



Our Ref: 23485\_GRSF\_Barnett St\_Response to RFI Letter\_Final

17 June 2024

Joe Fittell  
Team Leader, Energy Assessments  
Department of Planning, Housing and Infrastructure

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Dear Joe,

**RE: Goulburn River Solar Farm (SSD- 33964533) - Response to DPHI RFI dated 20 May 2024**

## 1.0 Introduction

Umwelt was engaged by Lightsource bp Development Services Australia (Lightsource bp) to prepare the Environmental Impact Statement (EIS), Response to Submissions (RtS) Report, Amendment Report 1 (Part A and B), and Amendment Report 2 for the Goulburn River Solar Farm Project (the Project).

The Department of Planning, Housing and Infrastructure (DPHI) have requested additional information whilst they continue to assess the merits of the Project on three occasions, as summarised below:

- Request for Information (RFI) #1, dated 31 January 2024, in which DPHI (and relevant agencies) requested additional information on the Amended Project (1) across a range of environmental features including traffic, hazards, heritage, and water. A formal response was provided to DPHI on 8 April 2024.
- RFI #2, dated 8 April 2024, in which DPHI requested further information regarding the approach to workers accommodation for the Project. A formal response (i.e. Amendment Report (2)) was submitted to DPHI on 24 May to address this request.
- RFI #3, dated 20 May 2024, which requests additional information regarding the sealing of 30 m of road at the throat of Barnett Street, and whether there would be any additional environmental impacts, namely biodiversity and/or heritage.

## 1.1 Background

Transport for New South Wales (TfNSW) provided updated advice to DPHI on 9 May 2024 for the Project and provided the following recommended condition to assist DPHI in the assessment of the Project:

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*The schedule of road upgrades must include sealing of the throat of the intersection of Barnett Street/Golden Highway, in accordance with Council's standards and guidelines. The road upgrade must be completed prior to commencing construction.*

This request from TfNSW aligns with advice received from Upper Hunter Shire Council (Council) as part of RFI #1, whereby Council stated:

*"... should the application be approved, we recommend that a condition of consent be imposed requiring Barnett Street to be sealed for a minimum distance of 30 metres from the intersection with the Golden Highway to minimise the potential for loose gravel to be deposited on the highway."*

## **1.2 Purpose of this Letter**

This response to RFI (#3) provides the additional assessment of the sealing of 30 m of Barnett Street, as requested by TfNSW in its advice dated 9 May 2024, as summarised below:

- the road sealing works; and
- whether there are any environmental impacts associated with the works, in particular impacts on biodiversity and/ or heritage values.

## **2.0 Description of Works**

The proposed road upgrade therefore includes sealing of 30 metres (m) of Barnett Street, which forms part of the site access/egress route as described in the Amended Project (1). The road upgrades proposed for the throat of the Barnett Street / Golden Highway intersection would include minor ground disturbance, along with the application of asphalt from the Golden Highway for 30 m down the throat of the intersection of Barnett Street. No widening of the road and/or intersection or culvert works are required or proposed as part of these upgrades, which will be limited to the extent of the existing road footprint.

**Figure 2.1** illustrates the location of the proposed road upgrades.

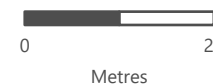


**FIGURE 2.1**

**Barnett Street Road Upgrades**

**Legend**

- Area of Investigation (5m)
- Proposed Road Upgrades Area



Scale: 1:0 at A4  
GDA 1994 MGA Zone 56

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### 3.0 Impact Assessment

A qualitative assessment of potential environmental impacts resulting from the proposed road upgrades has been undertaken as part of this Response to RFI. **Table 3.1** provides details of each assessment and the additional mitigation and management measures, as required.

**Table 3.1 Qualitative Assessment of Environmental Impacts**

Environmental Aspect	Qualitative Assessment	Additional Mitigation and Management Measures
<b>Biodiversity</b>	A Biodiversity Due Diligence Assessment was prepared to assess the impacts to biodiversity values as a result of the proposed road upgrades. The assessment determined no significant impacts to biodiversity values are likely to occur as a result of the proposed works.	No significant impacts to biodiversity are proposed as a result of the road upgrades. Additional minor management and mitigation measures are proposed in <b>Appendix A</b> , and are consistent with standard environmental measures that will be implemented as part of the Project Construction Environmental Management Plan (CEMP).  Further information is provided in <b>Section 4.1</b> , with the Due Diligence Assessment report provided as <b>Appendix A</b> .
<b>Aboriginal Cultural Heritage</b>	An Aboriginal Cultural Heritage Due Diligence assessment was undertaken in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW to assess whether Aboriginal objects may be harmed as a result of the proposed road upgrades. The assessment determined that no further archaeological investigation was required, and that any Aboriginal objects with archaeological sensitivity listed on the AHIMS and/or other sources can be avoided, given the distance from these items to the proposed road upgrades area.	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and managements as identified in the EIS and Amendment Reports (1 and 2) will apply.  Further information is provided in <b>Section 4.2</b> , with the Due Diligence Assessment provided as <b>Appendix B</b> .
<b>Historic Heritage</b>	Impacts to historic heritage as a result of the proposed road upgrades are not anticipated and will be no greater than the impact as assessed in the EIS and Amendment Reports (1 and 2).	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and managements as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Soils and Land Use</b>	There is no change to the land use as a result of the proposed road upgrades. During the road upgrades, soils would be subject to disturbance, which can potentially lead to minor erosion and sedimentation impacts. However, impacts to soils are not anticipated to be greater than those assessed as part of the EIS and Amendment Reports (1 and 2).	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and managements as identified in the EIS and Amendment Reports (1 and 2) will apply.

