

Kennedys Creek Solar Farm

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Planning Report

27-Feb-2023

Kennedys Creek Solar Farm

Doc No. Document No

Commercial-in-Confidence

Kennedys Creek Solar Farm

Planning Report

Client: 433 Link Development Pty Ltd.

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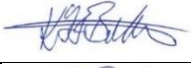
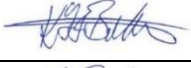
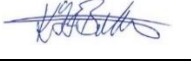
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Table of Contents

1.0	Introduction	1
1.1	Overview of the Proposal	1
1.1.1	Planning Permit PA1900684	1
1.1.2	Proposed Amendment	1
1.1.3	Project Overview	2
1.2	Background	4
1.2.1	The Applicant	4
1.2.2	Consultation	4
1.2.3	Community Fund	7
1.3	Report Structure and Supporting Documents	8
2.0	Subject Site and Existing Conditions	9
2.1	Location	9
2.2	Subject Site	9
2.2.1	Land Use	10
2.2.2	Landscape	10
2.2.3	Access	10
2.2.4	Existing Power Infrastructure and Easements	16
3.0	Site Surrounds	17
3.1	Site Context	17
3.2	Site Selection	18
4.0	Proposal Details	21
4.1	Solar Modules and Mounting Structure	21
4.2	Power Conversion Units	23
4.3	Cabling	23
4.4	Grid Connection and Transmission Line	23
4.5	Substation	24
4.6	Control Building	25
4.7	Switchyard	25
4.8	Laydown Area and Site Access	25
4.9	Landscaping	25
4.10	Native Vegetation Removal	26
4.11	Security Fencing	26
4.12	Operations and Maintenance Area	26
4.13	CCTV and Infra-Red Lighting	26
4.14	Business Identification Signage	27
4.15	Site Maintenance	27
5.0	Construction and Operation	28
5.1	Construction Activities	28
5.2	Operation	28
5.3	Decommissioning	28
5.4	Construction and Operational Traffic	29
6.0	Legislation and Policy	30
6.1	State Legislation and Policy	30
6.1.1	Planning and Environment Act (1987)	30
6.1.2	Aboriginal Heritage Act (2006)	30
6.1.3	Renewable Energy Action Plan (2019)	30
6.1.4	Victoria's Climate Change Framework (2016)	31
6.1.5	Water for Victoria (2016)	31
6.1.6	Agriculture Victoria Strategy (2017)	31
6.1.7	Flora and Fauna Guarantee Act (1988)	31
6.1.8	Solar Energy Facilities – Design and Development Guidelines (October 2022)	31
6.1.9	Design Guidelines and Model Requirements for Renewable Energy Facilities, CFA (2022)	33
6.2	Regional Policy	33

ADVERTISED PLAN

ADVERTISED PLAN

	6.2.1	Hume Regional Growth Plan (2014)	33
	6.2.2	Victoria's Regional Statement (2015)	34
6.3		Local Policy	34
	6.3.1	Council Plan 2021-2025 and Action Plan 2021-2025 (to June 2023)	34
	6.3.2	Benalla Rural City Environment Strategy 2016-2020	35
	6.3.3	Benalla Community Plan 2016-2036	36
6.4		Municipal Planning Strategy	36
6.5		Planning Policy Framework	38
6.6		Land Use Terms	45
6.7		Zones and Overlays	46
	6.7.1	Farming Zone	46
	6.7.2	Industrial 1 Zone	46
	6.7.3	Public Use Zone – Schedule 1	46
	6.7.4	Overlays	47
6.8		Particular Provisions	47
	6.8.1	Clause 52.02 Easements, Restrictions and Reserves	47
	6.8.2	Clause 52.05 Signs	47
	6.8.3	Clause 52.06 Car Parking	47
	6.8.4	Clause 52.17 – Native Vegetation	48
	6.8.5	Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)	48
6.9		General Provisions	48
	6.9.1	Clause 62 – Uses, Buildings and Works Not Requiring a Permit	48
	6.9.2	Clause 66 – Referral and Notice	48
	6.9.3	Clause 72.04 – Documents Incorporated in this Planning Scheme	49
7.0		Planning Policy Assessment	50
	7.1	State Legislation and Policy	50
	7.1.1	Planning and Environment Act 1947	50
	7.1.2	Renewable Energy Action Plan 2017	50
	7.1.3	Victoria's Climate Change Framework 2016	50
	7.1.4	Water for Victoria 2016	50
	7.1.5	Aboriginal Heritage Act 2006	50
	7.1.6	Agricultural Victoria Strategy 2017	50
	7.1.7	Flora and Fauna Guarantee Act 1988	51
	7.1.8	Solar Energy Facilities Design and Development Guidelines (2022)	51
	7.2	Regional Policy	54
	7.2.1	Hume Regional Growth Plan (2014)	54
	7.2.2	Victoria's Regional Statement (2015)	55
	7.3	Local Policy	55
	7.3.1	Council Plan 2021-2025	55
	7.3.2	Benalla Rural City Environment Strategy 2016-2020	55
	7.3.3	Benalla Community Plan 2016-2036	55
	7.3.4	Consistency with the Municipal Planning Strategy	55
	7.3.5	Consistency with the Planning Policy Framework	56
7.4		Zones and Overlays	59
	7.4.1	Farming Zone	59
	7.4.2	Industrial 1 Zone	59
	7.4.3	Public Use Zone – Schedule 1	60
	7.4.4	Bushfire Prone Area	60
7.5		Particular Provisions	60
	7.5.1	Clause 52.02 – Easements, Restrictions and Reserves	60
	7.5.2	Clause 52.05 - Signs	61
	7.5.3	Clause 52.06 - Car Parking	61
	7.5.4	Clause 52.17 – Native Vegetation	61
	7.5.5	Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)	61
8.0		Impact Assessment	63
	8.1	Ecology	63

8.2	Surface Water	64
8.3	Traffic	64
8.4	Landscape and Visual	65
8.5	Heritage	66
8.6	Glint and Glare and Heat Island Effect	67
8.7	Geotechnical	67
8.8	Agricultural	69
8.9	Electromagnetic Radiation	69
8.10	Fire and Dangerous Goods	69
8.11	Noise	70
8.12	Environmental Management	70
9.0	Conclusion	71
Appendix A		
	Consultation Material	72
Appendix B		
	Application Plans	A
Appendix C		
	Ecological Flora and Fauna Report	B
Appendix D		
	Surface Water Assessment	C
Appendix E		
	Traffic Impact Assessment	D
Appendix F		
	Landscape Character and Visual Impact Assessment	E
Appendix G		
	Landscape Plans and Landscape Early Works Strategy	F
Appendix H		
	Heritage Due Diligence Assessment and Addendum	G
Appendix I		
	Draft Cultural Heritage Management Plan	H
Appendix J		
	Glint and Glare Assessment and Addendum	I
Appendix K		
	Agricultural Impact Assessment and Addendum	J
Appendix L		
	Preliminary Geotechnical Assessment and Addendum	K
Appendix M		
	Operational Noise Assessment	L
Appendix N		
	Preliminary Environmental Management Plan and Addendum	M
Appendix O		
	Plan of Subdivision	N
Appendix P		
	Public Land Manager Consent	O

ADVERTISED PLAN

List of Tables

Table 1	Application Details	3
Table 2	Site addresses and associated legal descriptions	9
Table 3	Easements on subject site	16
Table 4	Underground assets on subject site	16
Table 5	Typical Single Axis Tracking System Specifications	21
Table 6	Best Practice for Proponents	51
Table 7	Design Response	52
Table 8	Application Requirements of Clause 53.13-2	61

List of Figures

Figure 1	Site Context	11
Figure 2	Subject Site and Transmission Line Affected Properties	12
Figure 3	Largely cleared farming land with scattered trees.	13
Figure 4	Dwelling and associated outbuildings at 51 Nelson Road, looking north west.	13
Figure 5	Unsealed Nelson Road running along the southern boundary of the site	14
Figure 6	Scattered trees on site	14
Figure 7	Existing dam on site	15
Figure 8	Eastern boundary fence line on 125 Nelson Road, looking south	15
Figure 9	Site Surrounds	19
Figure 10	Zoning map	20
Figure 11	Example of Typical Single Axis Tracking System (Source: Wemen Solar Farm)	22
Figure 12	Solar farm panel rows oriented along the north-south axis	22
Figure 13	Typical example of power conversion unit (Source: Ingeteam)	23
Figure 14	Indicative Transmission Pole Height (Source: AusNet)	24
Figure 15	Indicative Transmission Pole Width (Source: AusNet)	24
Figure 16	Example of sheep grazing amongst solar panels	27

ADVERTISED PLAN

ADVERTISED PLAN

1.0 Introduction

1.1 Overview of the Proposal

1.1.1 Planning Permit PA1900684

In September 2019, AECOM Australia Pty Ltd (AECOM) prepared this planning report for South Energy on behalf of 433 Link Development Pty Ltd to support a planning permit application for the use and development of a **Solar Energy Facility and associated Utility Installation (the Project)**. The planning application was submitted to Department of Environment, Water, Planning and Land (DELWP), now Department of Transport and Planning (DTP), on 7 October 2020. A Planning Permit (PA1900684) was granted on 30 November 2020.

PA1900684 was amended on 5 February 2021 in accordance with Section 71 of the *Planning and Environment Act 1987* (P&E Act), to correct a clerical error at condition 73.

On 22 September 2021, ownership of the Project Applicant (433 Link Development Pty Ltd) was transferred from South Energy to Lightsource bp. South Energy retain ownership of the subject site and therefore an interest in the Project. Following the transfer of ownership of the Project, Lightsource bp resolved to develop the Kennedys Creek Solar Farm and the West Mokoan Solar Farm as a single Project (West Mokoan Solar Farm Project). All new information within this updated planning report refers to Lightsource bp to reflect current ownership of the Project.

1.1.2 Proposed Amendment

Following changes to the concept design, this planning report has been updated to support an application under Section 72 of the P&E Act to amend PA1900684 (the amendment). The amendment seeks to:

- Rearrange the layout of the Project to:
 - Relocate the Substation to the north-east of the site and connect to new transmission infrastructure
 - Make minor updates and design changes as a result of the above.
- Include a new transmission line from the Project to the network connection point at West Mokoan Solar Farm (approved by PA2000978).

Plan AUS_Kennedys_LP1-IDL_15 - Marked Up at Appendix B provides a marked-up version of the concept plan highlighting the differences outlined above and Overview Plan at Appendix B shows the transmission line concept plan.

Referred to as the Kennedys Creek Solar Farm, the Project (as amended) applies to land at:

- Murray Road, Benalla (Lot 3 PS318659S and Lot 4 PS318659S)
- 51 Nelson Road, Benalla (Lot 6 PS627741K)
- 67 Nelson Road, Benalla (Lot 7 PS627741K)
- 127 Nelson Road, Benalla (Lot 2 PS803108)
- 284 Benalla-Yarrowonga Road, Benalla (Lot 3 PS715932M)
- Lake Mokoan Road, Winton North (Allotment 2020 Parish of Winton PP3843)
- 368 Benalla-Yarrowonga Road, Benalla (Lot 2 PS627741)
- 370 Benalla-Yarrowonga Road, Benalla (Lot 1 PS627741)
- 82 Snowy Lane, Benalla (Lot 2 LP123365)
- Benalla-Yarrowonga Road, Benalla (Lot 1 PS717978)
- 524 Benalla-Yarrowonga Road, Benalla (Lot 6 LP206524)

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- 572-616 Benalla-Yarrowonga Road, Benalla (Lot 5 LP206524; Lot 4 LP206524; Lot 3 LP206524)
- Allotment 2019 Parish of Goorambat PP2704
- Snowy Lane, Benalla road reserve

For the purposes of this report, the five properties on which the Project is located are referred to as the 'subject site', which is distinct from the proposed transmission line impact area which affects an additional eight properties. Aside from the properties associated with the Solar Farms, only three private land owners own the additional properties. Both the subject site and transmission line impact area are approximately four kilometres north-east of the town centre of Benalla, within the Rural City of Benalla.

1.1.3 Project Overview

The purpose of the Project is to supply electricity from solar irradiation into the National Energy Market. The original design of the Kennedys Creek Solar Farm proposed to utilise the existing 66 kilovolt (kV) powerline on Nelson Road to connect the Project to the Glenrowan Terminal Station. The updated design proposes to connect the Project to a terminal station at the West Mokoan Solar Farm approximately 2.5 kilometres to the north, which will serve as the connection point to the National Energy Market.

Victoria's renewable energy target seeks to achieve 50 per cent of electricity generation from renewable sources by 2030. The Project will support this target while creating and supporting regional jobs, increasing investment in the region, and helping to reduce energy prices.

The Project is expected to have a network capacity of up to **159.12 Megawatts (MW)** direct current (DC). This will be provided by approximately 279,160 photovoltaic (PV) panels and associated infrastructure (refer to section 4.0 for detailed specification changes). Associated infrastructure will include decentralised power conversion units (PCUs) containing electrical switchgear, inverters and transformers, a substation and an operations and maintenance facility. The site will also have internal access tracks and security fencing which will surround the site. As amended, the project does not include a Battery Energy Storage System (BESS).

The transmission line from Kennedys Creek Solar Farm to the network connection point at West Mokoan Solar Farm will be made up of approximately 12 poles up to 40 metres in height. Lightsource bp plans to locate the transmission line and poles east of the existing transmission line corridor, the exact location of the poles is to be confirmed but an effort will be made to align the pole locations with the existing transmission tower locations.

A planning permit is required for the Project under the Benalla Planning Scheme for:

- The use of land for the purposes of a 'Solar Energy Facility' and 'Utility Installation' in the Farming Zone (**Clause 35.07-1**), the Industrial 1 Zone (**Clause 33.01-1**) and the Public Use Zone – Schedule 1 (**Clause 36.01-1**). For land used for the purposes of a 'Solar Energy Facility', the Project must comply with the requirements outlined in **Clause 53.13** of the Benalla Planning Scheme.
- The construction of a building or to carry out works associated with the development of a 'Solar Energy Facility' and 'Utility Installation' in the Farming Zone (**Clause 35.07-4**), the Industrial 1 Zone (**Clause 33.01-4**) and the Public Use Zone – Schedule 1 (**Clause 36.01-2**).
- The construction and display of a business identification sign (**Clause 52.05-14**).
- The removal or lopping of native vegetation, including dead native vegetation (**Clause 52.17-2**).
- Creating or altering access to a road in a Transport Zone 2 (**Clause 52.29-2**).

Further, car parking for the solar farm must be provided to the satisfaction of the Responsible Authority in accordance with **Clause 52.06-6** as a Renewable Energy Facility is not specified in Table 1 of **Clause 52.06-5**.

The planning application associated with the Project is summarised at Table 1.

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Table 1 Application Details

Requirement	Details
Responsible Authority	DTP
Property Address and Formal Property Description	<p>Subject site:</p> <ul style="list-style-type: none"> • Murray Road, Benalla (Lot 3 and 4 on Plan of Subdivision 318659) • 51 Nelson Road, Benalla (Lot 6 on Plan of Subdivision 627741) • 67 Nelson Road Benalla (Lot 7 on Plan of Subdivision 627741) • 284 Benalla-Yarrowonga Road, Benalla (Lot 3 on Plan of Subdivision 715932) • 127 Nelson Road, Benalla (Lot 2 on Plan of Subdivision 803108) <p>Transmission line area:</p> <ul style="list-style-type: none"> • Lake Mokoan Road, Winton North (Allotment 2020 Parish of Winton PP3843) • 368 Benalla-Yarrowonga Road, Benalla (Lot 2 on Plan of Subdivision 627741) • 370 Benalla-Yarrowonga Road, Benalla (Lot 1 on Plan of Subdivision 627741) • 82 Snowy Lane, Benalla (Lot 2 on Local Plan 123365) • Benalla-Yarrowonga Road, Benalla (Lot 1 on Plan of Subdivision 717978) • 524 Benalla-Yarrowonga Road, Benalla (Lot 6 on Local Plan 206524) • 572-616 Benalla-Yarrowonga Road, Benalla (Lot 5 on Local Plan 206524; Lot 4 on Local Plan 206524 Lot 3 on Local Plan 206524) • Allotment 2019 Parish of Goorambat PP2704 • Snowy Lane, Benalla road reserve
Total Site Area	Approximately 283 Hectares (subject site) Approximately 22 Hectares (transmission line area)
Proposal	Use of development of a Solar Energy Facility and Utility Installation and associated buildings and works, removal of native vegetation, creating or altering access to the Transport Zone 2, business identification signage and remove, vary or create easements.
Planning Permit Triggers	<ul style="list-style-type: none"> • Clause 35.07 Farming Zone – A Renewable Energy Facility and Utility Installation are defined as Section 2, Permit Required uses (Clause 35.07-1). A planning permit is also required to construct a building or construct or carry out works (Clause 35.07-4) for a Section 2 use. • Clause 33.01 Industrial 1 Zone – A Renewable Energy Facility and Utility Installation are defined as Section 2, Permit Required uses (Clause 33.01-1). A planning permit is also required to construct a building or carry out works (Clause 33.01-4) for a Section 2 use. • Clause 36.01 Public Use Zone – A Renewable Energy Facility and Utility Installation are defined as Section 2, Permit Required uses (Clause 36.01-1). A planning permit is also required to construct a building or carry out works (Clause 36.01-2) for a Section 2 use. • Clause 52.02 Easements, Restrictions and Reserves – A permit is required to create, vary or remove an easement or restriction under Section 23 of the <i>Subdivision Act 1988</i>. • Clause 52.05 Signs – Clause 35.07-7 refers to the sign requirements at Clause 52.05 and specifies that the Farming Zone is in Category 4 – Sensitive Areas. A 'Business Identification Sign' is a Section 2 sign (permit required) and must not exceed three (3) square metres. Clause 33.01-5 refers to the sign requirements at Clause 52.05 and specifies that the Industrial 1 Zone is in Category 2 – Office and

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Requirement	Details
	<p>Industrial. A 'Business Identification Sign' is a Section 1 sign (permit not required). The total display area of all signs must not exceed eight (8) square metres.</p> <ul style="list-style-type: none"> • Clause 52.17 Native Vegetation – Clause 52.17-2 requires a planning permit to remove, destroy or lop native vegetation, including dead native vegetation. • Clause 52.29 Land Adjacent to the Principal Road Network requires a planning permit to create or alter access to a Transport Zone 2. • Clause 53.13 Renewable Energy Facility (other than wind energy facility and geothermal energy extraction) – applies to land proposed to be used and developed for a Renewable Energy Facility including a Solar Energy Facility. Clause 53.13-2 outlines the requirements that must be accompanied with the application. • Clause 52.06 Car Parking – The provision of car spaces must be made before a new use commences (Clause 52.06-2) Car parking provision is to the satisfaction of the Responsible Authority.
Zones	Industrial 1 Zone (IN1Z), Farming Zone (FZ), Public Use Zone – Schedule 1 (PUZ1)
Overlays	N/A
Areas of Aboriginal Cultural Heritage Sensitivity	The subject site includes an Area of Aboriginal Cultural Heritage Sensitivity.
Bushfire Prone	Yes
Amendment to the Planning Permit under Section 72 of the P&E Act	Changes to concept plan layouts to ensure more efficient use of infrastructure within each solar farm. New transmission line to connect Kennedys Creek Solar Farm and West Mokoan Solar Farm, enabling one connection point to the grid.

1.2 Background

1.2.1 The Applicant

The applicant, *433 Link Development Pty Ltd* is a subsidiary company of Lightsource bp. Lightsource bp is a global leader in the development and management of solar energy projects. Lightsource bp is committed to deliver affordable and sustainable solar power for businesses and communities across Australia and the world. Lightsource bp have over 10 years' experience in solar development, working with businesses and communities to create low carbon, solar energy projects.

1.2.2 Consultation

Prior to the lodgement of the planning permit application in October 2020, South Energy undertook consultation with Benalla Rural City Council, relevant State agencies and the broader community. Following taking on ownership of the project in September 2021, Lightsource bp has continued consultation with the DTP, other relevant State agencies and local residents. Details of consultation undertaken are summarised below.

1.2.2.1 Pre-application Meeting with Benalla Rural City Council

On Monday 30 October 2018 AECOM attended a pre-application meeting at Benalla Rural City Council. The meeting was held with Joel Ingham. The outcomes of the pre-application are summarised below:

- Applications for solar farms along a VicRoads managed road such as Benalla-Yarrowonga Road would require a Glint and Glare Assessment and a Visual Impact Assessment.
- Council queried the capacity of the Glenrowan Terminal Station and capacity of feeding to the existing transmission lines. This is due to number of recent solar proposals and approvals in Glenrowan and Winton, including the BP Solar Farm in Winton which is proposing to expand to the

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west. Consider the cumulative impact of proposed or approved solar farms, with regard given to (cumulative) visual impact.

- A Cultural Heritage Management Plan (CHMP) would need to be undertaken if any works impact the Cultural Heritage Sensitivity Area.
- Development of a solar farm on Industrial Zoned land was viewed as favourable. The land was rezoned in the 1990s and has not been developed since.
- Council asked whether South Energy had been in discussion with other landowners within the industrial area (particularly to the north) as there could be potential to expand. Council also asked whether there would be the potential to locate within the Defence (Commonwealth) land to the north (land used as a buffer to ammunition manufacturing).
- Provide justification for development on agricultural land in the Farming Zone. An application would also need to outline how much of the entirety of farming areas in the locality and within Benalla will be occupied by solar farms. An Agricultural Assessment is therefore recommended. It is likely that the Councillors will ask about the impact.

1.2.2.2 Pre-application Meeting with DTP (Planning Permit Application)

On 9 March 2022, AECOM provided DTP with an update on the Project, including a status update and proposed changes to the concept plan. During this meeting, AECOM outlined the proposed amendment process (Section 72 of the P&E Act) and amendment application documentation. It was agreed that key non-editorial changes to reports that require major updates (including this report) would be provided to DTP, to assist with assessment.

On 19 December, AECOM provided DTP and the Department of Energy, Environment and Climate Action (DEECA) an update on the Project, including the result of further ecological surveys (refer to Section 8.1) and the likely project footprint.

1.2.2.3 Community Consultation

A community consultation meeting was held on Thursday 13 June 2019 at the Mokoan Hub and Café, which was advertised in the Benalla Ensign Newspaper (Wednesday 5 June 2019). South Energy also visited the landowners immediately adjoining the Project site prior to the community consultation event. A summary of the feedback provided by the community is outlined below:

- Members of the community supported solar farms as solar farms fight against climate change, are a good form of renewable energy generation and lower electricity bills.
- Some members of the community raised concerns relating to:
 - Impact on farming land
 - Potential impact on property values
 - Visual impact and views from surrounding properties
 - The removal of trees
 - Water channels and the potential for flooding.
 - Questions were raised relating to which organisation would manage the community fund; and what type and where screening would be provided.

Feedback and questions received from the community have been addressed in the planning permit application and direct responses have been provided to members of the community who have requested further information. Consultation with the community will continue throughout the life of the Project. A copy of the advertisement in the Benalla Ensign Newspaper and community consultation materials is attached at Appendix A.

Throughout 2022, Lightsource bp met with several landowners in proximity of the subject site and adjoining the transmission line impact area to discuss the Project and any potential impacts of the transmission line on their property, particularly regarding visual and noise impacts.

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1.2.2.4 Benalla Sustainable Future Group

The Benalla Sustainable Future Group (BSFG) attended the community consultation session. The BSFG were supportive of this type of development in Benalla and of South Energy's community investment fund. Further, the BSFG advised that Benalla is aiming for 100% renewables by 2030.

