordance with the BioBanking Assessment Methodology (and set out in Annexure B) relating to the impact or likely impact of the management actions required to be carried out under Clause 3 and Annexure C of this agreement regarding the biodiversity values listed in Annexure B.

E The landowner and the Minister recognise that the biobank site contains the following known Aboriginal objects and/or Aboriginal places as defined by the *National Parks and Wildlife Act 1974*:

- | | |
|---------|----------|
| • PIF 1 | • PPS 1 |
| • PIF 2 | • PPS 4 |
| • PIF 5 | • PPS 6 |
| • PIF 6 | • PPS 12 |
| • PAD 2 | • PPS 11 |

Note: This biobanking agreement only recognises the existence of known Aboriginal objects and/or Aboriginal places. It does not provide for the protection of Aboriginal objects or Aboriginal places. The protection of Aboriginal objects and Aboriginal places is dealt with by the *National Parks and Wildlife Act 1974*. This agreement does not authorise any person to damage or to cause or permit damage to an Aboriginal object or Aboriginal place in, on or under the biobank site land (see clause 2.2).

- F The landowner and the Minister recognise that this biobanking agreement is being entered into for the purposes of the BioBanking Scheme established under Part 7A of the Act.
- G The landowner agrees to undertake the management actions and implement the management plans to improve the biodiversity values of the biobank site as set out in Annexure C.
- H The landowner agrees to undertake monitoring, reporting and record keeping as set out in Annexure D.
- I Accordingly, the parties hereby enter into the following biobanking agreement under section 127D of the Act.
- J The Minister has delegated the power to enter into this biobanking agreement to the Chief Executive of the Office of Environment and Heritage.

Now this agreement witnesses:

1. Interpretation

1.1 In this agreement, unless the contrary intention appears:

the **'Act'** means the *Threatened Species Conservation Act 1995* and any regulations from time to time in force thereunder

'adaptive management' means a process for improving management where the outcomes of monitoring indicate that minor alterations to the management actions or management plans are required to improve biodiversity values

'agreement' means this biobanking agreement entered into by the Minister and the landowner under section 127D of the Act for this biobank site

'animal' has the same meaning as in section 4 of the Act

'Annexure A' means Annexure A to this agreement entitled 'Maps of the biobank site'

'Annexure B' means Annexure B to this agreement entitled 'BioBanking Agreement Credit Report'

'Annexure C' means Annexure C to this agreement entitled 'Management actions and management plans'

'Annexure D' means Annexure D to this agreement entitled 'Monitoring, reporting and record keeping requirements'

'Annexure E' means Annexure E to this agreement entitled 'Payment schedules'

'annual report' means the annual report to be prepared by the landowner in accordance with item 2 of Annexure D

'authorised officer' means a person appointed under section 156B of the *National Parks and Wildlife Act 1974*

'biobank site' means that part of the land shown as the "biobank site" on the biobank site boundary map

'biobank site boundary map' means the map entitled [REDACTED] Biobank Site dated 11/07/2018 and included in Annexure A

'Biobanking Agreement Credit Report' means the report contained in Annexure B generated by a BioBanking Assessor for the biobank site using the BioBanking Assessment Methodology and the BioBanking Credit Calculator which includes the number and type of biodiversity credits to be created on the biobank site

'biobanking agreements register' means the register of biobank sites kept by the Chief Executive under Part 7A of the Act

'BioBanking Assessment Methodology' means the rules established under section 127B of the Act

‘BioBanking Regulation’ means the Threatened Species Conservation (Biodiversity Banking) Regulation 2008

‘BioBanking Scheme’ means the Biodiversity Banking and Offsets Scheme established under Part 7A of the Act

‘BioBanking Trust Fund’ means the fund established under Part 7A of the Act to hold funds from the sale of biodiversity credits (the Total Fund Deposit)

‘biodiversity credits’ means biodiversity credits created under Part 7A of the Act

‘biodiversity credits register’ means the register of biodiversity credits kept by the Chief Executive under Part 7A of the Act

‘biodiversity values’ has the same meaning as in section 4A of the Act

‘Chief Executive’ means the Chief Executive of the Office of Environment and Heritage

‘commencement date’ means the date this agreement commences under clause 18 of this agreement

‘critical habitat’ has the same meaning as in section 4 of the Act

‘day’ means any day including Saturdays, Sundays and public holidays

‘development’ has the same meaning as in section 127(1) of the Act

‘Director General’ has the same meaning as in section 4 of the Act

‘ecological burn’ means a burn to improve biodiversity values carried out as part of the management of fire for conservation

‘fee unit’ has the same meaning as in the BioBanking Regulation

‘first payment date’ means the date the balance in the relevant biobank site account is equal to or greater than 80% of the Total Fund Deposit for the first time

‘Fund Manager’ means the person appointed by the Minister from time to time under Part 7A of the Act as the Fund Manager to manage the BioBanking Trust Fund

GST has the same meaning as given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Commonwealth) and any other Act or regulation relating to the imposition or administration of the GST

‘land’ means that parcel or parcels of land which contains the biobank site as described in paragraph A of this agreement

‘management action’ means the actions to be carried out by the landowner on the biobank site to improve biodiversity values for which biodiversity credits may be created. Such actions are set out in of Annexure C. A reference to a management action includes a reference to refraining from doing anything, whether or not that thing was being done beforehand

‘management of fire for conservation’ means the controlled application of fire under specified environmental and weather conditions to a predetermined area and

at the time, intensity and rate of spread required to attain planned improvement of biodiversity values

'management of grazing for conservation' is the implementation of a variable and adaptive stock grazing regime for improving biodiversity values, such as for controlling exotic weeds or vegetation biomass, or enhancing the competitiveness of native perennial species. Typically it involves short periods of intensive grazing between long periods of little or no grazing. Management of grazing for conservation differs with site condition, specific management goals, seasonal conditions and regions

'management payments' means the payments to be made to the landowner in accordance with the payment schedules and the requirements in Annexure E

'management plans' means the management plans to be implemented by the landowner in carrying out the management actions and included in Section 3 and Section 4 of Annexure C (or such other management plans as approved by the Chief Executive in accordance with the provisions of Annexure C)

'management zone' means those areas of the biobank site identified on the map entitled [REDACTED] Management Zones dated 10/07/2018 and included in Annexure A

'maximum operational surplus' has the same meaning as in clause 33(2) of the BioBanking Regulation

'Minister' means the Minister for the time being administering the Act and where not repugnant to the context includes the servants and agents of the Minister

'native animal' has the same meaning as in section 5 of the NPW Act

'native plant' has the same meaning as in section 5 of the NPW Act

'native vegetation' has the same meaning as in section 6 of the NV Act

'NPW Act' means the *National Parks and Wildlife Act 1974* and any regulations from time to time in force thereunder

'NV Act' means the *Native Vegetation Act 2003 (NSW)*

'OEH' means the Office of Environment and Heritage

'ongoing' in relation to the timing of carrying out a management action means commencing on the commencement date or first payment date (as indicated) and continuing in perpetuity, unless specified otherwise

'operational deficit' has the same meaning as in clause 31(2) of the BioBanking Regulation

'operational deficit threshold' has the same meaning as in clause 32(2) of the BioBanking Regulation

'operational surplus' has the same meaning as in clause 31(3) of the BioBanking Regulation

'owner' has the same meaning as in section 127(1) of the Act and includes successors in title referred to in section 127J of the Act

'party' means a party to this agreement

'payment schedules' means the tables entitled 'payment schedule' and 'in perpetuity management costs' included in Annexure E

'pesticide' has the same meaning as in section 5 of the *Pesticides Act 1999* which includes herbicides, insecticides, fungicides, baits and rodenticides

'plant' has the same meaning as in section 4 of the Act

'planting schedule' means the schedule at item 6.6 of Section 1, Annexure C

'processing fee' means the processing fee which is to accompany an application to enter into a biobanking agreement as required by clause 14 of the BioBanking Regulation

'record keeping requirements' means those record keeping requirements set out in item 3 of Annexure D

'regrowth' has the same meaning as in section 9 of the NV Act

'relevant biobank site account' means the biobank site account within the BioBanking Trust Fund kept by the Fund Manager in accordance with clause 30(1) of the BioBanking Regulation

'remnant native vegetation' has the same meaning as in section 9 of the NV Act

'threatened species, populations and ecological communities' and **'threatened species, population or ecological community'** have the same meaning as in the Act

'Total Fund Deposit' has the same meaning as in clause 26(1) of the BioBanking Regulation

'waste' has the same meaning as in the *Protection of the Environment Operations Act 1997*.

- 1.2 A word or expression that indicates one or more particular genders shall be taken to indicate every other gender. A reference to a word or expression in the singular form includes a reference to the word or expression in the plural form, and vice versa.
- 1.3 Any reference to an action, or carrying out an action, includes a reference to doing anything or refraining from doing anything.
- 1.4 Any reference to a person shall be deemed to include a corporate body and vice versa.
- 1.5 Any covenant or agreement on the part of two or more persons shall be deemed to bind them jointly and severally.
- 1.6 The schedules and Annexures to this agreement form part of this agreement.
- 1.7 Any notes included in the agreement do not form part of the agreement.

2. Status of this agreement

The parties agree that this agreement is a biobanking agreement within the meaning of section 127D of the Act.

3. Use of the biobank site

The landowner covenants with the Minister as follows:

General responsibilities

- 3.1 Except as otherwise permitted by this agreement, the landowner must not carry out any act or omit to carry out any act, or cause or permit any act to be carried out or any act not to be carried out which act or omission may harm biodiversity values on the biobank site, including but not limited to any native animals, native plants, threatened species, populations and ecological communities, and their habitats.

Note: The clearing of native vegetation that is otherwise permissible in accordance with the NV Act (whether it is permissible under a Property Vegetation Plan, routine agricultural management activity (as defined under the NV Act), or is otherwise permitted under Part 3 of that Act) can only be carried out on the biobank site to which this agreement applies if it is also permissible under this agreement. Item 5.1 of the management actions contained in Section 1 of Annexure C of this agreement sets out the limited circumstances in which native vegetation can be cleared on the biobank site. Annexure C of this agreement also contains limited exceptions in relation to when a landowner is not required to comply with the management actions contained in Annexure C.

Cultural heritage

- 3.2 To avoid any doubt, nothing in this agreement is to be construed as authorising (including, but not limited to, by way of a consent, permit, approval or authorisation of any kind for the purposes of Part 6 of the NPW Act) any person to damage or to cause or permit damage to an Aboriginal object or Aboriginal place in, on or under the biobank site.

Obtaining of consents, permits and authorisations

- 3.3 The landowner is responsible for obtaining all necessary licences, consents, authorisations, permits or approvals in order to lawfully comply with and carry out its obligations under this agreement or to undertake or enable any other identified matter under clause 3.5 and/or clause 3.6.

Development

- 3.4 The landowner must not carry out, or cause or permit to be carried out, any development (as defined under clause 1 above) on the biobank site, unless the development:
- is permitted or required under Annexure C, or
 - is identified in the table entitled 'Permissible development on the biobank site' contained in clause 3.5 or identified in the table entitled 'Permissible human activities on the biobank site' contained in clause 3.6.

Permissible development

3.5 The landowner shall be permitted to carry out, or cause or permit to be carried out, the development specified in the following table in the management zone specified in the table.

Permissible development on the biobank site	
Description of development	Management zone/s
Any development permitted or required as part of a management action under Annexure C, including but not limited to maintaining existing access tracks on the biobank site, building shed/s to store weed control chemicals or other pesticides on the biobank site, building fences to manage stock on the biobank site and building structures to restore natural water flow regimes	All zones
Any development within the meaning of section 127(1) of the Act reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property.	All zones

Permissible human activities

3.6 Notwithstanding clause 3.1, the landowner may carry out or cause or permit to be carried out any human activities specified in the following table, in the management zone specified in the table.

Permissible human activities on the biobank site	
Description of human activities	Management zone/s
Any activity or any development permitted or required as part of a management action under Annexure C, including but not limited to mustering stock or feral herbivores including with mechanised vehicles, spraying or mechanically removing weeds, planting tubestock or sowing seeds of native vegetation, using drip torches, thinning native vegetation, disturbing soil temporarily to control erosion, encouraging regeneration, controlling nutrients or restoring natural flow regimes, laying baits, trapping or otherwise controlling vertebrate pests and feral herbivores and overabundant native herbivores.	All zones
Traditional Aboriginal cultural activities, except commercial activities.	All zones

Permissible human activities on the biobank site	
Description of human activities	Management zone/s
Any human activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property.	All zones
Any activity required to undertake permissible development	All zones

4. Management actions and management plans

4.1 The landowner must carry out or procure the carrying out of the management actions in accordance with the timing, manner and requirements of Annexure C.

4.2 The landowner must:

1. implement or procure the implementation of; and
2. comply or procure the compliance with

the management plans in accordance with the timing, manner and requirements of Annexure C.

Note: The management actions listed in Annexure C include requirements to take certain action and requirements to refrain from taking certain action.

4.3 Unless otherwise indicated by Annexure C, the landowner must ensure that

1. the management actions to be carried out in accordance with clause 4.1; and
2. the management plans to be implemented and complied with in accordance with clause 4.2 are carried out in perpetuity, commencing from the date indicated in Annexure C.

4.4 The landowner's obligations under this clause are subject to clause 12.4 of this agreement.

5. Total Fund Deposit

For the purpose of clause 26 of the BioBanking Regulation, the Total Fund Deposit for this biobank site is [REDACTED] including GST, determined in accordance with Part 6 of the BioBanking Regulation.

Note: Part 6 of the BioBanking Regulation prescribes the amount that must be deposited in the BioBanking Trust Fund before the first transfer (or retirement without transfer) of each biodiversity credit can be registered. The prescribed amount is the Total Fund Deposit, or proportion thereof if a partial sale of credits is made. The Total Fund Deposit is the present value of the total of all management payments listed under this agreement, as determined by the Chief Executive.

6. Biodiversity credits

6.1 The Chief Executive is permitted under section 127W(4) of the Act, to create (without application by the landowner under section 127W(4) of the Act) the biodiversity credits listed in Annexure B on the commencement date.

6.2 The biodiversity credits listed in Annexure B will be created for the biobank site.

6.3 At the commencement date, the landowner is entitled to receive [REDACTED] excluding GST, to be satisfied in full by the creation of the biodiversity credits listed in Annexure B.

Note: [REDACTED] is a best estimate of the market value of the biodiversity credits at the time of creation. The market value has been estimated by reference to the notional Part B amount as determined by the landowner in the credit pricing spreadsheet or reference to the notional Part B amount for the last traded biodiversity credit of the same or similar type.

The Part B amount is that part of the sale price received by the landowner (or another landowner if reference is made to a previous sale of that biodiversity credit type) after the entire Total Fund Deposit is satisfied and deposited into the BioBanking Trust Fund.

The sale price of each biodiversity credit will be negotiated between the landowner and the buyer and will be affected by supply and demand for each biodiversity credit. The final price at the time of transfer of the biodiversity credit (or retirement or the biodiversity credit without transfer) may not reflect this estimated amount.

The Minister does not warrant that the landowner will be able to sell biodiversity credits for the estimated market value.

7. Monitoring, record keeping and reporting

7.1 The landowner must comply with the monitoring and record keeping requirements as set out in Annexure D.

7.2 The landowner must submit an annual report complying with the requirements set out in Annexure D to the Chief Executive within the timeframe specified in Annexure D.

7.3 The landowner must notify the Chief Executive in writing as soon as practicable after becoming aware of any failure to comply with this agreement or any other incident at the biobank site (or surrounds) which results or may result in a sudden or significant decline of biodiversity values at the biobank site. In particular, the landowner must notify the Chief Executive of:

- the nature, location and time of the incident
- the impact of the incident on biodiversity values
- the measures that have been taken or will be taken in response to the incident
- any provision of this agreement which may have been breached
- the extent of any damage caused or permitted by the incident
- the measures which have been taken or will be taken to prevent a recurrence of the incident.

8. Use of the land by servants, agents, lessees or licensees

The landowner must incorporate all relevant requirements of this agreement in any lease or licence issued for the biobank site, and must at all times ensure that any servant, contractor, consultant, agent, lessee or licensee occupying the biobank site area shall be aware of, and not undertake any act inconsistent with, the landowner's obligations under this agreement.

9. Change of land ownership or subdivision of land

9.1 The landowner must notify the Chief Executive in writing of any change of:

- ownership of the biobank site, or any part thereof, within seven (7) days after the change of ownership of the biobank site; or
- lessee of the biobank site, or any part thereof, within twenty-eight (28) days after the change of lessee or licensee of the biobank site.

The notice must include the name and address and other relevant contact details of the new landowner, lessee or licensee.

9.2 The landowner must provide a copy of this agreement, including a copy of each management plan and a copy of all records required to be kept under the record keeping requirements, to the transferee before completion of the assignment, transfer, disposal or sale of any interest in the biobank site.

9.3 The landowner must notify the Chief Executive in writing no less than 14 days before the biobank site is subdivided.

9.4 The landowner cannot assign, transfer, dispose of or sell its rights, title or interest in part of the land containing any area of the biobank site unless the landowner and the Minister have first agreed to vary the agreement to apportion the obligations and rights under the agreement in respect of that part of the biobank site that will be assigned, transferred, disposed of or sold.

10. Right to enter biobank site for research and monitoring

10.1 The landowner must permit access to the biobank site at any time to the Minister, the Chief Executive, an authorised officer or an officer of OEHL for the purpose of carrying out research or monitoring in relation to the biodiversity values on the biobank site for which biodiversity credits have been created under this agreement, but only where the person has given reasonable notice to the landowner and the landowner's agent, lessee or licensee, of the intention to enter the biobank site for that purpose and the nature of the research or monitoring that will be conducted. In exercising its right of access under this clause, the Minister, the Chief Executive, an authorised officer or an officer of OEHL must ensure that such access does not:

- result in physical or radio interference which obstructs, interrupts or impedes the use or operation of any telecommunications network and telecommunications service of a lessee or licensee of a part of the land; or
- interfere with the electricity supply separate from the landowner's electricity supply to any part of the land occupied by a lessee or licensee.

10.2 The Minister, Chief Executive, an authorised officer or an officer of OEH may make a written request to the landowner to consent to any other person specified in the written request to enter the biobank site for the purpose of carrying out the research or monitoring referred to in clause 10.1, whether or not that person will accompany the Minister, Chief Executive, an authorised officer or an officer of OEH. The landowner will not unreasonably withhold consent.

10.3 Clauses 10.1 and 10.2 do not affect or limit the powers of authorised officers under the NPW Act to enter premises for the purpose of determining whether there has been compliance with, or contravention of, this agreement.

11. Agreement preparation expenses

Each party bears its own costs in connection with the preparation and execution of this agreement.

12. Obligations of the Minister

12.1 Subject to clauses 12.2 and 12.3 and starting from the first payment date, the Minister is required to direct the Fund Manager to make such management payments specified in the payment schedules from the relevant biobank site account to the landowner, at such intervals specified in the payment schedules.

12.2 The Minister may only make such a direction if:

- the relevant biobank site account has sufficient funds to cover the management payment, and
- the landowner has submitted the annual report for the preceding reporting period in accordance with clause 7.2 and Annexure D of this agreement, and
- the Minister has reviewed the annual report for the preceding reporting period and is satisfied that the landowner has complied with their obligations set out in this agreement in the preceding period.

12.3 The landowner acknowledges that the Minister may, with the agreement of the landowner, direct that the management payments should not be made, or should be reduced, for a specified period of time or until further notice if the biobank site account has an operational deficit greater than the operational deficit threshold.

Note: Withholding or lowering payments when funds in the account are below the maximum operational deficit may help to preserve the long-term financial viability of the fund for the landowner.

12.4 If the Minister, with the agreement of the landowner, directs that management payments be reduced or not be made for a specified period of time or until further notice, then:

- the Minister may, by written agreement with the landowner, suspend or vary any of the landowner's obligations to carry out management actions under this agreement for the same period of time or some other period, and
- despite clause 4 of this agreement, the landowner's obligations to carry out management actions under this agreement are suspended or varied in accordance with the agreement.

The Minister must not agree to any variation or suspension under this clause unless satisfied that the variation or suspension does not have a negative impact on the biodiversity values protected by the agreement.

12.5 The landowner acknowledges that the Minister may, in addition to the management payments, direct additional payments to be paid from the BioBanking Trust Fund to the landowner, but only in circumstances where the biobank site account has an operational surplus, the operational surplus amount exceeds the maximum operational surplus for the biobank site account, and the amount the Minister directs to be paid does not exceed the difference between the operational surplus amount and the maximum operational surplus.

12.6 All management payments shall be paid into the bank account nominated by the landowner in accordance with the payment schedules.

13. Ownership of the land and registration of this agreement

13.1 The landowner represents and warrants to the Minister that as at the date of this agreement it is:

- the legal and beneficial owner of the land; or
- legally and beneficially entitled to become the owner of the land and will become the legal and beneficial owner of the land, prior to the date that this agreement is to be registered under clause 13.2 of this agreement.

13.2 As contemplated by section 127I(1) of the Act, the Minister agrees to notify the Registrar General when this agreement has been entered into, varied or terminated so the Registrar General can register the agreement, variation or termination by making an entry concerning the agreement, variation or termination in the relevant folio of the Register kept under the *Real Property Act 1900* (NSW) for the land.

13.3 The fee to register the agreement in accordance with section 127I(1) of the Act will be taken from the processing fee, except as provided by clause 13.4.

13.4 If the landowner elects to identify the exact boundaries of the biobank site on the Deposited Plan for the land, the landowner must bear any additional costs of registration.

14. Variation and termination

- 14.1 Subject to clause 14.2, this agreement can only be varied or terminated in accordance with the Act.
- 14.2 The landowner waives any right to request voluntary termination in accordance with subsections 127G(5) and (6) of the Act.
- 14.3 This clause does not affect the ability of the Minister and the landowner to terminate this agreement by consent under section 127G(2)(a) of the Act (including in the circumstances described in subsection 127G(6) of the Act).

Note: Clause 14.2 ensures that the landowner can obtain Commonwealth Government tax advantages that apply to conservation covenants. Those tax advantages would not be available if the right to request termination of the agreement under subsections 127G (5) and (6) of the Act was available.

Subsections 127(5) and (6) of the Act give landowners the right to request termination of the agreement where credits are not sold within 3 months or after 5 years of entering the agreement. The effect of clause 14.2 is that the landowner gives up that right. This is essential as the tax advantages are only available where the Commonwealth Government has conferred conservation covenant status on biobank sites – and a requirement of this status is that the sites will operate permanently.

15. Indemnity and release

- 15.1 The landowner agrees to indemnify the protected persons against all expenses, losses, damages and costs that the protected person may sustain or incur as a result, whether directly or indirectly, of carrying out obligations under this agreement.
- 15.2 The indemnity given by the landowner does not cover any loss or damage that is caused by a negligent act or omission of the protected persons, or any loss or damage that is contributed to by a negligent act or omission of the protected persons to the extent of the protected persons' contribution to that loss or damage.
- 15.3 The landowner releases to the full extent permitted by law the protected persons from all claims and demands arising out of or in connection with, or as a consequence of, carrying out of obligations by the landowners under this agreement, or in connection with, or as a consequence of, a direction made by the Minister regarding the payment of management payments to the landowner under this agreement.
- 15.4 The release given by the landowner does not cover any claims and demands in respect of any loss or damage that is caused by a negligent act or omission of the protected persons, or any loss or damage that is contributed to by a negligent act or omission of the protected persons to the extent of the protected persons' contribution to that loss or damage.
- 15.5 It is immaterial to the obligations of the landowner under this clause that a claim or demand arises out of any act, event or thing that the landowner is authorised or obliged to do under this agreement or that any time waiver or other indulgence has been given to the landowner for any such obligation under this agreement.

In clauses 15.1–15.4:

- (i) 'protected person' means:
 - (a) the Minister
 - (b) the Chief Executive
 - (c) the employees or officers of the Office of Environment and Heritage
 - (d) any other person acting under the direction or control of the Minister or Chief Executive for any purpose
 - (e) the Crown in right of the State of New South Wales;
- (ii) 'claims and demands' means all actions, suits, claims, demands, proceedings, losses, compensation, damages, sums of money, costs, legal costs, charges, and expenses to which the protected persons are or may become liable for in respect of loss or damage to the fixtures of the biobank site, financial or economic loss, loss of opportunity or other consequential loss of the landowner, and injury of any kind to or death of any person claiming through the landowner and however sustained on or outside the biobank site.