Environmental Aspect	Qualitative Assessment	Additional Mitigation and Management Measures
<b>Noise and Vibration</b>	There is no change to predicted noise and vibration levels as a result of the road upgrades. Cumulative construction noise and vibration exceedances due to concurrent construction activities are not predicted.	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and managements as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Visual</b>	The proposed road upgrades would involve no change to the visual sensitivity rating, visual magnitude rating, visual impact rating or residual impact rating assessed as part of the EIS and Amendment Reports (1 and 2).	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and management measures as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Traffic and Transport</b>	<p>The proposed road upgrades at Barnett Street will occur prior to construction commencing on the solar farm. There is no change to the peak construction traffic as a result of the proposed road upgrades, and as such, construction traffic impacts will be no greater than those assessed in the Amendment Report (1).</p> <p>Impacts on users of Barnett Street during the road upgrades will be managed in consultation with the property owner (i.e. Alexander Downs).</p> <p>The intersection would still operate with spare capacity. No additional operational transport and traffic impacts are anticipated as works will be completed prior to the construction of the Project.</p>	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and management measures as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Social and Economic Impact</b>	No social or economic impacts are anticipated as a result of the small scope of the proposed road upgrades,	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and management measures as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Hazards and Risk</b>	Impacts are not anticipated as a result of any hazardous event associated with the road upgrades, and will be no greater than the impact as assessed in the EIS and Amendment Reports (1 and 2).	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and management measures as identified in the EIS and Amendment Reports (1 and 2) will apply.
<b>Water</b>	There is the potential for non-significant impacts to surface water quality as a result of erosion and sedimentation during construction, however any impacts to water resources as a result of the proposed road upgrades are no greater than the impacts assessed in the EIS and Amendment Reports (1 and 2).	No additional mitigation or management measures are required as a result of the road upgrades. Application of mitigation and management measures as identified in the EIS and Amendment Reports (1 and 2) will apply.

## 4.0 Further Assessments

### 4.1 Biodiversity

A Biodiversity Due Diligence Assessment was prepared by Umwelt Pty Ltd (Umwelt) for the assessment of the proposed road works at Barnett Street. A summary of the findings is provided below, with the full memorandum provided as **Appendix A**.

### 4.2 Assessment

#### 4.2.1 Desktop Assessment

A review of relevant publicly available databases and regional vegetation mapping was undertaken by Umwelt in June 2024 to identify threatened and migratory species, endangered populations, threatened ecological communities (TECs) and their habitats that have previously been recorded within the Study Area (i.e. a 10 km area around the proposed road upgrades area). Threatened and migratory species, endangered populations, and TECs listed under the relevant NSW and Commonwealth legislation that have the potential to occur within the road upgrades area were also considered, based on the type of habitat present and the NSW bioregion within which the Study Area occurs.

The desktop assessment was also supported by a site visit, in which an Umwelt ecologist recorded observations of any threatened and/ or migratory species, endangered populations, TECs and any other ecological features that have the potential to be impacted as a result of the proposed road upgrades.

#### 4.2.2 Results

##### 4.2.2.1 Vegetation Mapping

The vegetation within the road upgrades area is mapped as Plant Community Type (PCT) 0 (Not classified) under the NSW SVTM and 'Category 1 – exempt land' under the Draft Native Vegetation Regulatory Map. Additionally, the road upgrades area is not mapped as containing 'biodiversity values' under the NSW Biodiversity Values Map and Threshold Tool.

##### 4.2.2.2 Threatened Species

The assessment identified the Study Area as providing potential habitat for 17 threatened fauna species. However, none of these species were assessed as having a moderate or higher likelihood of occurring within the road upgrades area, based on known habitat preference and distribution. None of these species were identified during the site visit. The likelihood of occurrence for the listed threatened fauna species within the Study Area is provided in **Appendix A**.

#### 4.2.3 Direct Impacts

A summary of the direct impact associated with the proposed road upgrades is provided below and described in detail in **Appendix A**.

- No tree removal is required as part of the proposed works, as such there will be no loss to native canopy.
- The site visit confirmed that the road upgrades area is highly disturbed, comprising of predominantly exotic species and cleared grassland. The road upgrades area does not conform to a mapped PCT or

associated TEC, and as such ground disturbance would be limited to areas of highly disturbed, exotic-dominated ground cover. As such, no further assessment was warranted or undertaken.

- The desktop assessment identified no threatened species as having a moderate or high likelihood of occurrence within the road upgrades area. Should a listed species be observed in the vicinity of the road upgrades area, they are likely to be highly mobile and there is an even lower likelihood of impact, given the lack of foraging, breeding, or dispersal habitat available.
- There is no suitable habitat for the listed fauna species within the road upgrades area. As such, there would be no disturbance to suitable habitat resulting from the proposed road upgrades.

#### 4.2.4 Indirect Impacts

The proposed road upgrades have the potential to indirectly impact biodiversity occurring adjacent to the road upgrades area. The indirect impacts relate to erosion, spread of weeds and pathogens, noise and vibration, and changes to the light environment. These indirect impacts and a description of how they may impact the biodiversity present in the Study Area are outlined in **Appendix A**. Indirect impacts are not anticipated to be significant.

#### 4.2.5 Mitigation Measures

No significant impacts to biodiversity values have been identified as likely to occur as a result of the proposed works. Mitigation measures associated with the road upgrades are provided in **Appendix A**, and are consistent with standard environmental measures that will be implemented as part of the Project CEMP, a commitment made in the Project EIS and Amendment Reports (1 and 2).

### 4.3 Aboriginal Cultural Heritage Due Diligence

An Aboriginal Cultural Heritage Due Diligence memorandum was prepared by OzArk Environment and Heritage (OzArk) for the assessment of the proposed road works at Barnett Street. OzArk has prepared the assessment in line with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (Due Diligence Code of Practice) to assess whether Aboriginal objects may be harmed. The purpose of the Due Diligence was to determine whether further investigation is required following the *Code of Practice for Archaeological Investigation of Aboriginal objects in NSW*. A summary of the findings is provided below, with the full memorandum provided as **Appendix B**.