1.2.2.5 Winton Wetlands

Winton Wetlands is located to the north-east of the site and has great Aboriginal Cultural Heritage significance. Members of the Winton Wetlands Committee of Management attended the community consultation session. The Committee were generally supportive of the Project and of South Energy's community investment fund.

1.2.2.6 Regent Honeyeater Group

The Regent Honeyeater Group is committed to restoring remnant box-ironbark habitat for the endangered Honeyeater bird. The Regent Honeyeater Project takes place exclusively in the Lurg Hills, near Benalla and more specifically, immediately south of the site. Members of the Regent Honeyeater Group attended the community consultation session. The Group is supportive of the development of a solar farm in Benalla. Further, the Group expressed interest in partnering with the Project to improve the vegetation corridor around the site that would provide screening as well as benefit the Regent Honeyeater Project. Plant species suggested by the Regent Honeyeater Group have been incorporated into the Landscape Plan, located at Appendix G.

1.2.2.7 Goulburn Broken Catchment Management Authority

The subject site includes a number of surface water features including several dams and unnamed drainage lines. A Floodplain Advice Request was submitted to the Goulburn Broken Catchment Management Authority (GBCMA) on 7 February 2019 to seek feedback on the Project and to further understand the nature of the conditions that may be placed on the development.

Following the Floodplain Advice Request submission, the GBCMA advised that they had no objections to the proposed solar farm, subject to the following conditions:

- Inverters and transformer blocks and any buildings must be located a minimum of 30 metres from the nearest top of bank of the watercourse.
- The finished floor levels of inverter and transformer blocks and any buildings are to be set at least 300 millimetres above the applicable 1% AEP flood level.
- The corridors along all waterways should be revegetated in accordance with the Revegetation Guide for the Goulburn Broken Catchment.
- Where fencing obstructs waterways, the fencing should be designed in a way that does not obstruct flood flows.

Following the issue of the floodplain advice response, AECOM sought further clarification from GBCMA on the determination of appropriate setbacks for waterways that are poorly defined (i.e., no banks or channels). The GBCMA advised that generally a setback of 15 metres from the centreline of a waterway would be acceptable. It was also noted that since the waterways on the subject site were not clearly defined, setbacks could be varied, and where it could be demonstrated there were minimal impacts, setbacks of 5 metres would be considered.

The full GBCMA floodplain advice response can be found at Appendix B of the Surface Water Assessment. The Surface Water Assessment is located at Appendix D of this Report.

As recommended by the GBCMA floodplain advice, a Waterway Determination and Catchment Assessment application was submitted to Goulburn Murray Water (GMW) on 15 July 2019 to identify any existing designated waterways on the Project site. This information would be used to further refine the concept design for the solar farm, ensuring minimal disruption to existing waterways.

As a result of the assessment, GMW identified one designated waterway traversing the site in a generally north-south direction and bisecting 284 Benalla-Yarrowonga Road. GMW advised that any works planned on the waterway for the purpose of 'take and use' would require approval in the form of a Works Licence from GMW. GMA are also the licensing authority for any other works.

Further, there is an unnamed watercourse that traverses the north-eastern portion of the site. The Mokoan Inlet Channel also is located to the south of Nelson Road which forms the Project's southern boundary. Kennedys Creek, traversing north-south, is a prominent water feature located to the west of the site. The Creek is identified as an area of Aboriginal Cultural Heritage Sensitivity.

GBCMA was further consulted in late 2022 regarding the update to the concept plan. No additional written advice was received from the GBCMA following this consultation.

1.2.2.8 Country Fire Authority

The subject site is located within a Bushfire Prone Area. As stated at **Clause 13.02-1S** (Bushfire Planning), it is recommended to consult with the relevant fire authority to receive recommendations and implement appropriate bushfire protection measures. The Country Fire Authority (CFA) was contacted to seek advice on how to address the risks associated with either structural fire or bushfire from solar farm developments. The recommendations provided by the CFA and outlined in detail in the recently published CFA Guidelines for Renewable Energy Installations (refer also 6.1.9) are as follows:

- Site Operations:
 - A fire break area with a ten (10) metre width is to be maintained around the perimeter of the facilities, electricity compounds and substations. This area is to be on non-combustible mulch or mineral earth and must be free of vegetation and obstruction.
 - Battery Installations – to be located so as to be directly accessible to emergency responders. Battery containers/infrastructure must be clear of vegetation for ten (10) metres on all sides, including grass. This area is to be on non-combustible mulch or mineral earth.
- Firefighting Water Supply:
 - Location of firefighting water access points and the quantity of water supply is to be established through a comprehensive risk management process.
- With regards to access tracks and to enable access for fire appliances, the CFA requires the following provisions to be considered:
 - A four (4) metre perimeter should be constructed within the ten (10) metre perimeter fire break.
 - Incorporate passing bays at least every 600 metres which must be at least 20 metres long and have a minimum trafficable width of 6 metres. Road networks must enable responding emergency services to access all areas of the facility.
 - At least two (2) access points must be provided to the site – this number should be informed through a risk management process.

1.2.3 Community Fund

Lightsource bp will be initiating a community investment program, where a portion of the Project's revenue will be invested back into the local community, aiming to help fund projects that benefit the quality of life and wellbeing of the community. Feedback was received at the community consultation event regarding potential funding opportunities. Lightsource bp will continue to work with the community in identifying important local projects which require funding.

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1.3 Report Structure and Supporting Documents

This Planning Report for the Project is presented as follows:

- Section 1.0 provides an overview of the Project, information about the applicant, relevant documents and consultation with the local community, Benalla Rural City Council, DTP and other stakeholders. Further information about proposed changes to the Project have also been included.
- Section 2.0 and Section 3.0 provides details on the subject site, surrounds and existing conditions.
- Section 4.0 outlines the original and updated proposal, detailing the Project's key components and any proposed changes.
- Section 5.0 provides details regarding Project construction, operation and decommissioning.
- Section 6.0 provides planning policies and controls that are of relevance to the Project
- Section 7.0 provides a detailed planning assessment against key legislation and policies outlined in Section 6.0 of the Planning Report.
- Section 8.0 provides a summary of the Specialist Technical Assessments and potential impacts.
- Section 9.0 provides a summary of the findings in this Report.

This Report should be read in conjunction with the following supporting documents:

- Consultation material (South Energy, 2018-2019) (Appendix A)
- Application Plans (AECOM and Lightsource bp, 2019-2023) (Appendix B)
- Ecological Flora and Fauna Assessment (AECOM, 24 February 2023) (Appendix C)
- Surface Water Assessment (AECOM, 24 February 2023) (Appendix D)
- Traffic Impact Assessment (AECOM, 25 January 2023) (Appendix E)
- Landscape Character and Visual Impact Assessment (AECOM, 15 February 2023) (Appendix F)
- Landscape Plans and Landscape Early Works Strategy (AECOM, 24 January 2023) (Appendix G)
- Heritage Due Diligence Assessment and Addendum (AECOM, 17 June 2019 and 22 February 2023) (Appendix H)
- Draft Cultural Heritage Management Plan (AECOM, 20 December 2023) (Appendix I)
- Glint and Glare Assessment and Addendum (AECOM, 13 September 2019 and 22 February 2023) (Appendix J)
- Agricultural Impact Assessment and Addendum (Ag Challenge, 4 September 2019 and 22 February 2023) (Appendix K)
- Preliminary Geotechnical Assessment and Addendum (AECOM, 13 September 2019 and 22 February 2023) (Appendix L)
- Operational Noise Assessment (AECOM, 19 December 2023) (Appendix M)
- Preliminary Environmental Management Plan and Addendum (AECOM, 13 September 2019 and 22 February 2023) (Appendix N)
- Plan of Subdivision (Tomkinson Group, 15 August 2019) (Appendix O)
- Written consent from the public land manager, Winton Wetlands (Appendix P).

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2.0 Subject Site and Existing Conditions

2.1 Location

The subject site is located within the Rural City of Benalla, which forms part of the Hume Region in North-Eastern Victoria. The subject site is located approximately 4 kilometres north-east of the town centre of Benalla and 170 kilometres north-east of Melbourne. Larger regional cities within the Hume Region include Shepparton, Wangaratta and Wodonga.

The Region has high solar irradiance as identified in the solar exposure data collected by the Bureau of Meteorology at the Benalla Airport Station (approximately 4 kilometres south-west of site), where the level of total solar energy for a day falling on a horizontal surface in Benalla is approximately 17.1 Mega joule per square metre (MJ/m²).

2.2 Subject Site

The subject site is located on Murray Road, Nelson Road and Benalla-Yarrowonga Road in Benalla. The relevant site addresses and associated legal descriptions are outlined at Table 2.

The site is located on the northern side of both Nelson Road and Murray Road and bisects Benalla-Yarrowonga Road. The subject site has frontages to Nelson Road, Benalla-Yarrowonga Road and Murray Road. The subject site is irregular in shape with a total area of approximately 283 hectares (refer Figure 1).

The proposed transmission line affects an additional eight properties, (under the ownership of three separate landowners) indicated in Table 2 and Figure 2. The impact area for the transmission line covers an additional 22 hectares.

Table 2 Site addresses and associated legal descriptions

Site Address	Legal Description
Subject site	
Murray Road, Benalla	Lot 3 PS318659S and Lot 4 PS318659
51 Nelson Road, Benalla	Lot 6 PS627741
67 Nelson Road, Benalla	Lot 7 PS627741
127 Nelson Road, Benalla	Lot 2 PS803108
284 Benalla-Yarrowonga Road, Benalla	Lot 3 PS715932
Transmission line area	
Lake Mokoan Road, Winton North 3673	Allot. 2020 Parish of Winton PP3843
368 Benalla-Yarrowonga Road, Benalla 3672	Lot 2 PS627741
370 Benalla-Yarrowonga Road, Benalla 3672	Lot 1 PS627741
82 Snowy Lane, Benalla 3672	Lot 2 LP123365
Benalla-Yarrowonga Road, Benalla 3672	Lot 1 PS717978
N/A	Allot. 2019 Parish of Winton PP2704
524 Benalla-Yarrowonga Road, Benalla 3672	Lot 6 LP206524
572-616 Benalla-Yarrowonga Road, Benalla 3672	Lot 5 LP206524, Lot 4 LP206524 and Lot 3 LP206524

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2.2.1 Land Use

The subject site is located within the eastern portion of the Benalla Plain. This eastern area is predominantly used for the grazing of cattle and sheep and broadacre cropping. More specifically, the subject site is currently used for broadacre farming. Further, the land is occupied by two dwellings along the southern boundary. Both dwellings have associated farm buildings and comprise of man-made dams and out buildings. The two dwellings are set back approximately 650 metres and 150 metres from Nelson Road. Figure 3, Figure 4, Figure 5, Figure 6 and Figure 7 provide images of the site.

The proposed transmission line affects properties zoned Farming Zone. The transmission line also affects other land parcels zoned Public Use Zone – Schedule 1 including Stockyard Creek, the Winton Wetlands Natural Features Reserve (the Boundary Road road reserve).

2.2.2 Landscape

The land is relatively flat and includes several dams and unnamed drainage lines. There are two unnamed watercourses that traverse through the eastern portion of the site. The site is mostly cleared of vegetation except for scattered trees across the site. Vegetation on the site is generally classified as Ecological Vegetation Class (EVC) 55_62 Riverina Plains Grassy Woodland. Additional information on the existing vegetation on site is contained in the Ecological Flora and Fauna Assessment at 8.1 and Section 8.4 respectively.

2.2.3 Access

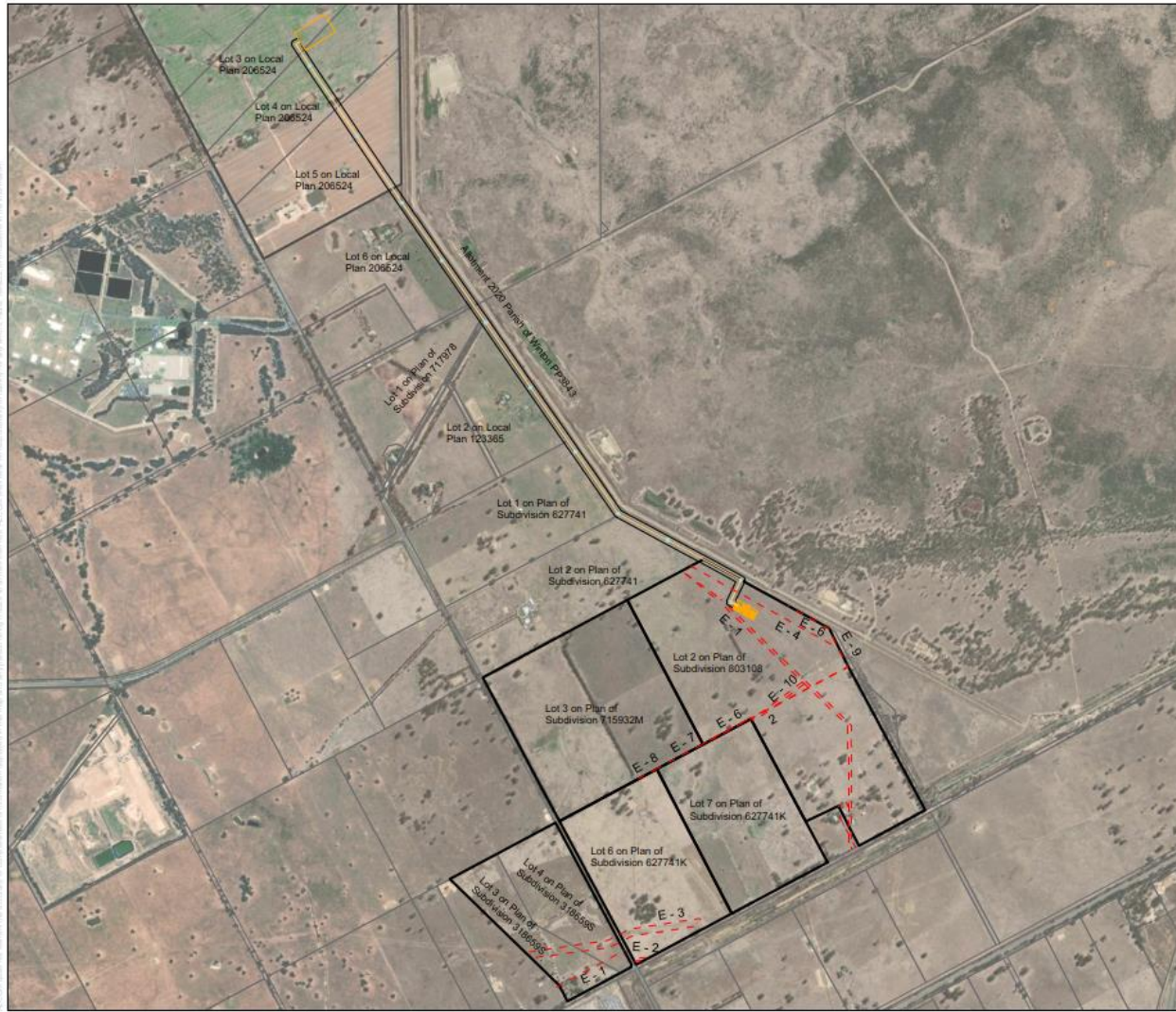
The subject site has existing access points directly from Benalla-Yarrowonga Road and from Nelson Road and Murray Road at the southern end of the site. Both Murray Road and Benalla-Yarrowonga Road are sealed. Nelson Road is an unsealed road.

The proposed substation is located to the north-east of the subject site, adjacent to Boundary Road, an unsealed road. Boundary Road connects to Benalla-Yarrowonga Road via Snowy Lane, an unsealed road.

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Figure 1 Site Context



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0 0.35 0.7 Km

**WEST MOKOAN SOLAR FARM PROJECT
 KENNEDYS CREEK AMENDMENT
 LANDOWNERSHIP PLAN**

Legend

- Kennedy's Creek Solar Farm Site Boundary
- West Mokoan Solar Farm Site Boundary
- Indicative Transmission Line Easement
- Indicative Transmission Line Centreline
- Indicative Transmission Line Pole Locations
- Indicative Substation Locations
- - - Easements
- Parcel Boundaries

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Figure 2 Subject Site and Transmission Line Affected Properties

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Figure 3 Largely cleared farming land with scattered trees.



Figure 4 Dwelling and associated outbuildings at 51 Nelson Road, looking north west.

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Figure 5 Unsealed Nelson Road running along the southern boundary of the site



Figure 6 Scattered trees on site

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Figure 7 Existing dam on site



Figure 8 Eastern boundary fence line on 125 Nelson Road, looking south

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2.2.4 Existing Power Infrastructure and Easements

The site is located adjacent to the existing 66kV Glenrowan Terminal Station-Benalla Zone Substation 1 (GNTS-BN1) overhead line, running on Nelson Road along the southern boundary of the site.

Additionally, the 220kV Glenrowan to Shepparton transmission line is located to the north-east of the subject site running parallel to Boundary Road. This line is made up of two parallel infrastructure systems, approximately 40 metres and 30 metres tall. The line runs north-west parallel to Boundary Road until the road bends towards the north, after which the transmissions lines run straight to cut through 616 Benalla-Yarrowonga Road and eventually cross over Benalla-Yarrowonga Road.

There are a number of easements that apply to the subject site. Based on the title plans (refer to Landowner Plan at Appendix B) and a Dial Before You Dig enquiry, there are 12 easements that apply to the subject site.

To the west of the site, there is an easement relating to the transmission of electricity and a gas pipeline easement that applies to an APA high pressure gas pipeline. Within the southern portion of the site on the corner of Benalla-Yarrowonga Road and Nelson Road, there are two easements; one for the transmission of electricity in favour of the State Electricity Commission of Victoria and the other for pipeline purposes in favour of the Gas and Fuel Corporation of Victoria (which also applies to the APA gas pipeline).

On the eastern portion of the site, there are five easements for water supply purposes which apply to a 2 metre wide water supply pipeline identified on site. There are two more easements in favour of the State Electricity Commission of Victoria along the eastern diagonal boundary. There is also powerline easement that travels north-south adjacent to the eastern boundary and is in favour of SPI Electricity Pty Ltd. This easement applies to an existing overhead distribution line.

The transmission line investigation area runs alongside the existing transmission easement in favour of the State Electricity Commission of Victoria. Studies were undertaken within the easement corridor as the final easement will overlap the existing easement where possible. The intention is for the new line to be as close to the existing lines as AusNet design and safety requirements allow.

Table 3 summarises the easements on the subject site. Further, the existing underground assets across the subject site are summarised in Table 4.

Table 3 Easements on subject site

Easement	Purpose	Affected Property
E-1	Transmission of Electricity	Murray Road (Lot 3 and 4 PS318659)
E-2	Gas Pipeline	Murray Road (Lot 3 and 4 PS318659)
E-2	Transmission of Electricity	51 Nelson Road (Lot 6 PS 627741)
E-3	Pipeline Purposes	51 Nelson Road (Lot 6 PS627741)
E-1	Powerline	127 Nelson Road (Lot 2 PS803108)
E-4, E-9 (PS 715932M)	Transmission of Electricity	127 Nelson Road (Lot 2 PS803108)
E-6, E-7, E-8, E-9, E-10 (PS 715932M)	Water Supply	51 Nelson Road (Lot 6 PS 627741), 67 Nelson Road (Lot 7 PS627741) and 127 Nelson Road (Lot 2 PS803108)

Table 4 Underground assets on subject site

Company	Asset Description
Optus	Underground fibre optic telecommunications cable running east-west along the southern portion of the site.
AAPT (PowerTel) Limited	Underground fibre optic telecommunications cable running east-east along the southern portion of the site.
Telstra	Underground fibre optic telecommunications cable located in the south-east portion of the site.

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3.0 Site Surrounds

3.1 Site Context

The land surrounding the subject site is used for varying land uses. The surrounding land uses can be described as follows (and is shown at Figure 9):

- **North:**
 - To the north-west, land immediately west of Benalla-Yarrawonga Road is used for defence industry purposes.
 - To the north is a residential property comprising a single dwelling and associated out buildings. Land beyond the dwelling is predominantly used for agricultural purposes.
 - Further to the north land use is a mixture of defence industry purposes, agricultural land and associated dwellings. Land to the north is generally within the Farming Zone, Special Use Zone 1 and Public Use Zone 1.
- **East:**
 - To the east of the site is the Winton Wetlands, which is a large wetland restoration project of national significance. The land is owned by DEECA and is predominantly within the Public Use Zone and the Public Park and Recreation Zone.
- **South:**
 - To the immediate south is the Benalla-Winton Discovery Trail, a 21-kilometre-long bike trail that connects Benalla to the Winton Wetlands. The Mokoan Inlet Channel runs parallel to Nelson Road before connecting into Winton Creek and the swamps associated with the Winton Wetlands. The Trail and Inlet Channel are both zoned Public Use Zone 1 (Service and Utility).
 - The Benalla to Yarrawonga rail corridor which is within the Public Use Zone 4 (Transport) is situated approximately 800 metres south of the site.
 - To the immediate south-west, off Murray Road, is a precast concrete facility being used for the West Gate Tunnel Project, with a new 700 metre siding also being created from the existing rail line to provide direct access to the precast facility.
 - To the immediate south of the rail corridor is the D&R Henderson timber and manufacturing facility.
 - Benalla-Winton Road, a Road Zone Category 1, is located approximately 1.6 kilometres from the site while the Hume Freeway, also a Road Zone Category 1, is located approximately three kilometres south of the site.
 - Further to the south is agricultural land and associated dwellings zoned Farming Zone.
 - Benalla CBD is located approximately four kilometres south-west of the site.
 - Benalla Airport is located approximately three kilometres south-west of the site.
- **West:**
 - Land to the west is generally within the Industrial 1 and 2 Zones. Land to the west of the site and the transmission line impact area is also used for agricultural purposes and contains associated dwellings within the Farming Zone. This area was originally included within the Project investigation area, however, the Project boundary has now fully avoided this site.
 - To the west of the site is Kennedys Creek, which is identified as being of Aboriginal Cultural Heritage Significance.
 - To the north-west of the site is land used for the Benalla Landfill and Resource Recovery Centre, zoned Public Use Zone 1 (Service & Utility).

- Land further to the west is generally residential land and land associated with the outer urban areas of Benalla.

The land surrounding the transmission line investigation area is generally as discussed above, with the properties to the west in the Farming Zone and the Winton Wetlands to the east. The subject site is to the south and the West Mokoan Solar Farm is to the north.

The main road transport corridors in the region include the Benalla-Yarrawonga Road, which is an arterial road that bisects the subject site and is within the Road Zone - Category 1. The Hume Freeway is located approximately two kilometres south-east of the site. Running for approximately 840 kilometres, the freeway is one of Australia's major inner-city national highways which connects Melbourne to Sydney. The Midland Highway (arterial road, named highway) is to the west of the site and Benalla-Winton Road (arterial road) is to the south of the site.

Murray Road and Nelson Road are local roads that form the southern boundary of the site. Murray Road is a sealed, two-way carriageway and Nelson Road is an unsealed, two-way carriageway.