16. Dispute resolution

- 16.1 Where there is a dispute, difference or claim (dispute), the party raising the dispute must notify the other party in writing of the nature of the dispute, including the factual and legal basis of the dispute.
- 16.2 Within 14 days of the written notice, the Chief Executive and the landowner, or nominated senior representatives of the parties, must confer to attempt to resolve the dispute, and if the dispute cannot be resolved within twenty-one (21) days of the written notice, the Chief Executive and the landowner will refer the matter to mediation.
- 16.3 The parties will agree on the terms of appointment of the mediator and the terms of the mediation in writing within twenty-eight (28) days, failing which the mediation will be at an end and either party may commence court proceedings in respect of the dispute, difference or claim.
- 16.4 If the matter has not been resolved within 28 days of the appointment of the mediator, the mediation process will be at an end and either party may commence court proceedings in respect of the dispute, difference or claim.
- 16.5 Notwithstanding the above clauses, the Minister, the Chief Executive or a person duly authorised by the Chief Executive, may enforce this agreement under the Act, or institute proceedings without first entering into the dispute resolution procedure set out in clauses 16.1, 16.2, 16.3, and 16.4.
- 16.6 Clause 10.1 of this agreement is not affected by these arrangements for dispute resolution.

17. Governing law

This agreement is governed by the laws of the State of New South Wales and the parties agree to submit to the jurisdiction of the courts of that State.

21.2 The name or title of the nominated officer or the address for the Minister referred to in clause 21.1 above may be updated from time to time by a further written notice being sent to the landowner by an officer of OEH advising of the new officer (or title of an office) and address to which such documents, information or notification may be sent.

21.3 For the avoidance of doubt, this clause does not fetter the Minister or Chief Executive's discretion to give or withhold from giving such notice, consent or permission.

Agreement annexures

Annexure A Maps of biobank site

Annexure B Biobanking Agreement Credit Report

Annexure C Management actions and management plans

Annexure D Monitoring, reporting and record keeping requirements

Annexure E Payment schedules

In witness where of the parties hereto have executed this agreement the day and year first above written.

Signed by
Sonya Errington Director Conservation Programs, Office of Environment and Heritage, as the Minister's delegate under Section 142A of the *Threatened Species Conservation Act 1995* in the presence of:

Sonya Errington

Date

Witness signature

Date

Witness name

Witness address

Signed by the landowner/s or director/s

Signature

Date



Signature

Date



In the presence of

In the presence of

Witness signature

Date

Witness name

Witness address

Witness signature

Date

Witness name

Witness address

Seal (if signing under seal):

Annexure A: Maps of biobank site



Image Source: Nearmap (May 2018)
Data Source: Department of Finance, Services & Innovation (2017)

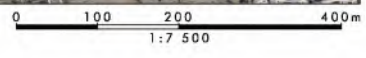


FIGURE 1





Image Source: Nearmap (May 2018)
Data Source: Department of Finance, Services & Innovation (2017)

0 100 200 400m
1:7 500

Legend



FIGURE 2

File Name (A4): 3923_024.dgn
20180710 16:28

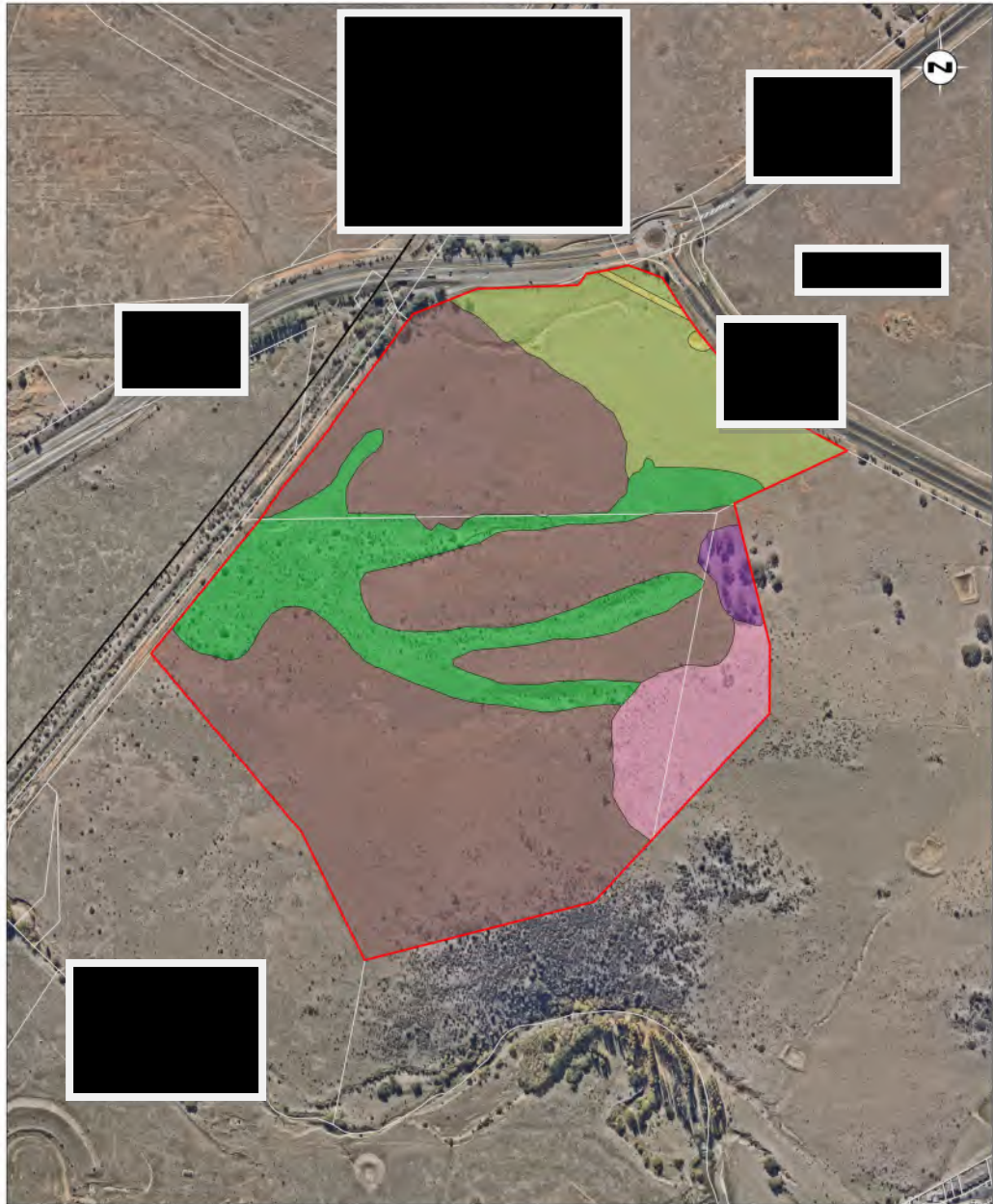


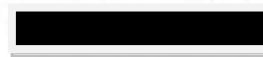
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Data Source: Department of Finance, Services & Innovation (2017)

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Legend



FIGURE 3



File Name [A4]: 3923_026.dgn
20180710 15.35

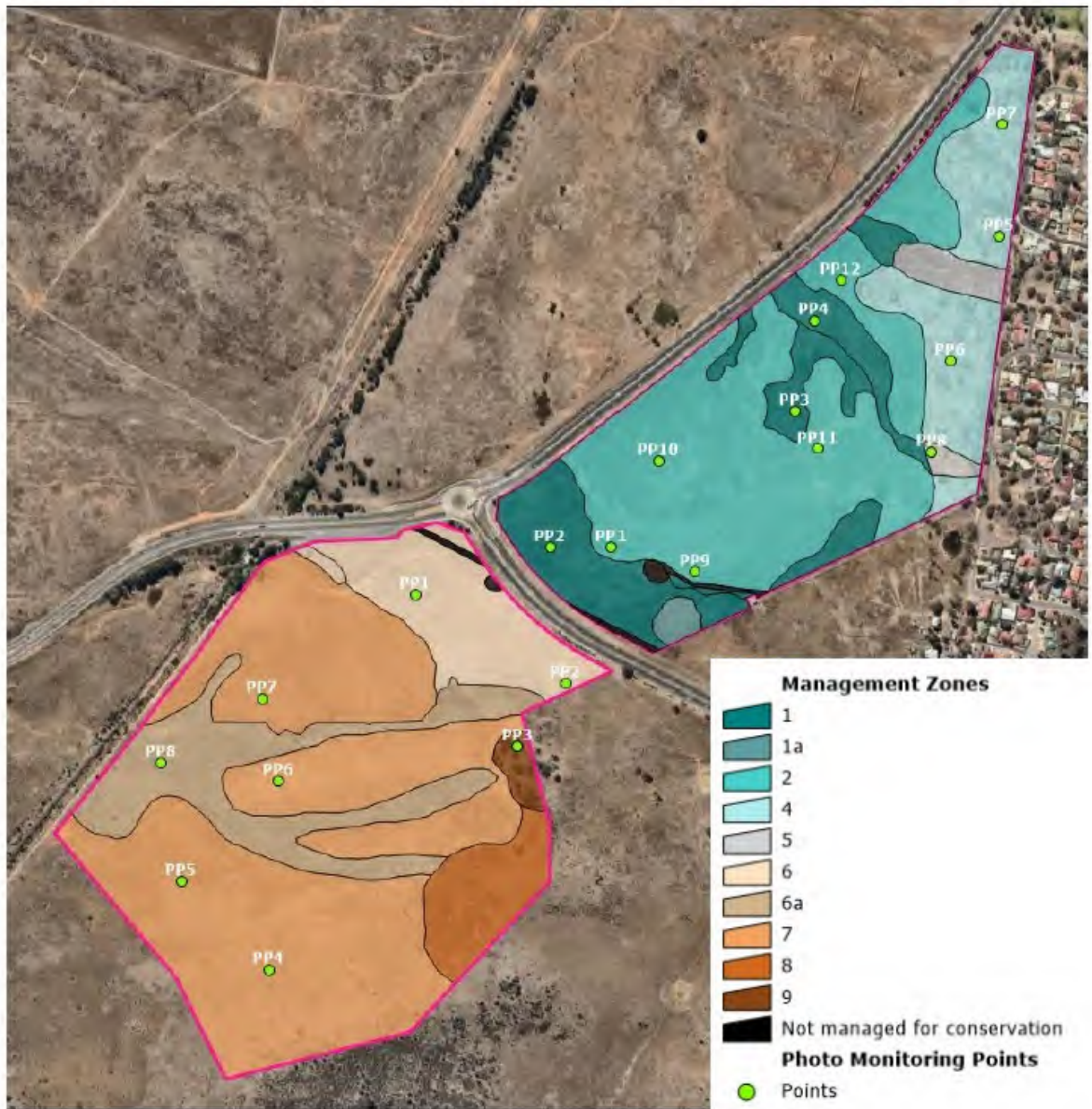
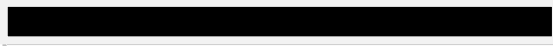


FIGURE 5



24/07/2018

Annexure B: Biobanking Agreement Credit Report

BioBanking credit report



This report identifies the number and type of credits required at a BIOBANK SITE

Date of report: 21/06/2018

Time: 1:27:12PM

Calculator version: v4.0

Biobank details

Proposal ID: [REDACTED]
Proposal name: [REDACTED]
Proposal address: [REDACTED]
Proponent name: [REDACTED]
Proponent address: [REDACTED]
Proponent phone: [REDACTED]
Assessor name: Kate Connolly
Assessor address: 75 York St Teralba NSW 2284
Assessor phone: 02 4950 5322
Assessor accreditation: 177

Additional information required for approval:

- Use of local benchmark
 - Expert report...
 - Golden Sun Moth
 - Grassland Earless Dragon
 - Pink-tailed Legless Lizard
 - Request for additional gain in site value
- Synemon plana
Tympanocryptis pinguicolla
Aprasia parapulchella

Ecosystem credits summary

Plant Community type	Area (ha)	Credits created
Speargrass grassland of the South Eastern Highlands Bioregion	16.42	120.00
Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	38.39	271.00
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	0.74	5.00
Total	55.55	396

Credit profiles**1. Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion, (MR648)**

Number of ecosystem credits created	5
IBRA sub-region	Murrumbateman - Murrumbidgee

2. Speargrass grassland of the South Eastern Highlands Bioregion, (MR631)

Number of ecosystem credits created	120
IBRA sub-region	Murrumbateman - Murrumbidgee

3. Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion, (MR686)

Number of ecosystem credits created	244
IBRA sub-region	Murrumbateman - Murrumbidgee

4. Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion, (MR686)

Number of ecosystem credits created	27
IBRA sub-region	Murrumbateman - Murrumbidgee

Species credits summary

Common name	Scientific name	Extent of impact Ha or individuals	Number of species credits created
Golden Sun Moth	<i>Synemon plana</i>	45.38	322
Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	41.59	295
Pink-tailed Legless Lizard	<i>Aprasia parapulchella</i>	18.63	132

Additional management actions

Additional management actions are required for:

Vegetation type or threatened species	Management action details
Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	Feral and/or over-abundant native herbivore control
Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	Fox control
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Exclude commercial apiaries
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Exclude miscellaneous feral species
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Feral and/or over-abundant native herbivore control
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Fox control

Annexure C: Management actions and management plans

This Annexure C, together with Annexure D, is approved as a property management plan prepared by the landowner under the section 113B of the *Threatened Species Conservation Act 1995*.

A Management actions

A1 The landowner must undertake, or cause to be undertaken, the Management Actions contained in the following tables in this Annexure C:

- (i) Section 1: Standard management actions (**'Section 1'**); and
- (ii) Section 2: Additional management actions (**'Section 2'**)

in accordance with the conditions specified in Section 1 and Section 2 and within the timeframes (if any) specified in Section 1 and Section 2.

A2 In carrying out the management actions, the landowner must implement and, at all relevant times comply with, the management plans as contained in the following tables in this Annexure C:

- (i) Section 3: Standard management plans (**'Section 3'**); and
- (ii) Section 4: Additional management plans (**'Section 4'**)

in accordance with the conditions specified in those tables and management plans and within the timeframes (if any) specified in Section 3 and Section 4.

A3 Where a management action requires that something must not be done, the landowner must not do that thing and must not cause, authorise or permit any other person to do that thing.

A4 Notwithstanding A1 and A2 above, the landowner is not required to undertake the management actions so described if the action is inconsistent with anything (act or omission) required or authorised to be done by the landowner by or under any of the following:

- 1 removal of noxious weeds under the *Noxious Weeds Act 1993*
- 2 the control of noxious animals under the *Rural Lands Protection Act 1998*
- 3 an obligation arising under an eradication order or pest control order under Part 11 of the *Rural Lands Protection Act 1998*
- 4 a direction under section 37A of the *State Emergency and Rescue Management Act 1989* in relation to a state of emergency or a direction under section 22A of the *State Emergency Service Act 1989*
- 5 in respect of the *Rural Fires Act 1997*:
 - 5.1 an emergency fire fighting act within the meaning of that Act
 - 5.2 emergency bushfire hazard reduction work within the meaning of that Act
 - 5.3 any notified steps issued to the landowner under section 63 of that Act

- 5.4 any notice by a local authority under section 66 of that Act to undertake specified bushfire hazard reduction work
 - 5.5 otherwise as part of any managed bushfire hazard reduction work within the meaning of the *Rural Fires Act 1997* that is carried out in accordance with:
 - 5.5.1 a current bushfire hazard reduction certificate that applies to the work
 - 5.5.2 the provisions of any bushfire code applying to the land specified in the certificate.
- A5 The landowner may make minor alterations to any management actions as part of adaptive management, where the outcomes of monitoring, including documented observations of the landowner or his/her servant, lessee, agent or licensee/s, indicate that the minor alterations to the management actions are required to improve biodiversity values in accordance with the biobanking agreement. The landowner must document the minor alterations made to the management actions and the reasons for the alterations, and retain a record of the documentation and include it in the annual report.

B Timing for carrying out management actions

- B1 An obligation to carry out a management action (or implement and comply with a management plan):
- (i) will commence on the commencement date or first payment date (as indicated); and
 - (ii) must be carried out in perpetuity unless otherwise indicated in Sections 1 to 4 of this Annexure C.
- B2 The landowner must ensure that if a timeframe is specified in Sections 1 to 4, that the management action is carried out within that timeframe.
- B3 For the avoidance of doubt, an obligation to carry out a management action within a specified timeframe continues until the management action has been carried out even if the time for compliance has passed.

Section 1: Standard management actions

Standard management actions		
Item 1	Management of grazing for conservation	Timing
1.1	Stock must not be permitted to graze in any area of the biobank site.	Ongoing from first payment date.
1.2	This item is not applicable	
1.3	This item is not applicable	
1.4	If, at any time, the landowner observes stock in any area of the biobank site, other than an area on the biobank site where grazing is permitted, the landowner must take necessary measures to remove the stock from the area immediately.	Ongoing from first payment date.
Item 2	Weed control	Timing
2.1	<p>The landowner must implement and, at all relevant times, comply with, the integrated weed management plan included in Section 3 ('the weed management plan') (or such updated integrated weed management plan as has been approved by the Director General under item 2.2 below).</p> <p>To allow for adaptive management, minor alterations can be made to the implementation of the weed management plan. Any alterations must be recorded in writing in accordance with Section 3 of this Annexure.</p>	Ongoing from first payment date.

<p>2.2</p>	<p>The weed management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must be prepared by an appropriately qualified person and must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the target weed/s at the biobank site and their location/s, linked to each management zone where weeds are present • the method/s of weed control in each zone • the frequency of weed control activities at the site, taking into account management practices where weeds are providing habitat for native species • the timing of any planting of native plant species required in each management zone to provide alternative habitat for native species affected by weed control activities • methods for monitoring the success of weed control activities • a timetable/measures for inspections to identify new weed species or exotic plant species (including noxious weeds under the <i>Noxious Weeds Act 1993</i>) • additional weed control activities to destroy or remove any new weed species that are found on the site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the weed management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
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Item 3	Management of fire for conservation	Timing
3.1	<p>The landowner must implement, and at all relevant times, comply with the fire management plan included in Section 3 (or such updated fire management plan as has been approved by the Director General under item 3.2 below) (“the fire management plan”). To allow for adaptive management and weather conditions, minor alterations can be made to the implementation of the fire management plan, and must be recorded in writing in accordance with Section 3 of this Annexure.</p>	Ongoing from first payment date.
3.2	<p>The fire management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the fire management plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must be prepared by an appropriately qualified person and cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • the year the last fire went through, the type of fire and the extent of the fire and location, where known • frequency of natural fires in the area of the biobank site, where known • a description of locations and management zones where ecological burns will be conducted and areas that will not be burnt • the methods that will be used for ecological burns • the fire frequency intervals recommended for the vegetation types and threatened species present, including any required adjustment to the schedule in the event of a wildfire or activities undertaken under the <i>Rural Fires Act 1997</i> to ensure minimum frequency between ecological burns • the fire intensity for the recommended vegetation types • the time of year suitable for ecological burns • the diary for recording actions taken in accordance with the fire management plan and minor alterations to fire management plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	Ongoing from first payment date.

3.3	Fires must not be lit on the biobank site other than for the purpose of ecological burning in accordance with the fire management plan or as permitted as a permissible human activity on the biobank site under item 4 of this Annexure or clause 3.6 of this agreement.	Ongoing from commencement date.
Item 4	Management of human disturbance	Timing
4.1	Except as permitted under clause 3 of this agreement or item 4.2 (below), human activities that adversely affect biodiversity values on the biobank site, including repeated disturbance of native animals, must not be carried out, or caused or permitted to be carried out, on the biobank site.	Ongoing from commencement date.
4.2	Human activities that may have a negative impact on biodiversity values on the biobank site are permitted if they are listed as permissible activities under clause 3.6 of this agreement or if they are undertaken as part of the management actions or management plans.	Ongoing from commencement date.
4.3	This item is not applicable.	
4.4	<p>The landowner must not store, dispose of, or cause or permit to be disposed of, any waste on the biobank site.</p> <p>Note: The storage or disposal of waste on the biobank site may require an approval under the <i>Protection of the Environment Operations Act 1997</i>.</p>	Annually from year 1.
4.5	The landowner must take all reasonable steps to remove waste deposited by others on the biobank site, or which is otherwise present on the biobank site.	Ongoing from first payment date.
4.6	<p>Fencing and/or signage must be installed and maintained to deter human disturbance including waste dumping. Signage must be the BioBanking signs available from the OEH.</p> <p>Specific requirements:</p> <p>Signage must be installed and maintained at the main entry points to the BioBank site and along the boundary adjacent to Thompsitt Drive and Lanyon Drive.</p> <p>Signage must be replaced if the writing or the images on the sign are no longer clearly visible or are illegible.</p> <p>Fencing will be required, at minimum, along the boundary of the BioBank site and Thompsitt Drive and Lanyon Drive to deter human and vehicular access and dumping. The southern boundary of the site will also be fenced.</p>	<p>Ongoing from first payment date.</p> <p>Signage to be installed within 3 months of the first payment date and maintained as required thereafter.</p> <p>Fencing to be installed within 12 months of the first payment and maintained as required annually.</p> <p>Fencing to be replaced once every 20 years (if deemed required).</p>

<p>Item 5</p>	<p>Retention of regrowth and remnant native vegetation</p> <p>Note: An approval under the <i>Native Vegetation Act 2003</i> may be required to carry out thinning or any other removal or damage to native vegetation under this item.</p>	<p>Timing</p>
<p>5.1</p>	<p>Native vegetation (whether remnant native vegetation or regrowth) on the biobank site must not be cut down, felled, thinned, logged, killed, destroyed, poisoned, ringbarked, uprooted, burnt or otherwise removed, except in accordance with item 5.2 below, or if it is required as part of the management actions or it is essential for the carrying out of permissible development under clause 3.5 of this agreement.</p> <p>Note: Native vegetation on the biobank site may be managed to improve biodiversity values by thinning to benchmark stem densities over no more than 80% of each management zone. Benchmark stem densities has the same meaning as defined in the Vegetation Benchmark Database as published by OEH and updated from time to time. An approval under the <i>Native Vegetation Act 2003</i> may be required to carry out thinning or any other removal or damage to native vegetation under this item.</p>	<p>Ongoing from commencement date.</p>
<p>5.2</p>	<p>Native vegetation on the biobank site must not be burnt except in accordance with the fire management plan prepared pursuant to item 3 above.</p>	<p>Ongoing from commencement date.</p>
<p>Item 6</p>	<p>Replanting or supplementary planting where natural regeneration will not be sufficient</p>	<p>Timing</p>
<p>6.1</p>	<p>The landowner must undertake planting or seeding of the native groundcover/shrub/tree species indicated in the planting schedule for the BioBank site as set out in item 6.6 below ('the planting schedule') in the areas of planting and within the timeframe indicated in the planting schedule.</p> <p>If the landowner cannot complete the planting within the timeframe indicated in the planting schedule due to local weather conditions, the landowner must complete the planting as soon as possible after that date and must make a record of and retain the reasons why the planting was not completed by the required time.</p> <p>Appropriate site treatment (e.g. weed control) of each area of planting or seeding identified in the planting schedule must be undertaken prior to such planting.</p>	<p>At least two years following targeted weed and kangaroo control and as is suitable depending on weather/climatic conditions.</p>

6.2	<p>Areas of planting or seeding as set out in the planting schedule must be protected from grazing for the first 5 years after planting or seeding to ensure that the plants are established to such an extent that biodiversity values will be improved by such grazing and the plants will not be adversely impacted by grazing.</p> <p>Once that date or height has been met, grazing in the areas of planting or seeding must be managed in accordance with items 1.1, 1.2 and 1.4 of this Section 1.</p> <p>The landowner must make a record of the date when the date or height requirement under this item is reached and the particular area of replanting in which it has been reached, and maintain that record in accordance with the record keeping requirements.</p>	Ongoing from the completion of seeding.
6.3	<p>The landowner must survey each area of planting or seeding established under item 6.1 above and document them to determine whether the planted plants or seeds have established and survived, and retain the findings in accordance with the record keeping requirements.</p> <p>If, after the first survey or subsequent surveys, the establishment and survival rate of plants in an area of planting or seeding are below those usual for the species and region, the landowner must supplement the planting in the adversely affected areas within a reasonable timeframe (usually within 12 months, though this can be varied and recorded in a diary with reasons for variation, if the weather is unsatisfactory for the establishment and survival of plants or seeds).</p>	Conduct the first survey 24 months after the completion of seeding in each area of seeding, and then every 12 months thereafter.
6.4	<p>Areas of planting and seeding must be managed as required to assist the establishment and survival of native plant species.</p> <p>Management includes watering, slashing, scalping, spraying of weeds, plant replacement and strategic grazing by stock (in accordance with item 6.2 above) at strategic times of the year to control weeds to improve biodiversity values. The dates of planting must be recorded in accordance with the record keeping requirements set out in Annexure D.</p>	As required, from the date that planting or seeding areas are established.
6.5	Seeds and plants used for planting and seeding must be obtained from locally collected provenances, unless there are reasons to do otherwise (e.g. to ensure genetic variability or for adaptation to climate change).	As required (from commencement date if relevant to prepare for future planting).