#### 4.3.1 Assessment

The road upgrades area (also referred to as the investigation area in the heritage due diligence assessment) is approximately 370 metres (m) above sea level and within a long, gradual slope that rises to the west. The slope descends to the Bow River that is approximately 750 metres to the east of the road upgrades area. Additionally, the proposed road upgrades will be undertaken within the existing road corridor, comprising of previously modified landforms. These landforms do not conform to those with identified archaeological sensitivity as set out in the Due Diligence Code of Practice.

An Aboriginal Heritage Information Management System (AHIMS) search was conducted for the area surrounding the investigation area and returned no records of known Aboriginal objects within or near the investigation area. No other sources of information indicate that Aboriginal objects are likely in the investigation area.

#### 4.3.2 Results

If any potential Aboriginal objects are found during road upgrades, all works would be ceased and further investigation would be undertaken in accordance with the unexpected finds protocol prepared as a component of the Aboriginal Cultural Heritage Management Plan, consistent with the commitment made within the Project EIS and Amendment Reports (1 and 2).

#### 4.3.3 Conclusion

The results of the Aboriginal Cultural Heritage Due Diligence (refer to **Appendix B**) determined that no further archaeological investigation was required, and that any Aboriginal objects with archaeological sensitivity listed on the AHIMS and/or other sources can be avoided, given the distance from these items to the proposed road upgrades area.

#### 5.0 Closing

We trust this information adequately satisfies DPHI (and agency) requirements. Please do not hesitate to contact the undersigned, or Lightsource bp directly via email ([beth.kramer@lightsourcebp.com](mailto:beth.kramer@lightsourcebp.com) or [stephen.archer@lightsourcebp.com](mailto:stephen.archer@lightsourcebp.com)), should you require clarification or further information.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Tom Buchan', written in a cursive style.

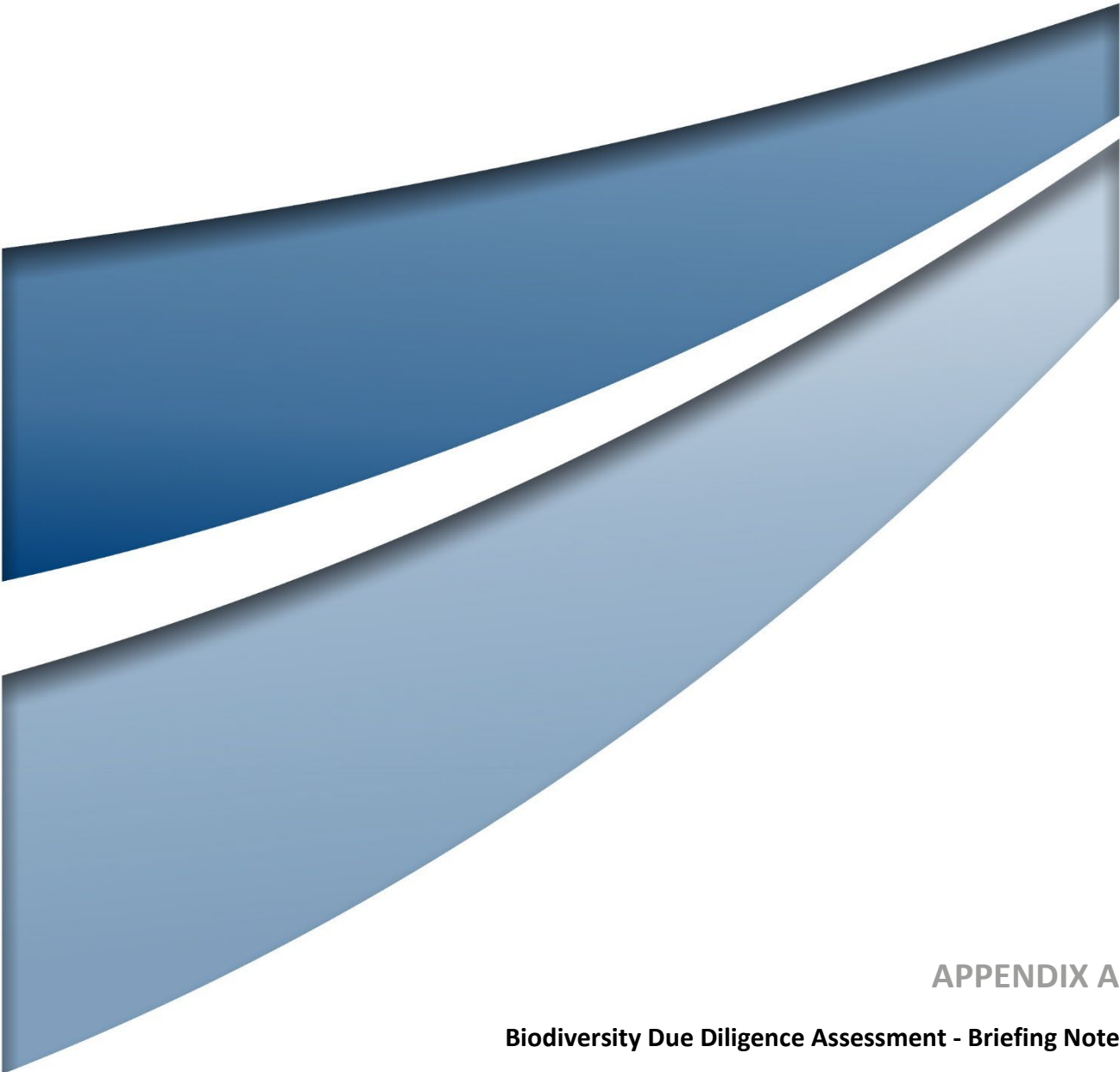
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**APPENDIX A**