3.2 Site Selection

The subject site was chosen due to the levels of solar exposure (estimated to be approximately 17.1 MJ/m²) annually and for the following reasons:

- The topography is relatively flat and clear of vegetation, ensuring a straightforward and efficient layout, construction and ongoing maintenance.
- The site has sufficient access to arterial roads and the township of Benalla and has good access to the 220kV Glenrowan to Shepparton transmission line, which runs along the north-eastern boundary of the subject site.
- The limited amount of native vegetation means that the Project will involve minimal clearance and loss of native vegetation.
- Low impacts to amenity as there are limited sensitive receptors in proximity to the site.
- The Project will not result in the loss of high-quality agricultural land (refer to Section 0)

The alignment of the proposed transmission line was chosen for the following reasons:

- Collocate with alignment of existing easement where possible
- Minimal impacts on existing ecological values and conservation areas.

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**WEST MOKOAN SOLAR FARM PROJECT
 KENNEDYS CREEK AMENDMENT
 OVERVIEW PLAN**

Legend

- Kennedys Creek Solar Farm Site Boundary
- West Mokoan Solar Farm Site Boundary
- Transmission Line Investigation Area
- Indicative Transmission Line Easement
- Indicative Substation Locations
- Indicative Transmission Line Centreline
- Indicative Transmission Line Pole Locations

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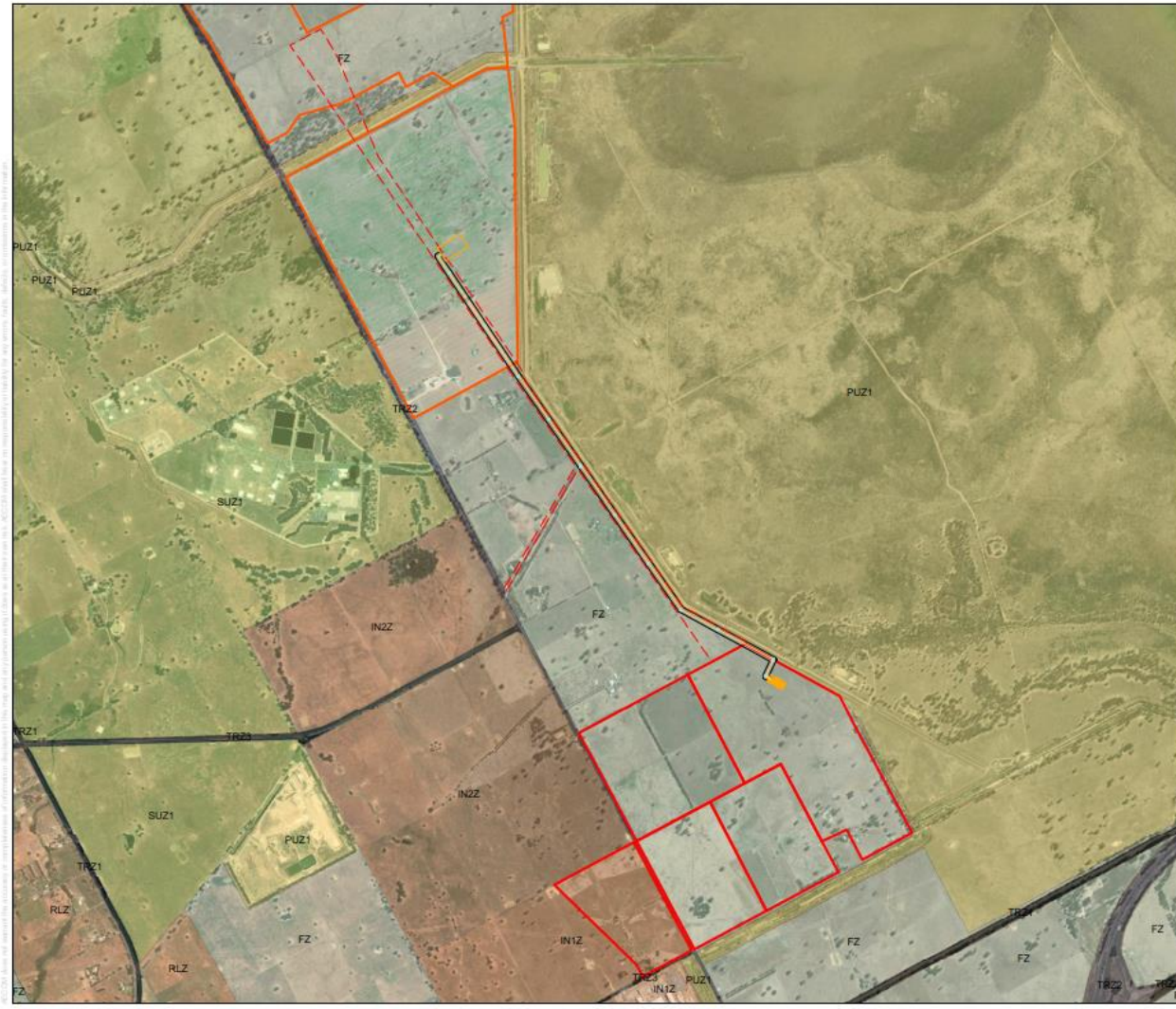
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Figure 9 Site Surrounds



AECOM

0 0.5 1 Km

**WEST MOKOAN SOLAR FARM PROJECT
 KENNEDYS CREEK AMENDMENT ZONING PLAN**

Legend

- Kennedys Creek Solar Farm Site Boundary
- West Mokoan Solar Farm Site Boundary
- Transmission Line Investigation Area
- Indicative Transmission Line Easement
- Indicative Substation Locations
- Indicative Transmission Line Centreline
- Indicative Transmission Line Pole Locations

Planning Scheme Zones

- FZ - Farming Zone
- IN1Z - Industrial 1 Zone
- IN2Z - Industrial 2 Zone
- PUZ1 - Public Use Zone - Service and Utility
- TR21 - State Transport Infrastructure
- TR22 - Principal Road Network
- TR23 - Significant Municipal Road
- RLZ - Rural Living Zone
- SUZ - Special Uses Zone

Benalla **Winton** **Glenn** **Moak** **Sturt** **Sturt** **Sturt**

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Figure 10 Zoning map

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4.0 Proposal Details

The following section provides a summary of the proposal and should be read in conjunction with the accompanying application drawings prepared by AECOM (Appendix B). Both original and amended proposals have been included for full context around the history of the project.

4.1 Solar Modules and Mounting Structure

The concept layout comprises of a Single Axis Tracking System (refer to Figure 11 for typical system to be used). The final layout of the Project will be subject to a detailed design process.

PV modules, or 'solar panels' convert energy from the sun into DC electricity through a process known as the photoelectric effect. The modules likely to be selected for this project will be 570W bifacial modules with dimensions of approximately 2.279 metres by 1.134 metres. These modules are attached to mounting structures and will be set back at least 15 metres from all property boundaries. The capacity of the Project is expected to be approximately 159.12 MW DC. The final DC capacity will be optimised as required through detail design and depends on the final equipment selection. AC capacity will be restricted to the grid export limit approved by AEMO. The exact type of module that will be utilised will be subject to final design and may alter the maximum electrical capacity of the Project.

Single Axis Tracking Systems likely to be selected for the Project will comprise of two modules in portrait orientation (refer to examples in Figure 11). The panel modules are sited to rotate around the horizontal axis, following the sun's trajectory. The mounting configuration for this Project will consist of modules mounted on each tracker arm in portrait arrangement, with the tracking angle ranging from +60 to -60 degrees to the horizontal each day. The width of the internal access tracks for this arrangement would be approximately 7.5 metres for single axis tracking. A typical Single Axis Tracker System comprises PV modules mounted on steel or aluminium racking systems aligned north to south with a maximum height above ground level of approximately 4.14 metres. The exact height of these PV modules will be subject to detailed design.

In relation to the electrical configuration, groups of PV modules are connected in a series to form a string. The modules generate electricity in Direct Current (DC), which is converted to Alternating Current (AC) via an inverter, which is then transformed to a suitable voltage for onward transmission to the grid network.

Table 5 outlines the specifications for the proposed system.

Table 5 Typical Single Axis Tracking System Specifications

Item	Single Axis Tracking System – original	Single Axis Tracking System – proposed amendments
Mounting Structure Configuration		
Row Alignment	North-south (tracking east-west)	
Tracker Rotation Range	+60 to -60 degrees	+60 to -60 degrees
Row Spacing (centre to centre)	7.5 metres	5m (subject to detailed design)
PV Module Mounting Configuration	Double line of 78 PV modules in portrait	Subject to detailed design
Electrical Configuration		
String Configuration	26 modules per string	28 modules per string
Quantity of Modules	358,956	Approximately 279,160 (subject to detailed design)
Maximum Capacity	Up to 145 MW	Approximately 159.12 MW DC (subject to detailed design)

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Figure 11 Example of Typical Single Axis Tracking System (Source: Wemen Solar Farm)

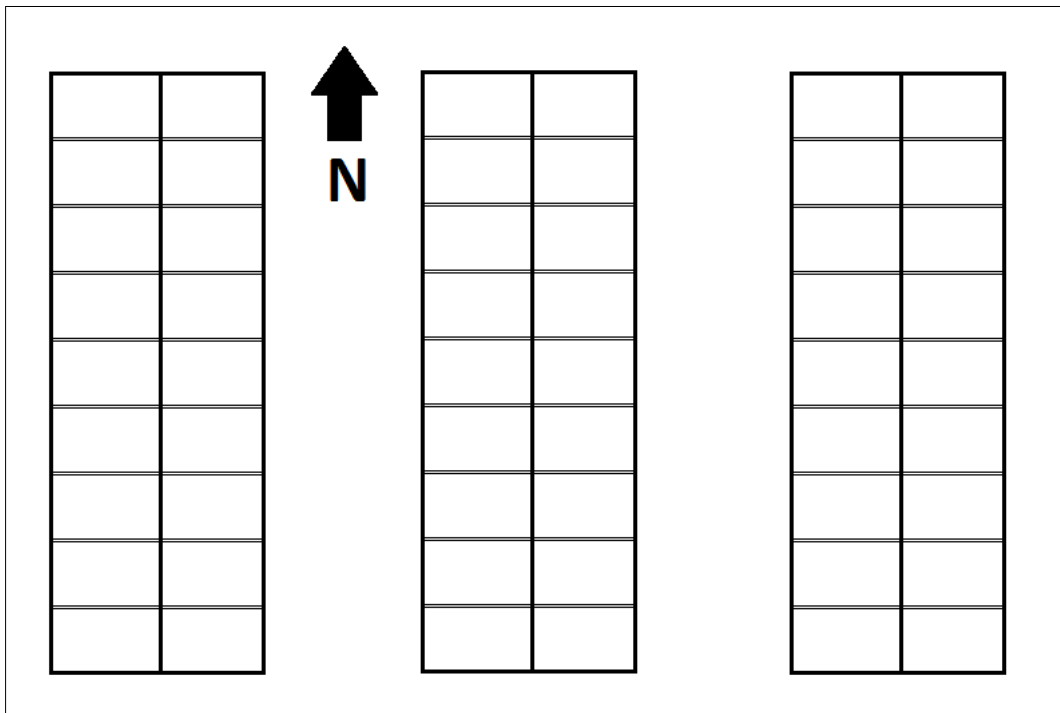


Figure 12 Solar farm panel rows oriented along the north-south axis

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4.2 Power Conversion Units

Power Conversion Units, or PCUs, house transformers and inverters, which will be sited between the PV Module Arrays along the solar farm's internal access tracks. There were approximately 32 PCUs originally proposed across the site, comprising 27 4.6 MVA PCUs and 5 2.3 MVA PCUs. The amended proposal contains 24 PCUs, each with 2 3.43 MVA inverters (depicted in Figure 13). The PCUs convert the Direct Current (DC) to Alternating Current (AC), while the transformers increase the voltage from Low Voltage to a Medium or High Voltage, as required by the electricity grid connection. PCUs are a compact, containerised product, with each unit measuring approximately 2.5 metres wide by 2.9 metres high, with a depth of 12.2 metres (equivalent to a 40-foot shipping container). The location of the PCUs is identified in the Application Plans at Appendix B. Figure 13 provides an example of the typical centralised PCUs.

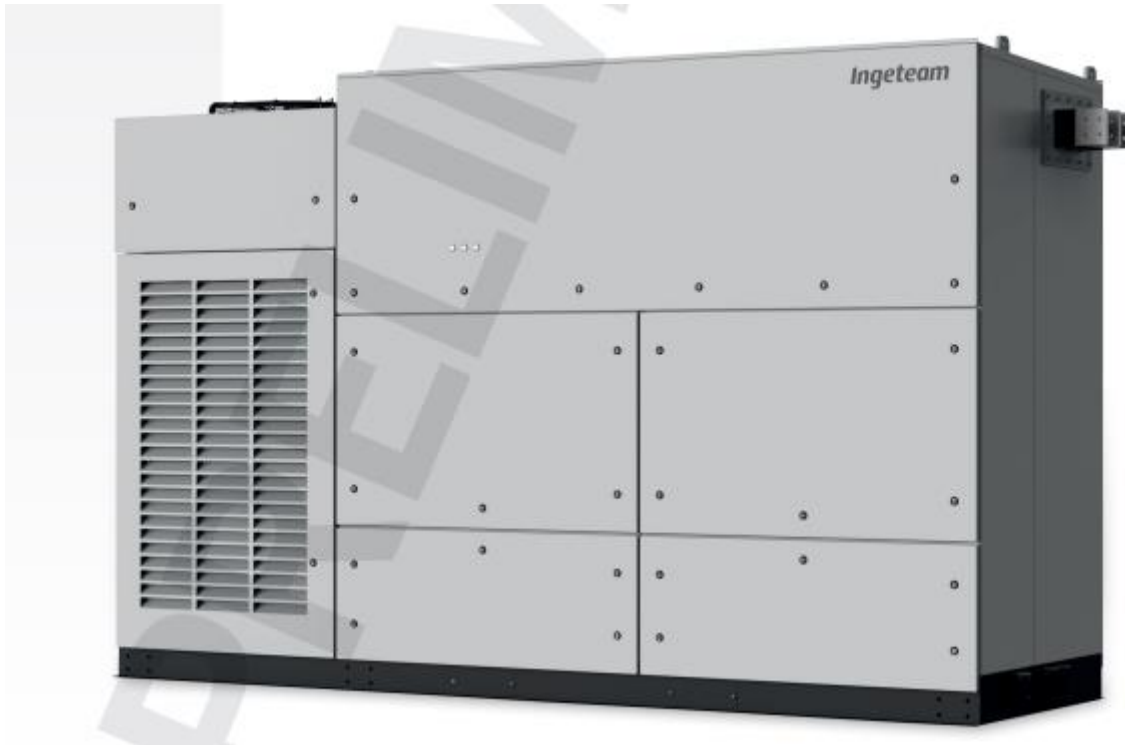


Figure 13 Typical example of power conversion unit (Source: Ingeteam)

4.3 Cabling

DC and AC cabling consisting of copper or aluminium cables will be installed in a trench. The width and depth of the trench will be dependent on the number and size of cables required and will be finalised in the detailed design phase of the project. Cables are typically bedded in a sand backfill approximately 100mm above and below each cable, with excavated material used to backfill the trench to ground level. Identification of the location of the cables is via tape or near the top of the trench backfill. The cables extend through the PV Module Array, thereby following the array of layout and access tracks, electrical control cabinets and PCUs to the substation and transmission line at the north-east boundary of the site.

4.4 Grid Connection and Transmission Line

The original proposal considered the possibility of connecting the Project to the existing 66kV system supplied from the Glenrowan Terminal Station. As a result of the preliminary grid connection assessment, it was proposed to connect Kennedys Creek Solar Farm to the existing GNTS-BN1 overhead line that runs along Nelson Road. However, the final connection of the proposed solar farm to the grid is still subject to a detailed grid connection assessment.

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Since Lightsource bp acquired the development and will be constructing and operating the West Mokoan and Kennedys Creek projects as one project, a transmission line is now proposed to connect Kennedys Creek Solar Farm to the network connection point at West Mokoan Solar Farm (approved by PA2000978). The transmission line is anticipated to be made up of about 12 poles, nine of which are proposed outside of the solar farm sites, and generally aligning with the Boundary Road road reserve. Each pole will be approximately 40m tall and have an ultimate footing of 2.4m x 2.4m. Figure 14 and Figure 15 provide indicative sections of the pole height and width. Detailed design of the concept design will seek to optimise the alignment and minimise impacts on native vegetation.

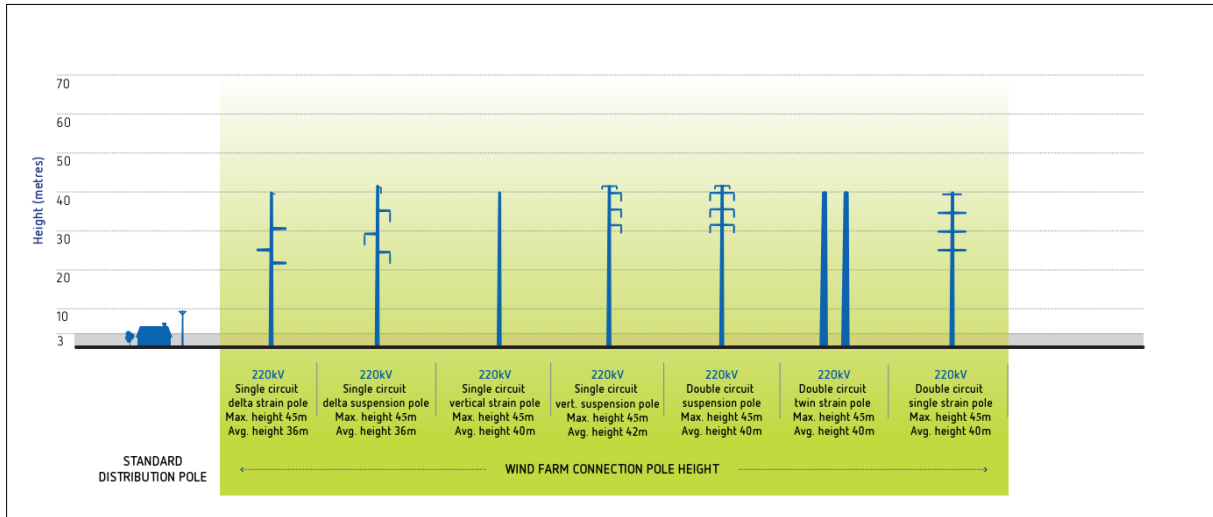


Figure 14 Indicative Transmission Pole Height (Source: AusNet)

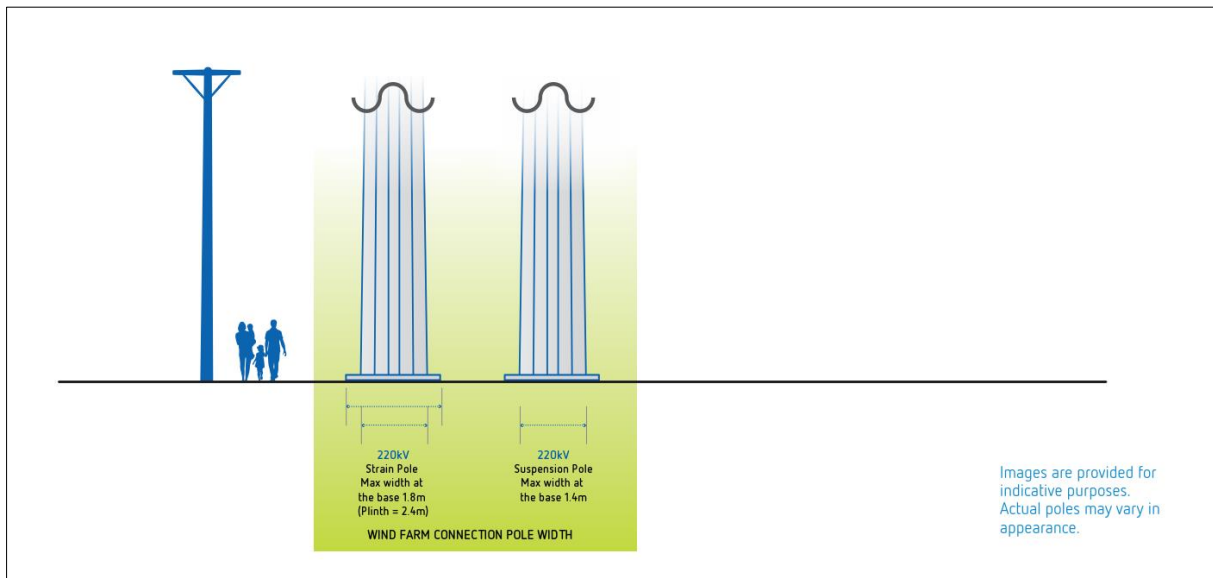


Figure 15 Indicative Transmission Pole Width (Source: AusNet)

4.5 Substation

As the original grid connection for the Kennedy’s Creek Solar Farm was anticipated to connect to the existing 66kV system supplied from the Glenrowan Terminal Station, allowance was provided for a substation that would be best suited for this grid connection. The substation was proposed to be located within the control building and operations and maintenance (O&M) facility area, located along the southern boundary of the site along Nelson Road.

The amended concept plan proposes a new location for the substation, on the north-eastern boundary of the site along Boundary Road. This allows for the substation to connect into the new proposed

ADVERTISED PLAN

transmission line that runs northwards along Boundary Road. Typical elevations for the substation are contained within the Application Plans at Appendix B.

4.6 Control Building

The original control building was located along the southern boundary of the site along Nelson Road within the substation and O&M facility area. The amended concept plan proposes for the control building to be relocated to the O&M facility area along Benalla-Yarrowonga Road (refer to section 4.12). The control building will accommodate the switch room, auxiliary room and the control room. These rooms contain the medium voltage reticulation switchgear, auxiliary power systems including battery banks and the SCADA system. The switchgear is the combination of electrical disconnect switches, fuses or circuit breakers used to control, protect and isolate electrical equipment. Typically, the control building will be developed on stilts to allow for cable reticulation. The control building is likely to be 80 square metres.

4.7 Switchyard

A switchyard will be located within the designated substation. The switchyard will consist of High Voltage switching equipment.

4.8 Laydown Area and Site Access

The proposed laydown area will be located to the south-west of the site. The original concept design proposed a laydown area which was bisected by Benalla-Yarrowonga Road, however this has been amended to consolidate the two laydown areas into one construction compound and main laydown area on the east of Benalla-Yarrowonga Road. This area will be utilised during construction to store equipment. This area is also likely to include parking and amenities, office buildings and maintenance sheds that may be required during construction or operation. The proposed laydown area will be accessed via the two southern site entrances from Benalla-Yarrowonga Road. The size of the laydown area is still to be confirmed and will depend on the contractor requirements for the Project.

A network of site access tracks will provide access throughout the site during construction and will remain in situ for the ongoing maintenance of the solar farm. Tracks will be constructed using locally sourced crushed gravel and will be approximately four metres wide. The access track also includes a four-metre wide perimeter track sited within a ten-metre-wide fire break in accordance with CFA recommendations.

The site will have four access points, three from Benalla-Yarrowonga Road and one from Nelson Road. The Project will be utilising two existing access points along Benalla-Yarrowonga Road and Nelson Road and will be creating two new access points along Benalla-Yarrowonga Road. Two new crossovers will be created for these new access points with the existing access points utilising in situ crossovers. An access will also be created from the substation to Boundary Road to facilitate access to the transmission line.

4.9 Landscaping

Landscape Plans have been prepared by AECOM for the Project (refer Appendix G). A ten-metre-wide landscape buffer will be provided along the northern boundary of the site, as well as along a section of the western boundary of the site. Five-metre-wide landscape buffers will also be planted along sections of the western and eastern boundaries. Within the landscape buffer area, a range of trees, shrubs, grasses and ground cover will be planted. The landscaping proposed will vary in height and Indigenous species to the area have been selected as appropriate. Plant species have also been nominated based on feedback provided by the Regent Honeyeater Group.