6.6 Planting schedule at the biobank site

Species' common name	Species' scientific name	Management zone/s of planting	Number of plants per area	Planting method	Timing (months from first payment to be completed by)
Speargrass	<i>Austrostipa bigeniculata</i>	6a	N/A – seeding	Seeding	At least two years following

Short wallaby grass	<i>Rytidosperma carphoides</i>		estimate of 1km of seed lines per hectare (4km in total).	targeted weed control and as is suitable depending on weather/climatic conditions.
Red grass	<i>Bothriochloa macra</i>			
Yellow buttons	<i>Chrysocephalum apiculatum</i>			

Note: Other groundcover species characteristic of MR631 Speargrass grassland of the South Eastern Highlands Bioregion could be added or substituted to the above list to provide additional diversity, if deemed required.

Item 7	Retention of dead timber	Timing
7.1	<p>Dead timber (whether standing or fallen and including branches and leaf litter) must not be removed from or moved within the biobank site except for the personal (non-commercial) use by the landowner for firewood for one dwelling only or for repair of fencing (not for construction of fencing).</p> <p>Dead timber used for fencing repair must be documented by the landowner in writing and records must be kept in accordance with the record keeping requirements. The landowner must record the approximate amount of dead timber collected from the biobank site for use in fencing, the location that that dead timber was collected from and the date it was collected (month, year).</p>	Ongoing from commencement date.
7.2	<p>Timber from outside the biobank site may be introduced to and placed on the biobank site to improve biodiversity values. Once the timber has been brought onto the site, it is subject to the requirements of item 7.1 above.</p> <p>Timber brought from outside the biobank site must be documented by the landowner in writing and records must be kept in accordance with the record keeping requirements. The landowner must record the approximate amount of timber brought from outside the biobank site, the location where the timber was placed on the biobank site and the date on which it was placed (month, year).</p>	When required but not required before the first payment date.
Item 8	Erosion control	Timing
8.1	<p>All reasonable steps must be undertaken to prevent, control and remedy erosion on the biobank site.</p> <p>Soil management for preventing and controlling erosion is to be undertaken using best practice management, such as that developed by the Soil Conservation Service, applied as relevant for the BioBank site.</p>	Commencing from first payment date.

Item 9	Retention of rocks	Timing
9.1	The landowner must not remove, or cause or permit to be removed, rocks from the biobank site or move, or cause or permit to be moved, rocks within the biobank site.	Ongoing from commencement date.
9.2	Rocks from outside the site may be placed on the biobank site to improve habitat for threatened species. Rocks, once placed on the biobank site, are subject to item 9.1 above. The landowner must make and retain records of the location of the rocks placed on the site and the date the rocks were brought onto the site in accordance with the record keeping requirements.	When required but not required before the first payment date.

Section 2: Additional management actions

Additional management actions		
Item 10	Control of feral and overabundant native herbivores	Timing
10.1	<p>The landowner must implement, and at all relevant times, comply with the management plan to control feral and overabundant native herbivores included in Section 4 (or such updated management plan as has been approved by the Director General under item 10.2 below) ('the feral and overabundant native herbivores management plan'). To allow for adaptive management, minor alterations can be made to the implementation of the feral and overabundant native herbivores management plan, which must be recorded in writing in accordance with Section 3 of this Annexure.</p> <p>Note: A licence under Section 121 of the <i>National Parks and Wildlife Act 1974</i> may be required to control overabundant native herbivores.</p>	Ongoing from first payment date.

<p>10.2</p>	<p>The feral and overabundant native herbivores management plan must be reviewed at intervals of no less than 4 years and no more than 6 years. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the feral and overabundant native herbivores management plan is required, the Director General will notify the landowner in writing that an update of the plan is required and the landowner must update the plan and submit the amended plan to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the feral or overabundant native herbivore/s • consideration of relevant current OEH and other pest management programs and methods • the method/s for feral and overabundant native herbivore control in each management zone, determined in accordance with best practice management • the frequency and timing of the control actions in each management zone • methods for monitoring the success of the pest control actions • a timetable and measures for inspections to identify new feral or overabundant native herbivores that may adversely affect biodiversity values on the biobank site • additional control actions to destroy or remove any new feral and overabundant native herbivore pest species that occur on site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the feral and overabundant native herbivores management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
<p>Item 11</p>	<p>Vertebrate pest management – foxes and other miscellaneous feral species</p>	<p>Timing</p>
<p>11.1</p>	<p>The landowner must implement, and at all relevant times, comply with the vertebrate pest management plan included in Section 4 (or such updated vertebrate pest management plan as has been approved by the Director General under item 11.2 below) ('the vertebrate pest management plan'). To allow for adaptive management, minor alterations can be made to the implementation of the vertebrate pest management plan, but these must be recorded in writing in accordance with Section 3 of this Annexure.</p>	<p>Ongoing from first payment date.</p>

<p>11.2</p>	<p>The vertebrate pest management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the review commencement must be provided to the Director General in writing within 14 days of the commencement. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the target fauna species e.g. pigs, foxes or other species such as feral dogs or goats • consideration of relevant current OEH and other pest management programs • the method/s of vertebrate pest control in each management zone determined in accordance with best management practice • the frequency and timing of vertebrate pest control actions in each management zone • methods for monitoring the success of vertebrate pest control actions • a timetable and measures for inspections to identify new vertebrate pest species that may negatively impact on threatened species on the biobank site • additional vertebrate pest control actions to destroy or remove any new vertebrate pest species that occur on-site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the vertebrate pest management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative actions) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
<p>Item 12</p>	<p>Nutrient control</p>	<p>Timing</p>
<p>12.1</p>	<p>This item is not applicable.</p>	
<p>Item 13</p>	<p>Control of exotic fish species</p>	<p>Timing</p>
<p>13.1</p>	<p>This item is not applicable.</p>	

Item 14	Maintenance or reintroduction of natural flow regimes	Timing
14.1	This item is not applicable.	
14.2	This item is not applicable.	
14.3	This item is not applicable.	
Item 15	Slashing	Timing
15.1	<p>Slashing of vegetation communities can be undertaken as weed control (refer to the weed management plan) and maintenance of fire breaks (refer to the fire for conservation management plan).</p> <p>Slashing will be undertaken at the biobank site as required and appropriate.</p>	Ongoing from first payment date.
Item 16	Exclude commercial apiaries	Timing
16.1	Commercial apiaries must not be permitted in any area of the BioBank site.	Ongoing from first payment date.

Section 3: Standard management plans

Weed management plan				
<p>The weed types, description and location (management zone/s) of weed infestations existing at the commencement date are listed in the weed management plan. The methods of weed control (management actions), monitoring and inspections are also listed.</p> <p>The landowner must perform the methods of weed control and other weed management activities and monitoring in the weed management plan by the methods described (and in accordance with item 2 of this Annexure) for all weeds. The methods of control will apply to the weeds listed in the table below as well as any other weeds that may be present on the site from time to time.</p> <p>The template for reporting of monitoring activities and the diary template for weed control management must be filled in to record observations during the implementation of the weed management plan, including any minor variations.</p>				
Weed types				
Weed	Common name of target weed	Scientific name of target weed	Description of infestation (eg intensity (% cover) & location within zone)	Management zone/s
A	St John's Wort	<i>Hypericum perforatum</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	6, 7
B	Sweet Briar	<i>Rosa rubiginosa</i>	<5% cover observed in some areas of MR648, MR631 and MR686	All
C	Blackberry	<i>Rubus fruticosus</i> sp. agg.	<5% cover observed in some areas of MR631	6
D	African Lovegrass	<i>Eragrostis curvula</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All
E	Serrated tussock	<i>Nassella trichotoma</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All

F	Chilean Needlegrass	<i>Nassella neesiana</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All
G	Paterson's Curse	<i>Echium plantagineum</i>	Variable intensity where some areas of MR686, MR631 and MR686 exhibit <5% cover and some areas of MR686 and MR631 exhibit 5-20% cover	All
H	Rats tail fescue	<i>Vulpia myuros</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All
I	Oats	<i>Avena</i> sp.	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All
J	Cats ear	<i>Hypochaeris radicata</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All

Methods of weed control

Management zone/s	Weed/s	Method of weed control	Frequency
6, 7	St John's Wort	All weed control activities will be undertaken by, or under the direct supervision of, a qualified bush regenerator or other appropriately qualified person.	Intensive weed control will be undertaken in year 1, moderate control in years 2-3, low intensity in years 4-5 and ongoing annual maintenance thereafter.
All	Sweet Briar		
6	Blackberry		
All	African Lovegrass	Weed control should be undertaken considering the sensitive to fauna values on the site.	
All	Serrated Tussock, Chilean Needlegrass	Application of herbicides that are sensitive to fauna values on the site. Suggested herbicides are as per the 'Noxious and environmental weed control handbook' (DPI 2014).	
All	Paterson's Curse	Pasture management and grazing management will reduce re-establishment.	
All	Rats tail fescue	Suggested herbicides are as per the 'Noxious and environmental weed control handbook' (DPI 2014).	
All	Oats	Pasture management and grazing management will reduce re-establishment.	
All	Catsear	Pasture management and grazing management will reduce re-establishment.	

Native planting required to provide habitat for native species affected by weed control activities			
Management zone	Description of planting required (reference planting schedule at item 6.6)		Timing
N/A	Not applicable.		N/A
Monitoring and inspections of existing and new weeds			
Management zone/s	Weed/s	Method of monitoring	Date/s required
All	All	<p>Monitoring of the weed control activities must be undertaken by an ecologist or other appropriately qualified person by undertaking a visual inspection of the BioBank site. For each management zone, the report should provide:</p> <ul style="list-style-type: none"> • A summary and review of all weed control activities undertaken within the previous 12 months for each zone and their success • Photo point monitoring at permanent monitoring locations • Description of general site conditions within each zone (including weeds regeneration occurring, erosion, feral animal presence, threatened flora and fauna observed etc.) • Description of any newly emerging weed infestations <p>1. Recommendations, if necessary, for any adaptations to the weed control measures previously applied.</p> <p>A site inspection is to be carried out within 3 months of the initial treatment, which indicated that control measure were successful across the site in reducing weed densities.</p>	Within 3 months of weed control measures.
Other weed management activities (where required)			
<p>Further to the above, the following considerations are required when undertaken weed management at the BioBank site:</p> <ol style="list-style-type: none"> 1. weed control is to be undertaken when the timing and extent of weed removal will minimise adverse effects on wildlife <ul style="list-style-type: none"> • conduct ongoing consultation with the relevant authorities regarding weed listings, weed occurrence and emerging management technologies. 			

Template for reporting of monitoring activities

Management zone/s	Date	Observations and assessment of monitoring This table must include the information for each zone (or groups of zones) which is described in the table titled 'monitoring and inspections of existing and new weeds'.

Diary template for weed control management

Date	Management zone/s	Description and type of activity undertaken (e.g. weed control, observation)	Minor variations (details and reasons)

Fire for conservation management plan

The plan includes information on all known previous fire events in the 'Fire history' table to demonstrate local fire conditions including intensity and frequency.

The ecological fire requirements for each vegetation type or threatened species on the biobank site are listed in the 'Fire requirements for vegetation types and threatened species' table. These are the fire frequency intervals recommended for the vegetation types and threatened species present on the biobank site. They include any requirement adjustments to the schedule in the event of a wildfire or activities undertaken under the *Rural Fires Act (RFA) 1997* to ensure the minimum frequencies between ecological burns.

The landowner must carry out ecological burns for each management zone according to the method and frequency described (as informed by the history and requirements sections and in accordance with Section 3 of this annexure). These actions are set out in the 'Ecological burning actions table'. Monitoring and inspections (set out in the 'Fire management monitoring' table) as described must also be implemented. The landowner must also carry out the actions listed in the 'Other fire management activities' table.

The table titled 'Template of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of monitoring activities. The landowner must also complete the table titled 'Diary template for fire management activities' to record the management actions undertaken or observations made, including any minor variations.

Fire history for previous 20 years (or longer if known)

Year of fire	Hazard reduction, wildfire or ecological burn and extent of fire	Management zone/s
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The site has not been burnt in the previous 20 years.

Fire requirements for vegetation types and threatened species

Vegetation type and/or threatened species	Fire frequency required	Time of year for burning	Fire intensity required	Adjustment required due to wildfires or RFA activities
Natural Temperate Grassland of the Southern Tablelands EEC	Unknown.	Unknown.	Avoid successive or frequent fires.	N/A
White Box Yellow Box Blakely's Red Gum Woodland EEC and CEEC	No fire more than once every 5 years - in accordance with the RFS Threatened Species Hazard Reduction List Part 3 (RFS 2013)	April to September	Avoid successive fires of intensity sufficient to scorch or consume dominant tree crown.	In the event that wildfires did not occur for more than 15 years on the property, a prescribed ecological burn should be conducted.

golden sun moth (<i>Synemon plana</i>)	No fires recommended - in accordance with the RFS Threatened Species Hazard Reduction List Part 2 (RFS 2013)	-	Avoid successive or frequent fires.	No slashing, trittering or tree removal.
pink-tailed legless lizard (<i>Aprasia parapulchella</i>)	Unknown.	Unknown.	Avoid successive or frequent fires.	-
hoary sunray (<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>)	Little is known of the fire response of hoary sunray. Its transient seed bank may place it at risk from inappropriate fire	-	Avoid successive or frequent fires.	-
grassland earless dragon (<i>Tympanocryptis pinguicolla</i>)	Fire should be excluded from habitat unless there are compelling reasons for its application (such as ecological maintenance of grassland habitat attributes which, without fire, would irreversibly decline)	-	-	-
Ecological burning actions				
Management zone/s	Actions	Supervision & extinguishing techniques	Time of year for burning	Frequency (years)

All	Rural Fire Service and Office of Environment and Heritage to be consulted prior to burn to determine appropriate regime.	Rural Fire Service to be present for protection and advice. Asset protection lines to be installed where required.	April to September	15 years from the date of the previous ecological burn or wildfire occurring on the property.
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Methods for monitoring the outcomes of ecological burns

Management zone/s	Method of monitoring	Date/s required
All	Visual auditing and noting of observations in a diary record (template provided below). Results provided to OEH.	Annually
All	Condition mapping (floristic and habitat field survey assessment) to determine vegetation quality and ecological condition. Copy of report to be provided to OEH for assessment and review.	Five yearly

Other fire management activities (where required)

Surrounding residents should be notified 1 month prior to an ecological burn occurring.
Any existing access tracks/firebreaks are to be maintained every 5 years beginning in year 4.

Template for reporting of monitoring activities

Management zone/s	Date	Observations and assessment of monitoring

Diary template for fire management activities			
Date	Management zone/s	Description of activity undertaken or observation made	Minor variations (details and reasons)

Section 4: Additional management plans

Management plan to control feral and overabundant native herbivores			
<p>The management plan for feral and overabundant native herbivores includes information on the management requirements for the feral and overabundant native herbivores at the biobank site listed in the 'Feral and overabundant native herbivores' table. The possible methods of control for each species, used by OEH and other pest management programs, are listed and the suitability of each method is described in the 'Methods considered' table.</p> <p>The landowner must carry out the methods for control for feral and overabundant native herbivores for each management zone according to the method and frequency as described in the 'Methods for control' table. The methods of control applied to the feral or overabundant native herbivores listed in the 'Feral or overabundant native herbivores' table as well as any other feral or overabundant herbivores that may be present on the site from time to time.</p> <p>Monitoring and inspections of existing and new feral and overabundant herbivores at the biobank site as described in the 'Monitoring and inspections' table must be implemented.</p> <p>The table titled 'Template for reporting of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of the monitoring activities. The landowners must complete the table titled 'Diary template for feral and overabundant herbivore management' to record the management actions undertaken including any minor variations or observations made.</p>			
Feral and overabundant native herbivores			
Feral type	Name of feral/overabundant native herbivore	Description of extent	Management zone/s
A	rabbit <i>Oryctolagus cuniculus</i>	Low intensity likely across the entire biobank site.	All zones with particular emphasis on habitat for TECs and threatened flora
B	European hare <i>Lepus europaeus</i>	Low intensity likely across the entire biobank site.	All zones with particular emphasis on habitat for TECs and threatened flora
C	Eastern Grey Kangaroo <i>Macropus giganteus</i>	Whole site. Aim 'stocking rate' = 0.5-2.0 animals per ha (total for site 28-140)	All zones with particular emphasis on habitat for TECs and threatened flora

Methods considered		
Feral type	Name and description of program or method	Describe suitability
A	Biocontrol, such as rabbit haemorrhagic disease virus (calicivirus)	Effective means of controlling rabbits. Recent testing by the Cumberland LHPA indicates that the current wild rabbit population in the Lower Hunter and Central Coast is again susceptible after being immune for a period of time.
A	Baiting ('1080' sodium monofluoracetate)	Considered one of the most effective methods of reducing rabbit populations short term.
A	Pindone poison baits	Effective means of controlling rabbits, with much lower risks of secondary poisoning of humans and non-target animals.
A	Warren destruction	Appropriate where active warrens identified.
A	Burrow fumigation	Phostoxin (alluminum phosphide) is the only fumigant presently available for rabbit fumigation and use is extremely limited at the present time due to animal welfare and workplace health and safety concerns. Also labour intensive. Use in peri-urban area may also be restricted due to increased risks to human safety.
A, B, C	Shooting	Shooting may be opportunistic or strategic. The later can be very effective as a tertiary control technique. It may also be used as a primary technique if it is implemented frequently and intense. However, use on public land in peri-urban area may be restricted or untenable due to increased risks to human safety.
A, B	Trapping	Trapping is considered a tertiary control that has merit in the later stages of an integrated control program. Leg hold trapping is a specialised method and is generally not appropriate in urban areas, particularly on public land such as council reserves. Cage trapping is useful in areas where rabbits have recently been dumped or introduced and are still habituated. Cage traps are also useful for catching free range domestic rabbits being a nuisance in the suburbs. Cage trapping can also be effective in reducing residual rabbit populations after baiting.
A	Harbour Destruction – removal of refuges	Harbour destruction is considered the most important follow-up rabbit control technique after baiting to minimise/prevent the recolonisation of the residual rabbit population. Care must be taken to prevent unnecessary removal of native vegetation.
Methods of control		

Management zone/s	Feral type	Method of control	Frequency and timing
All	A, B	Rabbit control should be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries <i>Vertebrate Pest Control Manual</i> (DPI 2014) and control strategies may include the destruction of burrows, shooting, trapping and baiting and should be undertaken following the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) (http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/publications/model-codes-of-practice).	Annually
All	A, B	Destruction on site of any warrens as required.	Annually
All	C	Management in accordance with NSW OEH Non-commercial Kangaroo Management Plan (http://www.environment.nsw.gov.au/wildlifemanagement/KangarooManagementProgram.htm) Shooting of kangaroos is proposed to be undertaken. This method is considered to be the most effective in terms of reducing numbers and costs.	Proposed at 500 tags for year 1 and 200 tags annually thereafter.

Monitoring and inspections

Management zone/s	Feral type/s	Method of monitoring	Date/s required
All	All	Monitoring of feral/overabundant native herbivores is to include: a walk over of the site by a suitably qualified person ongoing documentation by bush regenerators, other workers and staff at the site Reporting using the 'Template for reporting of monitoring activities' must record: the number and location of any tracks, traces or sightings of feral or overabundant native herbivores whether the level of activity is negligible, minimal, moderate or high the number, date and location of any animals shot, dens destroyed or baits taken. This information is to be used to inform the adaptive revision of this management plan for feral and overabundant native herbivores.	Annually

Other management activities (where required)
Records will be kept of opportunistic sightings by the landholder in the diary template for feral and overabundant herbivore management included below. These records will be submitted to OEH annually for review and discussion of suitable control methods to be employed (refer to Annexure D).

Template for reporting of monitoring activities			
Management zone/s	Date	Current level of impact on vegetation This column must record impact as Negligible, Minimal, Moderate or High	Observations and assessment of monitoring

Diary template for feral and overabundant herbivore management			
Date of activity	Management zone/s	Description and type of activity undertaken This column must include details of the feral and overabundant herbivores targeted, control techniques applied and numbers controlled.	Minor variations (details and reasons)

Vertebrate pest management plan

The management plan for vertebrate pests includes information on the vertebrate pests and their extent existing at the time of the agreement as listed in the 'Vertebrate pests' table. The possible methods of control for each species, used by OEH and other pest management programs are listed and the suitability of each method to the biobank site is described in the 'Methods considered' table.

The landowner must carry out the methods for vertebrate pest control for each management zone according to the method and frequency described in the 'Methods of control' table. The methods of control will apply to the vertebrate pests listed in the 'Vertebrate pests' table as well as any other vertebrate pests that may be present on the site from time to time.

Monitoring and inspections of existing and new vertebrate pests on the biobank site, as described in the 'Monitoring and inspections' table, must be implemented.

The table titled 'Template for reporting of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of monitoring activities. The landowner must also complete the 'Diary template for vertebrate pest management' to record the management actions undertaken, including any minor variations, and observations made.

Vertebrate pests

Pest	Name of vertebrate pest (e.g. pig, fox, goat, dog)	Description of extent	Management zone/s
A	Fox <i>Vulpes vulpes</i>	Opportunistic sightings during field assessment.	All
B	Cat <i>Felis catus</i>	Scattered, very cryptic.	All
C	Common myna <i>Acridotheres tristis</i>	Opportunistic sightings during field assessment.	All

Methods considered

Pest type	Name and description of program or method	Describe suitability
A	Baiting ('1080' sodium monofluoracetate)	Can be an effective means of controlling foxes.
A	Den destruction	Appropriate where active dens identified.

A, B, C	Shooting	Use on public land in peri-urban area may be restricted or untenable due to increased risks to human safety.	
A, B, C	Trapping	Labour-intensive and expensive.	
Methods of control			
Management zone/s	Pest type	Method of control	Frequency and timing
All	A, B, C	Feral animal control should be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries <i>Vertebrate Pest Control Manual</i> (DPI 2014) and control strategies may include the destruction of burrows, shooting, trapping and baiting and should be undertaken following the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) (http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/publications/model-codes-of-practice).	Annually from year 1
Monitoring and inspections of existing and new vertebrate pests			
Management zone/s	Pest type/s	Method of monitoring	Date/s required
All	All	<p>Monitoring of foxes and miscellaneous vertebrate pests is to include:</p> <ul style="list-style-type: none"> at least a yearly walk over of the site by a suitably qualified person ongoing documentation by bush regenerators, other workers and staff at the site <p>Reporting using the 'Template for reporting of monitoring activities' must record:</p> <ul style="list-style-type: none"> the number and location of any tracks, traces or sightings of feral or overabundant native herbivores whether the level of activity is negligible, minimal, moderate or high the number, date and location of any animals shot, dens destroyed or baits taken. <p>This information is to be used to inform the adaptive revision of this management plan for feral and overabundant native herbivores.</p>	Annually From Year 1
Other management activities (where required)			

Records will be kept of opportunistic fox and miscellaneous vertebrate pests sightings by the landholder in the diary template for feral and overabundant herbivore management included below. These records will be submitted to OEH annually for review and discussion of suitable control methods to be employed (refer to Annexure D).

Template for reporting of monitoring activities

Management zone/s	Date	Current level of impact on vegetation or threatened fauna species This column must record impact as Negligible, Minimal, Moderate or High	Observations and assessment of monitoring

Diary template for vertebrate pest management

Date of activity	Management zone/s	Description and type of activity undertaken This column must include details of the vertebrate pests targeted, control techniques applied and numbers controlled.	Minor variations (details and reasons)

Annexure D: Monitoring, reporting and record keeping requirements

Monitoring requirements

The landowner must ensure that photographs are taken at photo-points at each of the locations and in the direction identified in the table below titled 'Locations of plots and photo points' within 12 months of the commencement date and then at least every 12 months thereafter.

The photo points (related to plot locations) are identified on the map entitled ' Figure 5 [REDACTED] Photo Monitoring Points' dated 24/07/2018 in Annexure A. The purpose of the photographs is to show changes over time. Photographs should be taken at approximately the same direction, location, height and time of day (during daylight hours) in each reporting period (as defined in item 2.2 of this Annexure D) and retained for the life of this agreement. All photographs must be dated, stating the direction in which they were taken and identified with their locations.