**Biodiversity Due Diligence Assessment - Briefing Note**



Our Ref: 23485\_GRSF\_BarnettSt\_BiodiversityDD\_Final\_V02

## Briefing Note

**To:** Joe Fittell <Joe.Fittell@planning.nsw.gov.au>

**Cc:** Beth Kramer, Stephen Archer, Jessica Henderson Wilson, Thomas Buchan

**From:** Rachel Musgrave <rmusgrave@umwelt.com.au>

**Date:** 14 June 2024

## **RE: Goulburn River Solar Farm (SSD-33964533) - Response to DPHI RFI dated 20 May 2024 – Biodiversity Due Diligence Assessment - Briefing Note**

### **1.0 Introduction**

Umwelt was engaged by Lightsource bp Development Services Australia (Lightsource bp) to prepare this biodiversity due diligence assessment briefing note to support a formal response to the NSW Department of Planning, Housing and Infrastructure (DPHI) on the Goulburn River Solar Farm Project (i.e. the Project). DPHI have requested further information in response to the proposed sealing of Barnett Street to support the Project, as outlined in Section 1 of the Response to RFI letter #3 (Umwelt, 2024) and summarised below.

This assessment demonstrates that the proposed sealing of Barnett Street would result in minimal impacts to biodiversity values, as discussed in the subsequent sections.

### **1.1 Description of the proposed road upgrades**

The road upgrades involve sealing of 30 metres (m) at the throat of the Barnett Street / Golden Highway intersection, which will involve minor ground disturbance and the application of asphalt from the Golden Highway down the throat of the intersection of Barnett Street. No widening of the road and/or intersection or culvert works are required or proposed as part of these upgrades, which will be limited to the extent of the existing road footprint.

**Figure 1.1** illustrates the location of the proposed road upgrades, which is referred to throughout this briefing note as the 'road upgrades area'. A 10 km radius around the road upgrades area was also applied during desktop searches and is referred to as the 'Study Area' throughout this briefing note.

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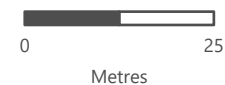


**FIGURE 1.1**

**Barnett Street Road Upgrades**

**Legend**

- Area of Investigation (5m)
- Proposed Road Upgrades Area



Scale: 1:0 at A4  
GDA 1994 MGA Zone 56

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## 2.0 Assessment Methodology

### 2.1 Desktop Assessment

A review of relevant public databases and literature was undertaken in June 2024 to identify threatened and migratory species, endangered populations, threatened ecological communities (TECs) and their habitats that have previously been recorded within the Study Area, being a 10 km radius around the proposed road upgrades area. Threatened species, migratory species, endangered populations and TECs (listed under the NSW *Biodiversity Conservation Act 2016* [BC Act], NSW *Fisheries Management Act 1994* [FM Act] and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* [EPBC Act]) that have the potential to occur within the road upgrades area were also considered, based on the type of habitat present and the NSW bioregion within which the Study Area occurs.

Databases and literature reviewed as part of this assessment include:

- A search of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) BioNet Atlas within the Study Area.
- A search of the Commonwealth DCCEEW Protected Matters Search Tool within the Study Area.
- A search of the BioNet Threatened Biodiversity Data Collection.
- A search of the Biodiversity Values Map and Threshold Tool.
- A search of the NSW Draft Native Vegetation Regulatory Map.
- A search of the NSW eSPADE spatial viewer.
- A search of the National Flying-fox monitoring viewer accessed by the DCCEEW Interactive Flying-fox Web Viewer.

### 2.2 Vegetation Mapping

The following sets of regional vegetation mapping were reviewed to inform the assessment of the vegetation communities present within the Study Area:

- NSW State Vegetation Type Map (SVTM) (NSW DCCEEW, 2024a).
- NSW Biodiversity Values Map and Threshold Tool (NSW DCCEEW, 2024b).
- NSW Draft Native Vegetation Regulatory Map (NSW DCCEEW, 2024c).

### 2.3 Site Visit

A site visit was conducted on 9 May 2024. An Umwelt ecologist inspected the site to record observations of any threatened and/or migratory species, endangered populations, TECs and any other ecological features that have the potential to be impacted. Investigations were limited to the extent of the study area.

Rapid data assessments to record the flora species occurring in the areas of the site were conducted at points using random meanders as described by Cropper (1993). Two rapid data assessments were undertaken to capture the structural variation in vegetation communities, the variation in species diversity across the Study Area and to define changes in abiotic conditions (i.e., the occurrence of creek lines and



signs of past disturbances). The rapid data assessments recorded the dominant species present, the frequency of their occurrence (i.e. common, uncommon, or rare) and their status as either threatened, native or non-native to the region.

The presence of fauna habitat within the study area was also assessed. Specific attention was paid to the potential occurrence of hollow bearing trees, coarse woody debris, semi-permanent waterbodies and structures with the potential to support bat roosts.

## **2.4 Limitations and Assumptions**

Field surveys were conducted over one day in May 2024. In addition to the surveys undertaken, the full spectrum of flora and fauna species and ecological processes likely to occur at the Study Area was considered by identifying potential habitats for such species and assessing the potential for these species to occur on the site based on previous records, the type and condition of habitats present, the land use of the site and its landscape context.

As stated by the DEC (2004a):

*‘The absence of a species from survey data does not necessarily mean it does not inhabit the survey area. It may simply mean that the species was not detected at that time with the survey method adopted and the prevailing seasonal or climatic conditions.’*

Accordingly, the relative brevity of the survey and its timing mean that the full spectrum of flora and fauna species, as well as ecological processes, likely to occur within the Study Area may not be fully quantified or described in this briefing note.