Planting within easements will reflect the requirements of APA Group, Optus, Telstra, AusNet and AAPT and therefore no trees will be located within the easements to allow continued access to the easements and associated infrastructure.

Where possible, existing (native) vegetation will be retained, particularly along the unnamed waterways and along the property boundaries where visual screening already occurs. The existing vegetation, along with vegetation within the road reserves will contribute to the overall screening of the solar farm.

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A Landscape and Visual Impact Assessment and Landscape Early Works Strategy have been prepared by AECOM (refer Appendix F) which provide an assessment of the potential landscape and visual impacts during the construction and operation stages of the Project (including proposed landscaping) and recommend mitigation measures to manage the potential impacts. Visualisations have also been prepared to identify the visual impact of the Project on the surrounding area.

4.10 Native Vegetation Removal

The development of the proposed solar farm will result in the loss of approximately 3.369 hectares of EVC 55_62 Riverina Plains Grassy Woodland and includes 20 large scattered trees. The removal of this vegetation is considered necessary to provide an efficient and effective layout of the solar farm and transmission line and to ensure its operation is not impaired by the overshadowing of solar panels. The Ecological Flora and Fauna Assessment prepared by AECOM (Appendix C) includes a Native Vegetation Removal Report which confirms 3.369 hectares of proposed removal of native vegetation and as a result 0.640 general habitat units of offset will be required within a minimum strategic biodiversity score of 0.218.

4.11 Security Fencing

The solar farm will be surrounded by a chain link fence measuring up to 2.3 metres in height. The extent of security fencing is dependent on insurance requirements for the Project. Typical security fence vehicle gates will be incorporated into the fencing system to allow vehicular and pedestrian access to the PV modules, inverters, transformers and substation locations for operation and maintenance activities. Fencing incorporated around the perimeter of the site will be designed to reduce impacts on wildlife that may occur as a result of fauna species attempting to move through the landscape where fencing has been erected. Further, the proposed fencing will be designed to withstand flood events and debris and will protect the proposed perimeter landscaping, ensuring that the solar farm is secure. The exact design specifications of the fencing are not yet determined and will be finalised during the detailed design phase of the Project.

Appropriate safety signage will be displayed on the fencing and gates. An example of typical fencing anticipated to be used for the project is included in the Application Plans at Appendix B. Security fencing will also be installed around the substation which will be approximately three metres in height.

4.12 Operations and Maintenance Area

An onsite Operations and Maintenance (O&M) facility for staff will be located east of Benalla-Yarrawonga Road which is anticipated to include an office, workshop and warehouse building as well as a yard for car parking, waste storage and receiving deliveries.

The O&M facilities are used for all operational and maintenance requirements of the solar farm and substation, and will contain external lighting covering the yard, and all necessary utilities including water and electricity. An Aux Transformer (33kV/415V) will supply energy for onsite requirements such as amenities, the O&M building and the Supervisory Control and Data Acquisition (SCADA) industrial control system.

The Goulburn Broken Catchment Management Authority have advised that centralised invertors, transformer blocks and buildings are to be located a minimum of 30 metres from the nearest top of the bank of watercourses. The O&M facility is proposed to be located along Benalla-Yarrawonga Road and is more than 30 metres from any watercourse, meaning any impacts on water flows are negligible.

4.13 CCTV and Infra-Red Lighting

A CCTV security system may be installed with cameras and infrared lighting. If required, the system will be installed at regular intervals on the site perimeter and within the site, most likely on support posts of up to 3.5 metres high. Infrared lighting uses a spectrum of lighting just below red and is not visible to the human eye, therefore lighting impacts produced by the CCTV security system will be minimal. The indicative location of the CCTV cameras is shown on the Application Plans (Appendix B).

Further, lighting is proposed to be installed for the substation and O&M facility. While exact details of the proposed lighting are subject to detailed design, it is anticipated that any lighting provided will be

low-level and directed towards the facility area to minimise the potential for light spill. No flood lights are proposed to provide illumination of this area. The proposed lighting will comply with *Australian Standard 4282 Control of the obtrusive effects of outdoor lighting*.

4.14 Business Identification Signage

Business identification signage will be installed to clearly identify certain elements within the subject site, such as the site entrance and safety information. At this stage, details and location of the signage are not fully confirmed, although all signage will be limited to the extent necessary for identification purposes and will not exceed three square metres. It is anticipated that sign will be installed at all site access points along Benalla-Yarrowonga Road and Nelson Road, which will identify Kennedys Creek Solar Farm. Full details of signage requirements will be determined during the detailed design phase.

4.15 Site Maintenance

There is the opportunity for sheep grazing on the site during the operation of the solar farm to control vegetation growth and weed management. As the solar panels will be arranged in a Single Axis Tracking Configuration, low hanging wires and exposed electronics will be kept to a minimum, reducing hazards for sheep. Further, the supporting pole for the solar panels for this system is sufficient in height to provide adequate space for the movement of sheep.

With regards to weed management, sheep grazing can be seen as an effective solution, however this will be subject to entering into an agreement with a local farmer. If this does not become a viable option, other alternatives for weed and fire fuel control will be included in the Environmental Management Plan (EMP) for the Project.



Figure 16 Example of sheep grazing amongst solar panels

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5.0 Construction and Operation

5.1 Construction Activities

It is anticipated that construction activities would occur over a 18-24-month period commencing late 2023 (subject to obtaining required approvals). The construction process for the Project is anticipated to involve the following activities:

- Preliminary site access for site set up and mobilisation to establish construction area
- Civil works, which may include clearing of the land, grading, compaction, stormwater drainage, sediment controls and dust suppression
- Installation of footings (final siting to be determined during detailed design)
- Installation of the solar panels onto mounting structures as described in Section 4.0
- Installation and connection of the solar panels to solar farm infrastructure including electrical control cabinets
- Installation of the PCUs
- Connection of site infrastructure, including the electrical control cabinets, PCUs and underground cabling
- Construction of substation
- Construction of control building and Operation and Maintenance area.

Project commencement will be subject to the outcome of the planning process and grid connection agreements. Construction activities would be undertaken during standard hours for building and works. Ongoing communication with local residences would occur to inform them of the timing and duration of proposed activities, prior to the commencement of any works.

Construction will be managed through a Construction Environment Management Plan (CEMP) as proposed by the Preliminary Environmental Management Plan (PEMP) (refer Appendix N) and as required by the Victoria Planning Provisions where **Clause 53.13-2** states that a planning permit application for a renewable energy facility must include a CEMP as part of the design response.

For the transmission line, each pole location will have an approximately 30m x 30m hardstand area to facilitate construction of the pole, which may be amended and optimised to reduce ecological impacts where possible at the detailed design stage. Construction access will be provided from each solar farm site and via Boundary Road.

5.2 Operation

The solar farm is anticipated to operate for up to 30 years. This estimated life is due to the degradation of solar panels over time, with solar panels currently having a lifespan of around 30 years before needing to be replaced. A minimal number of personnel would be required for the operation and maintenance of the Project, with up to 5 full-time equivalent jobs to be created for the operational phase on a long-term of permanent basis. As identified in Section 4.15, sheep may be used to manage vegetation growth amongst the solar panels during the operation of the solar farm.

Operational activities are expected to include remote monitoring of equipment on a daily basis, full servicing of inverters and substation equipment. Cleaning of the modules will be required on an as needs basis and will be dependent on weather conditions (this may be required once every two years, or several times per year). Full servicing of PCUs and switchyard equipment will be undertaken on a quarterly basis. There will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project.

5.3 Decommissioning

Decommissioning of the Project will include full rehabilitation of the site to ensure it can revert to its previous agricultural use. Alternatively, the site could be upgraded to continue being used for renewable

energy generation or redeveloped for other purposes, depending on the appropriate planning controls in place at the time of decommissioning.

5.4 Construction and Operational Traffic

It is anticipated that the following vehicle movements and activities will be required during the construction of the solar farm:

- Site set up and mobilisation (semi-trailer and low loader).
- Road and hardstand material construction equipment delivery (B-double truck, dog and low loader).
- General equipment delivery (B-double truck, low loader and semi-trailer).
- AC Cable installation (semi-trailer and low loader).
- Overhead line installation (semi-trailer, low loader and Restricted Access Vehicle (RAV)).
- Switchyard construction (concrete agitator, low loader, semi-trailer, RAV and truck).
- Other employee movements, waste, consumables etc. (light vehicle, van and truck).

It is anticipated that there will be approximately 50 truck movements during the day associated with the construction of Kennedys Creek Solar Farm and transmission line, accounting for deliveries. When considering cumulative impacts of both West Mokoan and Kennedys Creek Solar Farms and transmission line, construction traffic volumes are predicted to be approximately 59 vehicles entering/exiting the site during morning and evening peak time periods. During the peak construction period, it is anticipated that approximately 171 and 50 construction staff could be on-site at one time, for the solar farm and transmission line respectively, with peak trips expecting to occur between 5:30am and 6:30am with around 57 vehicle arrivals, and 6:00pm to 7:00pm with 57 vehicle departures from the site on a typical weekday.

When the solar farms are operational, it is anticipated that traffic movements would equate to ten service vehicles per day, dependent on required works. This assumes that the general operation and maintenance workforce will be shared across both solar farms.

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6.0 Legislation and Policy

The following section contains legislation and policies of relevance to the proposed solar farm. The policies form the Planning Policy Framework, including the Municipal Strategic Statement and the Local Planning Policy Framework of the Benalla Planning Scheme. An assessment against these policies is provided in Section 7.0 of this report.

6.1 State Legislation and Policy

6.1.1 Planning and Environment Act (1987)

The *Planning and Environment Act 1987* (Vic) (the P&E Act) establishes ‘a framework for planning use, development and protection of land in Victoria in the present and long-term interests of all Victorians.’

Section 4 of the P&E Act contains the overarching objectives of planning in Victoria, which include:

- a) *To provide for the fair, orderly, economic and sustainable use, and development of land;*
- b) *To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;*
- c) *To secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria;*
- d) *To conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historic interest, or otherwise of special cultural value;*
- e) *To protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community;*
- f) *To facilitate the development in accordance with the objectives set out in paragraphs (a), (b), (c), (d) and (e);*
- fa) *To facilitate the provision of affordable housing in Victoria;*
- g) *To balance the present and future interests of all Victorians.*

This report and supporting documentation for a planning permit application is consistent with Section 47 (Applications for permits) of the P&E Act. Section 7.1 of this Report provides an assessment of the Project to demonstrate it is consistent with the overarching objectives for planning in Victoria.

6.1.2 Aboriginal Heritage Act (2006)

The main purpose of the *Aboriginal Heritage Act (2006)* (Vic) (AH Act) is to provide for the protection of Aboriginal cultural heritage in Victoria. The AH Act seeks to empower traditional owners as protectors of their cultural heritage, strengthen the ongoing right to maintain the distinctive spiritual, cultural, material and economic relationship of traditional owners of the land and waters and promote respect for Aboriginal cultural heritage.

The original application did not require a mandatory Cultural Heritage Management Plan (CHMP). Refer to Appendix H of this Report for the Heritage Due Diligence Assessment. Following taking on ownership of the project in September 2021, Lightsource bp commenced the preparation of a CHMP. The CHMP is currently being considered by the Yorta Yorta Nation Aboriginal Corporation. Refer to Appendix I of this report for the draft CHMP.

6.1.3 Renewable Energy Action Plan (2019)

Victoria’s Renewable Energy Action Plan establishes Victoria’s long-term renewable energy policy agenda and pathway. The Plan states that Victoria’s renewable energy target is to be 25 per cent renewable energy generation by 2020 and 40 per cent renewable energy generation by 2025, which includes ‘20 percent for large-scale solar power, to develop strong industry capability and lead the nation.’ The Plan identifies the following opportunities:

- *Investing in growing the renewable energy sector and economy.*
- *Helping communities discover new energy opportunities and manage the transition.*

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- *Ensuring a reliable and resilient electricity supply.*
- *Building skills and capabilities to grow the sector.*

6.1.4 Victoria's Climate Change Framework (2016)

Victoria's Climate Change Framework identifies the Government's long-term vision for climate change action. The vision for 2050 for Victoria is for net-zero emissions. The Plan sets out four pillars that underpin the State's transition to net zero emissions while maintaining economic prosperity which includes:

- *Increase energy efficiency and productivity.*
- *Move to a clean electricity supply.*
- *Electrify our economy and switch to clean fuels.*
- *Reduce non-energy emissions and increase carbon storage.*

6.1.5 Water for Victoria (2016)

Water for Victoria is the Victorian Government's strategic plan for management of water resources. The Plan recognises agriculture's significant contribution to the State and National economy. Water and its management are vital to the development of the agricultural sector. The Victorian Government aims to (among others):

- *Support regional development and change.*
- *Invest in rural infrastructure.*

Further, the Plan acknowledges the importance of water for Aboriginal people and seeks to collaborate with Traditional Owners in the management of water. The Victorian Government aims to:

- *'Recognise Aboriginal values and objectives of water.*
- *Include Aboriginal values and traditional ecological knowledge in water planning.*
- *Support Aboriginal access to water for economic development.*
- *Build capacity to increase Aboriginal participation in water management'.*

6.1.6 Agriculture Victoria Strategy (2017)

The *Agriculture Victoria Strategy (2017)* recognises the sector's importance to economic growth and its potential for enhancing social and economic wellbeing across Victoria. The Strategy recognises a number of challenges for Victorian farmers including adaptation to climate change and *'responding to the potential for increased land use conflict'*.

The Department of Economic Development, Jobs, Transport and Resources' Vision set out in the Strategy is for *'a productive, competitive and sustainable Victorian economy that contributes to a prosperous and inclusive society.'* The short/intermediate outcomes for agricultural in Victoria include *'collective long-term planning by regional stakeholders seeking agreed agricultural land uses'* and *'government, industry and community engage in conversations about future regional land use planning, including strategic agriculture land use'*

6.1.7 Flora and Fauna Guarantee Act (1988)

The *Flora and Fauna Guarantee Act (1988)* (Vic) (FFG Act) is the primary legislation dealing with biodiversity and conservation and sustainable use of native ecology in Victoria. Under the FFG Act, a permit is required for the impacts (to kill, injure, disturb or collect) protected or threatened listed flora and fauna.

6.1.8 Solar Energy Facilities – Design and Development Guidelines (October 2022)

The *Solar Energy Facilities – Design and Development Guideline* were developed by the Victorian Government to support the siting, design and assessment of large-scale solar energy facilities. The Guideline was finalised in July 2019 and officially came into effect on 17 September 2019 under Amendment VC161 and has since been amended (October 2022). The main aim of the Guideline is to

ensure new solar energy facilities are sited in locations with sufficient access to the electricity transmission network, and to avoid or minimise impacts on the local environment, productive agricultural land, irrigated areas and sensitive land uses.

Following the introduction of Amendment VC161, Amendment VC192 was gazetted on 16 November 2020 to amend clause 72.01-1 of the Victorian Planning Provisions to make the Minister for Planning the responsible authority for all energy generation facilities and utility installations that are 1 megawatt in capacity or greater. No amendments were made to the *Solar Energy Facilities – Design and Development Guideline*, which remains relevant to the project.

The Project has considered the document and provides an assessment at Section 7.1.8 of this Report. The Guideline recommends ideal siting conditions for solar energy facilities and outlines best practice procedures for both the design stage and the construction and operation stage.

The Guideline states that ideal siting conditions should not lead to:

- *the loss or immediate interruption of supply to the immediate or broader electricity transmission network*
- *the loss of vegetation, habitat or species of environmental importance*
- *the loss of cultural heritage or landscape values of significance*
- *the loss of productive, state-significant agricultural land*
- *increased exposure of the area to fire, flood or other natural or environmental hazard*

Ideal siting conditions for a solar energy facility would be:

- *on land with topographical conditions that avoids the need for unnecessary or excessive earthworks or changes to the natural landscape*
- *to avoid the loss of native vegetation and biodiversity and if losses cannot be avoided, they are minimised and can be offset*
- *close to the electricity grid network, to minimise the need for additional infrastructure and associated impacts*
- *a sufficient distance from existing urban areas or designated urban growth areas*
- *where there can be adequate space between facilities within an area to avoid cumulative impacts of built form concentration*
- *away from the floodplain of a major water course or wetland*
- *where it has ready access to main roads*

Other site selection criteria to be considered include:

- Policy context, zones and overlays
- Agricultural values including irrigation infrastructure impacts
- Heritage and Aboriginal cultural values
- Landscape values and visual amenity
- Flora and fauna
- Biodiversity and native vegetation
- Natural hazard management
- Access to the Victorian electricity grid
- Other infrastructure requirements
- Cumulative effect of solar energy facilities in the area.

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The Guideline identifies that proponents should undertake community consultation as early as possible, prior to lodging a planning permit application with the responsible authority in order to best understand the views of the community and address and concerns. A well-developed community engagement plan should be prepared in order to achieve an effective, efficient engagement program that offers benefits for proponents and interested parties. Furthermore, a number of best practice standards are discussed in relation to:

- Siting Facility Components
- Landscape Screening
- Glint and Glare Management
- Designing Security Measures
- Traffic Impacts
- Noise
- Earthworks and Dust Management
- Natural Hazard Risk Management
- Dangerous Goods and Building Fire Safety
- Electromagnetic Radiation and Interference
- Heat Island Effect
- Environmental Management Plan
- Risk and Emergency Management Planning
- Site Access and Traffic Management
- Construction Noise and Dust Management
- Decommissioning

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6.1.9 Design Guidelines and Model Requirements for Renewable Energy Facilities, CFA (2022)

The previous version of this report referenced the *CFA Guidelines for Renewable Energy Installations*, which has been superseded by *Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2022)*. It provides standard considerations and measures in relation to fire safety, risk and emergency management that should be considered for all new renewable energy facilities and the upgrading of existing facilities.

6.2 Regional Policy

6.2.1 Hume Regional Growth Plan (2014)

The *Hume Regional Growth Plan* (RGP) is an identified document at **Clause 11.01-1S** of the Planning Scheme. The site is located within the Hume Region as identified at Map 1 of the RGP. More specifically, the site is located in Central Hume as shown at Map 2 of the RGP.

The RGP provides high level land use guidance at a local level and informs the decision making of a range of authorities regarding future investment in the Hume Region. The RGP identifies that the Hume Region is growing and changing, and that the Region is supported by the larger regional cities of Shepparton, Wangaratta and Wodonga.

It is identified that the Region's economy is '*based on access to natural resources, such as water and productive agricultural land (including extensive irrigated areas), environmental assets (such as significant areas of natural beauty), heritage assets and the strategically important Melbourne-Canberra-Sydney (Hume corridor) and Melbourne-Brisbane (Goulburn Valley corridor) national road and rail transport corridors.*' The economy of the Region is largely reliant on agriculture and

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manufacturing. It is recognised that tourism is also an important industry and is a major employer for the Region.

Relevant key drivers for change and challenges for growth within the Region are identified as (selected as relevant):

- *Preparing for the potential impacts and opportunities arising from climate change.*
- *Impacts of climatic conditions such as long-term droughts, wide spread flood and an increase in the number of days of extreme heat and fire danger.*
- *Strong transport links connecting the region to intrastate and interstate markets and services as well as gateways for international trade, including potential future links such as high speed rail.*
- *Changes in economic sectors, particularly agriculture and manufacturing.*
- *Economic adjustments to initiatives that support national and global action to reduce greenhouse gas emissions, such as a price on carbon.*

The RGP also acknowledges that *‘infrastructure will also be needed to support renewable energy initiatives, such as solar energy generation’* and the importance of *‘developing alternative energy sources such as solar.’*

The RGP mentions that the Hume Region will continue to be one of Australia’s major food producing areas and that *‘agricultural production will be supported through the protection and enhancement of key agricultural assets including land and water resources.’*

6.2.2 Victoria’s Regional Statement (2015)

Victoria’s Regional Statement identifies the diverse aspects of Victoria’s regional economy, including food, fibre, tourism, manufacturing and natural resources. The Regional Statement recognises the major benefits renewable energy developments have for regional Victoria to reduce emissions, create jobs and put downward pressure on energy prices.

The Statement identifies that Government supports *‘sustainable enterprises such as nature-based tourism, resource recovery / recycling industries and clean and innovative industries that have a natural home in the regions, such as new energy technology.’*

Further the Statement identifies that the Victorian Government is committed to:

- *\$20 million fund (New Energy Jobs Fund) to support Victorian-based new energy technology projects that create or preserve long term sustainable jobs.*
- *An initiative to use our energy purchasing power to source renewable energy certificates from new projects in Victoria, bringing forward around \$200 million of new investments in renewables.*

6.3 Local Policy

6.3.1 Council Plan 2021-2025 and Action Plan 2021-2025 (to June 2023)

The *Benalla Rural City Council Plan 2021-2025* is the key strategic document that defines the Council’s key vision, purpose and values. It is structured around the following five key themes:

- *Community*
- *Liveability*
- *Economy*
- *Healthy and protected natural environment*
- *Good governance*

Relevant strategies and initiatives of the Plan include:

- *Work together with key stakeholders to engage, support, strengthen, enhance and diversify local business (Strategy 3.1.1)*

- *Attract new investment, business and industry to the Benalla Rural City to facilitate business growth and job creation (Strategy 3.1.2)*
- *Support a circular economy to improve business productivity and reduce waste (Strategy 3.1.3)*
- *Partner with agencies and the community to manage and enhance our natural environmental assets, water quality and river health across Benalla Rural City and support the Goulburn Broken Catchment Management Authority Regional Catchment Strategy and other regional environmental strategies (Strategy 4.1.1)*
- *Enable a safe and thriving natural environment (Strategy 4.1.3)*
- *Partner with business, industry and community to plan and implement local approaches and initiatives that respond to climate change (Strategy 4.3.1)*
- *Advocate, promote, support and encourage the use of renewable and clean energy and technology (Strategy 4.3.2)*
- *Improve Council's sustainability performance through greater use of renewable energy and demonstrating sustainability leadership to the community (Strategy 4.3.3)*

It is noted that the previous proposal had regard for the *Benalla Rural City Council Plan 2017-2021 (2018 Review)* and aligned with the following strategic objectives and initiatives of the 2017-2021 Council Plan:

- *Work with our rural communities to support and enhance agricultural production. (Initiative 3.1.1).*
- *Implement actions from various strategies and plans such as Benalla Rural City Environment Strategy 2016-2020, Climate Change Adaptation Action Plan 2013-2025 and the Roadside Vegetation Management Plan 2014. (Initiative 3.1.2).*
- *Support and implement an ongoing collaborative approach to exploring renewable energy opportunities. (Strategic Objective 3.3).*
- *Support investment in renewable energy projects through provision of information, active support to approvals and community engagement. (Initiative 3.3.2).*
- *Attract, support and strengthen local business. (Strategic Objective 4.1).*
- *Work together with key stakeholders such as the Benalla Business Network to engage, support, strengthen and enhance local business. (Initiative 4.1.1).*
- *Support opportunities for diverse local employment. (Strategic Objective 4.3).*
- *Identify opportunities to partner with public and private organisations to facilitate business growth and job creation. (Initiative 4.3.1).*

6.3.2 Benalla Rural City Environment Strategy 2016-2020

The *Environment Strategy* seeks to help to protect the environment and safeguard its ability to support the community into the future. The Strategy outlines a proactive and strategic approach for environmental and sustainability matters and identifies priorities for management. The strategic directions within the Strategy include:

- *Appropriate land-use, development and biodiversity management.*
- *Acting to mitigate climate emissions and adapt to climate change impacts.*
- *Efficient waste management and resource recovery.*
- *Strategic and collaborative water management.*
- *Supporting building community resilience and capacity.*

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6.3.3 Benalla Community Plan 2016-2036

The *Benalla Rural City Community Plan 2016-2036* identifies, how Council and other relevant organisations and stakeholders will work in partnership to achieve maximum health and wellbeing for the community over the next 20 years. The seven themes of the Plan are:

- *Community wellbeing and sense of place.*
- *A well connected and accessible community.*
- *A vibrant, thriving and progressive economy.*
- *Planned population growth.*
- *A sustainable environment.*
- *Benalla Rural City, a destination of choice.*
- *Leadership and community spirit.*

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The Plan identifies that '*Benalla Rural City is exposed to the effects of international markets and economic cycles. A diverse economy with ongoing investment and good decision-making will help us manage both the challenges and opportunities this presents.*' Further, it is identified that by 2030, Benalla will experience more extreme weather events that climate change will '*impact on local community, infrastructure, agriculture and the environment. Climate change adaptation and mitigation is essential to managing risks and protecting the economy and the resilience of our communities.*'

The Plan seeks to ensure that in 2036 Benalla will have:

- *Quality, well-maintained and utilised infrastructure, including integrated transport and advanced telecommunications,*
- *A diverse, robust and resilient economy attracts ongoing investment, providing a destination of choice for new industries and job opportunities in a culture of innovation and entrepreneurship.*
- *Beautiful scenic landscapes and open spaces while responsibly managing our valued natural resources with innovative practices and planning.*

6.4 Municipal Planning Strategy

Prior to the gazettal of Amendment VC148, the Rural City of Benalla's Municipal Strategic Statement (MSS) and Local Planning Policy Framework (LPPF) were separate to state and regional planning provisions. **Clause 21** and **Clause 22** of the Benalla Planning Scheme covered key matters relating to environment, landscape and heritage, environmental risk, natural resource management, economic development and transport and infrastructure. The previous version of this report referenced the previous LPPF which has been translated into the Municipal Planning Strategy (MPS) at Clause 02 of the Benalla Planning Scheme.