Locations of photo points				
Projected coordinate system: MGA 55				
Photo point reference	Easting	Northing	Direction of photo (magnetic degrees)	Plot location reference
PP1	698756	6082747	Southeast (135 degrees)	PU7
PP2	699017	6082593	West (270 degrees)	PU9
PP3	698934	6082483	South (180 degrees)	PU8
PP4	698501	6082095	East (90 degrees)	PU3
PP5	698349	6082248	South (180 degrees)	PU4
PP6	698518	6082423	West (270 degrees)	PU5
PP7	698490	6082566	North (0 degrees)	PU6
PP8	698314	6082454	North (0 degrees)	N/A

An inspection of the biobank site must be undertaken by, or on behalf of, the landowner in accordance with the table 'Site inspection and monitoring schedule' below, for the purposes specified in column A and at the relevant interval specified in column B. The inspections are to occur at the intervals indicated starting from the commencement date. The inspections are additional to any inspections and monitoring required by Annexure C.

Site inspection and monitoring schedule	
A. Purpose	B. Interval
The percentage of ground cover present on the biobank site for the purposes of item 1.1 of Section 1 of Annexure C.	Every 12 months
Number of stock and date/s when stock have entered the management zones on the biobank site.	Every 3 months
Physical condition of fencing and gates to determine whether they are maintained to a standard that can: <ol style="list-style-type: none"> 1. control the movement of stock if required under item 1 in Section 1 of Annexure C 2. control human disturbance if required under item 4 in Section 1 of Annexure C 3. control the movement of feral and overabundant native herbivores if required under item 10 of Section 2 4. control vertebrate pests if required under item 11 of Section 2 	Every 12 months
Records of any human disturbance on the biobank site. Note: items 4.1 and 4.2 in Section 1 of Annexure C and clause 2 of this agreement place restrictions on human activities on the biobank site.	Every 6 months
Evidence of erosion. Note: item 8 in Section 1 of Annexure C contains requirements for erosion control.	Every 6 months
Evidence of waste. Note: item 4.4 in Section 1 of Annexure C contains requirements for storing and disposing of waste on the biobank site.	Every 6 months

Reporting requirements – annual report

- 7.1 The landowner must complete and submit to the Chief Executive for approval an annual report using the annual reporting template provided in this Annexure or, if the Chief Executive has approved an amended version of the annual reporting template after the date of this agreement, such an amended version of the annual reporting template as has been approved by the Chief Executive from time to time and supplied to the landowner.
- 7.2 An annual report must be prepared for each reporting period. A reporting period means:
- 7.2.1 prior to the first payment date, the period of 12 months after the commencement date, and each subsequent period of 12 months

- 7.2.2 after the first payment date, the period of 12 months after that date, and each subsequent period of 12 months.

The annual report submitted after the first anniversary of the first payment date must also include the period between the last anniversary of commencement date and the first payment date.

- 7.3 The annual report for the report period must be supplied to the Chief Executive by registered post not later than 30 days after the end of each reporting period.
- 7.4 If there is a change in land ownership during a reporting period, each landowner must submit the annual report required under items 1.2, 1.3 and 1.4 of this Annexure D for the period for which they were the landowner.
- 7.5 The annual report must:
- 7.5.1 contain the results of any monitoring, inspections or surveys required in Annexure C
 - 7.5.2 contain the results of the inspections required to be conducted by item 1.2 of this annexure D, including details of the date, time, location and nature of the inspection, the name of the person conducting the inspection and observations from the inspection
 - 7.5.3 include the photographs taken at the photo points listed in Annexure D
 - 7.5.4 include any other information required in the annual reporting template.

Annual reporting template

Biobank site annual report					
Location details					
Biobanking agreement ID:			Name of landowner/s:		
Reporting date:			Property address:		
Records of management actions undertaken					
Management action	Required completion time and frequency	Action completed (Yes/No)	Actual completion date/s	Description of actions undertaken (including where undertaken (including reference to management zones), any variations and the reasons for variation)	Visual observations and other comments (including reasons for non-completion)
1 Management of grazing for conservation					
2 Weed control					
3 Management of fire for conservation					
4 Management of human disturbance					
5 Retention of native vegetation					
6 Planting or seeding					
7 Retention of dead timber					

Biodiversity Banking and Offsets Scheme

Biobanking agreement

ID number BA 309

8	Erosion control				
9	Retention of rocks				
10	Control of feral and overabundant native herbivores				
11	Vertebrate pest management				
12	Nutrient control				
13	Control of exotic fish species				
14	Maintenance or reintroduction of natural flow regimes				

Incident or event that has adverse effect on biodiversity values on biobank site

Incident or event including adverse impacts (e.g. natural events)	Action taken and proposed recommended actions

Records submitted with this report

- Photographs taken at the photo points set in the biobanking agreement.
- Results of the inspections required to be conducted in item 1.3 of Annexure D to the biobanking agreement.
- Results of any monitoring, inspections or surveys required in Annexures C and D to the biobanking agreement.

Signature and certification

I hereby declare that the information supplied in this report is accurate and complies with the reporting requirements under item 2 of the Annexure D to the biobanking agreement.

Note: If the land that forms the biobank site is owned by multiple persons, each landowner must sign this annual report.

Signed

Signed

Date

Date

8 Record keeping requirements

- 8.1 The following written records and photographs must be created and retained by the landowner:
- 8.1.1 for a management action required by this agreement (other than a management action requiring the landowner to refrain from an activity), the date and location/s the management action was carried out and a description of the actions that were undertaken
 - 8.1.2 for a management action which is permitted to be carried out only in accordance with the Chief Executive's consent or approval, a copy of that consent or approval
 - 8.1.3 a copy of any management plan (or updated management plan) required by Annexure C of this agreement that has been approved by the Chief Executive, a copy of the Chief Executive's approval of the management plan (or updated management plan) and a copy of any review of a management plan required by Annexure C
 - 8.1.4 the diaries for recording actions undertaken in accordance with the management plans required by this agreement including the details (management zone/s, date, alternative action) of any minor alterations made to the implementation of those management plans and the reasons for the minor alterations
 - 8.1.5 all photographs required by item 1 of this Annexure D and the information that item requires to be recorded on the photographs
 - 8.1.6 for an inspection required by this agreement, the date, time, location and nature of the inspection, the name of the person conducting the inspection and observations from the inspection
 - 8.1.7 the results of monitoring, inspections or surveys required to be conducted by this agreement or any management plan that is required to be implemented under this agreement
 - 8.1.8 a brief description of any climatic, weather, ecological/environmental or unplanned events that have a significant adverse affect on the biodiversity values of the biobank site.
- 8.2 The landowner must retain a copy of each annual report.
- 8.3 All records required to be kept by this agreement must be:
- 8.3.1 in a legible form, or in a form that can readily be reduced to a legible form (this includes photographs taken as part of this agreement);
 - 8.3.2 kept for at least 10 years after the event to which they relate took place, unless specified otherwise; and
- Note: item 1.1 of this Annexure D requires the photographs required to be taken under that item to be retained for the life of this agreement.
- 8.3.3 produced to any authorised officer on request by an authorised officer.

Annexure E: Payment schedule

Note:

If, by participating in the BioBanking Scheme, you are carrying on an 'enterprise', and your annual income for management actions meets or exceeds \$75,000 (or \$150,000 for a non-profit organisation) you are required to register for GST.

'Enterprise' has a broad definition, and includes activities that are in the form of a business, or in the form of a concern in the nature of trade. Item 1 below assumes you are carrying on an enterprise.

If you are not carrying on an enterprise by participating in the BioBanking Scheme, GST will not apply to you – but Capital Gains Tax and income tax may still apply. In this case, do not indicate an ABN in item 1.1 below.

If you do not meet the monetary threshold, but you are carrying on an enterprise by participating in the BioBanking Scheme, you are still entitled to register for GST if you wish and you may indicate a registered ABN in item 1.1 below.

• Agreement to issue recipient created tax invoices

- 8.4 The parties acknowledge that, if the landowner is registered for GST, recipient created tax invoices will be issued from the BioBanking Trust Fund (Australian Business Number 83 639 386 285) to the landowner (Australian Business Number [REDACTED]).
- 8.5 The recipient created tax invoices will be for the supply by the landowner of the landowner's obligation to carry out the management actions as defined in this agreement ('the supplies'). These management actions are specified between the landowner and the Minister administering the Act, pursuant to Part 7A Division 2 of the Act.
- 8.6 The recipient created tax invoices will be issued on payment of the management payments as specified in item 2 of this Annexure E.
- 8.7 Under this recipient created tax invoice agreement, the landowner guarantees that the landowner will not issue any tax invoice for the supplies.
- 8.8 The landowner will notify the BioBanking Trust Fund immediately should the landowner cease to be registered for GST.
- 8.9 The BioBanking Trust Fund is registered for GST and the Minister will notify the landowner immediately should the fund cease to be registered.

9 Payment timing and amount

- 9.1 Subject to clause 12 of the agreement, the Minister is to direct the Fund Manager to make the management payments to the landowner in accordance with the payment schedules and the requirements of items 2, 3 and 4 of this Annexure E.
- 9.2 The first year of the payment timing, as set out in the payment schedules, commences from the first payment date.

- 9.3 The amount of the scheduled management payment for each year is as set out in the payment schedules.
- 9.4 Each amount is listed in the present value and is inclusive of GST for GST registered landowners and will be increased in accordance with the formula below:

In respect of indexation by CPI the following applies:

Each amount of the management payment is to be adjusted by movements in the CPI in accordance with the formula below (provided that, at all times, each instalment of the management payment is never less than its nominal dollar value as set out in the payment schedules and as at the date of this agreement).

$$\frac{A \times B}{C}$$

Where:

CPI means the published Consumer Price Index (Sydney - All Groups), or if that index is no longer published, then any other index which, in the reasonable opinion of the Minister, is a similar index

A is the dollar value (\$) of the management payment amounts as set out in the Payment Schedules prior to indexation by CPI

B is the most recent June Quarter CPI prior to the date that payment is due to be made

C is the CPI for the June Quarter 2018

- 9.5 Payment schedules

Payment schedule (including GST)	
Payment timing	Amount
At the beginning of the first year	██████████
At the beginning of the second year	██████████
At the beginning of the third year	██████████
At the beginning of the fourth year	██████████
At the beginning of the fifth year	██████████
At the beginning of the sixth year	██████████
At the beginning of the seventh year	██████████
At the beginning of the eighth year	██████████
At the beginning of the ninth year	██████████
At the beginning of the tenth year	██████████
At the beginning of the eleventh year	██████████
At the beginning of the twelfth year	██████████

At the beginning of the thirteenth year	██████████
At the beginning of the fourteenth year	██████████
At the beginning of the fifteenth year	██████████
At the beginning of the sixteenth year	██████████
At the beginning of the seventeenth year	██████████
At the beginning of the eighteenth year	██████████
At the beginning of the nineteenth year	██████████
At the beginning of the twentieth year	██████████
At the beginning of each following year	Amount equal to the sum of the in-perpetuity management cost that apply for each following year as determined by the table of in perpetuity costs below.

In perpetuity management costs (on and from the twenty-first year) (excluding GST and subject to rate of return)		
Description of ongoing management action	Frequency	Amount (\$)
Weed control -grasses	The twenty first year and every year thereafter	██████████
Weed control - broadleaf	The twenty first year and every year thereafter	██████████
Rubbish management (ongoing removal and maintenance)	The twenty first year and every year thereafter	██████████
Fence replacement	The Fortieth year and every twentieth year thereafter	██████████
Fence management and signage	The twenty first year and every year thereafter	██████████
Conservation fire management	The twenty fourth year and every fifth year thereafter	██████████
Firebreak/track maintenance	The twenty fourth year and every fifth year thereafter	██████████
Vertebrate Pest Management	The twenty first year and every year	██████████

	thereafter	
Kangaroo management	The twenty first year and every year thereafter	██████████
Other ongoing recurring costs		██████████
Annual reporting fee	The twenty first year and every year thereafter	██████████
Rates	The twenty first year and every year thereafter	██████████
Insurance	The twenty first year and every year thereafter	██████████
Business management and administration costs	The twenty first year and every year thereafter	██████████
Monitoring and reporting requirements	The twenty first year and every year thereafter	██████████
Total present value of payments after 20 years (incl. GST)		██████████
Total present value of payments after 20 years (excl. GST)		██████████

10 Nominated bank account

- 10.1 The management payments will be paid into a bank account as nominated by the landowner in accordance with the requirements of this item 3 (**'the Nominated Bank Account'**).
- 10.2 The landowner must provide the Fund Manager with details in writing of the nominated bank account within 14 days of the commencement date.
- 10.3 Where there is more than one owner of the biobank site, the notice to be provided in accordance with item 3.2 above must be signed by all owners of the biobank site.
- 10.4 The landowner must notify the Fund Manager in writing within 14 days of any change to the nominated bank account. This notice must include new bank account information and the written consent of all owners of the biobank site.

11 Annual contribution

- 21.4 The landowner authorises the Minister to retain the annual contribution from each management payment made to the landowner.

- 21.5 The Minister will, following each management payment, issue the landowner with an invoice confirming that the annual contribution has been deducted from the relevant management payment.
- 21.6 As contemplated by clause 18 of the BioBanking Regulation, the Minister may waive the annual contribution where:
- 11.1.1 the owner of the biobank site has not sold any of the biodiversity credits created for the site, or
 - 11.1.2 there are insufficient funds in the biobank site account relating to the biobank site to meet the next scheduled management payment when it becomes payable.

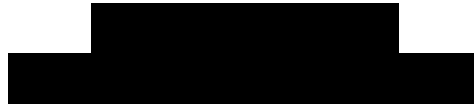
**BioBanking agreement
ID number: BA 310**

**Under the
Threatened Species Conservation Act 1995**

for



for



BioBanking agreement under Part 7A Division 2 of the *Threatened Species Conservation Act 1995*

This agreement made on the _____ day of _____ between the Minister for the Environment of the State of New South Wales, being the Minister currently administering the *Threatened Species Conservation Act 1995* ('the Minister', which expression shall where the context admits, be deemed to include his or her successors in office) on the one part and _____ ABN ACN _____ ('the landowner') of _____ on the other part.

Background

- A The landowner is the owner of the parcel of land being: _____ known as _____ ('the land').
- B The biobank site that is the subject of this agreement forms part of the land and is shown on the Map 'Figure 1 _____ BioBank Site Boundary' in Annexure A. The biobank site covered by this agreement consists of approximately 42.91 hectares.
- C The landowner has requested the Minister to enter into a biobanking agreement under clause 14 of the BioBanking Regulation for the purpose of designating the biobank site on the land.
- D The Minister and landowner recognise that the landowner will receive biodiversity credits determined in accordance with the BioBanking Assessment Methodology (and set out in Annexure B) relating to the impact or likely impact of the management actions required to be carried out under Clause 3 and Annexure C of this agreement regarding the biodiversity values listed in Annexure B.
- E The landowner and the Minister recognise that the biobank site contains the following known Aboriginal objects and/or Aboriginal places as defined by the *National Parks and Wildlife Act 1974*:
- PPS 10
 - PAD 4
 - PPS 9
- Note: This biobanking agreement only recognises the existence of known Aboriginal objects and/or Aboriginal places. It does not provide for the protection of Aboriginal objects or Aboriginal places. The protection of Aboriginal objects and Aboriginal places is dealt with by the *National Parks and Wildlife Act 1974*. This agreement does not authorise any person to damage or to cause or permit damage to an Aboriginal object or Aboriginal place in, on or under the biobank site land (see clause 2.2).
- F The landowner and the Minister recognise that this biobanking agreement is being entered into for the purposes of the BioBanking Scheme established under Part 7A of the Act.
- G The landowner agrees to undertake the management actions and implement the management plans to improve the biodiversity values of the biobank site as set out in Annexure C.
- H The landowner agrees to undertake monitoring, reporting and record keeping as set out in Annexure D.

- I Accordingly, the parties hereby enter into the following biobanking agreement under section 127D of the Act.
- J The Minister has delegated the power to enter into this biobanking agreement to the Chief Executive of the Office of Environment and Heritage.

Now this agreement witnesses:

1. Interpretation

1.1 In this agreement, unless the contrary intention appears:

the **'Act'** means the *Threatened Species Conservation Act 1995* and any regulations from time to time in force thereunder

'adaptive management' means a process for improving management where the outcomes of monitoring indicate that minor alterations to the management actions or management plans are required to improve biodiversity values

'agreement' means this biobanking agreement entered into by the Minister and the landowner under section 127D of the Act for this biobank site

'animal' has the same meaning as in section 4 of the Act

'Annexure A' means Annexure A to this agreement entitled 'Maps of the biobank site'

'Annexure B' means Annexure B to this agreement entitled 'BioBanking Agreement Credit Report'

'Annexure C' means Annexure C to this agreement entitled 'Management actions and management plans'

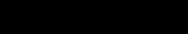
'Annexure D' means Annexure D to this agreement entitled 'Monitoring, reporting and record keeping requirements'

'Annexure E' means Annexure E to this agreement entitled 'Payment schedules'

'annual report' means the annual report to be prepared by the landowner in accordance with item 2 of Annexure D

'authorised officer' means a person appointed under section 156B of the *National Parks and Wildlife Act 1974*

'biobank site' means that part of the land shown as the "biobank site" on the biobank site boundary map

'biobank site boundary map' means the map entitled 'Figure 1  Boundary' dated 11/07/2018 and included in Annexure A

'BioBanking Agreement Credit Report' means the report contained in Annexure B generated by a BioBanking Assessor for the biobank site using the BioBanking Assessment Methodology and the BioBanking Credit Calculator which includes the number and type of biodiversity credits to be created on the biobank site

'biobanking agreements register' means the register of biobank sites kept by the Chief Executive under Part 7A of the Act

'BioBanking Assessment Methodology' means the rules established under section 127B of the Act

'BioBanking Regulation' means the Threatened Species Conservation (Biodiversity Banking) Regulation 2008

'BioBanking Scheme' means the Biodiversity Banking and Offsets Scheme established under Part 7A of the Act

'BioBanking Trust Fund' means the fund established under Part 7A of the Act to hold funds from the sale of biodiversity credits (the Total Fund Deposit)

'biodiversity credits' means biodiversity credits created under Part 7A of the Act

'biodiversity credits register' means the register of biodiversity credits kept by the Chief Executive under Part 7A of the Act

'biodiversity values' has the same meaning as in section 4A of the Act

'Chief Executive' means the Chief Executive of the Office of Environment and Heritage

'commencement date' means the date this agreement commences under clause 18 of this agreement

'critical habitat' has the same meaning as in section 4 of the Act

'day' means any day including Saturdays, Sundays and public holidays

'development' has the same meaning as in section 127(1) of the Act

'Director General' has the same meaning as in section 4 of the Act

'ecological burn' means a burn to improve biodiversity values carried out as part of the management of fire for conservation

'fee unit' has the same meaning as in the BioBanking Regulation

'first payment date' means the date the balance in the relevant biobank site account is equal to or greater than 80% of the Total Fund Deposit for the first time

'Fund Manager' means the person appointed by the Minister from time to time under Part 7A of the Act as the Fund Manager to manage the BioBanking Trust Fund

GST has the same meaning as given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Commonwealth) and any other Act or regulation relating to the imposition or administration of the GST

'land' means that parcel or parcels of land which contains the biobank site as described in paragraph A of this agreement

'management action' means the actions to be carried out by the landowner on the biobank site to improve biodiversity values for which biodiversity credits may be created. Such actions are set out in of Annexure C. A reference to a management action includes a reference to refraining from doing anything, whether or not that thing was being done beforehand

'management of fire for conservation' means the controlled application of fire under specified environmental and weather conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned improvement of biodiversity values

'management of grazing for conservation' is the implementation of a variable and adaptive stock grazing regime for improving biodiversity values, such as for controlling exotic weeds or vegetation biomass, or enhancing the competitiveness of native perennial species. Typically it involves short periods of intensive grazing between long periods of little or no grazing. Management of grazing for conservation differs with site condition, specific management goals, seasonal conditions and regions

'management payments' means the payments to be made to the landowner in accordance with the payment schedules and the requirements in Annexure E

'management plans' means the management plans to be implemented by the landowner in carrying out the management actions and included in Section 3 and Section 4 of Annexure C (or such other management plans as approved by the Chief Executive in accordance with the provisions of Annexure C)

'management zone' means those areas of the biobank site identified on the map entitled [REDACTED] Management Zones' dated 10/07/2018 and included in Annexure A

'maximum operational surplus' has the same meaning as in clause 33(2) of the BioBanking Regulation

'Minister' means the Minister for the time being administering the Act and where not repugnant to the context includes the servants and agents of the Minister

'native animal' has the same meaning as in section 5 of the NPW Act

'native plant' has the same meaning as in section 5 of the NPW Act

'native vegetation' has the same meaning as in section 6 of the NV Act

'NPW Act' means the *National Parks and Wildlife Act 1974* and any regulations from time to time in force thereunder

'NV Act' means the *Native Vegetation Act 2003* (NSW)

'OEH' means the Office of Environment and Heritage

'ongoing' in relation to the timing of carrying out a management action means commencing on the commencement date or first payment date (as indicated) and continuing in perpetuity, unless specified otherwise

'operational deficit' has the same meaning as in clause 31(2) of the BioBanking Regulation

'operational deficit threshold' has the same meaning as in clause 32(2) of the BioBanking Regulation

'operational surplus' has the same meaning as in clause 31(3) of the BioBanking Regulation

'owner' has the same meaning as in section 127(1) of the Act and includes successors in title referred to in section 127J of the Act

'party' means a party to this agreement

'payment schedules' means the tables entitled 'payment schedule' and 'in perpetuity management costs' included in Annexure E

'pesticide' has the same meaning as in section 5 of the *Pesticides Act 1999* which includes herbicides, insecticides, fungicides, baits and rodenticides

'plant' has the same meaning as in section 4 of the Act

'planting schedule' means the schedule at item 6.6 of Section 1, Annexure C

'processing fee' means the processing fee which is to accompany an application to enter into a biobanking agreement as required by clause 14 of the BioBanking Regulation

'record keeping requirements' means those record keeping requirements set out in item 3 of Annexure D

'regrowth' has the same meaning as in section 9 of the NV Act

'relevant biobank site account' means the biobank site account within the BioBanking Trust Fund kept by the Fund Manager in accordance with clause 30(1) of the BioBanking Regulation

'remnant native vegetation' has the same meaning as in section 9 of the NV Act

'threatened species, populations and ecological communities' and **'threatened species, population or ecological community'** have the same meaning as in the Act

'Total Fund Deposit' has the same meaning as in clause 26(1) of the BioBanking Regulation

'waste' has the same meaning as in the *Protection of the Environment Operations Act 1997*.

- 1.2 A word or expression that indicates one or more particular genders shall be taken to indicate every other gender. A reference to a word or expression in the singular form includes a reference to the word or expression in the plural form, and vice versa.
- 1.3 Any reference to an action, or carrying out an action, includes a reference to doing anything or refraining from doing anything.
- 1.4 Any reference to a person shall be deemed to include a corporate body and vice versa.
- 1.5 Any covenant or agreement on the part of two or more persons shall be deemed to bind them jointly and severally.
- 1.6 The schedules and Annexures to this agreement form part of this agreement.
- 1.7 Any notes included in the agreement do not form part of the agreement.

2. Status of this agreement

The parties agree that this agreement is a biobanking agreement within the meaning of section 127D of the Act.

3. Use of the biobank site

The landowner covenants with the Minister as follows:

General responsibilities

- 3.1 Except as otherwise permitted by this agreement, the landowner must not carry out any act or omit to carry out any act, or cause or permit any act to be carried out or any act not to be carried out which act or omission may harm biodiversity values on the biobank site, including but not limited to any native animals, native plants, threatened species, populations and ecological communities, and their habitats.

Note: The clearing of native vegetation that is otherwise permissible in accordance with the NV Act (whether it is permissible under a Property Vegetation Plan, routine agricultural management activity (as defined under the NV Act), or is otherwise permitted under Part 3 of that Act) can only be carried out on the biobank site to which this agreement applies if it is also permissible under this agreement. Item 5.1 of the management actions contained in Section 1 of Annexure C of this agreement sets out the limited circumstances in which native vegetation can be cleared on the biobank site. Annexure C of this agreement also contains limited exceptions in relation to when a landowner is not required to comply with the management actions contained in Annexure C.

Cultural heritage

- 3.2 To avoid any doubt, nothing in this agreement is to be construed as authorising (including, but not limited to, by way of a consent, permit, approval or authorisation of any kind for the purposes of Part 6 of the NPW Act) any person to damage or to cause or permit damage to an Aboriginal object or Aboriginal place in, on or under the biobank site.