## **3.0 Assessment Results**

### **3.1 Review of Regional Mapping**

#### **3.1.1 NSW SVTM**

The vegetation within the road upgrades area is mapped as Plant Community Type (PCT) 0 (Not classified) under the NSW SVTM. As such, no PCTs or TECs are mapped as present within the road upgrades area.

#### **3.1.2 Draft Native Vegetation Regulatory Map**

The road upgrades area is mapped as ‘Category 1 – exempt land’ under the Draft Native Vegetation Regulatory Map. Category 1 – exempt land is land where native vegetation can be cleared without approval from NSW Local Land Services.

#### **3.1.3 Biodiversity Values Map**

The road upgrades area is not mapped as containing ‘biodiversity values’ under the NSW Biodiversity Values Map and Threshold Tool. The nearest area mapped as containing ‘biodiversity values’ is the Bow River, located approximately 800 m east of the road upgrades area.

### **3.2 Results of Site Visit**

The site visit identified that the majority of vegetation within the study area comprises exotic grasslands with exotic species. Observations made during the rapid biodiversity field assessments, including a list of



identified species and estimated cover, are provided in **Table 3.1** below. **Photo 3.1**, **Photo 3.2**, and **Photo 3.3** below generally show the extent of vegetation on either side of the proposed road upgrades area.

**Table 3.1 Site Visit Observations**

Rapid assessment # and location	Observations	Species list and estimated cover*
<b>1 - Western side of Barnett Street intersection</b>	Presence of exotic vegetation estimated to be between 50-75%.	Species identified included: <ul style="list-style-type: none"> <li>• <i>Eragrostis curvula</i> – 60%</li> <li>• <i>Hyparrhenia hirta</i> – 30%</li> <li>• <i>Plantago lanceolata</i> - &lt;1%</li> <li>• <b><i>Geranium solanderi</i></b> - &lt;1%</li> <li>• <i>Modiola caroliniana</i> - &lt;1%</li> <li>• <i>Chloris gayana</i> - ~3%</li> <li>• <b><i>Cynodon dactylon</i></b> - 10%</li> <li>• <i>Trifolium repens</i> - &lt;1%</li> <li>• <i>Paspalum dilatatum</i> - &lt;1%</li> <li>• <b><i>Dichanthium spp.</i></b> - &lt;1%</li> <li>• <i>Sida rhombifolia</i> - &lt;1%</li> <li>• <i>Verbena bonariensis</i> - ~2%</li> <li>• <i>Bidens bipinnata</i> - ~3%</li> <li>• <i>Silybum marianum</i> - &lt;1%</li> <li>• <i>Salvia reflexa</i> - &lt;1%</li> </ul>
<b>2 – Eastern side of Barnett Street intersection</b>	Presence of exotic vegetation estimated to be between 50-75%. The eastern side of the road reserve contains a slight depression which would likely capture and hold rainfall and run off for short periods of time before it builds up enough to continue to run downhill. Additionally, the higher presence of <i>Paspalum dilatatum</i> (i.e. a waxy grass that favours growth in wetter conditions) on this side of the road suggests this area could be considered as a drainage area.	Species identified included: <ul style="list-style-type: none"> <li>• <i>Paspalum dilatatum</i> – 60%</li> <li>• <i>Eragrostis curvula</i> – 15%</li> <li>• <i>Hyparrhenia hirta</i> – 20%</li> <li>• <i>Chloris gayana</i> -20%</li> <li>• <b><i>Geranium solanderi</i></b> - &lt;1%</li> <li>• <i>Plantago lanceolata</i> - ~2%</li> <li>• <i>Trifolium repens</i> - &lt;1%</li> <li>• <b><i>Alternanthera denticulata</i></b> - &lt;1%</li> <li>• <b><i>Cynodon dactylon</i></b> - ~5%</li> <li>• <i>Rapistrum rugosum</i> - &lt;1%</li> <li>• <i>Silybum marianum</i> - &lt;1%</li> <li>• <i>Sida rhombifolia</i> - &lt;1%</li> <li>• <i>Modiola caroliniana</i> - &lt;1%</li> <li>• <i>Verbena bonariensis</i> - &lt;1%</li> </ul>

\*Native species have been highlighted in bold



**Photo 3.1**      **Vegetation immediately east of the throat of Barnett Street from the Golden Highway**





**Photo 3.2** Vegetation immediately west of the throat of Barnett Street from the Golden Highway



**Photo 3.3** Typical vegetation either side of the Barnett Street road upgrades area

### 3.3 Threatened Species

Threatened flora and fauna species with the potential to occur within the Study Area were considered as part of this due diligence assessment. The assessment identified the Study Area as providing potential habitat for 17 threatened fauna species. However, none of these species were assessed as having a moderate or higher likelihood of occurring within the road upgrades area, based on known habitat preference and distribution as identified in **Table 3.2** below. As such, no assessment of significance has been prepared to assess the impacts of the proposed works.