The MPS supports but does not form part of the PPF and is a succinct expression of the overarching strategic policy directions of a municipality. The content of the MPS is similar to the previous MSS, however the new concise format ensures a more focused and direct message about a council's planning aspirations.

The sections of the MPS that are most relevant to this Proposal are detailed below:

- **Clause 02.01** (Context) identifies Winton Wetlands as a major water feature. It identifies the importance of agricultural production to the local economy.
- **Clause 02.02** (Vision) identifies Council's vision as "*a sustainable, thriving and cohesive community where lifestyle, culture, health and wellbeing are supported by strong leadership and community partnership.*"
- **Clause 02.03-2** (Environmental and landscape values – Flora and Fauna) outlines the importance of remaining native vegetation areas as the incremental loss of remaining habitat is a major issue. Strategies for '*conserving native vegetation and fauna*' include:
 - '*Protect and enhance the environment and biodiversity*

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- *Encourage the control of pest plants and animals through land management conditions*
- *Minimise vegetation removal for new development and infrastructure, including roads and drainage*
- *Encourage the linking of remnant native vegetation to improve habitat.'*

Clause 02.03-2 (Environmental and landscape values – Landscapes) outlines that the *'scenic value of the foothills, valley and cleared grazing country is a valued characteristic of the municipality'*. Strategies for *'managing and protecting the landscape character'* include:

- *'Protect large areas of public land, including Mount Samaria Park and Warby Ranges Park*
- *Protect significant landscape features, ridges and viewlines.'*

- **Clause 02.03-3** (Environmental risks and amenity – Flooding) states that future planning needs *'take account of historical floods to minimise risk to life and property'*. Strategies for *'managing areas affected by flooding'* include:

- *'Discourage development from areas affected by the Floodway Overlay*
- *Limit development in areas affected by the Land Subject to Inundation Overlay*
- *Avoid new urban development and restructure existing residential lots to lower densities on flood prone land.'*

Clause 02.03-3 (Environmental risks and amenity – Bushfire) outlines the need to *'discourage non-urban development within areas at risk to prioritise the protection of human life over all other considerations'*. Strategies for *'discouraging development in areas at risk of bushfire'* include:

- *'Prioritise the protection of human life over all other considerations in bushfire planning*
- *Locate new development to minimise the threat from bushfire.'*

Clause 02.03-3 (Environmental risks and amenity – Climate Change) acknowledges that climate change will pose many challenges and some opportunities from climate change.

Clause 02.03-3 (Environmental risks and amenity – Land Use Conflicts) states that development outside of established towns and urban areas has the potential to impact farming practices. Strategies for *'minimising the potential for land use conflicts'* include:

- *'Locate new industrial development to reduce the risk of adverse amenity impacts.'*

- **Clause 02.03-4** (Natural resource management – Agriculture) outlines the importance of the high quality and versatile land in the rural areas of the municipality. It states that farming practices in rural areas should not be diminished by encroachment of incompatible development in rural zones and discourages fragmentation of high quality agricultural land. Strategies for *'protecting agricultural areas'* include:

- *'Maintain the sustainable use and productive potential of rural land*
- *Discourage non-agricultural uses where they will impact agriculture*
- *Avoid the fragmentation of productive agricultural land by subdivision, particularly lots for housing*
- *Support proposals for non-agricultural uses in rural areas only when they are compatible with surrounding agricultural use and can be justified in terms of broader community benefit.'*

Clause 02.03-4 (Natural resource management – Water) outlines the need for sustainable water use and protection of catchments states that *'Lake Mokoan has been decommissioned and is progressively being converted into major regional wetlands – the Winton Wetlands'*. Strategies for *'managing water supplies'* include:

- *'Protect water quantity and quality for the community.*
- *Manage development near waterbodies and within catchments to minimise detrimental impacts.'*

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- **Clause 02.03-5** (Built environment and heritage – Heritage) acknowledges the rich natural, cultural and built heritage of the municipality. Strategies for *'managing heritage buildings and places'* include:
 - *'Protect individual sites and precincts of heritage significance.*
 - *Ensure new development respects the significance of heritage places.'*

6.5 Planning Policy Framework

The Planning Policy Framework (PPF) of the Benalla Planning Scheme seeks to ensure that land use and development in Victoria meet the objectives of planning as set out in the P&E Act. The previous version of this report made reference to an older version of the Victorian Planning Provisions, which separated state and regional planning policies from local content. Following the gazettal of Amendment VC148 on 31 July 2018, the new PPF has been introduced to enable better alignment of state and local planning policy. The new PPF structure (Clauses 10 to 19) provide for three tiers of integrated planning policy, state-wide, regional and local.

The PPF Clauses that are most relevant to the proposed solar farm in Benalla are detailed below:

- **Clause 11** (Settlement) seeks to *'recognise the need for, and as far as practicable contribute towards:*
 - *Health, wellbeing and safety*
 - *Diversity of choice*
 - *Adaptation in response to changing technology*
 - *Economic viability*
 - *A high standard of environmental sustainability, urban design and amenity*
 - *Climate change adaptation and mitigation*
 - *Prevention of land, water, air, and noise pollution*
 - *Protecting, conserving and improving biodiversity, waterways and other natural resources*
 - *Accessibility*
 - *Land use and transport integration*
 - *Waste minimisation and resource recovery.'*
- **Clause 11.01-1S** (Settlement) seeks to *'facilitate the sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements.'* The key strategies to achieve this objective that are relevant to the Project include:
 - *'Provide for growth in population and development of facilities and services across a regional or sub-regional network*
 - *Plan for development and investment opportunities along existing and planned transport infrastructure*
 - *Deliver networks of high-quality integrated settlements that have a strong identity and sense of place, are prosperous and are sustainable by:*
 - *Building on strengths and capabilities of each region across Victoria to respond sustainably to population growth and changing environments*
 - *Developing settlements that will support resilient communities and their ability to adapt and change*
 - *Balancing strategic objectives to achieve improved land use and development outcomes at a regional, catchment and local level*
 - *Preserving and protecting features of rural land and natural resources and features to enhance their contribution to settlements and landscapes*

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- *Minimising exposure to natural hazards, including increased risks due to climate change*
- *Contributing to net zero greenhouse gas emissions through renewable energy infrastructure and energy efficient urban layout and urban design.'*

The *Hume Regional Growth Plan (Victorian Government; 2014)* is listed as a policy document under this Clause.

- **Clause 11.01-1R** (Settlement – Hume) seeks to *'support growth and development in other existing urban settlements and foster the sustainability of small rural settlements'* and *'support improved access to a range of employment and education opportunities, particularly in key urban locations such as Benalla'*.
- **Clause 11.01-1L** (Local settlements – Benalla) contains the Benalla Structure Plan which identifies the township boundary and the preferred land uses within the township. The subject site is in proximity to Benalla, located approximately 4 kilometres north-east of the township, however the subject site is not included in the Structure Plan and is situated outside of the Township's Urban Growth Boundary.
- **Clause 11.03-6S** (Regional and local places) seeks to *facilitate integrated place-based planning*. Strategies to support this objective include:
 - *'Integrate relevant planning considerations to provide specific direction for the planning of sites, places, neighbourhoods and towns*
 - *Consider the distinctive characteristics and needs of regional and local places in planning for future land use and development.'*
- **Clause 12** (Environmental and Landscape Values) sets out to:
 - *'Help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habituated, species and genetic diversity) and conserve areas with identified environmental and landscape values*
 - *Protect, restore, and enhance sites and features of nature conservation, biodiversity, geological or landscape value'*
- **Clause 12.01-1S** (Protection of biodiversity) seeks to *'protect and enhance Victoria's biodiversity*. Key strategies relevant to the Project include:
 - *'Use biodiversity information to identify important areas of biodiversity, including key habitat for rare or threatened species and communities, and strategically valuable biodiversity sites.*
 - *Ensure that decision making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:*
 - *Cumulative impacts.*
 - *Fragmentation of habitat.*
 - *The spread of pest plants, animals and pathogens into natural ecosystems.'*
 - *'Avoid impacts of land use and development on important areas of biodiversity.'*
 - *'Consider impacts of any change in land use or development that may affect the biodiversity value of national parks and conservation reserves or nationally and internationally significant sites.; including wetlands and wetland wildlife habitat.'*
 - *'Assist in the identification, protection and management of important areas of biodiversity.'*
 - *'Assist in the establishment, protection and re-establishment of links between important areas of biodiversity, including through a network of green spaces and large-scale native vegetation corridor projects.'*

Relevant policy documents include:

- *Protecting Victoria's Environment – Biodiversity 2037 (Department of Environment, Land, Water and Planning, 2017).*

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- *Guidelines for the removal, destruction, or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017).*
- *Any applicable biodiversity strategies, including the relevant Regional Catchment Strategy (prepared under Part 4 of the Catchment and Land Protection Act 1994).*
- **Clause 12.01-2S** (Native vegetation management) aims to ‘*ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.*’ In order to achieve this the three-step approach of the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) (DELWP, 2017) should be applied to:
 - *‘Avoid the removal, destruction or lopping of native vegetation.*
 - *Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*
 - *Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.’*

Relevant policies include:

- *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) (DELWP, 2017)
- *Assessor’s handbook – applications to remove, destroy, or lop native vegetation* (DELWP, 2017)
- **Clause 12.03-1S** (River corridors, waterways, lakes and wetlands) aims to ‘*protect and enhance waterway systems including river and riparian corridors, waterways, lakes, wetlands and billabongs.*’ Strategies that are relevant to the Project include:
 - *‘Protect the environmental, cultural and landscape values of all waterway systems as significant economic, environmental and cultural assets..*
 - *Conserve waterway systems and the landscapes and environmental values surrounding them by protecting ecological values, indigenous vegetation, terrestrial and aquatic habitats and encouraging biodiversity.*
 - *Sensitively design and site development to maintain and enhance the waterway system and the surrounding landscape setting, environmental assets, and ecological and hydrological systems.*
 - *Protect geomorphology, bank stability and flood management capacity to strengthen the environmental value and health of waterway systems.’*
 - *Design and site development to maintain and enhance the natural environment of waterway systems by:*
 - *Minimising the visual intrusion of development on the natural landscape views from major roads, bridge crossings, public open space, recreation trails and within waterway systems themselves.*
 - *Ensuring development is visually subordinate to the local landscape setting, including through the use of vegetation to filter views of development.*
 - *Ensuring development adjacent to waterways adopts high quality materials and respectful design and siting.*
 - *Avoiding impeding the natural flow of waterways and future flood events.*

Relevant policies include:

- *Healthy Waterways Strategy (Melbourne Water, 2013)*
- **Clause 12.05-2S** (Landscapes) strives to ‘*protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments.*’ Strategies which support this objective include:

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- *'Ensure development does not detract from the natural qualities of significant landscape areas.*
- *Improve the landscape qualities, open space linkages and environmental performance in significant landscapes and open spaces, including green wedges, conservation areas and non-urban areas.*
- *Recognise the natural landscape for its aesthetic value and as a fully functioning system.*
- *Ensure important natural features are protected and enhanced.'*
- **Clause 13** (Environmental risks and amenity) identifies that planning should:
 - *'Strengthen the resilience and safety of communities by adopting a best practice environmental management and risk management approach.*
 - *'Aim to avoid or minimise natural and human-made environmental hazards, environmental degradation and amenity conflicts.'*
 - *'Identify and manage the potential for the environment and environmental changes to impact on the economic, environmental or social wellbeing of society.'*
 - *'Ensure development and risk mitigation does not detrimentally interfere with important natural processes.'*
 - *'Prepare for and respond to the impacts of climate change.'*
- **Clause 13.01-1S** (Natural hazards and climate change) seeks to *'minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning'*.
- **Clause 13.02-1S** (Bushfire planning) applies to all planning and decision making relating to land that is:
 - *'Within a designated bushfire prone area;*
 - *'Subject to a Bushfire Management Overlay; or*
 - *'Proposed to be used or developed in a way that may create a bushfire hazard'.*

The policy aims to *'strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.'*

Relevant strategies include:

- *'Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.'*
- *'Ensuring that [...] planning permit applications [...] properly assess bushfire risk and include appropriate bushfire protection measures.'*
- In relation to *'Areas of biodiversity conservation value'*, the strategy is to *'ensure [...] development approvals [...] can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are important areas of biodiversity.'*

'Renewable energy facility' is not a listed land use or development at **Clause 13.02-1S** where bushfire risk should be considered assessing planning applications.

- **Clause 13.03-1S** (Floodplain management) seeks to assist in the protection of:
 - *'Life, property and community infrastructure from flood hazard.*
 - *The natural flood carrying capacity of rivers, streams and floodways.*
 - *The flood storage function of floodplains and waterways.*
 - *Floodplain areas of environmental significance or of importance to river health.'*

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Further, this Clause seeks to *‘avoid intensifying the impact of flooding through inappropriately located use and development.’*

- **Clause 13.07-1S** (Land use compatibility) aims to *‘safeguard community amenity while facilitating appropriate commercial, industrial or other uses with potential off-site effects’*. This objective is supported by the following strategies:
 - *‘Ensure that use or development of land is compatible with adjoining and nearby land uses*
 - *Avoid locating incompatible uses in areas that may be impacted by adverse off-site impacts from commercial, industrial and other uses*
 - *Avoid or otherwise minimise adverse off-site impacts from commercial, industrial and other uses through land use separation, siting, building design and operational measures.*
 - *Protect existing commercial, industrial and other uses from encroachment by use or development that would compromise the ability of those uses to function safely and effectively.’*
- **Clause 14** (Natural Resource Management) states that planning is to:
 - *‘Assist in the conservation and wise use of natural resources including energy, water, land, stone and minerals to support both environmental quality and sustainable development.’*
 - *‘Ensure agricultural land is managed sustainably, while acknowledging the economic importance of agricultural production.’*
- **Clause 14.01-1S** (Protection of agricultural land) seeks to *‘protect the state’s agricultural base by preserving productive farmland.’* Relevant strategies at **Clause 14.04-1S** include:
 - *‘Avoid permanent removal of productive agricultural land from the state’s agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors.’*
 - *‘Protect productive farmland that is of strategic significance in the local or regional context.’*
 - *‘Protect productive agricultural land from unplanned loss due to permanent changes in land use.’*

Further, this Clauses states that *‘in considering a proposal to use, subdivide or develop agricultural land, consider the:*

- *‘Desirability and impacts of removing the land from primary production, given its agricultural productivity.*
- *Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.*
- *Compatibility between the proposed or likely development and the existing use of the surrounding land.*
- *The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.*
- *Land capability.’*
- **Clause 14.01-2S** (Sustainable agricultural land use) seeks to *‘encourage sustainable agricultural land use.’* The relevant strategies to the Project include:
 - *‘Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources.*
 - *Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices.*
 - *Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.*

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- *Encourage diversification and value-adding of agriculture through effective agricultural production and processing, rural industry and farm-related retailing.*
- **Clause 14.02-1S** (Catchment planning and management) aims to *'assist the protection and restoration of catchments, water bodies, groundwater, and the marine environment.'* The following strategies are considered relevant to the proposed solar farm in Goorambat:
 - *'Ensure the continued availability of clean, high-quality drinking water by protecting water catchments and water supply facilities.*
 - *Consider the impacts of catchment management on downstream water quality and freshwater, coastal and marine environments.*
 - *Retain natural drainage corridors with vegetated buffer zones at least 30 metres wide along each side of a waterway to:*
 - *Maintain the natural drainage function, stream habitat and wildlife corridors and landscape values,*
 - *Minimise erosion of stream banks and verges, and*
 - *Reduce polluted surface runoff from adjacent land uses.*
 - *Undertake measures to minimise the quantity and retard the flow of stormwater runoff from developed areas.*
 - *Encourage measures to filter sediment and wastes from stormwater prior to its discharge into waterways, including the preservation of floodplain or other land for wetlands and retention basins.*
 - *Ensure that works at or near waterways provide for the protection and enhancement of the environmental qualities of waterways and their instream uses.*
 - *Ensure land use and development proposals minimise nutrient contributions to water bodies and the potential for the development of algal blooms.*
 - *Require appropriate measures to restrict sediment discharges from construction sites.*
 - *Ensure planning is coordinated with the activities of catchment management authorities.'*
- **Clause 14.02-2S** (Water quality) seeks to *'protect water quality.'* Further, this Clause seeks to *'ensure that land use activities potentially discharging contaminated runoff or wastes to waterways are sited and managed to minimise such discharges and to protect the quality of surface water and groundwater resources, rivers, streams, wetlands, estuaries and marine environments.'*
- **Clause 14.02-3S** (Protection of declared irrigation districts) seeks to *'plan and manage for sustainable change within irrigation districts declared under Part 6A of the Water Act 1989.'* Strategies of relevance include:
 - *'Ensure non-agricultural land use does not undermine the integrity of irrigation infrastructure and complements existing and future agricultural production.*
 - *Ensure land use change does not limit the ability of future investment in irrigation infrastructure that achieves the intended benefits of minimising water loss, and improved irrigation service efficiency to the farm gate and overall agricultural production.'*
- **Clause 15** (Built Environment and Heritage) states that *'planning is to recognise the role of urban design, building design, heritage and energy and resource efficiency in delivering liveable and sustainable cities, towns and neighbourhoods.'* Further, it is identified that *'planning should ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.'* The clause identifies that *'planning should facilitate development that [...] supports the transition to net zero greenhouse gas emissions'*.
- **Clause 15.01-6S** (Design for rural areas) seeks to *'ensure development respects valued areas of rural character.'* The relevant strategies in achieving this objective seek to:

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- *'Ensure that the siting, scale and appearance of development protects and enhances rural character.'*
- *'Protect the visual amenity of valued rural landscapes and character areas along township approaches and sensitive tourist routes by ensuring new development is sympathetically located.'*
- *'Site and design development to minimise visual impacts on surrounding natural scenery and landscape features including ridgelines, hill tops, waterways, lakes and wetlands.'*
- **Clause 15.03-2S** (Aboriginal cultural heritage) seeks to *'ensure the protection and conservation of place of Aboriginal cultural heritage significance.'* Specific strategies to achieve this include:
 - *'Provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places.'*
 - *'Ensure that permit approvals align with the recommendations of any relevant Cultural Heritage Management Plan approved under the Aboriginal Heritage Act 2006.'*
- **Clause 17** (Economic Development) states that:
 - *'Planning is to provide for a strong and innovative economy, where all sectors are critical to economic prosperity.'*
 - *'Planning is to contribute to the economic wellbeing of the state and foster economic growth by providing land, facilitating decisions and resolving land use conflicts, so that each region may build on its strengths and achieve its economic potential.'*
- **Clause 17.01-1S** (Diversified economy) sets out to *'strengthen and diversify the economy'* and to specifically *'support rural economies to grow and diversify'*.
- **Clause 17.01-1R** (Diversified economy - Hume) encourages *'appropriate new and developing forms of industry, agriculture, tourism and alternative energy production'*
- **Clause 17.03-1S** (Industrial land supply) seeks to *'ensure availability of land for industry'* by ensuring non-industrial land uses in identified industrial areas do not prejudice the availability of land for future industrial use.
- **Clause 19** (Infrastructure) states that planning is to (amongst others):
 - *'Facilitate efficient use of existing infrastructure and human services. Providers of infrastructure, whether public or private bodies, are to be guided by planning policies and should assist strategic land use planning.'*
 - *'Minimise the impact of use and development on the operation of major infrastructure of national, state and regional significance, including communication networks and energy generation and distribution systems.'*
- **Clause 19.01-1S** (Energy supply) aims to *'facilitate appropriate development of energy supply infrastructure.'* The strategies to support this objective include:
 - *'Support the development of energy generation, storage, transmission, and distribution infrastructure to transition to a low-carbon economy'*
 - *'Develop appropriate infrastructure to meet community demand for energy services'*
 - *'Ensure energy generation, storage, transmission and distribution infrastructure and projects are resilient to the impacts of climate change'*
 - *'Support energy infrastructure projects in locations that minimise land use conflicts and that take advantage of existing resources and infrastructure networks'*
 - *'Facilitate energy infrastructure projects that help diversify local economies and improve sustainability and social outcomes.'*

Relevant policy includes:

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- The long-term emissions reduction target specified in section 6 of Part 2 of the *Climate Change Act 2017*
- Interim emissions reduction targets determined under Division 2 of Part 2 of the *Climate Change Act 2017*
- Adaptation action plans prepared under Division 2 of Part 5 of the *Climate Change Act 2017*
- **Clause 19.01-2S** (Renewable energy) promotes ‘*the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.*’ The strategies of relevance to this Project include:
 - *‘Facilitate renewable energy development in appropriate locations*
 - *Protect renewable energy infrastructure against competing and incompatible uses*
 - *Set aside suitable land for future renewable energy infrastructure*
 - *Consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.*’

Further, the Clause outlines the *Solar Energy Facilities Design and Development Guideline* (DELWP, 2022) as a relevant policy document.

- **Clause 19.01-2R** (Renewable energy - Hume) seeks to (as relevant) ‘*create renewable energy hubs that support co-located of industries to maximise resource use efficiency and minimise waste generation.*’

6.6 Land Use Terms

The development of a solar farm and associated infrastructure is consistent with the definition of a ‘*solar energy facility*’ pursuant to **Clause 73.03** (land use terms) of the Planning Scheme. The definition is:

Land used to generate electricity from solar energy using ground-mounted photovoltaic and thermal technology, where the primary role is to export power to the electricity network. It does not include the generation of electricity principally used for an existing use of land.