Obtaining of consents, permits and authorisations

- 3.3 The landowner is responsible for obtaining all necessary licences, consents, authorisations, permits or approvals in order to lawfully comply with and carry out its obligations under this agreement or to undertake or enable any other identified matter under clause 3.5 and/or clause 3.6.

Development

- 3.4 The landowner must not carry out, or cause or permit to be carried out, any development (as defined under clause 1 above) on the biobank site, unless the development:
- is permitted or required under Annexure C, or
 - is identified in the table entitled 'Permissible development on the biobank site' contained in clause 3.5 or identified in the table entitled 'Permissible human activities on the biobank site' contained in clause 3.6.

Permissible development

3.5 The landowner shall be permitted to carry out, or cause or permit to be carried out, the development specified in the following table in the management zone specified in the table.

Permissible development on the biobank site	
Description of development	Management zone/s
Any development permitted or required as part of a management action under Annexure C, including but not limited to maintaining existing access tracks on the biobank site, building shed/s to store weed control chemicals or other pesticides on the biobank site, building fences to manage stock on the biobank site and building structures to restore natural water flow regimes	All zones
Any development within the meaning of section 127(1) of the Act reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property.	All zones

Permissible human activities

3.6 Notwithstanding clause 3.1, the landowner may carry out or cause or permit to be carried out any human activities specified in the following table, in the management zone specified in the table.

Permissible human activities on the biobank site	
Description of human activities	Management zone/s
Any human activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property.	All zones
Any activity or any development permitted or required as part of a management action under Annexure C, including but not limited to mustering stock or feral herbivores including with mechanised vehicles, spraying or mechanically removing weeds, planting tubestock or sowing seeds of native vegetation, using drip torches, thinning native vegetation, disturbing soil temporarily to control erosion, encouraging regeneration, controlling nutrients or restoring natural flow regimes, laying baits, trapping or otherwise controlling vertebrate pests and feral herbivores and overabundant native herbivores.	All zones

Permissible human activities on the biobank site	
Description of human activities	Management zone/s
Traditional Aboriginal cultural activities, except commercial activities.	All zones
Any activity required to undertake permissible development.	All zones

4. Management actions and management plans

4.1 The landowner must carry out or procure the carrying out of the management actions in accordance with the timing, manner and requirements of Annexure C.

4.2 The landowner must:

1. implement or procure the implementation of; and
2. comply or procure the compliance with

the management plans in accordance with the timing, manner and requirements of Annexure C.

Note: The management actions listed in Annexure C include requirements to take certain action and requirements to refrain from taking certain action.

4.3 Unless otherwise indicated by Annexure C, the landowner must ensure that

1. the management actions to be carried out in accordance with clause 4.1; and
 2. the management plans to be implemented and complied with in accordance with clause 4.2

are carried out in perpetuity, commencing from the date indicated in Annexure C.

4.4 The landowner's obligations under this clause are subject to clause 12.4 of this agreement.

5. Total Fund Deposit

For the purpose of clause 26 of the BioBanking Regulation, the Total Fund Deposit for this biobank site is [REDACTED] including GST, determined in accordance with Part 6 of the BioBanking Regulation.

Note: Part 6 of the BioBanking Regulation prescribes the amount that must be deposited in the BioBanking Trust Fund before the first transfer (or retirement without transfer) of each biodiversity credit can be registered. The prescribed amount is the Total Fund Deposit, or proportion thereof if a partial sale of credits is made. The Total Fund Deposit is the present value of the total of all management payments listed under this agreement, as determined by the Chief Executive.

6. Biodiversity credits

- 6.1 The Chief Executive is permitted under section 127W(4) of the Act, to create (without application by the landowner under section 127W(4) of the Act) the biodiversity credits listed in Annexure B on the commencement date.
- 6.2 The biodiversity credits listed in Annexure B will be created for the biobank site.
- 6.3 At the commencement date, the landowner is entitled to receive \$ [REDACTED] excluding GST, to be satisfied in full by the creation of the biodiversity credits listed in Annexure B.

Note: \$ [REDACTED] is a best estimate of the market value of the biodiversity credits at the time of creation. The market value has been estimated by reference to the notional Part B amount as determined by the landowner in the credit pricing spreadsheet or reference to the notional Part B amount for the last traded biodiversity credit of the same or similar type.

The Part B amount is that part of the sale price received by the landowner (or another landowner if reference is made to a previous sale of that biodiversity credit type) after the entire Total Fund Deposit is satisfied and deposited into the BioBanking Trust Fund.

The sale price of each biodiversity credit will be negotiated between the landowner and the buyer and will be affected by supply and demand for each biodiversity credit. The final price at the time of transfer of the biodiversity credit (or retirement or the biodiversity credit without transfer) may not reflect this estimated amount.

The Minister does not warrant that the landowner will be able to sell biodiversity credits for the estimated market value.

7. Monitoring, record keeping and reporting

- 7.1 The landowner must comply with the monitoring and record keeping requirements as set out in Annexure D.
- 7.2 The landowner must submit an annual report complying with the requirements set out in Annexure D to the Chief Executive within the timeframe specified in Annexure D.
- 7.3 The landowner must notify the Chief Executive in writing as soon as practicable after becoming aware of any failure to comply with this agreement or any other incident at the biobank site (or surrounds) which results or may result in a sudden or significant decline of biodiversity values at the biobank site. In particular, the landowner must notify the Chief Executive of:
- the nature, location and time of the incident
 - the impact of the incident on biodiversity values
 - the measures that have been taken or will be taken in response to the incident
 - any provision of this agreement which may have been breached
 - the extent of any damage caused or permitted by the incident
 - the measures which have been taken or will be taken to prevent a recurrence of the incident.

8. Use of the land by servants, agents, lessees or licensees

The landowner must incorporate all relevant requirements of this agreement in any lease or licence issued for the biobank site, and must at all times ensure that any servant, contractor, consultant, agent, lessee or licensee occupying the biobank site area shall be aware of, and not undertake any act inconsistent with, the landowner's obligations under this agreement.

9. Change of land ownership or subdivision of land

9.1 The landowner must notify the Chief Executive in writing of any change of:

- ownership of the biobank site, or any part thereof, within seven (7) days after the change of ownership of the biobank site; or
- lessee of the biobank site, or any part thereof, within twenty-eight (28) days after the change of lessee or licensee of the biobank site.

The notice must include the name and address and other relevant contact details of the new landowner, lessee or licensee.

9.2 The landowner must provide a copy of this agreement, including a copy of each management plan and a copy of all records required to be kept under the record keeping requirements, to the transferee before completion of the assignment, transfer, disposal or sale of any interest in the biobank site.

9.3 The landowner must notify the Chief Executive in writing no less than 14 days before the biobank site is subdivided.

9.4 The landowner cannot assign, transfer, dispose of or sell its rights, title or interest in part of the land containing any area of the biobank site unless the landowner and the Minister have first agreed to vary the agreement to apportion the obligations and rights under the agreement in respect of that part of the biobank site that will be assigned, transferred, disposed of or sold.

10. Right to enter biobank site for research and monitoring

10.1 The landowner must permit access to the biobank site at any time to the Minister, the Chief Executive, an authorised officer or an officer of OEHL for the purpose of carrying out research or monitoring in relation to the biodiversity values on the biobank site for which biodiversity credits have been created under this agreement, but only where the person has given reasonable notice to the landowner and the landowner's agent, lessee or licensee, of the intention to enter the biobank site for that purpose and the nature of the research or monitoring that will be conducted. In exercising its right of access under this clause, the Minister, the Chief Executive, an authorised officer or an officer of OEHL must ensure that such access does not:

- result in physical or radio interference which obstructs, interrupts or impedes the use or operation of any telecommunications network and telecommunications service of a lessee or licensee of a part of the land; or

- interfere with the electricity supply separate from the landowner's electricity supply to any part of the land occupied by a lessee or licensee.

- 10.2 The Minister, Chief Executive, an authorised officer or an officer of OEH may make a written request to the landowner to consent to any other person specified in the written request to enter the biobank site for the purpose of carrying out the research or monitoring referred to in clause 10.1, whether or not that person will accompany the Minister, Chief Executive, an authorised officer or an officer of OEH. The landowner will not unreasonably withhold consent.
- 10.3 Clauses 10.1 and 10.2 do not affect or limit the powers of authorised officers under the NPW Act to enter premises for the purpose of determining whether there has been compliance with, or contravention of, this agreement.

11. Agreement preparation expenses

Each party bears its own costs in connection with the preparation and execution of this agreement.

12. Obligations of the Minister

- 12.1 Subject to clauses 12.2 and 12.3 and starting from the first payment date, the Minister is required to direct the Fund Manager to make such management payments specified in the payment schedules from the relevant biobank site account to the landowner, at such intervals specified in the payment schedules.
- 12.2 The Minister may only make such a direction if:
- the relevant biobank site account has sufficient funds to cover the management payment, and
 - the landowner has submitted the annual report for the preceding reporting period in accordance with clause 7.2 and Annexure D of this agreement, and
 - the Minister has reviewed the annual report for the preceding reporting period and is satisfied that the landowner has complied with their obligations set out in this agreement in the preceding period.
- 12.3 The landowner acknowledges that the Minister may, with the agreement of the landowner, direct that the management payments should not be made, or should be reduced, for a specified period of time or until further notice if the biobank site account has an operational deficit greater than the operational deficit threshold.
- Note: Withholding or lowering payments when funds in the account are below the maximum operational deficit may help to preserve the long-term financial viability of the fund for the landowner.
- 12.4 If the Minister, with the agreement of the landowner, directs that management payments be reduced or not be made for a specified period of time or until further notice, then:

- the Minister may, by written agreement with the landowner, suspend or vary any of the landowner's obligations to carry out management actions under this agreement for the same period of time or some other period, and
- despite clause 4 of this agreement, the landowner's obligations to carry out management actions under this agreement are suspended or varied in accordance with the agreement.

The Minister must not agree to any variation or suspension under this clause unless satisfied that the variation or suspension does not have a negative impact on the biodiversity values protected by the agreement.

- 12.5 The landowner acknowledges that the Minister may, in addition to the management payments, direct additional payments to be paid from the BioBanking Trust Fund to the landowner, but only in circumstances where the biobank site account has an operational surplus, the operational surplus amount exceeds the maximum operational surplus for the biobank site account, and the amount the Minister directs to be paid does not exceed the difference between the operational surplus amount and the maximum operational surplus.
- 12.6 All management payments shall be paid into the bank account nominated by the landowner in accordance with the payment schedules.

13. Ownership of the land and registration of this agreement

- 13.1 The landowner represents and warrants to the Minister that as at the date of this agreement it is:
- the legal and beneficial owner of the land; or
 - legally and beneficially entitled to become the owner of the land and will become the legal and beneficial owner of the land, prior to the date that this agreement is to be registered under clause 13.2 of this agreement.
- 13.2 As contemplated by section 127I(1) of the Act, the Minister agrees to notify the Registrar General when this agreement has been entered into, varied or terminated so the Registrar General can register the agreement, variation or termination by making an entry concerning the agreement, variation or termination in the relevant folio of the Register kept under the *Real Property Act 1900* (NSW) for the land.
- 13.3 The fee to register the agreement in accordance with section 127I(1) of the Act will be taken from the processing fee, except as provided by clause 13.4.
- 13.4 If the landowner elects to identify the exact boundaries of the biobank site on the Deposited Plan for the land, the landowner must bear any additional costs of registration.

14. Variation and termination

- 14.1 Subject to clause 14.2, this agreement can only be varied or terminated in accordance with the Act.

14.2 The landowner waives any right to request voluntary termination in accordance with subsections 127G(5) and (6) of the Act.

14.3 This clause does not affect the ability of the Minister and the landowner to terminate this agreement by consent under section 127G(2)(a) of the Act (including in the circumstances described in subsection 127G(6) of the Act).

Note: Clause 14.2 ensures that the landowner can obtain Commonwealth Government tax advantages that apply to conservation covenants. Those tax advantages would not be available if the right to request termination of the agreement under subsections 127G (5) and (6) of the Act was available.

Subsections 127(5) and (6) of the Act give landowners the right to request termination of the agreement where credits are not sold within 3 months or after 5 years of entering the agreement. The effect of clause 14.2 is that the landowner gives up that right. This is essential as the tax advantages are only available where the Commonwealth Government has conferred conservation covenant status on biobank sites – and a requirement of this status is that the sites will operate permanently.

15. Indemnity and release

15.1 The landowner agrees to indemnify the protected persons against all expenses, losses, damages and costs that the protected person may sustain or incur as a result, whether directly or indirectly, of carrying out obligations under this agreement.

15.2 The indemnity given by the landowner does not cover any loss or damage that is caused by a negligent act or omission of the protected persons, or any loss or damage that is contributed to by a negligent act or omission of the protected persons to the extent of the protected persons' contribution to that loss or damage.

15.3 The landowner releases to the full extent permitted by law the protected persons from all claims and demands arising out of or in connection with, or as a consequence of, carrying out of obligations by the landowners under this agreement, or in connection with, or as a consequence of, a direction made by the Minister regarding the payment of management payments to the landowner under this agreement.

15.4 The release given by the landowner does not cover any claims and demands in respect of any loss or damage that is caused by a negligent act or omission of the protected persons, or any loss or damage that is contributed to by a negligent act or omission of the protected persons to the extent of the protected persons' contribution to that loss or damage.

15.5 It is immaterial to the obligations of the landowner under this clause that a claim or demand arises out of any act, event or thing that the landowner is authorised or obliged to do under this agreement or that any time waiver or other indulgence has been given to the landowner for any such obligation under this agreement.

In clauses 15.1–15.4:

(i) 'protected person' means:

(a) the Minister

(b) the Chief Executive

(c) the employees or officers of the Office of Environment and Heritage

(d) any other person acting under the direction or control of the Minister or Chief Executive for any purpose

- (e) the Crown in right of the State of New South Wales;
- (ii) 'claims and demands' means all actions, suits, claims, demands, proceedings, losses, compensation, damages, sums of money, costs, legal costs, charges, and expenses to which the protected persons are or may become liable for in respect of loss or damage to the fixtures of the biobank site, financial or economic loss, loss of opportunity or other consequential loss of the landowner, and injury of any kind to or death of any person claiming through the landowner and however sustained on or outside the biobank site.

16. Dispute resolution

- 16.1 Where there is a dispute, difference or claim (dispute), the party raising the dispute must notify the other party in writing of the nature of the dispute, including the factual and legal basis of the dispute.
- 16.2 Within 14 days of the written notice, the Chief Executive and the landowner, or nominated senior representatives of the parties, must confer to attempt to resolve the dispute, and if the dispute cannot be resolved within twenty-one (21) days of the written notice, the Chief Executive and the landowner will refer the matter to mediation.
- 16.3 The parties will agree on the terms of appointment of the mediator and the terms of the mediation in writing within twenty-eight (28) days, failing which the mediation will be at an end and either party may commence court proceedings in respect of the dispute, difference or claim.
- 16.4 If the matter has not been resolved within 28 days of the appointment of the mediator, the mediation process will be at an end and either party may commence court proceedings in respect of the dispute, difference or claim.
- 16.5 Notwithstanding the above clauses, the Minister, the Chief Executive or a person duly authorised by the Chief Executive, may enforce this agreement under the Act, or institute proceedings without first entering into the dispute resolution procedure set out in clauses 16.1, 16.2, 16.3, and 16.4.
- 16.6 Clause 10.1 of this agreement is not affected by these arrangements for dispute resolution.

17. Governing law

This agreement is governed by the laws of the State of New South Wales and the parties agree to submit to the jurisdiction of the courts of that State.

18. Commencement

This agreement shall have effect from the day it is executed by all parties.

19. Privacy statement

The landowner acknowledges and consents to the information contained in this agreement being made publicly available on the biobanking agreements register and, where biodiversity credits have been registered, on the biobanking credits register maintained by the Chief Executive and made available on the web.

Note: In accordance with the *Privacy and Personal Information Protection Act 1998* and the Act, some of the information contained in this agreement cannot be made available to the public.

20. Exercise of Minister's and Chief Executive's powers

20.1 The landowner acknowledges that the Minister may authorise any officer of OEH to exercise any of the Minister's functions under this agreement on the Minister's behalf.

20.2 The landowner acknowledges that the Chief Executive, may authorise any officer of OEH to do anything that the Chief Executive authorises for the purposes of this agreement.

21. Notices

21.1 Any notice, consent, information, application or request that must or may be given or made to a party is only given or made if it is in writing and delivered or posted to that party at its address set out below, or faxed to that party at its fax number set out below:

The Minister

Address	Office of Environment and Heritage PO Box A290 SYDNEY SOUTH NSW 1232
Fax	(02) 9995 6795
Attention (nominated officer)	Team Leader, Ecosystem Assessment and Planning, Conservation Programs Branch, Regional Operations Division

Landowner

Address	[REDACTED]
Email	[REDACTED]
Attention	[REDACTED]

21.2 The name or title of the nominated officer or the address for the Minister referred to in clause 21.1 above may be updated from time to time by a further written notice being sent to the landowner by an officer of OEH advising of the new officer (or title of an office) and address to which such documents, information or notification may be sent.

21.3 For the avoidance of doubt, this clause does not fetter the Minister or Chief Executive's discretion to give or withhold from giving such notice, consent or permission.

Agreement annexures

Annexure A Maps of biobank site

Annexure B Biobanking Agreement Credit Report

Annexure C Management actions and management plans

Annexure D Monitoring, reporting and record keeping requirements

Annexure E Payment schedules

In witness where of the parties hereto have executed this agreement the day and year first above written.

Signed by

Sonya Errington, Director, Conservation Programs, Office of Environment and Heritage, as the Minister's delegate under Section 142A of the *Threatened Species Conservation Act 1995* in the presence of:

Sonya Errington
Date

Witness signature
Date

Witness name

Witness address

Signed by the landowner/s or director/s

Signature
Date
████████████████████

Signature
Date
████████████████████

In the presence of

In the presence of

Witness signature
Date

Witness signature
Date

Witness name

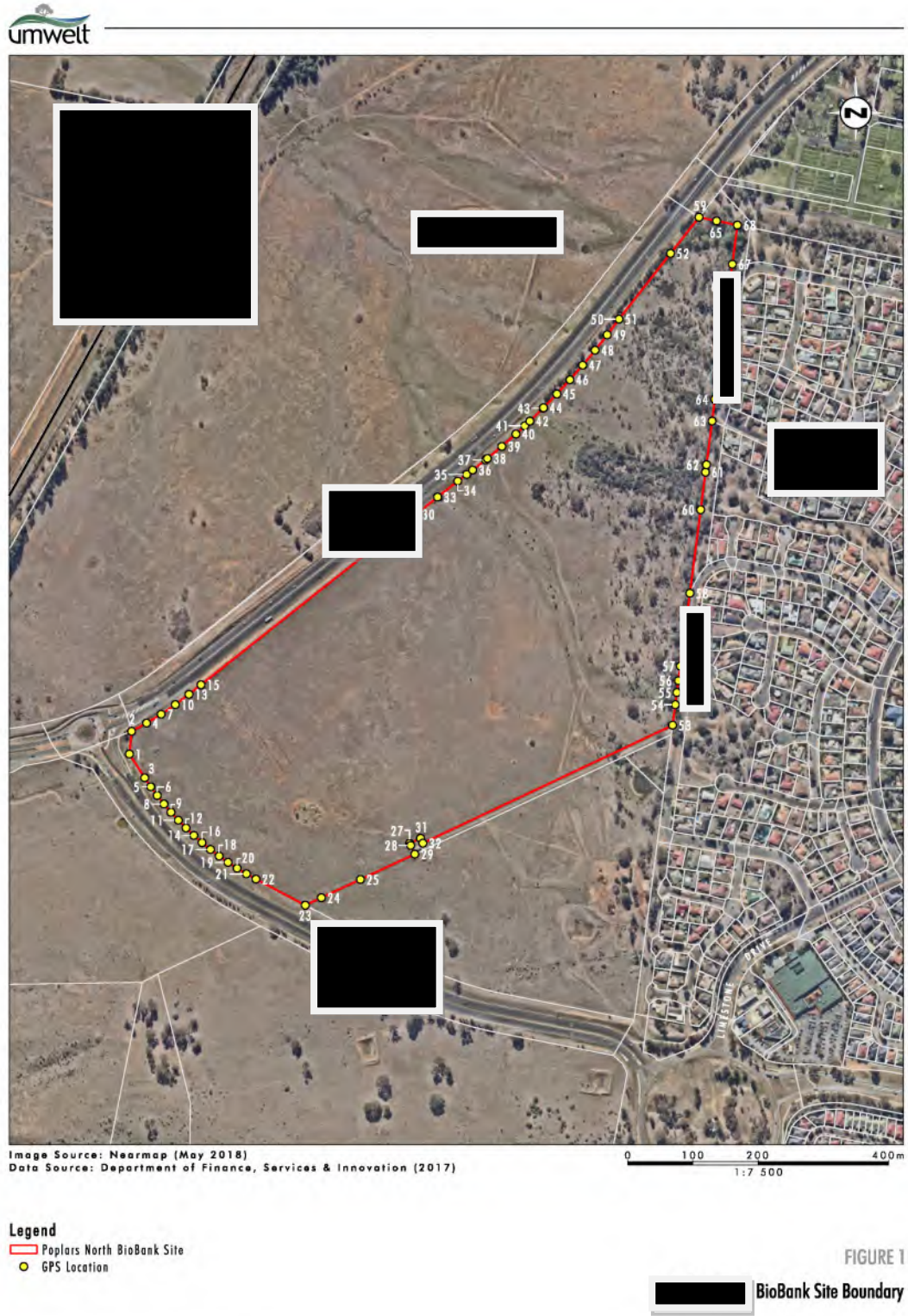
Witness name

Witness address

Witness address

Seal (if signing under seal):