**Table 3.2 BioNet Atlas Threatened Fauna Likelihood of Occurrence**

Scientific Name	Common Name	BC Act Status	Current EPBC Act Status	Date Last Recorded	Number of Records	Likelihood of Occurrence	Likelihood of Impacts
<b>Aves</b>							
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered	Critically Endangered	28/07/2018	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Aphelocephala leucopsis</i>	Southern Whiteface	Vulnerable	Vulnerable	16/06/2017	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	Vulnerable	-	21/11/2021	5	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	Vulnerable	7/01/2019	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Chthonicola sagittata</i>	Speckled Warbler	Vulnerable	-	16/06/2017	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Circus assimilis</i>	Spotted Harrier	Vulnerable	-	29/10/2019	7	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	Vulnerable	Vulnerable	22/08/2020	7	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Falco subniger</i>	Black Falcon	Vulnerable	-	14/07/2008	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Glossopsitta pusilla</i>	Little Lorikeet	Vulnerable	-	29/10/2007	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible



Scientific Name	Common Name	BC Act Status	Current EPBC Act Status	Date Last Recorded	Number of Records	Likelihood of Occurrence	Likelihood of Impacts
<i>Hieraetus morphnoides</i>	Little Eagle	Vulnerable	-	29/10/2007	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	-	22/08/2020	2	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	Vulnerable	-	13/05/2021	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Vulnerable	-	13/05/2021	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Neophema pulchella</i>	Turquoise Parrot	Vulnerable	-	22/08/2020	1	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	Vulnerable	22/08/2020	3	No canopy tree species present with the area of proposed works. Negligible foraging habitat available. Low likelihood of occurrence.	Negligible
<b>Mammals</b>							
<i>Phascolarctos cinereus</i>	Koala	Endangered	Endangered	25/06/2002	1	No breeding habitat and no foraging habitat available. Low likelihood of occurrence.	Negligible
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable	14/12/2021	1	Highly mobile species, no breeding habitat, and no foraging habitat. Low likelihood of occurrence.	Negligible

## 4.0 Potential Impacts

### 4.1 Direct Impacts

#### 4.1.1 Vegetation Removal/Trimming

No tree removal is required as part of the proposed works.

#### 4.1.2 Estimated Loss of Native Canopy

No trees will be removed, as such there will be no loss to native canopy.

#### 4.1.3 Ground Disturbances

The proposed road upgrades will involve minor ground disturbance and the application of asphalt from the Golden Highway for 30 m down the throat of the intersection of Barnett Street. No widening of the road and/or intersection or culvert works are required or proposed as part of these upgrades. The site inspection confirmed that the road upgrades area is highly disturbed, comprising of predominantly exotic species and cleared grassland.

The road upgrades area does not conform to a mapped PCT or associated TEC, and as such ground disturbance would be limited to areas of highly disturbed, exotic-dominated ground cover. As such, no further assessment is warranted.

#### 4.1.4 Threatened Species

The desktop assessment identified no threatened species as having a moderate or high likelihood of occurrence within the road upgrades area. Should a listed species be observed in the vicinity of the road upgrades area, they are likely to be highly mobile and there is an even lower likelihood of impact, given the lack of foraging, breeding, or dispersal habitat available.

#### 4.1.5 Habitat Disturbance

There is no suitable habitat for the listed fauna species within the road upgrades area. As such, there would be no disturbance to suitable habitat resulting from the proposed road upgrades.

### 4.2 Indirect Impacts

The proposed road upgrades have the potential to indirectly impact biodiversity occurring within the Study Area. These indirect impacts and a description of how they may impact the biodiversity present in the Study Area are outlined in **Table 3.1**.

**Table 3.1 Potential Indirect Impacts**

Indirect impact	Explanation	Affected biodiversity
Erosion	Ground disturbing works associated with the road upgrades may lead to erosion in adjacent areas.	All vegetation communities adjoining the road upgrades area.

Indirect impact	Explanation	Affected biodiversity
<b>Spread of weeds and exotic species</b>	The movement of machinery and people have the potential to spread weeds to and from the site.	All vegetation communities adjoining the road upgrades area.
<b>Spread of pathogens and disease</b>	Soil-borne pathogens with the potential to infect plants e.g., <i>Phytophthora cinnamomi</i> , may be mobilised by the proposed works.	All vegetation communities within the study area. Potentially vegetation occurring outside of the study area.
<b>Noise and vibration</b>	The proposed works would temporarily alter the noise environment within the road upgrades area.	The flying patterns and foraging/hunting behaviour of birds and microbats may be altered due to additional noise emanating from the road upgrades area.
<b>Changes to the light environment</b>	The proposed works will be undertaken during the day. If any works are required to occur at night, there is potential to alter the light environment within the road upgrades area.	The flying patterns and foraging/hunting behaviour of the grey-headed flying-fox, nocturnal birds, and microbats may be altered if construction activities are to occur at night.

## 5.0 Mitigation Measures

Mitigation measures and safeguards to avoid and minimise the impacts of the proposed works on the biodiversity values identified within the road upgrades area are detailed in **Table 4.1**.

**Table 4.1 Mitigation Measures**

Impact	Mitigation	Timing
<b>Spread of pathogens and disease</b>	Hygiene controls for all vehicles, equipment and people working in the road upgrades area.	During proposed works
	Machinery will be washed following best practice hygiene protocols prior to being brought to road upgrades area to prevent the spread of weeds, seeds, pathogens and fungi.	Prior to proposed works
<b>Spread of weeds and exotic species</b>	Hygiene controls for all vehicles, equipment and people working in the road upgrades area.	During proposed works
	All weed material removed will be disposed of in a suitable waste facility and not mulched at the road upgrades area, to avoid the reintroduction and further spread of weeds in the area.	During proposed works
	Machinery will be washed following best practice hygiene protocols prior to being brought to the road upgrades area, to prevent the spread of weeds, seeds, pathogens and fungi.	Prior to proposed works
<b>Erosion</b>	Establishment of appropriate erosion and sediment controls.	During proposed works

## 6.0 Conclusion

This biodiversity briefing note assesses the potential impacts to biodiversity resulting from the road upgrades proposed at Barnett Street to facilitate vehicle access /egress associated with the Project. The

proposed works include ground disturbing works and the application of asphalt from the Golden Highway for 30 m down the throat of the intersection of Barnett Street. No widening of the road and/or intersection or culvert works are required or proposed as part of these upgrades.

No trimming or clearing of native tree species is required. A site visit was conducted on 9 May 2024 to assess the biodiversity values present at the road upgrades area, and to determine the occurrence of any threatened biodiversity that may be impacted by the proposed road upgrades.