A ‘*solar energy facility*’ is included within the broader definition of ‘*renewable energy facility*’. The definition of a ‘*renewable energy facility*’ is:

Land used to generate energy using resources that can be rapidly replaced by an ongoing natural process. Renewable energy resources include the sun, wind, the ocean, waterflows, organic matter and the earth’s heat.

It includes any building or other structure or thing used in or in connection with the generation of energy by a renewable resource.

It does not include a renewable energy facility principally used to supply energy for an existing use of the land.

Further, a ‘*renewable energy facility*’ is nested under the land use term ‘*energy generation facility*’. The definition of an ‘*energy generation facility*’ is as follows:

Land used to generate energy for use off site other than geothermal energy extraction. It includes any building or other structure or thing used in or in connection with the generation of energy.

The Project also includes the use for a ‘*Utility Installation*’ pursuant to **Clause 73.03** (land use terms) of the Scheme. The definition is:

‘Land used:

- a. *For telecommunications;*
- b. *To transmit or distribute gas or oil;*
- c. *To transmit, distribute or store power, including battery storage;*

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- d. *To collect, treat, transmit, store, or distribute water; or*
- e. *To collect, treat, or dispose of storm or flood water, sewage, or sillage.*

It includes any associated flow measurement device or a structure to gauge waterway flow.'

Elements of the Project that are considered to fall under the land use term 'Utility Installation' include the substation and the transmission line.

6.7 Zones and Overlays

6.7.1 Farming Zone

The eastern portion of the site and western portion of the transmission line investigation area is located within the Farming Zone (FZ). The purpose of the FZ is:

- *'To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To provide for the use of land for agriculture.*
- *To encourage the retention of productive agricultural land.*
- *To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.*
- *To encourage the retention of employment and population to support rural communities.*
- *To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.*
- *To provide for the use and development of land for the specific purposes identified in a schedule to this zone'*

Pursuant to **Clause 35.07-1** (Table of uses), a permit is required to use land for a 'Renewable Energy Facility' that complies with the requirements of **Clause 53.13** (Renewable Energy Facility (Other than Wind Energy Facility and Geothermal Energy Extraction)). A permit is also required to use land for a 'Utility Installation', pursuant to **Clause 35.07-1**.

Pursuant to **Clause 35.07-4** (Buildings and works), a permit is required to construct a building or carry out works associated with a Section 2 use.

Clause 35.07-7 (Signs) specifies that the Farming Zone is in Category 4 – Sensitive Areas.

6.7.2 Industrial 1 Zone

The south-western portion of the site is within the Industrial 1 Zone (IN1Z). The purpose of the IN1Z is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities.*

Pursuant to **Clause 33.01-1** (Table of uses), a 'Renewable energy facility' and a 'Utility Installation' are Section 2 uses (permit required) within the zone. Under **Clause 33.01-4** (Buildings and works), a planning permit is required to construct a building or carry out works associated with a Section 2 use.

Clause 33.01-5 (Signs) specifies that the Industrial 1 Zone is in Category 2 – Office and Industrial.

6.7.3 Public Use Zone – Schedule 1

The eastern portion of the transmission line investigation area is located within the Public Use Zone – Schedule 1 (Service and Utility) (PUZ1). The purpose of the PUZ1 is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To recognise public land use for public utility and community services and facilities.*
- *To provide for associated uses that are consistent with the intent of the public land reservation or purpose.*

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Pursuant to **Clause 36.01-1** (Table of uses), a 'Renewable energy facility' and a 'Utility Installation' are Section 2 uses (permit required) within the zone. Under **Clause 36.01-2** (Permit requirement), a planning permit is required to construct a building or carry out works associated with a Section 2 use.

Clause 36.01-7 (Signs) specifies that the PUZ1 is in Category 4 – Sensitive Areas.

6.7.4 Overlays

The site is not affected by any overlays and there are no overlays within the vicinity of the site.

The site is located within a Designated Bushfire Prone Area.

6.8 Particular Provisions

6.8.1 Clause 52.02 Easements, Restrictions and Reserves

The purpose of **Clause 52.02** is 'to enable the removal and variation of an easement or restrictions to enable a use of development that complies with the planning scheme after the interests of affected people are considered'.

Currently, there are 12 easements which apply to the site which relate to AusNet overhead power lines, two APA high pressure gas pipelines and associated infrastructure and four for the purposes of water supply. More specifically, there is an existing 22kV transmission easement running through the middle of the site that will need to be removed and relocated. A permit is required pursuant to **Clause 52.02** to create, vary or remove an easement or restriction under Section 23 of the *Subdivision Act 1988*. A summary of the easements and underground assets on the subject site are provided at Section 2.2.4 of this Report. The proposed Plan of Subdivision is provided at Appendix M.

6.8.2 Clause 52.05 Signs

The purpose of **Clause 52.05** is to:

- *Regulate the development of land for signs and associated structures.*
- *Ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character.*
- *Ensure signs do not contribute to excessive visual clutter or visual disorder.*
- *Ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.*

In accordance with **Clause 35.07-7** (Signs), signage in the FZ and PUZ1 must apply the signage requirements of **Clause 52.05-14** (Category 4 – Sensitive Areas), which places limitations on signage and seeks to 'provide for unobtrusive signs in areas requiring strong amenity control'. Pursuant to **Clause 52.05-14**, a permit is required for a business identification sign provided the total display area of the sign for each premise does not exceed three (3) metres. Any illumination of the sign must be through flood-lights.

In accordance with **Clause 33.01-5** (Signs), signage in the IN1Z must apply the signage requirements of **Clause 52.05-12** (Category 2 – Office and Industrial), which places low limitations on signage and seeks to 'provide for adequate identification signs and signs that are appropriate to office and industrial areas.'

Pursuant to **Clause 52.02-12**, a permit is not required for a business identification sign provided that the total area of the sign for each premise does not exceed eight (8) square metres. This does not include a direction sign. Additionally, a permit is not required for internally illuminated signs provided the display area does not exceed 1.5 square metres and is situated more than thirty (30) metres from a residential zone or pedestrian or traffic lights. The subject site is located more than 30 metres from a residential zone.

6.8.3 Clause 52.06 Car Parking

The key purpose of **Clause 52.06** is to:

- *Ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*

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- *Ensure that car parking does not adversely affect the amenity of the locality.*
- *Ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The land use term renewable energy facility is not listed in Table 1 of the Clause. Where a use of land is not specified in Table 1, car parking must be provided to the satisfaction of the responsible authority.

6.8.4 Clause 52.17 – Native Vegetation

The purpose of **Clause 52.17** (Native Vegetation) is:

- *To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the Guidelines (DELWP, 2017):*
 - *Avoid the removal, destruction or lopping of native vegetation.*
 - *Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*
 - *Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.*
- *To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.*

Pursuant to **Clause 52.17-1** (Permit requirement), a permit is required to remove, destroy or lop native vegetation.

6.8.5 Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)

The key purpose of this Clause is to ‘*facilitate the establishment and expansion of renewable energy facilities in appropriate locations, with minimal impact on the amenity of the area*’ and applies to ‘*any provision of this planning scheme to use or develop land for a renewable energy facility (other than a wind energy facility)*’. **Clause 53.13-2** (Application Requirements) provides an overview of all information that must accompany applications (as appropriate) for a renewable energy facility.

6.9 General Provisions

6.9.1 Clause 62 – Uses, Buildings and Works Not Requiring a Permit

Clause 62.01 (Uses not requiring a permit) and **Clause 62.02** (Buildings and Works) identify that any requirement in the Scheme relating to the use of land, or the construction of a building or the construction or carrying out of works other than a requirement in the Public Conservation and Resource Zone does not apply to:

- *The use of land to display and construction of a sign.*
- *A temporary shed or temporary structure for construction purposes.*
- *A fence or roadworks, unless specified in the planning scheme.*

6.9.2 Clause 66 – Referral and Notice

This Clause outlines referral and notice requirements. The following referrals are required under the Scheme:

- The Secretary to DELWP to remove, destroy or lop native vegetation.
- The relevant electricity transmission authority to construct a building or construct or carry out works on land within 60 metres of a major electricity transmission line (220 Kilovolts or more) or an electricity transmission easement.
- The Secretary to the Department administering the *Water Act 1989* for an application to use or develop land for a renewable energy facility located within an irrigation district declared under Part 6A of the *Water Act 1989*.

6.9.3 Clause 72.04 – Documents Incorporated in this Planning Scheme

The following Incorporated Documents of relevance to this application are contained in the Benalla Planning Scheme:

- *Building in Bushfire-Prone Areas* - CSIRO & Standards Australia (SAA HB36-1993), May 1993.
- *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017)

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7.0 Planning Policy Assessment

The following section identifies and responds to the relevant legislation, the PPF, zoning controls and particular provisions set out under the Benalla Planning Scheme.

7.1 State Legislation and Policy

7.1.1 Planning and Environment Act 1947

The P&E Act provides the legal framework for the operation of Victoria's planning system. This Report, along with the supporting documentation formed a planning permit application that is consistent with Section 47 of the P&E Act. Updates to this report provide the supporting information for the amendment of approved permit (PA1900684) in accordance with Section 72 of the P&E Act. The Project is consistent with the P&E Act as the proposed development and land use will not prejudice the existing and future land uses on the surrounding properties. The Project will provide economic benefits to the local community and to the Region. Amendments to the concept plan and addition of a transmission line does not affect the merits of the Project.

The layout and design of the solar farm has sought to retain existing native vegetation where practicable and provides setbacks (approximately 5 metres from top of bank) to the two unnamed water courses. Detailed Environmental Management Plans (EMPs) will be prepared and implemented during the construction and operation of the Project to ensure appropriate measures are in place to effectively avoid, identify, manage and mitigate potential environmental impacts. It is therefore considered that the Project will not result in adverse environmental effects. Furthermore, the Project seeks to deliver a clean and sustainable energy resource which will contribute to the reduction in carbon emissions in Victoria. Amendments to the concept plan have sought to retain the approved layout as far as practical while also allowing for changes as required to allow the transmission line connection.

7.1.2 Renewable Energy Action Plan 2017

The Project supports the opportunities outlined in the *Renewable Energy Action Plan* by investing in the renewable energy sector through the development of a solar farm, producing a reliable supply of energy to the Region. Further, the Project will be strengthening the skills and capabilities of the sector by creating approximately 250 jobs during construction and operation phase and offering up to 4 jobs on a long-term or permanent basis for the operation and maintenance of the proposed solar farm.

7.1.3 Victoria's Climate Change Framework 2016

The Project will contribute towards Victoria's 2050 vision for achieving zero-net emissions as identified in the Framework through the development and use of the land for a solar farm that has the potential to reduce carbon dioxide emissions by approximately 305,000 tonnes per year. The Project will support economic prosperity while simultaneously introducing a cleaner supply of energy to the Region.

7.1.4 Water for Victoria 2016

The Project recognises that water management and quality is vital to the agricultural sector. The Project supports the objectives of Water for Victoria – Water Plan as the solar farm has been designed in a way where solar panels will be sufficiently set back from the watercourses as to reduce the risk of surface water contamination during the construction phase and to minimise impediment to flood flows during the Project's operation. Further, the Project aligns with the Water Plan in recognising the cultural importance of water for Traditional Owners and Aboriginal people by ensuring that no development or construction occurs within zones of Aboriginal Cultural Heritage.

7.1.5 Aboriginal Heritage Act 2006

The Project acknowledges and respects the Aboriginal Cultural Heritage significance of Kennedys Creek by being designed in a way that is sufficiently set back to protect the Creek from the development and operation of the solar farm. A CHMP is being prepared to ensure that Aboriginal Cultural Heritage can be managed within the subject site and transmission line investigation area.

7.1.6 Agricultural Victoria Strategy 2017

The *Agricultural Victoria Strategy 2017* states the importance of the agriculture sector as a vital contributor to economic growth. The Project recognises the value of productive agricultural land

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whereby the subject site is located on land that has been deemed suitable for alternative uses other than for agricultural purposes. Further, the design of the Project ensures that the subject site can still be used for the grazing of livestock (sheep) for maintenance purposes, further enhancing the productive quality of the site.

7.1.7 Flora and Fauna Guarantee Act 1988

The Project does not affect any flora species listed under the *Flora and Fauna Guarantee Act* (FFG Act), however the Victorian Temperate Woodland Bird Community was identified within the site. For this community, no specific approvals are required under the FFG Act. The Project has taken this community into consideration by avoiding and minimising loss of habitat as much as possible. Further, the Project is in accordance with the Guidelines for the removal, destruction or lopping of native vegetation and the appropriate native vegetation offsets have been provided in accordance with these guidelines.

7.1.8 Solar Energy Facilities Design and Development Guidelines (2022)

An assessment has been undertaken against the Guideline to ensure that the Project complies with the ideal siting guidelines and the best practice standards as detailed in the Guideline to further support this planning permit application. A response to the best practice standards is provided in Table 6. A design response has also been provided in Table 7 in accordance with the Guideline.

Table 6 Best Practice for Proponents

Best Practice Standard	Report Reference
Engaging the Community	
<i>Well-planned Consultation</i>	Consultation is discussed at Section 1.2.2 (Consultation)
Design Stage	
<i>Siting Facility Components</i>	The proposed site layout has considered and responded to the Guideline as discussed in Section 4.0.
<i>Landscape Screening</i>	Landscape screening and design is discussed in Section 0 and 7.4. A Landscape Plan has been prepared (Appendix G) and provides full details of the landscape design. A Landscape Early Works Strategy has also been prepared (Appendix G) to mitigate, minimise, and manage any potential impacts.
<i>Glint and Glare Management</i>	Glint and glare have been assessed within the Glint and Glare Assessment (Appendix J) and is addressed at Section 8.6.
<i>Designing Security Measures</i>	Security measures such as fencing, CCTV and lighting are addressed at Section 4.11 and 4.13.
<i>Traffic Impacts</i>	Traffic impacts are addressed at Section 5.4 and Section 8.3. A Traffic Impact Assessment (Appendix E) provides a full assessment and response to any traffic impacts imposed on and by the Project. It is anticipated that a Traffic Management Plan will be required as a condition of Permit.
<i>Noise</i>	Noise impacts are addressed at Section 8.11.
<i>Earthworks and Dust Management</i>	Earthworks and dust will be managed through a Preliminary Environmental Management Plan (PEMP) (Appendix N) Environmental Management is further discussed in Section 8.12. Whilst a PEMP has been prepared, it is anticipated that an Environmental Management Plan (EMP) will be required as a condition of Permit.
<i>Natural Hazard Risk Management</i>	The site is within a bushfire prone area and bushfire risk has been addressed in Section 1.2.2.7 and Section 7.4.4. Risks associated with flooding have been addressed within the Surface Water Assessment (Appendix D) and the Geotechnical Assessment (Appendix L) and are discussed at Section 8.2 and 8.7 respectively.

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Best Practice Standard	Report Reference
Other Matters	
<i>Dangerous Goods and Building Fire Safety</i>	Fire and Dangerous Goods are discussed at Section 8.10.
<i>Electromagnetic Radiation and Interference</i>	Electromagnetic Radiation and Interference are discussed at Section 8.9.
<i>Heat Island Effect</i>	The Heat Island Effect is addressed at Section 8.6.
Construction and Operation Stage	
<i>Environmental Management Plan</i>	A PEMP (Appendix N) has been prepared for the Project and Environmental Management is discussed at Section 8.12. It is anticipated that an EMP will be required to be provided as a condition of Permit.
<i>Risk and Emergency Management Planning</i>	A number of considerations relating to bushfire risk, as well as mitigation measures, have been implemented as addressed at Section 1.2.2.7 and 7.4.4. It is anticipated that a Bushfire Management Plan (BMP) may be required as a condition of Permit. A BMP would incorporate the requirements of AS 3745-2010 <i>Planning for Emergencies in Facilities</i> .
<i>Site Access and Traffic Management</i>	Traffic impacts are addressed at Section 8.3. A Traffic Impact Assessment (Appendix E) provides a full assessment and response to any traffic impacts imposed on and by the Project. It is anticipated that a Traffic Management Plan will be required as a condition of Permit.
<i>Construction Noise and Dust Management</i>	Earthworks and dust will be managed in accordance with the Preliminary Environmental Management Plan (PEMP) (Appendix N) to ensure changes to the topography and natural overland flows of the site are minimised. Dust suppression measures will also be implemented within the CEMP, as discussed in the PEMP. Environmental management is further discussed in Section 8.12. Whilst a PEMP has been prepared, it is anticipated that an Environmental Management Plan (EMP) will be required as a condition of Permit.
Decommissioning	
<i>Decommissioning</i>	Decommissioning will be carried out appropriately to ensure the land is able to be returned to its original condition. Decommissioning is addressed at Section 5.3 and in the PEMP (Appendix N).

Table 7 Design Response

Documentation	Response Reference
<i>Detailed plans and elevations of the proposed development including the layout and height of the facility and associated building and works, and their materials, reflectivity, colour, lighting and landscaping.</i>	Application Plans (Appendix B) have been prepared for the Project and include details of the design such as the layout, materials, colours and lighting. A separate Landscape Plan (Appendix G) has been prepared to show specific details of plant species and locations.
<i>Detailed plans and elevations of the proposed transmission infrastructure and electricity utility works required to connect the</i>	The Application Plans (Appendix B) include detailed plans and elevations showing all details of the Project including transmission infrastructure and access roads.

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Documentation	Response Reference
<i>facility to the electricity network, access roads and parking areas</i>	
<i>Accurate visual simulations illustrating the development in the context of the surrounding area and from key public viewpoints.</i>	Photo montages have been prepared (Appendix F) and show various views to the Project.
<i>The extent and assessment of any vegetation removal.</i>	A Native Vegetation Removal (NVR) Report has been prepared and is included within the Ecological Assessment (Appendix C). The NVR report indicates that 3.369 hectares of vegetation is proposed to be removed.
<i>A rehabilitation plan for the site.</i>	A PEMP has been prepared (Appendix N) and indicates that a Decommissioning and Rehabilitation Plan will be developed through the EMP which is anticipated to be required as a condition of Permit.
<i>A description of the proposal including the types of process to be utilised, materials to be stored and the treatment of waste.</i>	A detailed description of the proposal is at Sections 1.1 and 4.0 of this report.
<i>An explanation of how the proposed design derives from and responds to the site analysis including cumulative impacts with any other existing and proposed renewable energy facilities in the surrounding area</i>	The Project has been designed in response to a detailed site analysis as discussed at Section 4.0. Whilst there has been a substantial increase in renewable energy developments recently in Regional Victoria, there are limited solar energy facilities in the immediate area of the proposed solar farm in the Benalla / Goorambat area. There are 12 known (planned and approved) solar farms within the Benalla area. It is considered that the proposed solar farm will not contribute to a cumulative effective of solar energy facilities in the area given the distance between the proposed solar farm and others in the area.
<i>An explanation of agricultural values and production including irrigation infrastructure impacts and whether any land is productive farmland of strategic significance.</i>	An Agricultural Impact Assessment has been prepared (Appendix K) and is discussed at Section 8.8.
<i>Whether a works approval or licence is required from EPA Victoria or another authority administering the regulatory requirements of the Dangerous Goods Act 1985.</i>	During the construction phase of the Project, should the handling, storage and use of dangerous goods be required, the requirements of the relevant Australian Standards will be complied with. It is anticipated that there will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project.
<i>A description of how the proposal responds to any significant landscape features for the area identified in the planning scheme.</i>	A Landscape and Visual Impact Assessment (Appendix H) has been prepared and is discussed at Section 8.1.
<i>An assessment of:</i> <ul style="list-style-type: none"> • <i>the potential amenity impacts (such as noise; glint or glare; light spill; emissions to air, land or water; vibration; smell and electromagnetic interference): an assessment of potential noise impacts should have regard to EPA</i> 	A number of specialist reports have been prepared to accompany this Planning Application and are attached. The following reports have been prepared: <ul style="list-style-type: none"> • Ecological Flora and Fauna Assessment prepared by AECOM (Appendix C) • Surface Water Assessment prepared by AECOM (Appendix D)

Documentation	Response Reference
<p><i>Victoria’s Noise from industry in regional Victoria guidelines.</i></p> <ul style="list-style-type: none"> <i>the effects of traffic to be generated on roads.</i> <i>the visual impact of the proposal on the surrounding landscape</i> <i>the visual impact on abutting land that is described in a schedule to the National Parks Act 1975 and Ramsar wetlands and coastal areas</i> <i>the impact of the proposal on any species (including birds and bats) listed under the Flora and Fauna Guarantee Act 1988 or the Environment Protection and Biodiversity Conservation Act 1999</i> <i>the impacts on Aboriginal or non-Aboriginal cultural heritage</i> 	<ul style="list-style-type: none"> Traffic Impact Assessment prepared by AECOM (Appendix E) Landscape and Visual Impact Assessment, including Visualisations prepared by AECOM (Appendix F) Landscape Plans and Landscape Early Works Strategy prepared by AECOM (Appendix G) Glint and Glare Assessment prepared by AECOM (Appendix F) Heritage Due Diligence Assessment and Draft CHMP prepared by AECOM (Appendix L and Appendix I). <p style="text-align: center; color: red; font-weight: bold; font-size: 1.2em;">ADVERTISED PLAN</p>
<p><i>A statement of why the site is suitable for a Renewable energy facility including a calculation of the greenhouse benefits.</i></p>	<p>The site is considered suitable for a renewable energy facility and is addressed at Section 3.1 The proposed solar farm will have a capacity of up to approximately 159.12 megawatts and is expected to generate clean energy that would supply electricity to around 48,240 homes and abate carbon emissions by 267,804 tonnes per year.</p>
<p><i>An EMP including a construction management plan as well as any rehabilitation and monitoring requirements.</i></p>	<p>A PEMP has been prepared (Appendix N) and as discussed in the PEMP, it is anticipated that an EMP will be required as a condition of Permit.</p>
<p><i>Any other matter required by the responsible authority.</i></p>	<p>It is considered that all matters have been addressed as required by DTP, through the implementation of an extensive pre-application phase. Any other matters are able to be addressed through a Request for Further Information (if required) or condition on Permit.</p>

7.2 Regional Policy

7.2.1 Hume Regional Growth Plan (2014)

The Project aligns with the objectives and strategic direction outlined in the *Hume Regional Growth Plan* by delivering a renewable energy facility that will generate clean energy for Benalla and the wider Region and therefore contribute to the reduction of the impact of climate change.

The Project will not utilise highly productive farmland, ensuring minimal losses for the agricultural sector within the Region. While the solar farm is in operation, some agricultural activities are still able to continue, as the subject site has the potential to support the grazing of livestock (sheep) alongside the operation of the solar farm. Long term losses to farmland are negligible, as the land can be rehabilitated for farming uses following the decommissioning of the solar farm.

The development of a renewable energy facility supports the economy of the Region by diversifying and strengthening economic sectors while contributing to reducing greenhouse gas emissions and the generation of sustainable energy.

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7.2.2 Victoria's Regional Statement (2015)

The proposed Kennedys Creek Solar Farm is consistent with Victoria's Regional Statement whereby the Proposal supports a diverse regional economy. Further, the Project will provide a net community benefit and will support the reduction in carbon emissions, create jobs and support the reduction of energy prices by providing an additional energy source.

7.3 Local Policy

7.3.1 Council Plan 2021-2025

The Project is consistent with the Council Plan by presenting an opportunity to create new jobs in the renewable energy sector, further diversifying the economy of Benalla. Through the provision of clean energy, the Project offers a sustainable and proactive solution that will support the community into the future.