Annexure A: Maps of biobank site



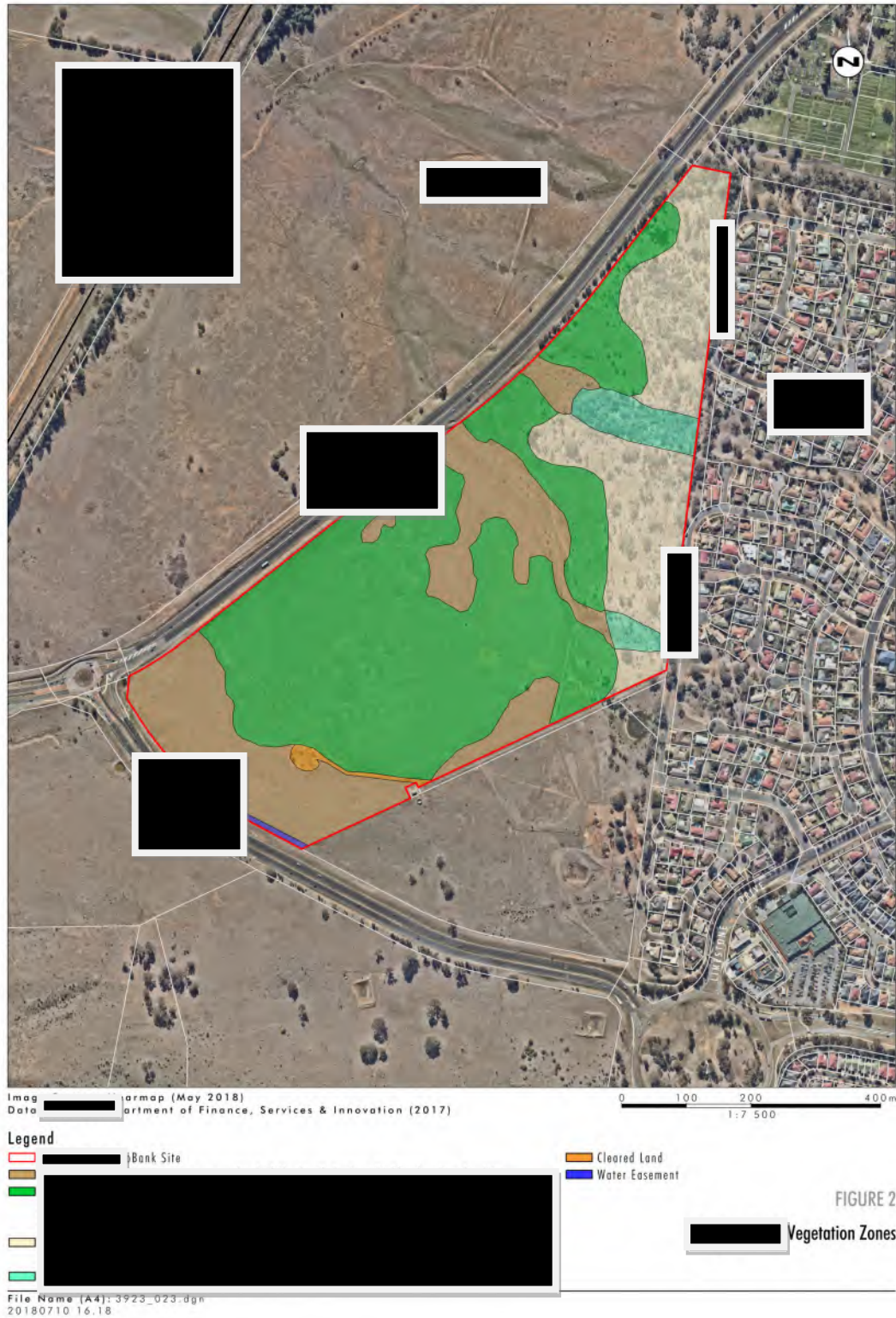


FIGURE 2

[redacted] Vegetation Zones

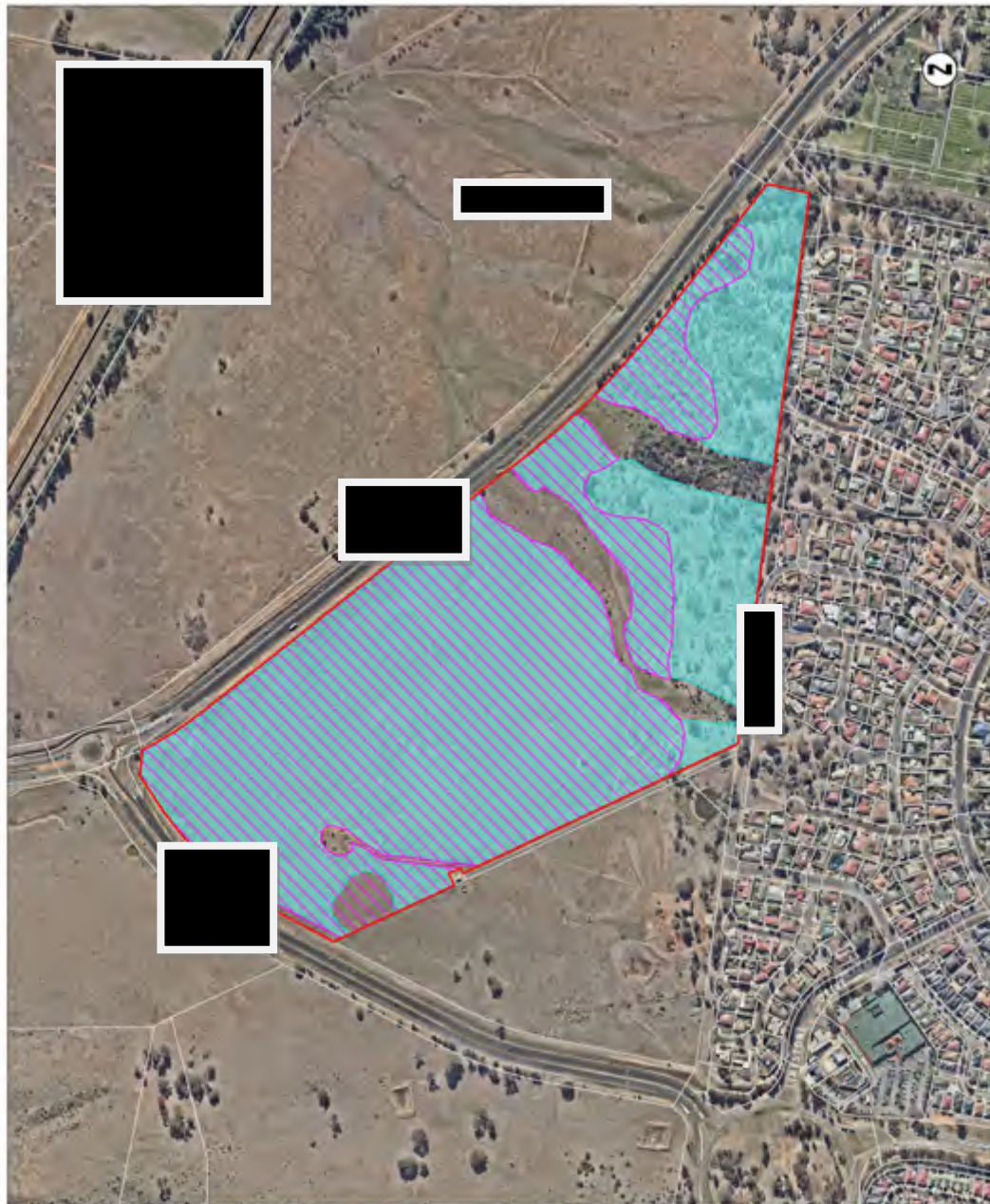


Image Source: Nearmap (May 2018)
Data Source: Department of Finance, Services & Innovation (2017)



Legend

- [redacted] iiaBank Site
- [redacted]
- [redacted]

FIGURE 4

Species Credit Map

File Name (A4): 3923_027.dgn
20180710 16:44

File Name (A4): 3923_025.dgn
20180710 15:41

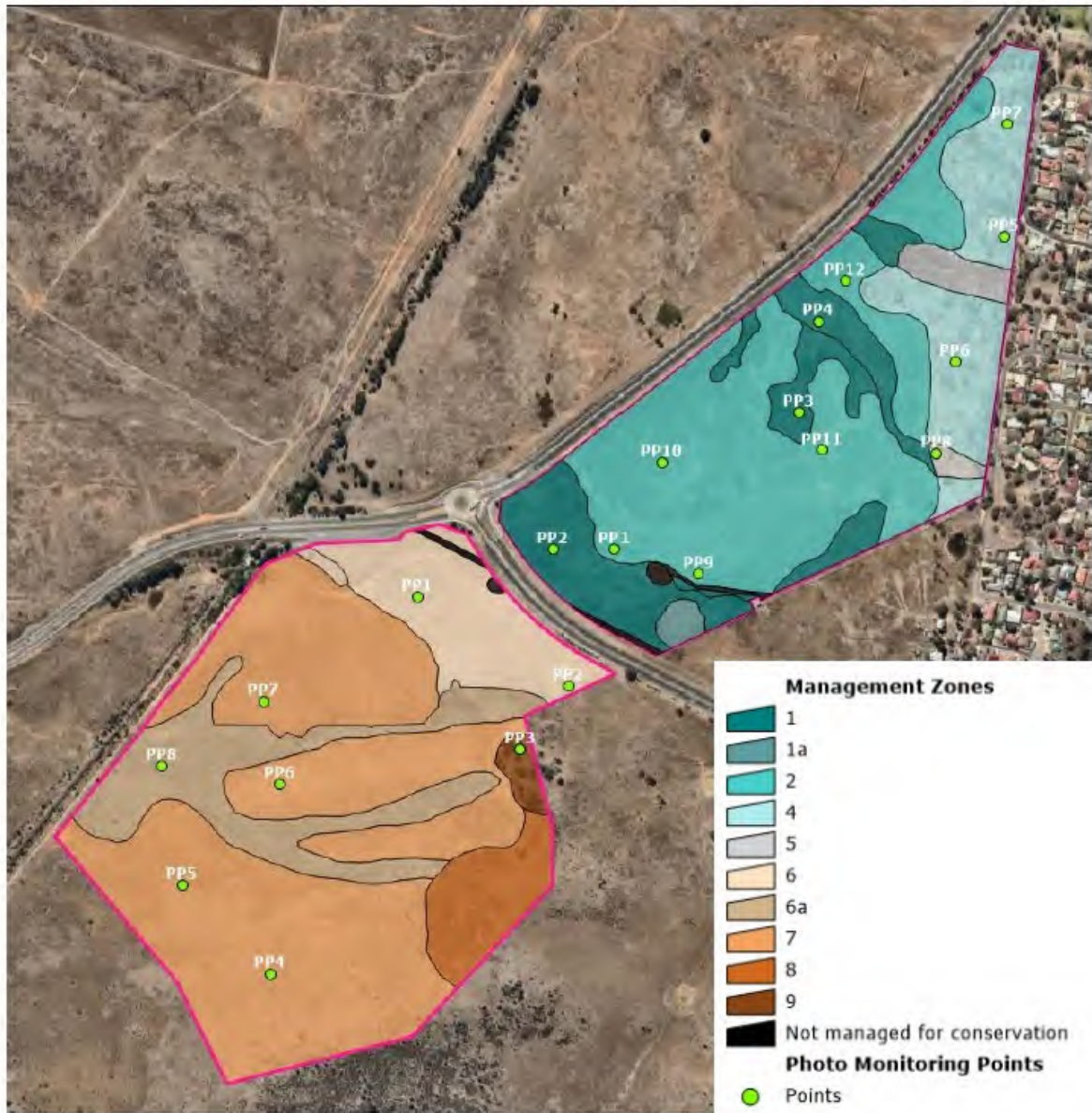


FIGURE 5

Photo Monitoring Points 24/07/2018

Annexure B: Biobanking Agreement Credit Report

BioBanking credit report



This report identifies the number and type of credits required at a BIOBANK SITE

Date of report: 24/07/2018

Time: 11:35:58AM

Calculator version: v4.0

Biobank details

Proposal ID:

[REDACTED]

Proposal name:

[REDACTED]

Proposal address:

[REDACTED]

Proponent name:

[REDACTED]

Proponent address:

[REDACTED]

Proponent phone:

[REDACTED]

Assessor name:

Kate Connolly

Assessor address:

75 York St Teralba NSW 2284

Assessor phone:

02 4950 5322

Assessor accreditation:

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Additional information required for approval:

- Use of local benchmark
- Expert report...
- Request for additional gain in site value

Ecosystem credits summary

Plant Community type	Area (ha)	Credits created
Speargrass grassland of the South Eastern Highlands Bioregion	10.27	71.00
Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	22.34	121.00
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	9.91	46.00
Total	42.52	238

Credit profiles

1. Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion, (MR648)

Number of ecosystem credits created	46
IBRA sub-region	Murrumbateman - Murrumbidgee

2. Speargrass grassland of the South Eastern Highlands Bioregion, (MR631)

Number of ecosystem credits created	71
IBRA sub-region	Murrumbateman - Murrumbidgee

3. Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion, (MR686)

Number of ecosystem credits created	121
IBRA sub-region	Murrumbateman - Murrumbidgee

Species credits summary

Common name	Scientific name	Extent of impact Ha or individuals	Number of species credits created
Golden Sun Moth	<i>Synemon plana</i>	38.10	271
Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	30.27	215

Additional management actions

Additional management actions are required for:

Vegetation type or threatened species	Management action details
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Exclude commercial apiaries
Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Feral and/or over-abundant native herbivore control

Annexure C: Management actions and management plans

This Annexure C, together with Annexure D, is approved as a property management plan prepared by the landowner under the section 113B of the *Threatened Species Conservation Act 1995*.

A Management actions

A1 The landowner must undertake, or cause to be undertaken, the Management Actions contained in the following tables in this Annexure C:

(i) Section 1: Standard management actions (**'Section 1'**); and

(ii) Section 2: Additional management actions (**'Section 2'**)

in accordance with the conditions specified in Section 1 and Section 2 and within the timeframes (if any) specified in Section 1 and Section 2.

A2 In carrying out the management actions, the landowner must implement and, at all relevant times comply with, the management plans as contained in the following tables in this Annexure C:

(i) Section 3: Standard management plans (**'Section 3'**); and

(ii) Section 4: Additional management plans (**'Section 4'**)

in accordance with the conditions specified in those tables and management plans and within the timeframes (if any) specified in Section 3 and Section 4.

A3 Where a management action requires that something must not be done, the landowner must not do that thing and must not cause, authorise or permit any other person to do that thing.

A4 Notwithstanding A1 and A2 above, the landowner is not required to undertake the management actions so described if the action is inconsistent with anything (act or omission) required or authorised to be done by the landowner by or under any of the following:

1 removal of noxious weeds under the *Noxious Weeds Act 1993*

2 the control of noxious animals under the *Rural Lands Protection Act 1998*

3 an obligation arising under an eradication order or pest control order under Part 11 of the *Rural Lands Protection Act 1998*

4 a direction under section 37A of the *State Emergency and Rescue Management Act 1989* in relation to a state of emergency or a direction under section 22A of the *State Emergency Service Act 1989*

5 in respect of the *Rural Fires Act 1997*:

5.1 an emergency fire fighting act within the meaning of that Act

5.2 emergency bushfire hazard reduction work within the meaning of that Act

5.3 any notified steps issued to the landowner under section 63 of that Act

- 5.4 any notice by a local authority under section 66 of that Act to undertake specified bushfire hazard reduction work
 - 5.5 otherwise as part of any managed bushfire hazard reduction work within the meaning of the *Rural Fires Act 1997* that is carried out in accordance with:
 - 5.5.1 a current bushfire hazard reduction certificate that applies to the work
 - 5.5.2 the provisions of any bushfire code applying to the land specified in the certificate.
- A5 The landowner may make minor alterations to any management actions as part of adaptive management, where the outcomes of monitoring, including documented observations of the landowner or his/her servant, lessee, agent or licensee/s, indicate that the minor alterations to the management actions are required to improve biodiversity values in accordance with the biobanking agreement. The landowner must document the minor alterations made to the management actions and the reasons for the alterations, and retain a record of the documentation and include it in the annual report.

B Timing for carrying out management actions

- B1 An obligation to carry out a management action (or implement and comply with a management plan):
- (i) will commence on the commencement date or first payment date (as indicated); and
 - (ii) must be carried out in perpetuity unless otherwise indicated in Sections 1 to 4 of this Annexure C.
- B2 The landowner must ensure that if a timeframe is specified in Sections 1 to 4, that the management action is carried out within that timeframe.
- B3 For the avoidance of doubt, an obligation to carry out a management action within a specified timeframe continues until the management action has been carried out even if the time for compliance has passed.

Section 1: Standard management actions

Standard management actions		
Item 1	Management of grazing for conservation	Timing
1.1	Stock must not be permitted to graze in any area of the biobank site.	Ongoing from first payment date.
1.2	This item is not applicable	
1.3	This item is not applicable	
1.4	If, at any time, the landowner observes stock in any area of the biobank site, other than an area on the biobank site where grazing is permitted, the landowner must take necessary measures to remove the stock from the area immediately.	Ongoing from first payment date.
Item 2	Weed control	Timing
2.1	<p>The landowner must implement and, at all relevant times, comply with, the integrated weed management plan included in Section 3 ('the weed management plan') (or such updated integrated weed management plan as has been approved by the Director General under item 2.2 below).</p> <p>To allow for adaptive management, minor alterations can be made to the implementation of the weed management plan. Any alterations must be recorded in writing in accordance with Section 3 of this Annexure.</p>	Ongoing from first payment date.

<p>2.2</p>	<p>The weed management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must be prepared by an appropriately qualified person and must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the target weed/s at the biobank site and their location/s, linked to each management zone where weeds are present • the method/s of weed control in each zone • the frequency of weed control activities at the site, taking into account management practices where weeds are providing habitat for native species • the timing of any planting of native plant species required in each management zone to provide alternative habitat for native species affected by weed control activities • methods for monitoring the success of weed control activities • a timetable/measures for inspections to identify new weed species or exotic plant species (including noxious weeds under the <i>Noxious Weeds Act 1993</i>) • additional weed control activities to destroy or remove any new weed species that are found on the site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the weed management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
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Item 3	Management of fire for conservation	Timing
3.1	<p>The landowner must implement, and at all relevant times, comply with the fire management plan included in Section 3 (or such updated fire management plan as has been approved by the Director General under item 3.2 below) (“the fire management plan”). To allow for adaptive management and weather conditions, minor alterations can be made to the implementation of the fire management plan, and must be recorded in writing in accordance with Section 3 of this Annexure.</p>	Ongoing from first payment date.
3.2	<p>The fire management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the fire management plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must be prepared by an appropriately qualified person and cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • the year the last fire went through, the type of fire and the extent of the fire and location, where known • frequency of natural fires in the area of the biobank site, where known • a description of locations and management zones where ecological burns will be conducted and areas that will not be burnt • the methods that will be used for ecological burns • the fire frequency intervals recommended for the vegetation types and threatened species present, including any required adjustment to the schedule in the event of a wildfire or activities undertaken under the <i>Rural Fires Act 1997</i> to ensure minimum frequency between ecological burns • the fire intensity for the recommended vegetation types • the time of year suitable for ecological burns • the diary for recording actions taken in accordance with the fire management plan and minor alterations to fire management plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	Ongoing from first payment date.

3.3	Fires must not be lit on the biobank site other than for the purpose of ecological burning in accordance with the fire management plan or as permitted as a permissible human activity on the biobank site under item 4 of this Annexure or clause 3.6 of this agreement.	Ongoing from commencement date.
Item 4	Management of human disturbance	Timing
4.1	Except as permitted under clause 3 of this agreement or item 4.2 (below), human activities that adversely affect biodiversity values on the biobank site, including repeated disturbance of native animals, must not be carried out, or caused or permitted to be carried out, on the biobank site.	Ongoing from commencement date.
4.2	Human activities that may have a negative impact on biodiversity values on the biobank site are permitted if they are listed as permissible activities under clause 3.6 of this agreement or if they are undertaken as part of the management actions or management plans.	Ongoing from commencement date.
4.3	This item is not applicable.	
4.4	The landowner must not store, dispose of, or cause or permit to be disposed of, any waste on the biobank site. Note: The storage or disposal of waste on the biobank site may require an approval under the <i>Protection of the Environment Operations Act 1997</i> .	Ongoing from commencement date.
4.5	The landowner must take all reasonable steps to remove waste deposited by others on the biobank site, or which is otherwise present on the biobank site.	Annually from year 1.
4.6	Fencing and/or signage must be installed and maintained to deter human disturbance including waste dumping. Signage must be the BioBanking signs available from the OEH. Specific requirements: Signage must be installed and maintained at the main entry points to the BioBank site and along the boundary adjacent to Jerrabomberra suburbs. Signage must be replaced if the writing or the images on the sign are no longer clearly visible or are illegible. Fencing will be required, at minimum, along the boundary of the BioBank site and Jerrabomberra suburbs to deter human and vehicular access and dumping. Fencing will be installed along approximately 900 m of this boundary.	Ongoing from first payment date. Signage to be installed within 3 months of the first payment date and maintained as required thereafter. Upgrade to fencing along the Jerrabomberra residential area to be installed within 12 months of the first payment and maintained as required annually after year 1. Fencing to be replaced once every 20 years (if deemed required).

Item 5	<p>Retention of regrowth and remnant native vegetation</p> <p>Note: An approval under the <i>Native Vegetation Act 2003</i> may be required to carry out thinning or any other removal or damage to native vegetation under this item.</p>	Timing
5.1	<p>Native vegetation (whether remnant native vegetation or regrowth) on the biobank site must not be cut down, felled, thinned, logged, killed, destroyed, poisoned, ringbarked, uprooted, burnt or otherwise removed, except in accordance with item 5.2 below, or if it is required as part of the management actions or it is essential for the carrying out of permissible development under clause 3.5 of this agreement.</p> <p>Note: Native vegetation on the biobank site may be managed to improve biodiversity values by thinning to benchmark stem densities over no more than 80% of each management zone. Benchmark stem densities has the same meaning as defined in the Vegetation Benchmark Database as published by OEH and updated from time to time. An approval under the <i>Native Vegetation Act 2003</i> may be required to carry out thinning or any other removal or damage to native vegetation under this item.</p>	Ongoing from commencement date.
5.2	Native vegetation on the biobank site must not be burnt except in accordance with the fire management plan prepared pursuant to item 3 above.	Ongoing from commencement date.
Item 6	Replanting or supplementary planting where natural regeneration will not be sufficient	Timing
6.1	This item is not applicable.	No planting or seeding proposed.
6.2	This item is not applicable.	No planting or seeding proposed.
6.3	This item is not applicable.	No planting or seeding proposed.
6.4	This item is not applicable.	No planting or seeding proposed.
6.5	This item is not applicable.	No planting or seeding proposed.

Item 7	Retention of dead timber	Timing
7.1	<p>Dead timber (whether standing or fallen and including branches and leaf litter) must not be removed from or moved within the biobank site except for the personal (non-commercial) use by the landowner for firewood for one dwelling only or for repair of fencing (not for construction of fencing).</p> <p>Dead timber used for fencing repair must be documented by the landowner in writing and records must be kept in accordance with the record keeping requirements. The landowner must record the approximate amount of dead timber collected from the biobank site for use in fencing, the location that that dead timber was collected from and the date it was collected (month, year).</p>	Ongoing from commencement date.
7.2	<p>Timber from outside the biobank site may be introduced to and placed on the biobank site to improve biodiversity values. Once the timber has been brought onto the site, it is subject to the requirements of item 7.1 above.</p> <p>Timber brought from outside the biobank site must be documented by the landowner in writing and records must be kept in accordance with the record keeping requirements. The landowner must record the approximate amount of timber brought from outside the biobank site, the location where the timber was placed on the biobank site and the date on which it was placed (month, year).</p>	When required but not required before the first payment date.
Item 8	Erosion control	Timing
8.1	<p>All reasonable steps must be undertaken to prevent, control and remedy erosion on the biobank site.</p> <p>Soil management for preventing and controlling erosion is to be undertaken using best practice management, such as that developed by the Soil Conservation Service, applied as relevant for the BioBank site.</p>	Commencing from first payment date.

Item 9	Retention of rocks	Timing
9.1	The landowner must not remove, or cause or permit to be removed, rocks from the biobank site or move, or cause or permit to be moved, rocks within the biobank site.	Ongoing from commencement date.
9.2	Rocks from outside the site may be placed on the biobank site to improve habitat for threatened species. Rocks, once placed on the biobank site, are subject to item 9.1 above. The landowner must make and retain records of the location of the rocks placed on the site and the date the rocks were brought onto the site in accordance with the record keeping requirements.	When required but not required before the first payment date.

Section 2: Additional management actions

Additional management actions		
Item 10	Control of feral and overabundant native herbivores	Timing
10.1	<p>The landowner must implement, and at all relevant times, comply with the management plan to control feral and overabundant native herbivores included in Section 4 (or such updated management plan as has been approved by the Director General under item 10.2 below) ('the feral and overabundant native herbivores management plan'). To allow for adaptive management, minor alterations can be made to the implementation of the feral and overabundant native herbivores management plan, which must be recorded in writing in accordance with Section 3 of this Annexure.</p> <p>Note: A licence under Section 121 of the <i>National Parks and Wildlife Act 1974</i> may be required to control overabundant native herbivores.</p>	Ongoing from first payment date.

<p>10.2</p>	<p>The feral and overabundant native herbivores management plan must be reviewed at intervals of no less than 4 years and no more than 6 years. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the plan that are outlined in the dot points below. Notification of the date of the review commencement must be provided to the Director General in writing within 14 days of the commencement of the review. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the feral and overabundant native herbivores management plan is required, the Director General will notify the landowner in writing that an update of the plan is required and the landowner must update the plan and submit the amended plan to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the feral or overabundant native herbivore/s • consideration of relevant current OEH and other pest management programs and methods • the method/s for feral and overabundant native herbivore control in each management zone, determined in accordance with best practice management • the frequency and timing of the control actions in each management zone • methods for monitoring the success of the pest control actions • a timetable and measures for inspections to identify new feral or overabundant native herbivores that may adversely affect biodiversity values on the biobank site • additional control actions to destroy or remove any new feral and overabundant native herbivore pest species that occur on site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the feral and overabundant native herbivores management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative action) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
<p>Item 11</p>	<p>Vertebrate pest management – foxes and other miscellaneous feral species</p>	<p>Timing</p>
<p>11.1</p>	<p>The landowner must implement, and at all relevant times, comply with the vertebrate pest management plan included in Section 4 (or such updated vertebrate pest management plan as has been approved by the Director General under item 11.2 below) ('the vertebrate pest management plan'). To allow for adaptive management, minor alterations can be made to the implementation of the vertebrate pest management plan, but these must be recorded in writing in accordance with Section 3 of this Annexure.</p>	<p>Ongoing from first payment date.</p>

<p>11.2</p>	<p>The vertebrate pest management plan must be reviewed at intervals of no less than 4 years and no more than 6 years by an appropriately qualified person. The review is to consider the efficacy of the management actions in the plan and consider the effectiveness of the matters contained in the current plan that are outlined in the dot points below. Notification of the review commencement must be provided to the Director General in writing within 14 days of the commencement. The findings of the review must be submitted to the Director General within 3 months of commencing the review.</p> <p>Where the Director General determines from the review that an update of the plan is required, the Director General will notify the landowner in writing that an update of the plan is required. The landowner must update the plan and submit it to the Director General for approval within 3 months of receiving written notification from the Director General that an update of the plan is required. The revised plan must cover the matters outlined below and any additional matters specified by the Director General in writing:</p> <ul style="list-style-type: none"> • a description of the target fauna species e.g. pigs, foxes or other species such as feral dogs or goats • consideration of relevant current OEH and other pest management programs • the method/s of vertebrate pest control in each management zone determined in accordance with best management practice • the frequency and timing of vertebrate pest control actions in each management zone • methods for monitoring the success of vertebrate pest control actions • a timetable and measures for inspections to identify new vertebrate pest species that may negatively impact on threatened species on the biobank site • additional vertebrate pest control actions to destroy or remove any new vertebrate pest species that occur on-site • measures for assessing and reporting monitoring results • a diary for recording actions taken in accordance with the vertebrate pest management plan and minor alterations to this plan permitted for adaptive management. The details (management zone/s, date, alternative actions) and reasons for the minor alterations must be recorded in the diary. 	<p>Ongoing from first payment date.</p>
<p>Item 12</p>	<p>Nutrient control</p>	<p>Timing</p>
<p>12.1</p>	<p>This item is not applicable.</p>	
<p>Item 13</p>	<p>Control of exotic fish species</p>	<p>Timing</p>
<p>13.1</p>	<p>This item is not applicable.</p>	

Item 14	Maintenance or reintroduction of natural flow regimes	Timing
14.1	This item is not applicable.	
14.2	This item is not applicable.	
14.3	This item is not applicable.	
Item 15	Slashing	Timing
15.1	<p>Slashing of vegetation communities can be undertaken as weed control (refer to the weed management plan) and maintenance of fire breaks (refer to the fire for conservation management plan).</p> <p>Slashing will be undertaken at the biobank site as required by the weed or fire for conservation management plans.</p>	Ongoing from first payment date.
Item 16	Exclude commercial apiaries	Timing
16.1	Commercial apiaries must not be permitted in any area of the BioBank site.	Ongoing from first payment date.
Item 17	Management of site drainage from urban stormwater catchments	Timing
17.1	Management of site drainage from urban stormwater catchments, in collaboration with Queanbeyan Palerang Regional Council.	Annually from year 1.