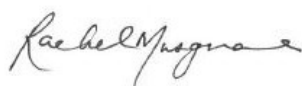
A review of regional vegetation mapping indicates that the proposed road upgrades area does not contain any classified PCTs or areas of 'biodiversity values' and is located entirely within Category 1- exempt land. No threatened fauna species were identified as having a moderate or high likelihood of occurrence within the Study Area, and, in the event that they should occur, they are likely to be highly mobile and there is an even lower likelihood of impact, given the lack of foraging, breeding, or dispersal habitat available.

No other significant impacts to biodiversity or threatened species habitat have been identified as likely to occur as a result of the proposed works. As such, no assessment of significance has been prepared to assess the impacts of the proposed works.

## 7.0 Closing

We trust this information adequately satisfies DPHI (and agency) requirements. Please do not hesitate to contact the undersigned, or Lightsource bp directly via email ([beth.kramer@lightsourcebp.com](mailto:beth.kramer@lightsourcebp.com) or [stephen.archer@lightsourcebp.com](mailto:stephen.archer@lightsourcebp.com)), should you require clarification or further information.

Yours sincerely,

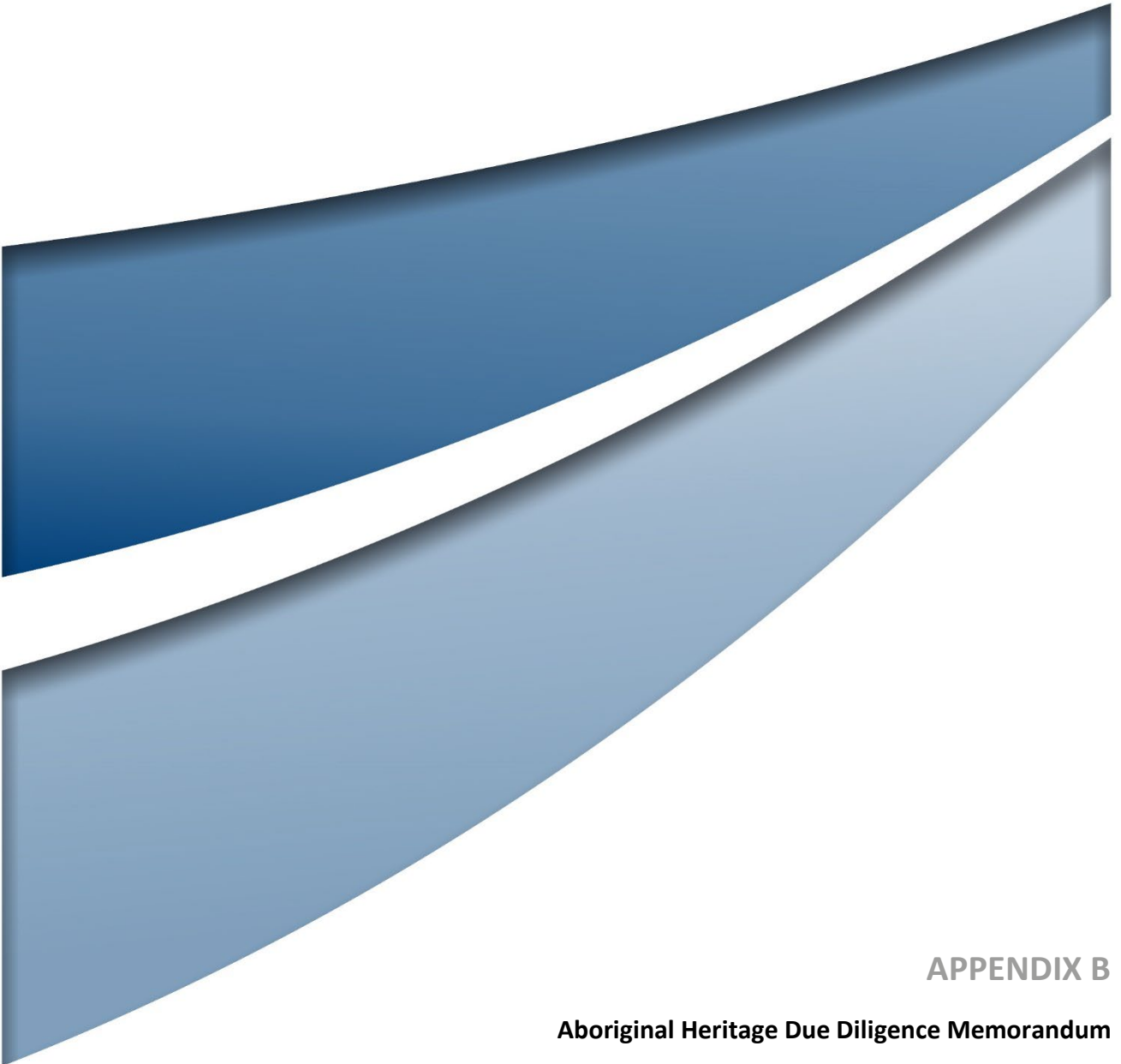
A handwritten signature in black ink that reads 'Rachel Musgrave'.

**Rachel Musgrave**

Acting Ecology Manager - South East Australia

E | [rmusgrave@umwelt.com.au](mailto:rmusgrave@umwelt.com.au)

M | 0427 753 321



**APPENDIX B**

**Aboriginal Heritage Due Diligence Memorandum**





## Barnett Street Intersection Goulburn River Solar Farm

1 June 2024

OzArk understands that as part of finalising the conditions of consent, Council and TfNSW have asked for the first 30 metres of Barnett Street to be sealed at its intersection with the Golden Highway (the investigation area).

OzArk has prepared this memorandum following the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (Due Diligence Code of Practice) to assess whether Aboriginal objects may be harmed.