The amendments to the Project continue to support the objectives of the Council Plan and further contribute to the use of renewable and clean energy and technology in Victoria.

7.3.2 Benalla Rural City Environment Strategy 2016-2020

The Project aligns with the strategic directions outlined in the Strategy by contributing to the increase in renewable energy facilities within Benalla, aiding in the mitigation of climate change impacts. Further, the development and use of the land for a solar farm is considered as suitable both from a suitability perspective and is considered to be compatible with surrounding agricultural activities.

7.3.3 Benalla Community Plan 2016-2036

The Project is consistent with the Community Plan by being located on farmland and industrial zoned land that is currently not being used intensively. The Project will provide a locally produced sustainable energy source while creating jobs for residents, with knock-on benefits to the wider community, contributing to the diversification and strength of the local economy.

A community investment program will be set up by Lightsource bp which will provide additional benefits to the community by allocating a portion of the Project's revenue to fund projects which will benefit the community.

7.3.4 Consistency with the Municipal Planning Strategy

The following provides an assessment of the merits of the Project against the MPS of the Benalla Planning Scheme identified at 6.5 of this Report. The following outlines how the proposed solar farm is consistent with the MPS.

- The Project is consistent with the vision at **Clause 02.02** as it provides the opportunity for the development of a sustainable renewable energy facility that will connect to the national electricity network and support the Region, contributing to a thriving and sustainable future for the community. Further, the Project aligns with the municipal vision as:
 - The Project contributes to the mitigation of greenhouse gas emissions by providing a clean and sustainable renewable energy source.
 - The proposed location of the Project is approximately 4 kilometres from the Benalla Township which will allow diversification of the local economy and also the potential to stimulate small-scale tourism.
- The project is consistent with **Clause 02.03** as follows:
 - The project is consistent with Clause **02.03-2** as follows:
 - Flora and fauna - the Project has been designed such that areas with ecological value are avoided and protected where possible.
 - Landscapes – as the Project provides sufficient landscaping to ensure local aesthetic value and sensitive views are protected. A number of assessments have been prepared to inform the design of the Project, including the Ecological Assessment, Landscape

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Character and Visual Impact Assessment and Landscape Plan and visualisations which are discussed in Section 8.4.

- The project is consistent with Clause **02.03-3** as follows:
 - Flooding the Project has undertaken a Surface Water Assessment and consultation with the GBCMA to understand and respond to potential flooding considerations.
 - Bushfire - the Project has been designed to be resilient and defensible in the case of a bushfire (with access tracks throughout) and does not increase bushfire risks to human life. Further, the design of the solar farm responds to the CFA Design Guidelines and Model Requirements for Renewable Energy Facilities (previously Guidelines for Renewable Energy Installations).
 - Climate Change - as the proposed solar farm will play a role in reducing greenhouse gas emissions and mitigate climate change.
 - Land use conflicts - as the use of the land for a solar farm will not result in land use conflict with adjacent uses, as a solar farm is not a high-impact activity and generally has limited noise impacts and minimal visual impacts. The Project does not hinder residential development and would not prevent residential development occurring on land adjacent to or in the vicinity of the Project site. Further, the productive quality of the land is not diminished by the Project as the land could still be developed as appropriate for farming or residential purposes after decommissioning. Further, sheep grazing may occur on the site to maintain vegetation growth on the site. The Project is in close proximity to the Benalla Township however the subject site is not specified on the Benalla Structure Plan, signifying that at present, there is no residential development proposed for land around the Project, further ensuring minimal land use conflict.
- The project is consistent with Clause **02.03-4** as follows:
 - Agriculture – Impacts to agricultural productivity are considered to be minimal as the Project only represents a very small percentage of productive agricultural land within the region. Further, the Project site is able to be used for the grazing of livestock during operation of the solar farm for maintenance purposes, which retains the agricultural productivity of the site. The Project enables agricultural diversification and allows for the sustainable use of farmland that will support the regional economy. The proposed location of the Project is considered appropriate for the proposed use, enabling diversification in the area where sensitive receptors are minimal. A renewable energy facility is contemplated in the Farming Zone, Industrial 1 Zone, and Public Use Zone – Schedule 1 as it is a Section 2 Use (Permit required) in both zones.
 - Water - The layout and design of the solar farm has sought to retain existing native vegetation where practicable and provides setbacks (approximately 5 metres from top of bank) to the two unnamed water courses to reduce the risk of surface water contamination during the construction phase and to minimise impediment to flood flows during the Project's operation. Detailed EMPs will be prepared and implemented during the construction and operation of the Project to ensure appropriate measures are in place to effectively avoid, identify, manage and mitigate potential environmental impacts.
- The project is consistent with Clause **02.05-2** as the Project recognises and respects the Aboriginal Cultural Heritage on the site by undertaking a CHMP to ensure that impacts to Aboriginal Cultural Heritage Sensitivity are managed and avoided where possible.

7.3.5 Consistency with the Planning Policy Framework

The following provides an assessment of the merits of the Project against the relevant planning policies of the Benalla Planning Scheme identified at Section 6.4 of this Report. The following outlines how the proposed solar farm is consistent with the PPF.

- The Project is considered to be consistent with **Clause 11** by responding to the needs of existing and future communities by providing an energy source that is clean and sustainable. Further, the Project is deemed to be consistent with regional planning policies due to the following reasons:

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- In accordance with **Clause 11.01-1S**, the Project strengthens Benalla's identity as an environmentally sustainable region that invests in sustainable policies and actively participates in mitigating greenhouse gas emissions.
- The Project facilitates growth and development for Benalla and surrounding Regions by strengthening the economy through diversifying agricultural land uses as outlined in **Clause 11.01-1R**.
- The Project does not impinge on the boundary for urban growth that is outlined in **Clause 11.01-1L**.
- As outlined in **Clause 11.03-6S**, the Project considers the distinctive needs of the Region in planning for existing and future land use and development by being able to adapt in response to new and changing demographic and technological trends.
- The Project is consistent with **Clause 12** given:
 - The Project has been designed in a way that protects ecological value and avoids environmental loss where possible as outlined in **Clause 12.01-1S**.
 - In accordance with **Clause 12.01-2S**, the Project ensures that there will be no net loss in the contribution made by native vegetation to Victoria's biodiversity.
 - The Project aligns with **Clause 12.05-2S** as the subject site is not located on significant landscape. Nevertheless, any visual impacts that may be caused by the Project will be mitigated by landscaping, providing natural screening that protects the landscape values of the surrounding Region, while also contributing to Victoria's biodiversity.

For additional information, refer to the Ecological Assessment, Landscape Character and Visual Impact Assessment, Glint and Glare Assessment, Landscape Plans and visualisations discussed at Section 8.0.

- The Project is considered to be consistent with **Clause 13** by being located on a site that will not detrimentally interfere with natural environment processes, minimising environmental degradation and amenity conflicts. Further, the Project aligns with the following:
 - The subject site is within a Designated Bushfire Prone Area however it is not within the Bushfire Management Overlay. Under **Clause 13.02 (Bushfire)**, the use of a renewable energy facility is not included and therefore is not required to be assessed. Nonetheless, in accordance with **Clause 13.02-1S**, the Project has been designed to be resilient and defensible in the case of a bushfire (with access tracks throughout) and does not increase bushfire risks to human life. Further, the design of the solar farm responds to the CFA Design Guidelines and Model Requirements for Renewable Energy Facilities (previously Guidelines for Renewable Energy Installations).
 - In accordance with **Clause 13.07-1S**, the site is appropriately located in an area where the surrounding land is largely agricultural farmland so that risks to community amenity and safety are minimised. Various technical studies have been prepared to further support this position – including Glint and Glare Assessment and Landscape Visual Impact Assessment – detailed in Section 8.0 below.

To ensure environmental risks are mitigated, a Preliminary Environmental Management Plan (PEMP) for the Project has been prepared that sets out the overarching environmental management processes to ensure that it avoids environmental degradation and hazards. The PEMP is discussed at Section 8.0.

- The Project aligns with **Clause 14** given that:
 - In response to **Clause 14.01-1S**, the impacts to agricultural productivity are minimal given that the subject site is not used for intensive farming. Currently, the site has been largely cleared for broad acre farming. Further, a solar farm is not a high impact use as it has minimal noise impacts. Any visual impacts will be mitigated through landscaping as proposed by the Landscape Plan (Appendix G)

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- The use of the subject site for a renewable energy facility is a sustainable use of farmland and will facilitate agricultural diversification, supporting the economy of the Region, as outlined at **Clause 14.01-2S**. Further, it does not negate the future use of the site for agricultural purposes following decommissioning of the solar farm.
- In response to **Clause 14.02-1S** and **Clause 14.02-2S**, the Project will be able to conserve the existing watercourses that traverse through the eastern portion of the site by ensuring that solar panels are set back from the watercourses sufficiently.
- In regard to **Clause 14.02-3S**, the Project does not undermine or interfere with irrigation infrastructure and does not hinder existing and future agricultural production, as the Project will be able to graze sheep alongside the operation of the solar farm and will be fully rehabilitated to the site's previous agricultural use following decommissioning of the Project.

The Landscape Character and Visual Impact Assessment, Landscape Plans and visualisations and the Surface Water Assessment are discussed in Section 8.0.

- The Project is consistent with **Clause 15** for the following reasons:
 - In accordance with **Clause 15** and **Clause 15.01-6S**, the solar farm responds appropriately to its landscape and protects views by providing planting in strategic locations that will screen views of the solar farm from sensitive receptors, including surrounding residential dwellings and the Winton Wetlands. In addition, screening will provide landscaping to mitigate visual impacts within the environment.
 - Where possible, native vegetation is proposed to be conserved. More specifically, the cluster of vegetation situated along Murray Road is to be retained. Additional landscaping is proposed which will contribute to the biodiversity values of the area.
 - In accordance with **Clause 15.03-2S**, the Project provides for the protection and conservation of Aboriginal Cultural Heritage places by preparing a CHMP and ensuring that the project works do not propose impacts to areas of Aboriginal Cultural Heritage Sensitivity.

The Ecological Assessment, Landscape Character and Visual Impact Assessment and Landscape Plan and visualisations are discussed in Section 8.0.

- The Project is consistent with **Clause 17** as it will provide economic, environmental and social benefits to the local community, further strengthening the economic growth and wellbeing of the Region. Further, the Project will strengthen and diversify the economy as outlined at **Clause 17.01-1R** and **Clause 17.01-1S** by:
 - Creating and supporting direct and indirect jobs on a full-time basis during the construction and operation of the Project.
 - Presenting a unique opportunity which could potentially stimulate small-scale tourism initiatives such as viewing and education opportunities for visitors to the Region.
 - Creating opportunities for local businesses to be engaged during the development, construction, delivery and operation of the Project, further increasing the local skilled workforce and economic output of the Region.
 - Further the Project will not prejudice the availability of industrial zoned land surrounding the western portion of the site for future industrial use (**Clause 17.03-1S**).
- The Project is consistent with **Clause 19** as it ensures the efficient provision of renewable energy infrastructure. Further, the Project aligns with the following:
 - In accordance with **Clause 19.01-1S**, the Project is appropriately located near existing power infrastructure that has capacity for renewable energy.
 - In response to **Clause 19.01-2S** and **Clause 19.01-2R**, the Project is able to deliver economic and environmental benefits to the Region. The Project has the capacity to supply renewable and sustainable energy, further mitigating greenhouse gas emissions. Further, the addition of this Project among other solar farm proposals in the Region will contribute to a renewable energy hub within Benalla which will maximise resource efficiency.

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The Ecological Assessment, Landscape Character and Visual Impact Assessment and Landscape Plan and visualisations are discussed in Section 8.0.

7.4 Zones and Overlays

7.4.1 Farming Zone

The eastern portion of the site and the western portion of the transmission line investigation area is located within the Farming Zone. It is considered that the Project is consistent with the purpose of **Clause 35.07** for the following reasons:

- Planning assessment of the Project against the PPF (including the MSS and LPPF) has been undertaken in Section 6.4 and 7.3 of this Report. It is considered that the proposed use and development of the land for the purposes of a solar farm and associated infrastructure are generally supported by the PPF, including the MSS and LPPF.
- During construction and operation, the Project will create jobs that support direct and indirect full-time employees, therefore supporting the local community and diversifying employment opportunities.
- The subject site has been chosen for the Project based on sustainable land management practices that include an assessment of amenity, heritage, topography and ecological values, and the proximity to existing local infrastructure, such as the 66kV transmission line running along Nelson Road along the southern boundary of the site.
- The Project will only utilise a minimal portion of agricultural land, ensuring minimal impacts to agricultural productivity for the Region.
- The proposed use is not anticipated to impact upon agricultural activity nearby or adjacent to the Project.

It is considered that the Project appropriately responds to the Decision Guidelines outlined in **Clause 35.07-6** as follows:

- The site has excellent access to the existing infrastructure and services, it is also proposing to connect to the West Mokoan Solar Farm, reducing the number of connections to the National Energy Market required.
- The Project will not permanently remove land from agricultural production. Once the Project is decommissioned, the subject site can be rehabilitated to ensure that it continues to be viable for agricultural activities.
- The proposed design layout ensures ground disturbance is kept to a minimum and allows the design of the Project to follow the existing topography of the land.
- Prominent natural features such as the watercourse will be retained and protected where sufficient setbacks and appropriate fencing design will limit impacts to water quality and water flows through the site (refer to Section 8.2).
- The proposed location of the Project has adequate separation from sensitive areas and uses. It is anticipated that adjacent and nearby land uses will retain acceptable levels of amenity for dwellings with the FZ.

7.4.2 Industrial 1 Zone

The south-western portion of the site is within the Industrial 1 Zone. It is considered that the Project appropriately responds to the Decision Guidelines outlined in **Clause 33.01-2** as follows:

- It is considered that the Project is in accordance with the PPF, including the MSS and LPPF.
- The site has excellent access to the existing infrastructure and services, it is also proposing to connect to the West Mokoan Solar Farm, reducing the number of connections to the National Energy Market required.

- During construction and operation, the Project will create jobs that support direct and indirect full-time employees, therefore supporting the local community and diversifying employment opportunities.
- The proposed location of the Project is adequately separated from sensitive areas and uses and will have minimal effect upon existing residential areas.
- Due to the rural nature of the proposed location, traffic flows will not be obstructed during construction and operation of the solar farm.
- During the operation of the solar farm, the land may still be used for the grazing of livestock, meaning that agricultural productivity can be maintained, and the land can be effectively utilised for a use other than the proposed use.

7.4.3 Public Use Zone – Schedule 1

The eastern portion of the transmission line investigation area is located within the PUZ1. It is considered that the Project is consistent with the purpose and Decision Guidelines of **Clause 36.01** and **Clause 36.01-4** as:

- The transmission line is proposed adjacent to an existing transmission line easement, the detailed design process will seek to reduce the footprint and impact of the transmission line as far as practical.

The Winton Wetland Committee of Management has been consulted extensively about the proposed installation and has indicated no objection to the amended development. A letter acknowledging the project and not objecting to the project, subject to conditions has been included at Appendix P.

7.4.4 Bushfire Prone Area

The site is located within a Designated Bushfire Prone Area. It is anticipated that the highest fire risk is likely to be due from grass fires. The proposed solar farm land use is not a listed land use at **Clause 13.02**, notwithstanding, it is anticipated that a Bushfire Management Plan will be prepared prior to the development of the site as a condition of planning permit. The Bushfire Management Plan will be prepared in consultation with the CFA to ensure that appropriate fire risk assessments are undertaken, and measures are implemented during development and operation, to minimise the risk to life and property from fire.

7.5 Particular Provisions

7.5.1 Clause 52.02 – Easements, Restrictions and Reserves

It is proposed to remove and then relocate the 22kV transmission easement that runs through the middle of the site. The purpose of the 22kV easement is to supply electricity to the existing dwelling located at 51 Nelson Road. The overhead line is to be relocated to remove the impediment from the Project development area and is no longer required to connect to this dwelling as the dwelling will be removed. Pursuant to **Clause 52.02**, the Project has considered the impact of varying the easement and has deemed it acceptable for removal and variation, as the 22kV easement does not service any other dwelling or building. The Plan of Subdivision can be found at Appendix M.

With regard to the proposed transmission line, AusNet Transmission Services will be establishing the easement and retaining ownership of the infrastructure. Transmission line easements are established as Easements in Gross under the *Electricity Industry Act 2000* and the *Transfer of Land Act 1958*. In addition, AusNet Transmission Services has rights under the *Road Management Act 2004* which allows for the installation of utility assets in road reserves subject to the procedure set out in the Act and Code of Practice. AusNet Transmission Services have met with Council who are agreeable to the proposal and do not have any future plans for the road.

Planning approval is therefore not required for the transmission line easement.

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7.5.2 Clause 52.05 - Signs

At this stage, full details of the siting and content of signage is not yet confirmed. The signage will be limited to the display of Lightsource bp's branding and will include the name of the site and site address. The signage will not exceed three (3) square metres and will be designed with due consideration to the decision guidelines of **Clause 52.05-8** and to the satisfaction of the responsible authority.

7.5.3 Clause 52.06 - Car Parking

Car parking for the Project will be addressed through a CEMP and TMP during construction. During operation car parking will comply with relevant car parking design standards and ensure that there will be no demand generated for on-street parking as a result of the Project's operation. The car parking will be provided within the proposed utility area and will be provided to the satisfaction of the responsible authority.

7.5.4 Clause 52.17 – Native Vegetation

Solar arrays are comprised of panels that are connected to form strings, which are then grouped into rows and connected to a PCU. Shadowing has a greater effect than simply reducing the output of any single shaded panel, as it will reduce the output of the entire string to which it forms a part, meaning that the output of the lowest generating panel determines that output of the whole string.

Consequently, 20 trees within the site are required to be removed as they impeded the efficient layout of the Project and overshadow surrounding panels. The Ecology Flora and Fauna Assessment and Net Loss Reporting (Appendix C and Section 7.1) contains a Native Vegetation Removal Report which confirms 3.369 hectares of proposed removal (20 large scattered trees) and as a result 0.640 general habitat units of offset will be required within a minimum strategic biodiversity score of 0.218.

7.5.5 Clause 53.13 – Renewable Energy Facility (other than Wind Energy Facility and Geothermal Energy Extraction)

Clause 53.13-2 (Application requirements) provides an overview of all information that must accompany applications (as appropriate) for a renewable energy facility. The application requirements set out in **Clause 53.13-2** are addressed in Table 6 below.

Table 8 Application Requirements of Clause 53.13-2

Policy Requirement	Section of Report
<p><i>A site and context analysis, including:</i></p> <ul style="list-style-type: none"> • <i>A site plan, photographs or other techniques to accurately describe the site and the surrounding area.</i> • <i>A location plan showing the full site area, local electricity grid, access roads to the site and direction and distance to nearby accommodation, hospital or education centre.</i> 	<p>Refer to:</p> <ul style="list-style-type: none"> • Section 4.0 of this report. • Appendix B for Application Plans
<p><i>A design response, including:</i></p> <ul style="list-style-type: none"> • <i>Detailed plans of the proposed development including, the layout and height of the facility and associated building and works, materials, reflectivity, colour, lighting, landscaping, the electricity distribution starting point (where the electricity will enter the distribution system), access roads and parking areas.</i> • <i>Accurate visual simulations illustrating the development in the context of the surrounding area and from key public view points.</i> • <i>The extent of vegetation removal and a rehabilitation plan for the site.</i> 	<p>Refer to:</p> <ul style="list-style-type: none"> • Appendix B for the Application Plans • Subject site layout details and proposed works (Section 4.0 and 5.0 of report) • Landscape Character and Visual Impact, including Visualisations, Landscape Plan and Landscape Early Works Strategy (Appendix F and Appendix G and Section 8.4) • Ecology Assessment (Appendix C and Section 8.1)

Policy Requirement	Section of Report
<p><i>Written report and assessment, including:</i></p> <ul style="list-style-type: none"> • <i>An explanation of how the proposed design derives from and responds to the site analysis.</i> • <i>A description of the proposal, including the types of process to be utilised, materials to be stored and the treatment of waste.</i> • <i>Whether a Works Approval or Licence is required from the Environment Protection Authority.</i> • <i>The potential amenity impacts such as noise, glint, light spill, emissions to air, land or water, vibration, smell and electromagnetic interference.</i> • <i>The effect of traffic to be generated on roads.</i> • <i>The impact upon Aboriginal or non-Aboriginal cultural heritage.</i> • <i>The impact of the proposal on any species listed under the Flora and Fauna Guarantee Act 1988 or Environment Protection and Biodiversity Conservation Act 1999.</i> • <i>A statement of why the site is suitable for a renewable energy facility including, a calculation of the greenhouse benefits.</i> • <i>An environmental management plan including, a construction management plan, any rehabilitation and monitoring.</i> 	<p>Refer to:</p> <ul style="list-style-type: none"> • The description of the Project and site analysis (Sections 4.0 –5.0). • Certificates of Title (attached). • Application Plans (Appendix B). • Ecology Assessment (Appendix C and Section 8.1). • Glint and Glare Assessment (Appendix J and Section 8.6). • Landscape Character and Visual Impact, including Visualisations, Landscape Plan and Landscape Early Works Strategy (Appendix F and Appendix G and Section 8.4) • Preliminary Environmental Management Plan (Appendix N and Section 8.12) • Geotechnical Investigation (Appendix L and Section 8.7). • Surface Water Assessment (Appendix D and Section 8.2). • Traffic Impact Assessment (Appendix E and Section 8.3). • Heritage Due Diligence Assessment and Draft CHMP (Appendix H and Appendix I and Section 8.5) • Section 3.2 for site suitability.

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8.0 Impact Assessment

This section provides a summary of the various specialist assessments that were undertaken in support of the Project.

8.1 Ecology

A detailed Ecological Flora and Fauna Assessment has been undertaken by AECOM to identify species and vegetation communities of conservation significance within, and in close proximity to, the subject site. The assessment investigated the presence of Commonwealth and State listed flora and fauna species and ecological communities within the subject site and characterised the existing ecological condition of the subject site. The Report assessed the broader Project investigation site which was originally considered for the Project. Due to the findings of the Report, and significant vegetation present on the western portion of the investigation area, the Project site are was amended to avoid large areas of significant flora and fauna.

The Ecological Flora and Fauna Assessment revealed that the subject site has been significantly modified by agricultural land uses including dryland and grazing. The remaining native vegetation on site consists of a total of 28 patches of native vegetation covering 11.25 hectares of the subject site and scattered large and small native trees. The native vegetation found is largely reflective of EVC 55_62 Riverina Plains Grassy Woodland, which is listed as endangered in the Victorian Riverina bioregion.

Due to a lack of complex habitat and floristic biodiversity, the site is not considered to be ecologically significant for any threatened flora and fauna species and does not represent any federally listed threatened ecological communities. The patches of native vegetation present on site are considered to represent habitat for the Victorian Temperate Woodland Bird Community which is listed under the *Flora and Fauna Guarantee Act 1988*.

Under the *Guidelines for the removal, destruction or lopping of native vegetation*, there are three pathways under which an application to remove native vegetation can be assessed as – Basic, Intermediate or Detailed assessment pathways. The assessment pathway determines the types of offsets that are required to be implemented for the removals.

The Ecological Flora and Fauna Assessment found that:

- There are no listed flora species, or threatened ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* recorded or considered likely to occur in the subject site
- The subject site includes possible occurrence of four fauna species listed under the *Environment Protection and Biodiversity Conservation Act 1999*, these species are considered unlikely to be significantly impacted by the project, particularly as the loss of patches and scattered trees is minimised
- Striped Legless Lizard habitat is currently being considered.