Section 3: Standard management plans

Weed management plan				
<p>The weed types, description and location (management zone/s) of weed infestations existing at the commencement date are listed in the weed management plan. The methods of weed control (management actions), monitoring and inspections are also listed.</p> <p>The landowner must perform the methods of weed control and other weed management activities and monitoring in the weed management plan by the methods described (and in accordance with item 2 of this Annexure) for all weeds. The methods of control will apply to the weeds listed in the table below as well as any other weeds that may be present on the site from time to time.</p> <p>The template for reporting of monitoring activities and the diary template for weed control management must be filled in to record observations during the implementation of the weed management plan, including any minor variations.</p>				
Weed types				
Weed	Common name of target weed	Scientific name of target weed	Description of infestation (eg intensity (% cover) & location within zone)	Management zone/s
A	St John's Wort	<i>Hypericum perforatum</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All
B	Sweet Briar	<i>Rosa rubiginosa</i>	<5% cover observed in some areas of MR648, MR631 and MR686	All
C	Blackberry	<i>Rubus fruticosus</i> sp. agg.	<5% cover observed in some areas of MR631	1, 1a
D	African Lovegrass	<i>Eragrostis curvula</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All
E	Serrated tussock	<i>Nassella trichotoma</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All
F	Chilean Needlegrass	<i>Nassella neesiana</i>	Variable intensity where some areas of MR648, MR631 and MR686 exhibit <5% cover and some areas of MR686 exhibit 5-20% cover	All

G	Paterson's Curse	<i>Echium plantagineum</i>	Variable intensity where some areas of MR686, MR631 and MR686 exhibit <5% cover and some areas of MR686 and MR631 exhibit 5-20% cover	1, 1a, 2 and 5
H	Rats tail fescue	<i>Vulpia myuros</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	1, 1a, 4
I	Oats	<i>Avena</i> sp.	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All
J	Cats ear	<i>Hypochaeris radicata</i>	Variable intensity where some areas of MR631 and MR686 exhibit <5% cover and some areas of MR686, MR631 and MR648 exhibit 5-20% cover	All

Methods of weed control

Management zone/s	Weed/s	Method of weed control	Frequency
All	St John's Wort	All weed control activities will be undertaken by, or under the direct supervision of, a qualified bush regenerator or other appropriately qualified person. Weed control should be undertaken considering the sensitive to fauna values on the site. Application of herbicides that are sensitive to fauna values on the site. Suggested herbicides are as per the 'Noxious and environmental weed control handbook' (DPI 2014). Pasture management and grazing management will reduce re-establishment.	Intensive weed control will be undertaken in year 1, moderate control in years 2-3, low intensity in years 4-5 and ongoing annual maintenance thereafter.
All	Sweet Briar		
1, 1a	Blackberry		
All	African Lovegrass		
All	Serrated tussock, Chilean Needlegrass		
1, 1a, 2 and 5	Paterson's Curse		
1, 1a and 4	Rats tail fescue		
All	Oats		
All	Catsear		

Native planting required to provide habitat for native species affected by weed control activities

Management zone	Description of planting required (reference planting schedule at item 6.6)	Timing
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N/A	Not applicable.	N/A	
Monitoring and inspections of existing and new weeds			
Management zone/s	Weed/s	Method of monitoring	Date/s required
All	All	<p>Monitoring of the weed control activities must be undertaken by an ecologist or other appropriately qualified person by undertaking a visual inspection of the BioBank site. For each management zone, the report should provide:</p> <ul style="list-style-type: none"> • A summary and review of all weed control activities undertaken within the previous 12 months for each zone and their success • Photo point monitoring at permanent monitoring locations • Description of general site conditions within each zone (including weeds regeneration occurring, erosion, feral animal presence, threatened flora and fauna observed etc.) • Description of any newly emerging weed infestations <p>1. Recommendations, if necessary, for any adaptations to the weed control measures previously applied.</p> <p>A site inspection is to be carried out within 3 months of the initial treatment, which indicated that control measure were successful across the site in reducing weed densities.</p>	Within 3 months of weed control measures.
Other weed management activities (where required)			
<p>Further to the above, the following considerations are required when undertaken weed management at the BioBank site:</p> <ol style="list-style-type: none"> 1. weed control is to be undertaken when the timing and extent of weed removal will minimise adverse effects on wildlife <p>1 conduct ongoing consultation with the relevant authorities regarding weed listings, weed occurrence and emerging management technologies.</p>			

Template for reporting of monitoring activities		
Management zone/s	Date	Observations and assessment of monitoring This table must include the information for each zone (or groups of zones) which is described in the table titled 'monitoring and inspections of existing and new weeds'.

Diary template for weed control management			
Date	Management zone/s	Description and type of activity undertaken (e.g. weed control, observation)	Minor variations (details and reasons)

Fire for conservation management plan

The plan includes information on all known previous fire events in the 'Fire history' table to demonstrate local fire conditions including intensity and frequency.

The ecological fire requirements for each vegetation type or threatened species on the biobank site are listed in the 'Fire requirements for vegetation types and threatened species' table. These are the fire frequency intervals recommended for the vegetation types and threatened species present on the biobank site. They include any requirement adjustments to the schedule in the event of a wildfire or activities undertaken under the *Rural Fires Act (RFA) 1997* to ensure the minimum frequencies between ecological burns.

The landowner must carry out ecological burns for each management zone according to the method and frequency described (as informed by the history and requirements sections and in accordance with Section 3 of this annexure). These actions are set out in the 'Ecological burning actions table'. Monitoring and inspections (set out in the 'Fire management monitoring' table) as described must also be implemented. The landowner must also carry out the actions listed in the 'Other fire management activities' table.

The table titled 'Template of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of monitoring activities. The landowner must also complete the table titled 'Diary template for fire management activities' to record the management actions undertaken or observations made, including any minor variations.

Fire history for previous 20 years (or longer if known)

Year of fire	Hazard reduction, wildfire or ecological burn and extent of fire	Management zone/s
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The site has not been burnt in the previous 20 years.

Fire requirements for vegetation types and threatened species

Vegetation type and/or threatened species	Fire frequency required	Time of year for burning	Fire intensity required	Adjustment required due to wildfires or RFA activities
Natural Temperate Grassland of the Southern Tablelands EEC	Unknown.	Unknown.	Avoid successive or frequent fires.	N/A
White Box Yellow Box Blakely's Red Gum Woodland EEC and CEEC	No fire more than once every 5 years - in accordance with the RFS Threatened Species Hazard Reduction List Part 3 (RFS 2013)	April to September	Avoid successive fires of intensity sufficient to scorch or consume dominant tree crown.	In the event that wildfires did not occur for more than 15 years on the property, a prescribed ecological burn should be conducted.

Golden sun moth (<i>Synemon plana</i>)	No fires recommended - in accordance with the RFS Threatened Species Hazard Reduction List Part 2 (RFS 2013)	-	Avoid successive or frequent fires.	No slashing, trittering or tree removal.
Pink-tailed legless lizard (<i>Aprasia parapulchella</i>)	Unknown.	Unknown.	Avoid successive or frequent fires.	-
Grassland earless dragon (<i>Tympanocryptis pinguicolla</i>)	Fire should be excluded from habitat unless there are compelling reasons for its application (such as ecological maintenance of grassland habitat attributes which, without fire, would irreversibly decline)	-	-	-

Ecological burning actions

Management zone/s	Actions	Supervision & extinguishing techniques	Time of year for burning	Frequency (years)
All	Rural Fire Service and Office of Environment and Heritage to be consulted prior to burn to determine appropriate regime.	Rural Fire Service to be present for protection and advice. Asset protection lines to be installed where required.	April to September	15 years from the date of the previous ecological burn or wildfire occurring on the property.

Methods for monitoring the outcomes of ecological burns

Management zone/s	Method of monitoring	Date/s required
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All	Visual auditing and noting of observations in a diary record (template provided below). Results provided to OEH.	Annually
All	Condition mapping (floristic and habitat field survey assessment) to determine vegetation quality and ecological condition. Copy of report to be provided to OEH for assessment and review.	Five yearly

Other fire management activities (where required)

Surrounding residents should be notified 1 month prior to an ecological burn occurring.
Any existing access tracks/firebreaks are to be maintained every 5 years beginning in year 4.

Template for reporting of monitoring activities

Management zone/s	Date	Observations and assessment of monitoring

Diary template for fire management activities

Date	Management zone/s	Description of activity undertaken or observation made	Minor variations (details and reasons)

Section 4: Additional management plans

Management plan to control feral and overabundant native herbivores

The management plan for feral and overabundant native herbivores includes information on the management requirements for the feral and overabundant native herbivores at the biobank site listed in the 'Feral and overabundant native herbivores' table. The possible methods of control for each species, used by OEH and other pest management programs, are listed and the suitability of each method is described in the 'Methods considered' table.

The landowner must carry out the methods for control for feral and overabundant native herbivores for each management zone according to the method and frequency as described in the 'Methods for control' table. The methods of control applied to the feral or overabundant native herbivores listed in the 'Feral or overabundant native herbivores' table as well as any other feral or overabundant herbivores that may be present on the site from time to time.

Monitoring and inspections of existing and new feral and overabundant herbivores at the biobank site as described in the 'Monitoring and inspections' table must be implemented.

The table titled 'Template for reporting of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of the monitoring activities. The landowners must complete the table titled 'Diary template for feral and overabundant herbivore management' to record the management actions undertaken including any minor variations or observations made.

Feral and overabundant native herbivores

Feral type	Name of feral/overabundant native herbivore	Description of extent	Management zone/s
A	Rabbit <i>Oryctolagus cuniculus</i>	Low intensity likely across the entire biobank site.	All zones with particular emphasis on habitat for TECs and threatened flora
B	European hare <i>Lepus europaeus</i>	Low intensity likely across the entire biobank site.	All zones with particular emphasis on habitat for TECs and threatened flora
C	Eastern Grey Kangaroo <i>Macropus giganteus</i>	Whole site. Aim 'stocking rate' = 0.5-2.0 animals per ha (total for site 21-86)	All zones with particular emphasis on habitat for TECs and threatened flora

Methods considered		
Feral type	Name and description of program or method	Describe suitability
A	Biocontrol, such as rabbit haemorrhagic disease virus (calicivirus)	Effective means of controlling rabbits. Recent testing by the Cumberland LHPA indicates that the current wild rabbit population in the Lower Hunter and Central Coast is again susceptible after being immune for a period of time.
A	Baiting ('1080' sodium monofluoracetate)	Considered one of the most effective methods of reducing rabbit populations short term.
A	Pindone poison baits	Effective means of controlling rabbits, with much lower risks of secondary poisoning of humans and non-target animals.
A	Warren destruction	Appropriate where active warrens identified.
A	Burrow fumigation	Phostoxin (alluminum phosphide) is the only fumigant presently available for rabbit fumigation and use is extremely limited at the present time due to animal welfare and workplace health and safety concerns. Also labour intensive. Use in peri-urban area may also be restricted due to increased risks to human safety.
A, B, C	Shooting	Shooting may be opportunistic or strategic. The later can be very effective as a tertiary control technique. It may also be used as a primary technique if it is implemented frequently and intense. However, use on public land in peri-urban area may be restricted or untenable due to increased risks to human safety.
A, B	Trapping	Trapping is considered a tertiary control that has merit in the later stages of an integrated control program. Leg hold trapping is a specialised method and is generally not appropriate in urban areas, particularly on public land such as council reserves. Cage trapping is useful in areas where rabbits have recently been dumped or introduced and are still habituated. Cage traps are also useful for catching free range domestic rabbits being a nuisance in the suburbs. Cage trapping can also be effective in reducing residual rabbit populations after baiting.
A	Harbour Destruction – removal of refuges	Harbour destruction is considered the most important follow-up rabbit control technique after baiting to minimise/prevent the recolonisation of the residual rabbit population. Care must be taken to prevent unnecessary removal of native vegetation.

Methods of control			
Management zone/s	Feral type	Method of control	Frequency and timing
All	A, B	Rabbit control should be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries <i>Vertebrate Pest Control Manual</i> (DPI 2014) and control strategies may include the destruction of burrows, shooting, trapping and baiting and should be undertaken following the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) (http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/publications/model-codes-of-practice).	Annually
All	A, B	Destruction on site of any warrens as required.	Annually
All	C	Upgrade to fencing on 900m of eastern boundary.	Upgrade to fencing installed in year 1.
Monitoring and inspections			
Management zone/s	Feral type/s	Method of monitoring	Date/s required
All	All	<p>Monitoring of feral/overabundant native herbivores is to include:</p> <ul style="list-style-type: none"> a walk over of the site by a suitably qualified person ongoing documentation by bush regenerators, other workers and staff at the site <p>Reporting using the 'Template for reporting of monitoring activities' must record:</p> <ul style="list-style-type: none"> the number and location of any tracks, traces or sightings of feral or overabundant native herbivores whether the level of activity is negligible, minimal, moderate or high the number, date and location of any animals shot, dens destroyed or baits taken. <p>This information is to be used to inform the adaptive revision of this management plan for feral and overabundant native herbivores.</p>	Annually

Other management activities (where required)
Records will be kept of opportunistic sightings by the landholder in the diary template for feral and overabundant herbivore management included below. These records will be submitted to OEH annually for review and discussion of suitable control methods to be employed (refer to Annexure D).

Template for reporting of monitoring activities			
Management zone/s	Date	Current level of impact on vegetation This column must record impact as Negligible, Minimal, Moderate or High	Observations and assessment of monitoring

Diary template for feral and overabundant herbivore management			
Date of activity	Management zone/s	Description and type of activity undertaken This column must include details of the feral and overabundant herbivores targeted, control techniques applied and numbers controlled.	Minor variations (details and reasons)

Vertebrate pest management plan

The management plan for vertebrate pests includes information on the vertebrate pests and their extent existing at the time of the agreement as listed in the 'Vertebrate pests' table. The possible methods of control for each species, used by OEH and other pest management programs are listed and the suitability of each method to the biobank site is described in the 'Methods considered' table.

The landowner must carry out the methods for vertebrate pest control for each management zone according to the method and frequency described in the 'Methods of control' table. The methods of control will apply to the vertebrate pests listed in the 'Vertebrate pests' table as well as any other vertebrate pests that may be present on the site from time to time.

Monitoring and inspections of existing and new vertebrate pests on the biobank site, as described in the 'Monitoring and inspections' table, must be implemented.

The table titled 'Template for reporting of monitoring activities' must be completed to record observations during the implementation of the plan and assessment of monitoring activities. The landowner must also complete the 'Diary template for vertebrate pest management' to record the management actions undertaken, including any minor variations, and observations made.

Vertebrate pests

Pest	Name of vertebrate pest (e.g. pig, fox, goat, dog)	Description of extent	Management zone/s
A	Fox <i>Vulpes vulpes</i>	Opportunistic sightings during field assessment.	All
B	Cat <i>Felis catus</i>	Scattered, very cryptic.	All
C	Common myna <i>Acridotheres tristis</i>	Opportunistic sightings during field assessment.	All

Methods considered

Pest type	Name and description of program or method	Describe suitability
A	Baiting ('1080' sodium monofluoracetate)	Can be an effective means of controlling foxes.
A	Den destruction	Appropriate where active dens identified.
A, B, C	Shooting	Use on public land in peri-urban area may be restricted or untenable due to increased risks to human safety.
A, B, C	Trapping	Labour-intensive and expensive.

Methods of control			
Management zone/s	Pest type	Method of control	Frequency and timing
All	A, B, C	Feral animal control should be undertaken in consideration of the control recommendations outlined in the Department of Primary Industries <i>Vertebrate Pest Control Manual</i> (DPI 2014) and control strategies may include the destruction of burrows, shooting, trapping and baiting and should be undertaken following the NSW Codes of Practices (COPs) and Standard Operating Procedures (SOPs) (http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/publications/model-codes-of-practice).	Annually
Monitoring and inspections of existing and new vertebrate pests			
Management zone/s	Pest type/s	Method of monitoring	Date/s required
All	All	<p>Monitoring of foxes and miscellaneous vertebrate pests is to include:</p> <ul style="list-style-type: none"> at least a yearly walk over of the site by a suitably qualified person ongoing documentation by bush regenerators, other workers and staff at the site <p>Reporting using the 'Template for reporting of monitoring activities' must record:</p> <ul style="list-style-type: none"> the number and location of any tracks, traces or sightings of feral or overabundant native herbivores whether the level of activity is negligible, minimal, moderate or high the number, date and location of any animals shot, dens destroyed or baits taken. <p>This information is to be used to inform the adaptive revision of this management plan for feral and overabundant native herbivores.</p>	Annually From Year 1
Other management activities (where required)			
Records will be kept of opportunistic fox and miscellaneous vertebrate pests sightings by the landholder in the diary template for feral and overabundant herbivore management included below. These records will be submitted to OEH annually for review and discussion of suitable control methods to be employed (refer to Annexure D).			

Template for reporting of monitoring activities			
Management zone/s	Date	Current level of impact on vegetation or threatened fauna species This column must record impact as Negligible, Minimal, Moderate or High	Observations and assessment of monitoring

Diary template for vertebrate pest management			
Date of activity	Management zone/s	Description and type of activity undertaken This column must include details of the vertebrate pests targeted, control techniques applied and numbers controlled.	Minor variations (details and reasons)

Annexure D: Monitoring, reporting and record keeping requirements

This Annexure D, together with Annexure C, is approved as a property management plan prepared by the landowner under the section 113B of the *Threatened Species Conservation Act 1995*.

Monitoring requirements

- 1.1 The landowner must ensure that photographs are taken at photo-points at each of the locations and in the direction identified in the table below titled 'Locations of plots and photo points' within 12 months of the commencement date and then at least every 12 months thereafter.
- 1.2 The photo points (related to plot locations) are identified on the map entitled ' Figure 5 [REDACTED] Photo Monitoring Points' dated 24/07/2018 in Annexure A of this agreement. The purpose of the photographs is to show changes over time. Photographs should be taken at approximately the same direction, location, height and time of day (during daylight hours) in each reporting period (as defined in item 2.2 of this Annexure D) and retained for the life of this agreement. All photographs must be dated, stating the direction in which they were taken and identified with their locations.

Locations of photo points				
Projected coordinate system: MGA 55				
Photo point reference	Easting	Northing	Direction of photo (magnetic degrees)	Plot reference
PP1	699096	6082829	East (90 degrees)	PU10
PP2	698990	6082829	North (0 degrees)	PU11
PP3	699413	6083065	West (270 degrees)	P03
PP4	699446	6083223	East (90 degrees)	P10
PP5	699768	6083369	North (0 degrees)	PU1
PP6	699683	6083153	North (0 degrees)	P06
PP7	699773	6083563	Southwest (225 degrees)	P08
PP8	699651	6082995	East (90 degrees)	PU2

PP9	699240	6082786	North (0 degrees)	P01
PP10	699176	6082979	East (90 degrees)	P02
PP11	699453	6083000	South (180 degrees)	P04
PP12	699493	6083293	North (0 degrees)	P09

- 1.3 An inspection of the biobank site must be undertaken by, or on behalf of, the landowner in accordance with the table 'Site inspection and monitoring schedule' below, for the purposes specified in column A and at the relevant interval specified in column B. The inspections are to occur at the intervals indicated starting from the commencement date. The inspections are additional to any inspections and monitoring required by Annexure C.

Site inspection and monitoring schedule	
A. Purpose	B. Interval
The percentage of ground cover present on the biobank site for the purposes of item 1.1 of Section 1 of Annexure C.	Every 12 months
Number of stock and date/s when stock have entered the management zones on the biobank site.	Every 3 months
Physical condition of fencing and gates to determine whether they are maintained to a standard that can: <ol style="list-style-type: none"> 1. control the movement of stock if required under item 1 in Section 1 of Annexure C 2. control human disturbance if required under item 4 in Section 1 of Annexure C 3. control the movement of feral and overabundant native herbivores if required under item 10 of Section 2 4. control vertebrate pests if required under item 11 of Section 2 	Every 12 months
Records of any human disturbance on the biobank site. Note: items 4.1 and 4.2 in Section 1 of Annexure C and clause 2 of this agreement place restrictions on human activities on the biobank site.	Every 6 months
Evidence of erosion. Note: item 8 in Section 1 of Annexure C contains requirements for erosion control.	Every 6 months
Evidence of waste. Note: item 4.4 in Section 1 of Annexure C contains requirements for storing and disposing of waste on the biobank site.	Every 6 months

Reporting requirements – annual report

The landowner must complete and submit to the Chief Executive for approval an annual report using the annual reporting template provided in this Annexure or, if the Chief Executive has approved an amended version of the annual reporting template after

the date of this agreement, such an amended version of the annual reporting template as has been approved by the Chief Executive from time to time and supplied to the landowner.

- 1.4 An annual report must be prepared for each reporting period. A reporting period means:
 - 1.4.1 prior to the first payment date, the period of 12 months after the commencement date, and each subsequent period of 12 months
 - 1.4.2 after the first payment date, the period of 12 months after that date, and each subsequent period of 12 months.

The annual report submitted after the first anniversary of the first payment date must also include the period between the last anniversary of commencement date and the first payment date.

- 1.5 The annual report for the report period must be supplied to the Chief Executive by registered post not later than 30 days after the end of each reporting period.
- 1.6 If there is a change in land ownership during a reporting period, each landowner must submit the annual report required under items 1.2, 1.3 and 1.4 of this Annexure D for the period for which they were the landowner.
- 1.7 The annual report must:
 - 1.7.1 contain the results of any monitoring, inspections or surveys required in Annexure C
 - 1.7.2 contain the results of the inspections required to be conducted by item 1.2 of this annexure D, including details of the date, time, location and nature of the inspection, the name of the person conducting the inspection and observations from the inspection
 - 1.7.3 include the photographs taken at the photo points listed in Annexure D
 - 1.7.4 include any other information required in the annual reporting template.

Annual reporting template

Biobank site annual report					
Location details					
Biobanking agreement ID:		Name of landowner/s:			
Reporting date:		Property address:			
Records of management actions undertaken					
Management action	Required completion time and frequency	Action completed (Yes/No)	Actual completion date/s	Description of actions undertaken (including where undertaken (including reference to management zones), any variations and the reasons for variation)	Visual observations and other comments (including reasons for non-completion)
1 Management of grazing for conservation					
2 Weed control					
3 Management of fire for conservation					
4 Management of human disturbance					
5 Retention of native vegetation					
6 Planting or seeding					
7 Retention of dead timber					

8 Erosion control					
9 Retention of rocks					
10 Control of feral and overabundant native herbivores					
11 Vertebrate pest management					
12 Nutrient control					
13 Control of exotic fish species					
14 Maintenance or reintroduction of natural flow regimes					

Incident or event that has adverse effect on biodiversity values on biobank site

Incident or event including adverse impacts (e.g. natural events)	Action taken and proposed recommended actions

Records submitted with this report

- Photographs taken at the photo points set in the biobanking agreement.
- Results of the inspections required to be conducted in item 1.3 of Annexure D to the biobanking agreement.
- Results of any monitoring, inspections or surveys required in Annexures C and D to the biobanking agreement.