This due diligence is to determine whether further investigation following the *Code of Practice for Archaeological Investigation of Aboriginal objects in NSW* is required (see table below).

### Determination of whether Due Diligence Code of Practice applies

Item	Reasoning	Answer
Is the activity to be assessed under Division 4.7 (state significant development) or Division 5.2 (state significant infrastructure) of the EP&A Act?	The proposal is being assessed under Part 4.7 of the EP&A Act. This due diligence is in conjunction with an Aboriginal Heritage Assessment Report prepared for the main project area.	Yes
Is the activity exempt from the NPW Act or NPW Regulation?	The proposal is not exempt under this Act or Regulation.	No
Do either or both apply: Is the activity in an Aboriginal place? Have previous investigations that meet the requirements of this Code identified Aboriginal objects?	The activity will not occur in an Aboriginal place. No previous investigations have been undertaken for this proposal.	No
Is the activity a low impact one for which there is a defence in the NPW Regulation?	The proposal is not a low impact activity for which there is a defence in the NPW Regulation.	No
Is the activity occurring entirely within areas that are assessed as 'disturbed lands'?	The proposal is within an area of high modification.	Yes

**Due Diligence Code of Practice assessment to determine whether further investigation is required**

**PROPOSED ACTIVITY**

The first 30 metres of Barnett Street is to be sealed at its intersection with the Golden Highway. This work will be within the existing road corridor. However, works at the eastern and western boundaries of the investigation area may indirectly impact previously modified landforms. These areas are currently grassed areas beside existing roads within the road corridor (see figure below).

No trees are within the investigation area and therefore vegetation clearance is not required.

**Aerial showing the investigation area**



**AHIMS SEARCH**

On 1 June 2024, a basic AHIMS search was undertaken for the area surrounding the investigation area. The search returned no records of known Aboriginal within or near the investigation area (see search result below).



There are no other sources of information to indicate that Aboriginal objects are likely in the investigation area.

**LANDFORM**

The investigation area is approximately 370 metres above sea level and is within a long, gradual slope that rises to the west. The slope descends to the Bow River that is approximately 750 metres to the east (see Google Steet View below).

As the investigation area is within a slope and distant to water, landforms with identified archaeological sensitivity as set out in the Due Diligence Code of Practice are not present.

**1 June 2024 AHIMS search**

	<b>AHIMS Web Services (AWS)</b> <b>Search Result</b>	Your Ref/PO Number : 01062024		
		Client Service ID : 897357		
OzArk Environmental and Heritage Management - Dubbo		Date: 01 June 2024		
PO Box 2069 Dubbo New South Wales 2830 Attention: Ben Churcher Email: ben@ozarkehm.com.au				
Dear Sir or Madam:				
<u><b>AHIMS Web Service search for the following area at Lat. Long From : -32.1236, 150.2413 - Lat. Long To : -32.119, 150.249, conducted by Ben Churcher on 01 June 2024.</b></u>				
<p>The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.</p>				
				
A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:				
<table border="1"> <tr> <td data-bbox="352 1447 839 1469"> <b>0 Aboriginal sites are recorded in or near the above location.</b> </td> </tr> <tr> <td data-bbox="352 1473 916 1496"> <b>0 Aboriginal places have been declared in or near the above location. *</b> </td> </tr> </table>			<b>0 Aboriginal sites are recorded in or near the above location.</b>	<b>0 Aboriginal places have been declared in or near the above location. *</b>
<b>0 Aboriginal sites are recorded in or near the above location.</b>				
<b>0 Aboriginal places have been declared in or near the above location. *</b>				

**Google Street View of the investigation area**



## CONCLUSION

According to the Due Diligence Code of Practice, the due diligence assessment has reached Step 3 without identifying Aboriginal cultural heritage constraints and further investigation, such as a site visit, is not required.

Undertaking the Due Diligence Code of Practice has determined that harm to Aboriginal objects listed on the Aboriginal Heritage Information Management System (AHIMS) or identified by other sources of information and landscape features with archaeological sensitivity can be avoided (see table below).

No further archaeological investigation is required. The works may proceed with caution and any Aboriginal objects are found, stop work and refer to the Goulburn River Solar Farm Aboriginal Cultural Heritage Management Plan (ACHMP) for the correct procedure for unanticipated finds. If human remains are found, stop work, secure the site, and notify the site supervisor. The procedures relating to the discovery of ancestral remains in the ACHMP must be followed.

### Due Diligence Code of Practice application

Step	Reasoning	Answer
Step 1 Will the activity disturb the ground surface or any culturally modified trees?	The proposed works will disturb the ground surface through road works. The proposal will not impact mature, native vegetation and therefore will not harm culturally modified trees.	Yes
<b>If the answer to Step 1 is 'yes', proceed to Step 2</b>		
Step 2a Are there any relevant records of Aboriginal heritage on AHIMS to indicate presence of Aboriginal objects?	AHIMS indicated that there are no Aboriginal sites within the investigation area.	No
Step 2b Are there other sources of information to indicate presence of Aboriginal objects?	There are no other sources of information to indicate that Aboriginal objects are likely in the investigation area.	No
Step 2c Will the activity impact landforms with archaeological sensitivity as defined by the Due Diligence Code?	Landforms with identified archaeological sensitivity are not present in the investigation area.	Yes
<b>If the answer to any stage of Step 2 is 'yes', proceed to Step 3</b>		
Step 3 Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?	The proposal will avoid harm to known Aboriginal sites and landforms with identified archaeological sensitivity.	Yes
<b>If the answer to Step 3 is 'no', a visual inspection is required. Proceed to Step 4.</b>		
Step 4 Does the visual inspection confirm that there are Aboriginal objects or that they are likely?	N/A	N/A
<b>Conclusion</b>		
<b>Proceed with caution</b>		