The Ecological Flora and Fauna Assessment prepared by AECOM (Appendix C) includes a Native Vegetation Removal Report which confirms 3.369 hectares of proposed removal of native vegetation and as a result 0.640 general habitat units of offset will be required within a minimum strategic biodiversity score of 0.218. The development of the proposed solar farm will result in the loss of approximately 3.369 hectares of EVC 55_62 Riverina Plains Grassy Woodland and includes 20 large scattered trees. The removal of this vegetation is considered necessary to provide an efficient and effective layout of the solar farm and to ensure its operation is not impaired by the overshadowing of solar panels.

The full Ecological Flora and Fauna Assessment can be found at Appendix C.

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8.2 Surface Water

A Surface Water Assessment was prepared by AECOM to assess the likely changes in water quality, water quantity and stream stability as a result of the Project. Further, it outlines strategies to minimise and manage the potential impacts associated with changes in surface water quality.

The assessment identifies a number of surface water features on the site, including defined drainage channels, shallow ditches and farm dams. In addition, a Water Determination Application was submitted to Goulburn Murray Water to identify any significant waterways on site. The Waterway Determination identified one designated waterway within the site boundary. This waterway is located to the north west of the site and flows in a northerly direction.

The site is not affected by the Land Subject to Inundation Overlay (LSIO) or the Floodway Overlay (FO), with the nearest FOs occurring to the east of the site at the Winton Wetlands. However, the GBCMA flood estimates do suggest that the land may be subject to some degree of inundation during significant flood events.

The assessment outlines that the proposed arrangement of solar arrays will be intercepted by grassed, pervious surfaces and will not significantly change the fraction of imperviousness for the total area of the site. Solar panels will be set back at least five metres from the top of bank of the identified designated waterway, which will provide sufficient access for future waterway maintenance activities on both sides of the channel.

As outlined in Section 1.2.3.6, a Floodplain Advice Request was submitted to the GBCMA on 7 February 2019 to seek feedback on the Project and to further understand the nature of any conditions that may be placed on the development. The GBCMA advised that they had no objections to the Project, subject to the following conditions:

- Inverters and transformer blocks and any buildings must be located a minimum of 30 metres from the nearest top of bank of the watercourse.
- The finished floor levels of inverter and transformer blocks and any buildings are to be set at least 300 millimetres above the applicable 1% AEP flood level.
- The corridors along all waterways should be revegetated in accordance with the Revegetation Guide for the Goulburn Broken Catchment.
- Where fencing obstructs waterways, the fencing should be designed in a way that does not obstruct flood flows.

The assessment makes a number of recommendations in relation to the management of the surface water quality, understanding the flood risks and management of the flood risks.

The Surface Water Assessment is provided at Appendix D.

8.3 Traffic

A Traffic Impact Assessment (TIA) was undertaken by AECOM in 2019 to assess the operational capability of the local road network to cope with the additional traffic associated with the construction and operation of the Kennedys Creek Solar Farm. The TIA was amended in January 2023 to reflect changes to the Project, including the inclusion of the transmission line and updated traffic generation information provided by Lightsource bp. A site visit was also conducted in late 2022, which informed updated to the Existing Conditions section of the TIA. Notably, the TIA methodology was amended to consider the cumulative impact of construction from both Kennedys Creek Solar Farm and West Mokoan Solar Farm to the north, as these are anticipated to be constructed and operated concurrently. The 2023 TIA identified that:

- The site will have three primary access points from Benalla-Yarrowonga Road, which includes utilising the existing site access towards the northern end of the site. The other two site access points will be newly created, on Nelson Road and Murray Road. Temporary construction access will likely be provided from the solar farm using one of the primary access gates on Benalla-Yarrowonga Road.

- Proposed construction traffic routes are unknown at this stage and will be confirmed following detailed design, however it is anticipated that construction vehicles will mainly access Kennedys Creek Solar Farm from the south via Hume Freeway, Sydney Road and onto Benalla-Yarrawonga Road towards the site. Although the primary site access will be located on Benalla-Yarrawonga Road, some construction vehicles may also utilise Nelson Road.
- It is anticipated that there will be approximately 50 truck movements during the day associated with the construction of Kennedys Creek Solar Farm and transmission line, accounting for deliveries. When considering cumulative impacts of both West Mokoan and Kennedys Creek Solar Farms and transmission line, construction traffic volumes are predicted to be approximately 68 vehicles entering/exiting the site during morning and evening peak time periods.
- During the peak construction period, it is anticipated that approximately 171 and 50 construction staff could be on-site at one time, for the solar farm and transmission line respectively, with peak trips expecting to occur between 5:30am and 6:30am with around 57 vehicle arrivals, and 6:00pm to 7:00pm with 57 vehicle departures from the site on a typical weekday.
- When the solar farms are operational, it is anticipated that traffic movements would equate to ten service vehicles per day, dependent on required works. This assumes that the general operation and maintenance workforce will be shared across both solar farms.
- Overall, the TIA considers that there is unlikely to be a material traffic impact on the local road network during the construction of the proposed Kennedys Creek Solar Farm.

It is anticipated that the preparation of a Traffic Management Plan (TMP) will be required by a planning permit condition. The TMP, which will form part of a Project CEMP, will detail any required upgrades to nearby roads following the detailed design of the Project. The TMP will include details of the construction approach, methodology and schedule.

The Traffic Impact Assessment is provided at Appendix E.

8.4 Landscape and Visual

A Landscape and Visual Impact Assessment has been undertaken by AECOM for the Project. The purpose of the Assessment is to assess the potential visual and landscape impacts resulting from the construction and operation of the solar farm. The methodology of the Assessment included the:

- Analysis of the existing landscape character and visual environment
- Determination of the extent and nature of potential landscape and visual impacts of the Project on surrounding areas
- Identification of measures to mitigate and minimise potential landscape and visual impacts.

Once the sensitivity of the landscape to visual change and magnitude of the landscape impact is determined, a rating tool was used to determine the overall rating of visual impacts, which can be rated as Negligible, Low, Low - Moderate, Moderate, Moderate - High or High.

There were five landscape character zones (LCZs) identified within the subject site. These are described as follows:

- LCZ 1: Infrastructure Corridor
- LCZ 2: Rural Agricultural
- LCZ 3: Rural Industrial
- LCZ 4: Benalla Township
- LCZ 5: Wetlands and Waterways

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The Assessment found that only LCZ 5 would be subject to high and moderate impact, and moderate impacts would occur for LCZ 2 and LCZ 3.

A total of nine viewpoints were selected to analyse the visual impact on visual receptors surrounding the Project. Potential impacts on visual amenity were considered across different receptor types

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comprising residents, public space and road users. Of the nine viewpoints, the highest overall rating was recorded for the Dam Wall Hiking Trail to the north east of the site.

Visualisations were also prepared to identify the sensitive views to the subject site. These visualisations demonstrate the anticipated changes to sensitive views as a result of the Project. The visualisations were prepared for three locations surrounding the site. The visualisations illustrate the likely views after the construction of the solar farm, including with the implementation of the proposed landscape treatments detailed in the proposed Landscape Plan.

A Landscape Plan has been prepared by AECOM to mitigate potential visual impacts through the provision of vegetation screening. A landscape buffer of a minimum of 5 metres is proposed along the north-eastern boundary, Benalla-Yarrowonga Road, Nelson Road and a section of the western boundary. Further, 10-metre-wide landscape buffers have been proposed along the northern, eastern and western boundaries of the site, particularly where adjacent to dwellings. The landscape buffers will include a range of locally suitable trees, shrubs and groundcovers.

A Landscape Early Works Strategy has been prepared to summarise the potential impacts identified in the Glint and Glare Assessment (refer Section 8.6 and Appendix J) and the Landscape and Visual Impact Assessment and outline proposed mitigation measures to mitigate, minimise, and manage any impacts. The Early Works Plan lays out a strategy that commences pre-construction to accelerate screening of the development. Early planting of landscape zones that interface with sensitive receptors and zones will increase the effectiveness of glare mitigation measures post-infrastructure construction. Temporary screening (shade clothes to site boundary fence) is recommended prior to construction to mitigate impacts of infrastructure (particularly glint and glare) to sensitive receptors until the landscape has established to a height suitable to perform as a screen.

Over time, the proposed landscaping will assist in screening the development, providing a visual buffer between the proposed development and surrounding areas. The landscape planting has been designed to limit views to the site by providing vegetation which will grow to varying heights and densities.

While the project will result in an increase in infrastructure, particularly with the additional transmission line, the LVIA found that the Project is visually comparable to a patchwork of industrial and agricultural elements scattered across the area, and therefore acceptable within the landscape. Furthermore, the proposed landscape treatment will integrate with existing vegetation on and surrounding the site and will contribute to the overall visual amenity of the area.

The Landscape and Visual Impact Assessment, Landscape Plan and Landscape Early Works Strategy are contained at Appendix F and Appendix G respectively.

8.5 Heritage

A Heritage Due Diligence Assessment was undertaken by AECOM to identify Aboriginal, historical and natural heritage values that may be present within the subject site and any potential impacts the Project may have on heritage values.

In regard to historical heritage, no historical items of Commonwealth, State or local significance have been identified on the subject site. The assessment identified that the Benalla Region was subject to rapid growth in pastoral and agricultural activities, particularly around the Winton Wetlands area to the north-east of the site. Due to this, there is potential for historical archaeological remains associated with early pastoral activities to be in close proximity to the site. Therefore, an Unexpected Find Procedure should be implemented in the event of identifying historical heritage during ground disturbing works. Further, historical structures potentially associated with pastoral and agricultural activities were identified around the site, one of which is located within the subject site. A Heritage Assessment should be undertaken for any structure identified, should any impacts be proposed.

At the time of preparing the assessment, there were no registered Aboriginal cultural heritage sites within the subject site. The assessment did note that the site is in close proximity to a highly sensitive archaeological cultural landform represented by the distribution of Aboriginal sites within the Winton Wetlands. There is also an area of Cultural Heritage Sensitivity around Kennedy's Creek, which is located to the west of the Project area. The transmission line investigation area included an area of Aboriginal Cultural Heritage Sensitivity.

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A mandatory CHMP is being prepared for this Project. The standard and complex assessment was undertaken for the project in September 2022. The assessment found one Aboriginal place was identified within the Activity Area – Aboriginal ring tree “Kennedys Creek SF Ring Tree” (VAHR 8124-0028). The Place is located just north of Nelson Road (approximately 50 m) and the Mokoan Inlet Channel on a farming property in the south-eastern part of the Activity Area. The Project does not propose any infrastructure in proximity to or impact to the Place.

The Heritage Due Diligence Assessment is provided at Appendix H and the Draft CHMP is provided at Appendix I.

8.6 Glint and Glare and Heat Island Effect

AECOM has undertaken an analysis of glint and glare for the proposed Single Axis Tracking System. Glint and glare are caused by a significant contrast between a light source and background illuminance. The purpose of the study is to conduct a glare potential analysis of the Project and identify potential glare impacts at nominated observation points in the vicinity of the subject site. The report also recommends improvements or mitigation options to reduce glare issues that may impact the public.

It was determined that the operation of the array of configuration of the solar panels potentially cause glare with low to moderate potential for after image, however, appropriate mitigation measures have been provided.

The Project has been considered for potential Heat Island Effect. In the Greater Shepparton Solar Farm Panel Hearing that occurred in July 2018, expert evidence on the Heat Island Effect was presented to the Panel. The Panel Report accepted the proponent’s evidence that temperature increases will not occur beyond 30 metres from a photovoltaic array. It was also noted that any temperature increases within 30 metres would be negligible. The Panel supported 30 metre setbacks from property boundaries (road reserves, irrigation channels and existing vegetation could be included in this calculation).

Whilst the proposed solar panels have been set back a minimum of ten metres from all property boundaries and landscape screening, it is considered that the proposed setbacks are appropriate at this location. A ten metre wide landscaping buffer has been provided along the northern boundary to minimise visual impact and any potential glint and glare issues for the dwelling to the north of the site. Furthermore, the proposed ten metre and five metre wide landscape buffers along the northern, western and eastern boundaries of the site will reduce the potential increase in temperature from the photovoltaic arrays. Additionally, the proposed reinstatement of grass within the solar farm will provide a further heat removal mechanism through transpiration and since the solar panels will shade a portion of the ground at any given time during the day, heat absorption in surface soils should also be reduced.

The Glint and Glare Assessment is provided at Appendix J.

8.7 Geotechnical

A Preliminary Geotechnical Assessment was undertaken by AECOM to investigate the ground conditions and ascertain the key risks associated with the construction and operation of the Project given the site conditions. The Preliminary Assessment was used to inform the design of the proposed solar farm.

The Assessment found that near surface geology of the site generally comprises a relatively thin layer of clayey silt (topsoil) overlying silty/sandy clay. The clays on site are likely to be reactive to wet and dry conditions and hence are prone to shrinking and swelling movements. At the time of the site visit, the exposed ground surface showed to be cracking, indicating the potential for shrink-swell activity dependent on seasonal moisture variations.

The site won materials are considered suitable for construction of engineered fill but will require appropriate moisture conditioning. Farm dams will require particular care when backfilled, to ensure all wet and softened soil is removed, prior to filling.

During dry weather, the near surface soils are expected to provide a suitable surface, on which to run construction plant. However, appreciable softening of the clays and subsequent trafficability problems may be encountered during wet weather. Should trafficability difficulties be encountered, consideration

should be given to the placement of a granular working platform. Such softening may also affect the construction of shallow footings and hardstands.

It is anticipated that further geotechnical exploration will be undertaken during the detailed design phase of the Project.

The Preliminary Geotechnical Assessment can be found at Appendix L.

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8.8 Agricultural

The Agricultural Impact Assessment has been prepared by Ag-Challenge. The Report investigates the agricultural impacts of the proposed construction of a solar farm, identifies existing agricultural use on the subject site and identifies any potential impacts on adjacent properties and if the development will have adverse impacts on surrounding land uses.

Land that is highly versatile and among the most agriculturally productive within a region is classified as prime agricultural land or high-quality agricultural land. The subject site has not been so described as it is limited to grazing uses. Furthermore, the land does not have the potential for irrigation development as the soil types present are noted for poor permeability. Therefore, the Project will not result in the loss of high-quality agricultural land.

Solar panels are to be installed over most of the Project site, which will see physical changes to the current conditions and use of the land. The presence of solar panels will reduce the incident sunlight available for plants to grow underneath. There will also be impacts on soil moisture as affected by rainfall. Instead of rain falling evenly across the land, rain will mostly fall on the solar panels, generating a runoff which will be directed onto the area of land just below the panels. This may have an impact upon the growth of the pasture overall. Where stock is used to control the growth of grass, sheep are preferable to cattle as they are less likely to damage the infrastructure on site.

The development of a solar farm is not expected to have any agricultural impacts on adjacent properties and farms, beyond any visual impact. A Landscape Plan (refer Section 8.4 and Appendix G) has been prepared to show where vegetative screening would be placed to protect visual amenity, particularly along boundary lines and roadways.

The full Agricultural Impact Assessment can be found at Appendix K.

8.9 Electromagnetic Radiation

The Project will produce electromagnetic fields that will be less than recommended limits. Electromagnetic fields are related to the strength of the source, duration of exposure and distance a person stands from the source, given that dissipation of the electromagnetic field is exponential over a distance. It is considered that no unreasonable impact will occur as a result of the proposed solar farm.

8.10 Fire and Dangerous Goods

As outlined at section 7.4.4, the site is located within a Designated Bushfire Prone Area. It is anticipated that a Bushfire Management Plan will be prepared prior to the development of the site as a condition of planning permit. The proposal has sought to incorporate design measures to achieve appropriate compliance with the CFA Guidelines for Renewable Energy Installations. The proposal incorporates the following measures:

- A minimum 10 metre setback has been provided from the site boundary and all landscape screening for CFA emergency access.
- Internal access roads will facilitate safe and efficient internal circulation for emergency and personnel vehicles in the instance of a fire.
- The subject site's cleared expanses will provide natural offsets to act as fire breaks.
- Appropriate bushfire management approaches will be incorporated within all site management practices, with ongoing collaboration with the CFA viewed as a positive outcome to be achieved.

During the construction phase of the Project, should the handling, storage and use of dangerous goods be required, the requirements of the relevant Australian Standards will be complied with. It is anticipated that there will be no storage of hazardous or dangerous goods or materials on site during the operation of the Project.

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8.11 Noise

An Operational Noise Assessment has been prepared by AECOM to assess the potential environmental noise emissions from the operation of the Project in relation to applicable environmental noise criteria.

The main sources of noise from the operation of the Project will be the inverters associated with the PCU's. The substation and solar panel tracking motors will also contribute to the environmental noise emissions from the site. The assessment assumed that the PCU's would operate at 100% load during the hours 7am to 10pm, which covers the Day and Evening periods, and operate at 50% load, thus emitting less noise, from 10pm to 7am, which is the Night period.

Computer noise modelling was performed to predict the Project's operational noise levels at the nearest residential locations for the two inverter operating conditions. The noise levels were predicted for neutral weather conditions with no wind, and with a moderate breeze assisting noise propagation towards the sensitive receptor locations. The computer modelling results indicate that the solar farm noise emissions will comply with the noise limits at the nearby residences for all periods.

The predicted noise levels are also below the thresholds set by EPA Publication 1996 - Assessing Low Frequency Noise, indicating low risk of annoyance to nearby residents due to low frequency noise.

The full Operational Noise Assessment can be found at Appendix M.

8.12 Environmental Management

A Preliminary Environmental Management Plan (PEMP) has been prepared by AECOM which provides details on the environmental management framework (EMF) and overarching environmental management processes to be implemented during detailed design, construction, operation and decommissioning of the Project.

The PEMP responds to the requirements of the Victoria Planning Provisions, and in particular **Clause 53.13-2** which requires that a planning permit application for a renewable energy facility must include 'an environmental management plan, including a construction management plan, any rehabilitation and monitoring' as an element of the design response.

The PEMP presents an initial EMF that the Applicant will utilise to formulate any detailed EMPs and sub-plans that may be required in response to conditions of the planning permit. The EMF for the Project contains information relating to:

- The Project's overarching environmental management system and objectives
- A summary of identified environmental aspects and associated objectives relevant to the development of the Project
- The Project's organisational structure, roles and responsibilities for environmental management
- Procedures for staff environmental awareness training and communication
- Processes for stakeholder consultation and communication regarding environmental management
- Procedures for environmental monitoring, auditing, record keeping and reporting
- Procedures for receiving, documenting, investigating and responding to complaints and incidents and implementing corrective actions
- Measures for emergency preparedness and response
- A suggested structure for the detailed EMP(s) that will be developed prior to the commencement of construction
- A summary of key management strategies to avoid and minimise the environmental and amenity impacts of the construction, operation and decommissioning of the facility
- Processes for periodic review of environmental performance and continual improvement.

The PEMP can be found at Appendix N.

9.0 Conclusion

This Planning Report and accompanying documentation demonstrates that the Project is consistent with the Planning Policy Framework and accords with the local planning policy objectives and strategies in the Benalla Planning Scheme. Furthermore, it is considered that the proposed solar farm in Benalla is appropriate in this location for the following reasons:

- The Project is consistent with the Planning Policy Framework of the Benalla Planning Scheme in relation to settlement and the region, the environment, economic development and infrastructure and specifically, renewable energy infrastructure.
- The Project is consistent with local policy by facilitating investment and diversification of local employment opportunities and the economy.
- The design and layout of the Project seeks to protect biodiversity and native vegetation where practicable, thereby protecting the landscape character of the area.
- The proposed land use for the purposes of a renewable energy facility is consistent with the Farming Zone, the Industrial 1 Zone and the Public Use Zone – Schedule 1 as the land use is a Section 2 Use (Permit Required) within the zones. Further, the Project aligns with the purpose and decision guidelines of each of the zones.
- A CHMP has been prepared to manage areas of Aboriginal Cultural Heritage Sensitivity within the subject site and transmission line investigation area.
- The Project does not significantly alter the productive agricultural quality of the site and is not currently used for intensive agricultural purposes. Once the Project is decommissioned, it is possible for the site to be rehabilitated back to its previous agricultural use or to be redeveloped for an alternative use. Further, the Project does not preclude the use of surrounding land for current and future agricultural use and development.
- The Project maintains sustainable land management and may enable existing agricultural industries – in particular, the grazing of livestock – to operate whilst maximising the potential of the land to provide a source of renewable energy for Victoria.
- The Project will have minimal impact on amenity given that solar farms do not emit odour and the noise assessment finds that the operation of the Project will be within the noise limits. For any potential visual impacts, appropriate landscape treatments have been proposed, including early works, to provide natural screening that will protect visually sensitive areas.
- The Project will provide economic benefits to the Region through the creation of direct and indirect jobs during the construction and operation of the Project, diversifying and strengthening the economy and increasing the skilled workforce and economic output of the Region as a whole.
- The Project represents a long-term investment within the Benalla area, and an ongoing commitment to co-exist with the local community, including provision of a community investment fund which will further contribute to the enhancement and vitality of the area.

It is therefore requested that the Project be supported by DTP and the Planning Permit application be approved.

ADVERTISED PLAN

Appendix A

ADVERTISED PLAN

Consultation Material

Appendix A Consultation Material

ADVERTISED PLAN

Appendix B

ADVERTISED PLAN

Application Plans

Appendix B Application Plans

ADVERTISED PLAN

Appendix C

ADVERTISED PLAN

Ecological Flora and Fauna Report

Appendix C Ecological Flora and Fauna Report

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Appendix D

ADVERTISED PLAN

Surface Water
Assessment

Appendix D Surface Water Assessment

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Appendix E

ADVERTISED PLAN

Traffic Impact
Assessment

Appendix E Traffic Impact Assessment

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Appendix F

ADVERTISED PLAN

Landscape Character and Visual Impact Assessment

Appendix F Landscape Character and Visual Impact Assessment

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Appendix G

ADVERTISED PLAN

Landscape Plans and
Landscape Early Works
Strategy

Appendix G Landscape Plans and Landscape Early Works Strategy

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Appendix H

ADVERTISED PLAN

Heritage Due Diligence
Assessment and
Addendum

Appendix H Heritage Due Diligence Assessment and Addendum

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Appendix I

ADVERTISED PLAN

Draft Cultural Heritage
Management Plan

Appendix I Draft Cultural Heritage Management Plan

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Appendix J

ADVERTISED PLAN

Glint and Glare
Assessment and
Addendum

Appendix J Glint and Glare Assessment and Addendum

ADVERTISED PLAN

Appendix K

ADVERTISED PLAN

Agricultural Impact
Assessment and
Addendum

Appendix K Agricultural Impact Assessment and Addendum

ADVERTISED PLAN

Appendix L

ADVERTISED PLAN

Preliminary Geotechnical
Assessment and
Addendum

Appendix L Preliminary Geotechnical Assessment and Addendum

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Appendix M

ADVERTISED PLAN

Operational Noise
Assessment

Appendix M Operational Noise Assessment

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Appendix N

ADVERTISED PLAN

Preliminary
Environmental
Management Plan and
Addendum

Appendix N Preliminary Environmental Management Plan and Addendum

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Appendix O

ADVERTISED PLAN

Plan of Subdivision

Appendix O Plan of Subdivision

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Appendix P

ADVERTISED PLAN

Public Land Manager
Consent

Appendix P Public Land Manager Consent

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