Signature and certification

I hereby declare that the information supplied in this report is accurate and complies with the reporting requirements under item 2 of the Annexure D to the biobanking agreement.

Note: If the land that forms the biobank site is owned by multiple persons, each landowner must sign this annual report.

Signed

Signed

Date

Date

2 Record keeping requirements

- 2.1 The following written records and photographs must be created and retained by the landowner:
- 2.1.1 for a management action required by this agreement (other than a management action requiring the landowner to refrain from an activity), the date and location/s the management action was carried out and a description of the actions that were undertaken
 - 2.1.2 for a management action which is permitted to be carried out only in accordance with the Chief Executive's consent or approval, a copy of that consent or approval
 - 2.1.3 a copy of any management plan (or updated management plan) required by Annexure C of this agreement that has been approved by the Chief Executive, a copy of the Chief Executive's approval of the management plan (or updated management plan) and a copy of any review of a management plan required by Annexure C
 - 2.1.4 the diaries for recording actions undertaken in accordance with the management plans required by this agreement including the details (management zone/s, date, alternative action) of any minor alterations made to the implementation of those management plans and the reasons for the minor alterations
 - 2.1.5 all photographs required by item 1 of this Annexure D and the information that item requires to be recorded on the photographs
 - 2.1.6 for an inspection required by this agreement, the date, time, location and nature of the inspection, the name of the person conducting the inspection and observations from the inspection
 - 2.1.7 the results of monitoring, inspections or surveys required to be conducted by this agreement or any management plan that is required to be implemented under this agreement
 - 2.1.8 a brief description of any climatic, weather, ecological/environmental or unplanned events that have a significant adverse affect on the biodiversity values of the biobank site.
- 2.2 The landowner must retain a copy of each annual report.
- 2.3 All records required to be kept by this agreement must be:
- 2.3.1 in a legible form, or in a form that can readily be reduced to a legible form (this includes photographs taken as part of this agreement);
 - 2.3.2 kept for at least 10 years after the event to which they relate took place, unless specified otherwise; and
- Note: item 1.1 of this Annexure D requires the photographs required to be taken under that item to be retained for the life of this agreement.
- 2.3.3 produced to any authorised officer on request by an authorised officer.

Annexure E: Payment schedule

Note:

If, by participating in the BioBanking Scheme, you are carrying on an 'enterprise', and your annual income for management actions meets or exceeds \$75,000 (or \$150,000 for a non-profit organisation) you are required to register for GST.

'Enterprise' has a broad definition, and includes activities that are in the form of a business, or in the form of a concern in the nature of trade. Item 1 below assumes you are carrying on an enterprise.

If you are not carrying on an enterprise by participating in the BioBanking Scheme, GST will not apply to you – but Capital Gains Tax and income tax may still apply. In this case, do not indicate an ABN in item 1.1 below.

If you do not meet the monetary threshold, but you are carrying on an enterprise by participating in the BioBanking Scheme, you are still entitled to register for GST if you wish and you may indicate a registered ABN in item 1.1 below.

• Agreement to issue recipient created tax invoices

- 2.4 The parties acknowledge that, if the landowner is registered for GST, recipient created tax invoices will be issued from the BioBanking Trust Fund (Australian Business Number 83 639 386 285) to the landowner (Australian Business Number [REDACTED]).
- 2.5 The recipient created tax invoices will be for the supply by the landowner of the landowner's obligation to carry out the management actions as defined in this agreement ('the supplies'). These management actions are specified between the landowner and the Minister administering the Act, pursuant to Part 7A Division 2 of the Act.
- 2.6 The recipient created tax invoices will be issued on payment of the management payments as specified in item 2 of this Annexure E.
- 2.7 Under this recipient created tax invoice agreement, the landowner guarantees that the landowner will not issue any tax invoice for the supplies.
- 2.8 The landowner will notify the BioBanking Trust Fund immediately should the landowner cease to be registered for GST.
- 2.9 The BioBanking Trust Fund is registered for GST and the Minister will notify the landowner immediately should the fund cease to be registered.

3 Payment timing and amount

- 3.1 Subject to clause 12 of the agreement, the Minister is to direct the Fund Manager to make the management payments to the landowner in accordance with the payment schedules and the requirements of items 2, 3 and 4 of this Annexure E.
- 3.2 The first year of the payment timing, as set out in the payment schedules, commences from the first payment date.

- 3.3 The amount of the scheduled management payment for each year is as set out in the payment schedules.
- 3.4 Each amount is listed in the present value and is inclusive of GST for GST registered landowners and will be increased in accordance with the formula below:

In respect of indexation by CPI the following applies:

Each amount of the management payment is to be adjusted by movements in the CPI in accordance with the formula below (provided that, at all times, each instalment of the management payment is never less than its nominal dollar value as set out in the payment schedules and as at the date of this agreement).

$$\frac{A \times B}{C}$$

Where:

CPI means the published Consumer Price Index (Sydney - All Groups), or if that index is no longer published, then any other index which, in the reasonable opinion of the Minister, is a similar index

A is the dollar value (\$) of the management payment amounts as set out in the Payment Schedules prior to indexation by CPI

B is the most recent June Quarter CPI prior to the date that payment is due to be made

C is the CPI for the June Quarter 2018

3.5 Payment schedules

Payment schedule (including GST)	
Payment timing	Amount
At the beginning of the first year	██████████
At the beginning of the second year	██████████
At the beginning of the third year	██████████
At the beginning of the fourth year	██████████
At the beginning of the fifth year	██████████
At the beginning of the sixth year	██████████
At the beginning of the seventh year	██████████
At the beginning of the eighth year	██████████
At the beginning of the ninth year	██████████
At the beginning of the tenth year	██████████
At the beginning of the eleventh year	██████████
At the beginning of the twelfth year	██████████

At the beginning of the thirteenth year	██████████
At the beginning of the fourteenth year	██████████
At the beginning of the fifteenth year	██████████
At the beginning of the sixteenth year	██████████
At the beginning of the seventeenth year	██████████
At the beginning of the eighteenth year	██████████
At the beginning of the nineteenth year	██████████
At the beginning of the twentieth year	██████████
At the beginning of each following year	Amount equal to the sum of the in-perpetuity management cost that apply for each following year as determined by the table of in perpetuity costs below.

In perpetuity management costs (on and from the twenty-first year) (excluding GST and subject to rate of return)		
Description of ongoing management action	Frequency	Amount (\$)
Weed control -grasses	The twenty first year and every year thereafter	██████████
Weed control - broadleaf	The twenty first year and every year thereafter	██████████
Rubbish management (ongoing removal and maintenance)	The twenty first year and every year thereafter	██████████
Fence replacement	The Fortieth year and every twentieth year thereafter	██████████
Fence management and signage	The twenty first year and every year thereafter	██████████
Conservation fire management	The twenty fourth year and every fifth year thereafter	██████████
Firebreak/track maintenance	The twenty fourth year and every fifth year thereafter	██████████
Vertebrate Pest Management	The twenty first year and every year	██████████

	thereafter	
Other ongoing recurring costs		
Management of site drainage from urban stormwater catchments, in collaboration with Queanbeyan Palerang Regional Council	The twenty first year and every year thereafter	██████████
Annual reporting fee	The twenty first year and every year thereafter	██████████
Rates	The twenty first year and every year thereafter	██████████
Insurance	The twenty first year and every year thereafter	██████████
Business management and administration costs	The twenty first year and every year thereafter	██████████
Monitoring and reporting requirements	The twenty first year and every year thereafter	██████████
Total present value of payments after 20 years (incl. GST)		██████████
Total present value of payments after 20 years (excl. GST)		██████████

4 Nominated bank account

- 4.1 The management payments will be paid into a bank account as nominated by the landowner in accordance with the requirements of this item 3 (**‘the Nominated Bank Account’**).
- 4.2 The landowner must provide the Fund Manager with details in writing of the nominated bank account within 14 days of the commencement date.
- 4.3 Where there is more than one owner of the biobank site, the notice to be provided in accordance with item 3.2 above must be signed by all owners of the biobank site.
- 4.4 The landowner must notify the Fund Manager in writing within 14 days of any change to the nominated bank account. This notice must include new bank account information and the written consent of all owners of the biobank site.

5 Annual contribution

- 21.4 The landowner authorises the Minister to retain the annual contribution from each management payment made to the landowner.

- 21.5 The Minister will, following each management payment, issue the landowner with an invoice confirming that the annual contribution has been deducted from the relevant management payment.
- 21.6 As contemplated by clause 18 of the BioBanking Regulation, the Minister may waive the annual contribution where:
- 5.1.1 the owner of the biobank site has not sold any of the biodiversity credits created for the site, or
 - 5.1.2 there are insufficient funds in the biobank site account relating to the biobank site to meet the next scheduled management payment when it becomes payable.

Appendix I. BioBanking / BAM Credit Equivalence



BIODIVERSITY CREDIT OWNERSHIP REPORT

Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme

PURPOSE

This document is a credit ownership report for the owner of biodiversity credits created under the *Threatened Species Conservation Act 1995 (TSC Act 1995)*. The section “Biodiversity Credits” shows the current number and class of issued credits created under the TSC Act Biodiversity Banking and Offsets Scheme. It also shows the equivalent number and class of biodiversity credits that have been determined as reasonably equivalent credits by the Environment Agency Head under the *Biodiversity Conservation Act 2016 (BC Act)* and Clause 19 of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 (**BC S&T Regulation**).

USE IN TRANSACTIONS

This credit ownership report must be attached with the credit ownership report from the BioBanking Credit Registers when conducting any further transactions of all or part of the biodiversity credits identified in this report.

An updated report will be provided if all or part of the biodiversity credits identified in this report are transferred or retired.

Attachment 1

Part 1 Credit owner details

This section “Biodiversity Credits” shows the current number and class of held credits created under the TSC Act Biodiversity Banking and Offsets Scheme. It also shows the equivalent number and class of biodiversity credits that have been determined as reasonably equivalent credits by the Environment Agency Head under the BC Act Biodiversity Offsets Scheme. Credits that are pending, credits that are suspended, revoked or that have been retired are not listed.

CREDIT OWNER DETAIL

On the 4 September 2019, under the *Biodiversity Conservation Act 2016* and Clause 19 of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 the biodiversity credits listed in Attachment 1 of this report are held by:

Owner/s (if a company)	
Owner ID	401
Company	Robin Pty Ltd
ACN	008504149

Street address/Physical address:			
Address	RMB 4A		
Suburb /city	Queanbeyan		
State / territory	NSW	Postcode	2620
Country	Australia		

Credit Owner ID	Designated Email available on public register ¹
401	wandyali.restoration@gmail.com

¹ Note: The designated email is publicly available on the register to assist with contact between credit buyers and sellers. For privacy purposes, individual or personal information is not displayed on the public register.

Part 2 Existing credits owned at 4 September 2019

1. ECOSYSTEM CREDITS

CREDITS OWNED

Biodiversity credits created under <i>Threatened Species Conservation Act 1995</i> - Biodiversity Banking and Offsets Scheme					
Source Agreement ID	Credit ID	Vegetation Code	Vegetation type	IBRA sub region	Number of credits
310	2685	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	103
310	2687	MR648	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	46
310	2689	MR631	Speargrass grassland of the South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	71

DETERMINATION OF REASONABLE EQUIVALENCE

Table 1

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
310	2685	1289	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion		MZ2 ¹	102
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation	
Temperate Montaine Grasslands with a percent cleared value $\geq 50\%$ and $< 70\%$				N/A	Temperate Montaine Grasslands	Grasslands	
IBRA subregion				Murrumbateman			

Table 2

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
310	2687	1330	MR648	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion		MZ4	30
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation	
White Box Yellow Box Blakely's Red Gum Woodland (Box -Gum Woodland)				N/A	Southern Tablelands Grassy Woodlands	Grassy Woodlands	
IBRA subregion				Murrumbateman			

Table 3

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
310	2687	1330	MR648	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion		MZ5	8
Offset trading group			Hollow Bearing trees	Vegetation Class	Vegetation formation		
White Box Yellow Box Blakely's Red Gum Woodland (Box -Gum Woodland)			N/A	Southern Tablelands Grassy Woodlands	Grassy Woodlands		
IBRA subregion			Murrumbateman				

Table 4

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
310	2689	1202	MR631	Speargrass grassland of the South Eastern Highlands Bioregion		MZ1a	3
Offset trading group			Hollow Bearing trees	Vegetation Class	Vegetation formation		
Natural Temperate Grassland of the Southern Tablelands (1001, NSW and ACT)			N/A	Temperate Montaine Grasslands	Grasslands		
IBRA subregion			Murrumbateman				

Table 5

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme								
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name			Management Zone	Number of credits
310	2689	1202	MR631	Speargrass grassland of the South Eastern Highlands Bioregion			MZ1	54
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation		
Natural Temperate Grassland of the Southern Tablelands (1001, NSW and ACT)				N/A	Temperate Montaine Grasslands	Grasslands		
IBRA subregion				Murrumbateman				

2.SPECIES CREDITS

CREDITS OWNED

Biodiversity credits created under <i>Threatened Species Conservation Act 1995</i> - Biodiversity Banking and Offsets Scheme			
Credit ID	Common Name	Scientific Name	Number of credits
561	Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	215
562	Golden Sun Moth	<i>Synemon plana</i>	174

DETERMINATION OF REASONABLE EQUIVALENCE

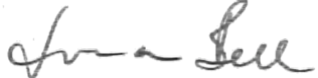
Equivalent species credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme				
Source Agreement ID	Credit ID	Common Name	Scientific Name	Number of credits
310	561	Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	145

Equivalent species credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme				
Source Agreement ID	Credit ID	Common Name	Scientific Name	Number of credits
310	562	Golden Sun Moth	<i>Synemon plana</i>	111

AUTHORISATION

This ownership report was issued on 12 September 2019

Authorised by:



Linda Bell

**A/Director of Conservation Programs
Office of the Environment and Heritage
Delegate of the Environment Agency Head**

Explanation:

This is a transitional arrangement. OEH will advise when the transitional arrangements no longer apply.

The owner of these credits may still conduct transactions of BioBanking credits.

If more than one equivalent class of credit is created for a BioBanking credit – any transactions of BioBanking credits will be deducted from each of the equivalent classes on a pro rata basis.

For transactions of equivalent classes of credits – only credits of that equivalent class will be deducted from the credits owned.

Deductions of credits will only be shown on the [public register of BioBanking credits](#) as a deduction of BioBanking credits.

A copy of this statement of ownership must be provided to potential purchasers of credits.

For the purpose of protecting confidential information. OEH will provide a copy of the form redacting the credit owner ID.

ⁱ Management Zone is a reference to the zone used for the creation of ecosystem credits. This is important in the assessment of reasonable equivalence of those credits. Credits that appear to have the same offset trading group, vegetation class and vegetation formation may be calculated differently because they occur within a different management zone. An Accredited Assessor can provide further information on management zones and how ecosystem credits are calculated.



BIODIVERSITY CREDIT OWNERSHIP REPORT

Biodiversity credits owned under the Biodiversity Banking and Offsets Scheme and reasonable equivalence to credits under the Biodiversity Offsets Scheme

PURPOSE

This document is a credit ownership report for the owner of biodiversity credits created under the *Threatened Species Conservation Act 1995 (TSC Act 1995)*. The section “Biodiversity Credits” shows the current number and class of issued credits created under the TSC Act Biodiversity Banking and Offsets Scheme. It also shows the equivalent number and class of biodiversity credits that have been determined as reasonably equivalent credits by the Environment Agency Head under the *Biodiversity Conservation Act 2016 (BC Act)* and Clause 19 of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 (**BC S&T Regulation**).

USE IN TRANSACTIONS

This credit ownership report must be attached with the credit ownership report from the BioBanking Credit Registers when conducting any further transactions of all or part of the biodiversity credits identified in this report.

An updated report will be provided if all or part of the biodiversity credits identified in this report are transferred or retired.

Attachment 1

Part 1 Credit owner details

This section “Biodiversity Credits” shows the current number and class of held credits created under the TSC Act Biodiversity Banking and Offsets Scheme. It also shows the equivalent number and class of biodiversity credits that have been determined as reasonably equivalent credits by the Environment Agency Head under the BC Act Biodiversity Offsets Scheme. Credits that are pending, credits that are suspended, revoked or that have been retired are not listed.

CREDIT OWNER DETAIL

On the 4 September 2019, under the *Biodiversity Conservation Act 2016* and Clause 19 of the Biodiversity Conservation (Savings and Transitional) Regulation 2017 the biodiversity credits listed in Attachment 1 of this report are held by:

Owner/s (if a company)	
Owner ID	400
Company	Robin Pty Ltd
ACN	008504149

Street address/Physical address:			
Address	RMB 4A		
Suburb /city	Queanbeyan		
State / territory	NSW	Postcode	2620
Country	Australia		

Credit Owner ID	Designated Email available on public register ¹
400	wandyali.restoration@gmail.com

¹ Note: The designated email is publicly available on the register to assist with contact between credit buyers and sellers. For privacy purposes, individual or personal information is not displayed on the public register.

Part 2 Existing credits owned at 4 September 2019

1. ECOSYSTEM CREDITS

CREDITS OWNED

Biodiversity credits created under <i>Threatened Species Conservation Act 1995</i> - Biodiversity Banking and Offsets Scheme					
Source Agreement ID	Credit ID	Vegetation Code	Vegetation type	IBRA sub region	Number of credits
309	2679	MR631	Speargrass grassland of the South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	120
309	2680	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	244
309	2681	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	27
309	2682	MR648	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion	Murrumbateman - Murrumbidgee	5

DETERMINATION OF REASONABLE EQUIVALENCE

Table 1

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
309	2679	1202	MR631	Speargrass grassland of the South Eastern Highlands Bioregion		MZ6 ⁱ	29
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation	
Temperate Montaine Grasslands with a percent cleared value $\geq 50\%$ and $< 70\%$				N/A	Temperate Montaine Grasslands	Grasslands	
IBRA subregion				Murrumbateman			

Table 2

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
309	2679	1202	MR631	Speargrass grassland of the South Eastern Highlands Bioregion		MZ6a	39
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation	
Temperate Montaine Grasslands with a percent cleared value $\geq 50\%$ and $< 70\%$				N/A	Temperate Montaine Grasslands	Grasslands	
IBRA subregion				Murrumbateman			

Table 3

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
309	2680	1289	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion		MZ7	158
Offset trading group				Hollow Bearing trees	Vegetation Class	Vegetation formation	
Temperate Montaine Grasslands with a percent cleared value $\geq 50\%$ and $< 70\%$				N/A	Temperate Montaine Grasslands	Grasslands	
IBRA subregion				Murrumbateman			

Table 4

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
309	2681	1289	MR686	Wallaby Grass - Red-grass - Tall Speargrass - Kangaroo Grass dry tussock grassland of the North-western and Eastern Southern Tablelands in the South Eastern Highlands Bioregion		MZ8	15
Offset trading group			Hollow Bearing trees	Vegetation Class	Vegetation formation		
Temperate Montaine Grasslands with a percent cleared value $\geq 50\%$ and $< 70\%$			N/A	Temperate Montaine Grasslands	Grasslands		
IBRA subregion			Murrumbateman				

Table 5

Equivalent credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme							
Source Agreement ID	Credit ID	Plant Community Code BC Act	Veg Code TSC Act	Plant Community Name		Management Zone	Number of credits
309	2682	1330	MR648	Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion		MZ9	2
Offset trading group			Hollow Bearing trees	Vegetation Class	Vegetation formation		
White Box Yellow Box Blakely's Red Gum Woodland (Box -Gum Woodland)			Vegetation containing hollow bearing trees	Southern Tablelands Grassy Woodlands	Grassy Woodlands		
IBRA subregion			Murrumbateman				

2.SPECIES CREDITS

CREDITS OWNED

Biodiversity credits created under <i>Threatened Species Conservation Act 1995</i> - Biodiversity Banking and Offsets Scheme			
Credit ID	Common Name	Scientific Name	Number of credits
557	Pink-tailed Legless Lizard	<i>Aprasia parapulchella</i>	132
558	Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	295
559	Golden Sun Moth	<i>Synemon plana</i>	322

DETERMINATION OF REASONABLE EQUIVALENCE

Equivalent species credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme				
Source Agreement ID	Credit ID	Common Name	Scientific Name	Number of credits
309	557	Pink-tailed Legless Lizard	<i>Aprasia parapulchella</i>	85


Equivalent species credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme				
Source Agreement ID	Credit ID	Common Name	Scientific Name	Number of credits
309	558	Grassland Earless Dragon	<i>Tympanocryptis pinguicollis</i>	187

Equivalent species credits under <i>Biodiversity Conservation Act 2016</i> – Biodiversity Offset Scheme				
Source Agreement ID	Credit ID	Common Name	Scientific Name	Number of credits
309	559	Golden Sun Moth	<i>Synemon plana</i>	201

AUTHORISATION

This ownership report was issued on 12 September 2019

Authorised by:



Linda Bell

A/Director of Conservation Programs
Office of the Environment and Heritage
Delegate of the Environment Agency Head

Explanation:

This is a transitional arrangement. OEH will advise when the transitional arrangements no longer apply.

The owner of these credits may still conduct transactions of BioBanking credits.

If more than one equivalent class of credit is created for a BioBanking credit – any transactions of BioBanking credits will be deducted from each of the equivalent classes on a pro rata basis.

For transactions of equivalent classes of credits – only credits of that equivalent class will be deducted from the credits owned.

Deductions of credits will only be shown on the [public register of BioBanking credits](#) as a deduction of BioBanking credits.

A copy of this statement of ownership must be provided to potential purchasers of credits.

For the purpose of protecting confidential information. OEH will provide a copy of the form redacting the credit owner ID.

ⁱ Management Zone is a reference to the zone used for the creation of ecosystem credits. This is important in the assessment of reasonable equivalence of those credits. Credits that appear to have the same offset trading group, vegetation class and vegetation formation may be calculated differently because they occur within a different management zone. An Accredited Assessor can provide further information on management zones and how ecosystem credits are calculated.

Appendix J. Council Consultation

Mr Chris Daly
Director
E: Chris.Daly@archaprojetcs.com.au

31 March 2023

Dear Chris,

Biodiversity Certification Assessment Report (BCAR) – Poplars Development

Thank you for your email of 25 March 2023 requesting Queanbeyan-Palerang Regional Council (QPRC) comment on the proposed Biodiversity Certification Assessment Report (BCAR) prepared for the Poplars Development.

Council does not have the resources or in-house expertise available to provide detailed comments on the adequacy of the methodology contained in the report or the suitability of the proposed recommendations. However, Council generally supports an approach that allows potential impacts on biodiversity to be resolved upfront rather than considered individually for subsequent development applications.

The recommendations set out in the report have a number of implications in respect of the ongoing development and future management of the area (beyond potential environmental impacts alone). From a planning perspective, the report is focussed primarily on considering environmental impacts and land-use planning implications will need to be considered.

It is noted the recommendations of the BCAR includes additional 'Avoided Land'. This will have implications in regarding responsibilities for this land. If Council were take over ownership of the land it would need to understand what obligations come with that ownership and what resources are proposed to assist in its management. It should be noted any proposal that Council take over ownership of the land would be subject to a formal agreement of the elected Council.

In addition, it is noted that it will require further discussion regarding the applicant meeting the obligations for an intermodal site under the Local Planning Agreement.

OFFICES

144 Wallace St, Braidwood
10 Majara St, Bungendore
256 Crawford St, Queanbeyan

POSTAL

PO Box 348, Bungendore NSW 2621
PO Box 90, Queanbeyan NSW 2620

PHONE/FAX

Bungendore/Braidwood
P: 02 6238 8111
Queanbeyan
P: 02 6285 6000 F: 02 6285 6666

EMAIL/WEB

W: www.qprc.nsw.gov.au
E: council@qprc.nsw.gov.au

ABN 95 933 070 982

If as a result of the BCAR, changes to existing land-use zones are required, it is suggested that this will need to be discussed further with Regional NSW and NSW DPE.

Again thank you for the opportunity to make a submission. If you wish to discuss this matter further please contact myself on 62856105.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Beate Jansen', with a long horizontal flourish extending to the right.

Beate Jansen
Acting Coordinator
Urban Land-Use Planning
Queanbeyan-Palerang Regional Council